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# CAN TOUR GUIDES PROTECT THE MARINE AND COASTAL ENVIRONMENT FROM MASS TOURISM IMPACTS: SITUATION OF ANDAMAN OCEAN, THAILAND, PRE-COVID-19

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**Abstract:** This article studies the role of Thai guides in protecting marine and coastal environment against impacts from international tourism, in the Andaman Ocean, Thailand. This is a qualitative study with in-depth interviews of 26 licensed guides that were selected by using purposive and snowball sampling. Quantitative data were analyzed with descriptive statistics, and qualitative data from in-depth interviews and field notes were analyzed with qualitative data analysis. The results show that behaviors affecting marine and coastal environment mostly involve chasing and catching beautiful fish and/or marine animals (76.9%), feeding fish (73.1%), and collecting beautiful stones, rare shells, and/or coral reefs (73.1%). Guides act in the roles of educator, psychologist, entertainer, ambassador, and servant, and protect against impacts to the extent that they can. While some impacts can be avoided, others remain out of scope and control of the guides.

**Key words:** Tour Guides Roles, Marine and Coastal Environmental Protection, Mass Tourism, Andaman Ocean, Thailand

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## INTRODUCTION

Thailand is one of the dream destinations of tourists from many countries around the world. For example, World Tourism Organization (UNWTO) (2021) reported that, in 2019, Thailand was ranked eighth of the World's top 10 destinations and received 40 million international tourist arrivals, and was fourth in revenue earned from tourism activities. This was about 20 percent of Thailand's GDP (Damronkijakarn, 2020). Besides, this agrees with what the Ministry of Tourism and Sports (2017) in Thailand has stated about the growth factors supporting tourism industry in Thailand, including the growth of mid-level society and of their income, of low-cost airlines, of tourism expenditures with elderly visitors, convenient technologies for tourism, and the need of in-depth tourism experiences.

Thailand has a wide variety of tourism resources, such as rivers, oceans, mountains, and cultural contexts. One of the most distinctive tourism activities in Thailand is marine and coastal tourism in southern peninsular Thailand with Gulf of Thailand and the Andaman Ocean. Hotspots of marine and coastal tourism at the Andaman Ocean shores for tourists include Phuket, Krabi, and Phangnga provinces that are by the seashore and have access to convenient transportation. Phuket is the dominant hub of tourism among these provinces, with international airport and transportation, and well-developed tourism agencies, restaurants, accommodations, and souvenir shops. Therefore, the numbers of international tourists have grown until the current Covid-19 pandemic, including mass tourism (Office of Phuket Statistics Organization, 2019).

Although mass tourism creates employment and generates high revenue to the country (Astina et al., 2021), mass tourists have been accused of highly negative impacts to the environment. Especially so in the context of marine and coastal tourism that is popular among mass international tourists. For example, the marine and coastal resources are overcrowded, with damage potentially to coral reefs or natural fish and marine animals, and/or the visitors leave unwanted waste in the ocean (Thongtham et al., 2003). Tour guides are then important persons working with the tour operators, interacting and always giving tourism services to these mass tourists, due to their roles in providing knowledge and guidance to the tourists (Maakjaeng, 1991), and similar to environmental interpreters according to the definition of Knudson et al. (1999) that could finally guide tourists to environmentally sound practices (Skibins, 2016; Tilden, 1977).

Recently, the Department of Tourism (2015) in Thailand reported that there are totally 2,696 Thai tour guides – an occupation allowed only for Thai nationals – that have been registered with the Bureau of Tourism Business and Guide Registration Southern Region 2 (Phuket). Thus, marine and coastal tour guides for international tourists should hold yellow (beach tourism permission), orange (marine tourism permission), pink (international tourists at specific areas permission: only in Phuket, Krabi, and Phangnga Provinces), blue (Southern Provinces, Thailand permission after 18 April 2019) and/or silver (international tourist permission) certificate licenses that are renewed every five years (Matichononline, 25.3.2019).

Consequently, this study aimed to assess whether Thai tour guides are able to protect marine and coastal environment against impacts from mass and coastal tourism, specific to one foreign nationality, based on roles of the Thai tour guides in

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marine and coastal mass tourism affecting the marine and coastal tourism resources; as well as to present the results on their roles affecting marine and coastal tourism behavior of one specific nationality of tourists.

## LITERATURE REVIEW

### Thai Tour Guide

The tour guides in Thailand were defined recently in the Tourism Business and Guide Act B.E. 2016 (Ratchakitchanubeksa, 2016), in alignment with the earlier proposal by Prakash and Chowdhary (2010). The designation means a person of Thai nationality, over 18 years old, who as a service guides tourists to various places, providing recommendations and information to the tourists. Tour guide has to be qualified by education and/or training, then register, and be granted a license by the government (Ratchakitchanubeksa, 2016). There were ten types of tour guide licenses divided by tourism activities, and after 18 April 2019 these have been reduced to only six types of tour guide licenses divided by region in Thailand; however, these two systems still overlap especially for the ones who are not due for renewal from the old system. In the context of this study, marine and coastal tour guides for international tourists should hold yellow (beach tourism permission), orange (marine tourism permission), pink (international tourists at specific areas permission: only in Phuket, Krabi, and Phangnga Provinces), blue (Southern Provinces, Thailand permission after 18 April 2019) and/or silver (international tourist permission) certificate licenses (Matichononline, 25.3.2019).

Maakjaeng (1991) described the two major roles of a tour guide as follows: one is the role as a representative of the country; another role is as the guide. This latter role explains in detail the guiding roles that the tour guide has during transfer-in, tour, and transfer-out. In these stages the role of a tour guide is more than just providing information to the tourists. In reality, sometimes a distinction is made between a tour guide who only informs tourists, and a guide who transfers tourists in and out and is called a transfer guide (Maakjaeng, 1991). In addition, Wanthanom (2014); Banerjee and Chua (2020); and Mackenzie and Raymond (2020) explained the roles of a tour guide falling into six types, and used these for investigating their roles in protecting the marine and coastal resources from mass tourism impacts in the study. These roles are those of an educator, a psychologist, an entertainer, an ambassador, a manager, and a servant.

### Tour Operator

Tour operator or tourism business in the context of Thailand means a business that provides one of the following services to tourists: lodging, food, tour guides, or other services that are prescribed in the Ministerial Regulation. The meaning is similar to the meaning of ‘mass tourism’, inclusive of tours, package tours, or using services of a tour operator (one type of tourism), and excluding ‘independent tourism’. Mass tourism means that the tourists have a tour operator decide itinerary, accommodation, and travel plan for them (Maakjaeng, 1991). One that wants to have tourism business has to register with and be licensed by the government. A licensed tour operator can be an individual or a juristic person; however, a tour operator doing tourism business without the required license may be punished by jailing for not more than two years, and/or may be fined not more than five hundred thousand bath (Ratchakitchanubeksa, 2016).

### Relationship of Licensed Tour Operator and Licensed Tour Guide

A licensed tour operator doing business in mass tourism usually provides licensed tour guides. The tour guide may freelance for the tour operator company and come to work when the tour operator calls for assistance, or be part of the regular staff of the tour operator company. They habitually pick up (transfer-in) the tourists from the first destination, such as and airport or a hotel; then guide a tour; and send (transfer-out) the tourists back home safely. During the tour guiding, it may be that the tour guide takes the tourists to visit places where they also provide a personal interpretation or a non-personal interpretation. A tour guide who takes tourists with the tour operator company may also give rough information of the place, and then let the tourists have free time to learn by themselves, or to learn from a local speaker in that place; such as Talang National Museum, Phuket, which provides both personal and non-personal interpretations (Muneenam et al., 2017). In addition, a licensed tour guide has to be a proficient communicator, giving correct information to the tourists, and entertaining them so that they enjoy their tour. The mother tongue is insufficient, instead also foreign languages are used, especially by the inbound tour guide.

### Positive and Negative Impacts of Mass Tourism

Generally, there are both positive and negative impacts from tourism. Three main aspects of impacts are observed: environmental, economic, and socio-cultural impacts (Weaver, 2001; Dimitrovski et al., 2021). For example, Weaver (2001) mentioned some positive impacts from mass tourism as: information from tour guide is able to protect tourism resources during the visit; and increased jobs, incomes, and well-being in local communities. On the other side, negative impacts from mass tourism include wastes, disturbing marine species by tourist observation activities (Chen et al., 2012; Moschino et al., 2017), high expenses, revenue leakage from non-local participation, and socio-cultural intrusion.

This research focuses only on the positive impacts of tour guides while doing their jobs, as well as the negative impacts of tourist activities; and whether tour guide roles can protect marine and coastal resources from mass tourism impacts, specific to one foreign nationality engaging in mass tourism at the Andaman Ocean, Thailand.

### Mass Tourism at Marine and Coastal Environment

As mentioned earlier about the definition of mass tourism by Maakjaeng (1991), this study focuses on mass tourism especially at marine and coastal environment, due to it being a very popular among the foreign mass tourists that could negatively impact the marine and coastal environment. Marine and coastal tourism overlaps with nature-based tourism (Biggs et al., 2015), sea-sand-sun tourism (3s) (Weaver, 2001), and water-based tourism (Fowler, 2012). However, the

most suitable definition for the context of this study is 'marine and coastal tourism' due to coverage of the main activities in the itinerary (Table 1). Dimitrovski et al. (2021) define marine and coastal tourism as recreational activities during travel away from one's place of residence that focus on marine environment and/or a coastal zone. Marine and coastal recreational activities could be boating, swimming, snorkeling, diving, sunbathing, beachcombing, etc.

An interview schedule was developed based on prior literature and assessed for content validity indexes (CVIs) by three experts, and it was revised before use (Thaweerat, 1993). Data collection was from Thai licensed tour guides serving one specific foreign nationality, and working with licensed tour operators registered with the Bureau of Tourism Business and Guide Registration Southern Region 2 (Phuket): there were totally 26 tour operators. They were selected by using purposive and snowball sampling to have one representative per each tour operator. Finally, the 26 representative Thai tour guides were subjected to in-depth interviews (Table 2) with interview schedule divided into 4 sections (Section 1: Basic information of the tour guide; Section 2: Tourist behaviors affecting marine and coastal environment; Section 3: Roles of tour guide; and Section 4: Results from the roles of Thai tour guides on the marine and coastal tourism behavior). In addition to taking notes, voice recordings were made with permission. Quantitative data of the tour guides' basic information were analyzed with descriptive statistics in SPSS (Statistical Package for the Social Sciences) on a personal computer. In-depth interviews were transcribed and coded, and analyzed in-depth together with field notes in qualitative data analysis (Chantavanij, 2008).

Table 1. A generic itinerary of marine and coastal tourism from four to six days marketed by Phuket tour operators, Thailand (Source: Jiayun Travel Group Company Limited, 2018)

| Days | 4 Days Program | 5 Days Program | 6 Days Program |
|---|---|---|---|
| Day 1 | Arrival to Phuket via Bangkok or directly to Phuket | Arrival to Phuket via Bangkok or directly to Phuket | Arrival to Phuket via Bangkok or directly to Phuket |
| Day 2 | Phangnga Province<br>▪ PanYhee Island<br>▪ Tapu Island (007 James Bond Island)<br>▪ Thamlod (Cave)<br>▪ Safari Tour<br>▪ Night Show | Phangnga Province<br>▪ PanYhee Island<br>▪ Tapu Island (007 James Bond Island)<br>▪ Thamlod (Cave)<br>▪ Safari Tour<br>▪ Night Show | Phangnga Province<br>▪ PanYhee Island<br>▪ Tapu Island (007 James Bond Island)<br>▪ Thamlod (Cave)<br>▪ Safari Tour<br>▪ Night Show |
| Day 3 | Krabi Province<br>▪ Phi Phi Island<br>▪ Maya Bay<br>▪ Pile Island<br>▪ Pai Island<br>▪ Khainai Island | Krabi Province<br>▪ Phi Phi Island<br>▪ Maya Bay<br>▪ Pile Island<br>▪ Pai Island<br>▪ Khainai Island | Phangnga Province<br>▪ Similan Island |
| Day 4 | Phuket Province<br>▪ Shopping Day<br>▪ Hey Island<br>▪ Promthem Bay<br>Departure from Phuket | Free Day | Krabi Province<br>▪ Phi Phi Island<br>▪ Maya Bay<br>▪ Pile Island<br>▪ Pai Island<br>▪ Khainai Island |
| Day 5 | - | Phuket Province<br>▪ Shopping Day<br>▪ Hey Island<br>▪ Promthem Bay<br>Departure from Phuket | Free Day |
| Day 6 | - | - | Phuket Province<br>▪ Shopping Day<br>▪ Hey Island<br>▪ Promthem Bay<br>Departure from Phuket |

## MATERIALS AND METHODS

This was a qualitative study of the marine and coastal tourism in three provinces: Phuket, Phangnga, and Krabi provinces, by the Andaman Ocean in southern peninsular Thailand. An example itinerary is shown in Table 1.

Table 2. Representative interviewees from 26 tour operators ordered by date of interview

| Case of Interviewees | Date of Interview |
|---|---|
| **Tour Guide Case 1** | 23 February 2020 |
| **Tour Guide Case 2, 3, 4** | 24 February 2020 |
| **Tour Guide Case 5, 6, 7** | 26 February 2020 |
| **Tour Guide Case 8, 9, 10** | 27 February 2020 |
| **Tour Guide Case 11, 12, 13, 14, 15** | 28 February 2020 |
| **Tour Guide Case 16** | 29 February 2020 |
| **Tour Guide Case 17, 18, 19** | 1 March 2020 |
| **Tour Guide Case 20, 21, 22, 23, 24, 25** | 2 March 2020 |
| **Tour Guide Case 26** | 3 March 2020 |

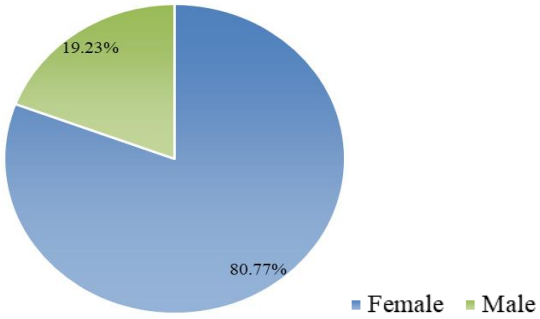


Figure 1. Basic information of the interviewees regarding gender (n = 26)

## RESULTS AND DISCUSSION

### Section 1. Basic Information of Interviewees

Figure one to four presents basic information of the interviewees and shows that there were more females (80.77%) than males (19.23%). The dominant age (Figure 2) range was from 30 to 33 years old (50.00%), most of the subjects had graduated (Figure 3) with bachelor's level degree (88.46%), and half of them had experience (Figure 4) of six to ten years (50.00%). Table 3 presents additional basic information of the interviewees regarding their licenses as well as types of work, showing that most of those who hold silver certificate license (92.31%) graduated with a bachelor's degree and a few have high vocational certificate levels. Those who hold yellow (3.85%) and orange certificate licenses (3.85%) have mostly graduated from secondary or vocational education level. This is concordant with the Tourism Business and Guide Act B.E. 2008 in that tour guides who have graduated at bachelor's and/or high vocational certificate levels in tourism or related fields will automatically receive silver certificate licenses after graduation. Those who hold yellow and orange certificate licenses and graduated from secondary / vocational certificate level have to pass training from vocational college or a training program from a certified educational institute. In addition, all licensed tour guides have to be over 18 years old without unqualifying conditions, such as drug and/or alcohol addiction, or having their license revoked within the most recent five years (Office of the Council of State, 2008). Besides, most of them operate as freelance (92.31%) rather than as

full-time tour guides for a specific tour operator (7.69%). Table 4 presents popular destinations of marine and coastal tourism in the three provinces for tourists from one specific foreign country, showing that the Thai tour guides had to lead their target tourists to visit the following top destinations: Tapu Island or 007 James Bond Island, Phangnga Province (96.15%), Phi Phi Island, Krabi Province (96.15%), or Hey Island, Phuket Province (92.31%). Table 5 presents the distribution of durations of marine and coastal tourism packages from one to more than six days, showing that most licensed tour guides serve on 5 days long marine and coastal tourism packages (69.23%), while one-day tours employ the least marine and coastal tour guides (7.69%). Table 6 presents size of marine and coastal tourist groups. Mostly the guides worked for at most 30 tourists (88.46%) in the group; while one third of them had more than 30 tourists (34.62%).

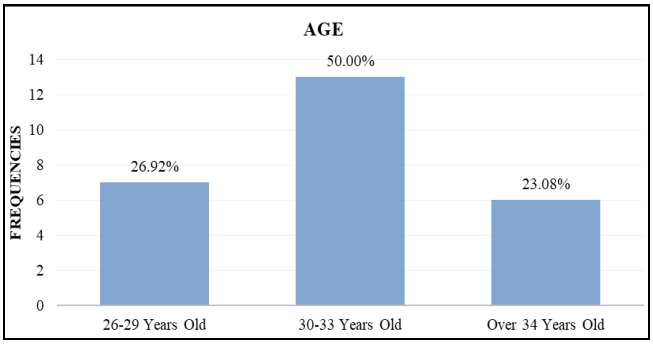


Figure 2. Basic information of the interviewees regarding age (n = 26)

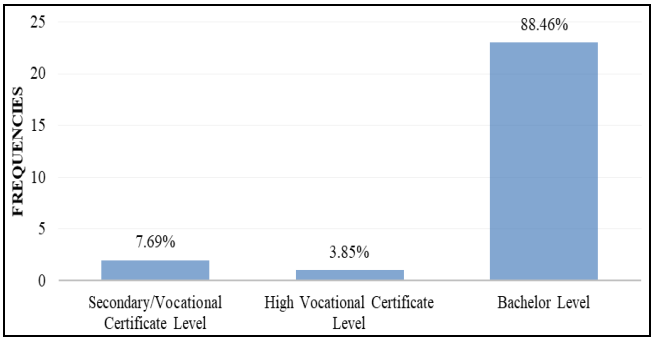


Figure 3. Basic information of the interviewees regarding education (n = 26)

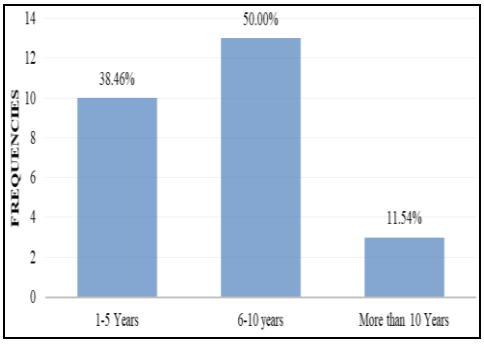


Figure 4. Basic information of the interviewees regarding work experience (n = 26)

Table 3. Basic information of interviewees by license, type of work, cross-tabulated by education level (n = 26)

| Basic Information of Interviewees | Frequencies and Percentages (%) | | | |
|---|---|---|---|---|
| | Education | | | |
| Type of License | Secondary/Vocational Certificate Level | High Vocational Certificate Level | Bachelor Level | SUM |
| Silver | - | 1 (3.85%) | 23 (88.46%) | 24 (92.31%) |
| Yellow | 1 (3.85%) | - | - | 1 (3.85%) |
| Orange | 1 (3.85%) | - | - | 1 (3.85%) |
| SUM | 2 (7.69%) | 1 (3.85%) | 23 (88.46%) | 26 (100.00%) |
| Type of Work | | | | |
| Freelance | 2 (7.69%) | 1 (3.85%) | 21 (80.77%) | 24 (92.31%) |
| Full Time Officer | - | - | 2 (7.69%) | 2 (7.69%) |
| SUM | 2 (7.69%) | 1 (3.85%) | 24 (92.31%) | 26 (100.00%) |

Table 4. Marine and coastal tourism hotspot destinations by province supported by interviewee responses of at least two interviewees (n = 26)

| Marine and Coastal Tourism Destination | Frequency | Percentage (%) |
|---|---|---|
| **Phangnga Province** | | |
| Tapu Island (007 James Bond Island) | 25 | 96.15 |
| PanYhee Island | 22 | 84.62 |
| Similan Island | 15 | 57.69 |
| Thamlod (Cave) | 11 | 42.31 |
| **Krabi Province** | | |
| Phi Phi Island | 25 | 96.15 |
| Pile Island | 18 | 69.23 |
| Maya Bay | 15 | 57.69 |
| Pai Island | 14 | 53.85 |
| **Phuket Province** | | |
| Hey Island | 24 | 92.31 |
| Promthep Bay | 21 | 80.77 |
| Khainai Island | 13 | 50.00 |

Table 5. Duration of marine and coastal tourism package as supported by interviewee responses of at least two interviewees (n = 26)

| Duration of Marine and Coastal Tourism Package | Frequency | Percentage (%) |
|---|---|---|
| One Day Tour | 2 | 7.69 |
| 4 days | 7 | 26.92 |
| 5 Days | 18 | 69.23 |
| 6 Days | 13 | 50.00 |
| More than 6 Days | 8 | 30.77 |

Table 6. Size of Marine and coastal Tourist Group supported by interviewee responses of at least two interviewees (n = 26)

| Size of Marine and Coastal Tourist Group | Frequency | Percentage (%) |
|---|---|---|
| Less than or equal 30 tourists | 23 | 88.46 |
| More than 30 tourists | 9 | 34.62 |

Table 7. Tourist behaviors affecting marine and coastal environment negatively, supported by interviewee responses of at least two interviewees (n = 26)

| Tourist Behaviors Affecting Marine and Coastal Environment Negatively | Frequency | Percentage (%) |
|---|---|---|
| Chasing and catching beautiful fish and/or marine animals | 20 | 76.9 |
| Feeding the fish | 19 | 73.1 |
| Collecting beautiful stones, rare shells, and/or coral reefs | 19 | 73.1 |
| Stumbling on, breaking, bumping in, and/or moving coral during marine activities | 14 | 53.8 |
| Littering the ocean | 14 | 53.8 |
| Using coral unfriendly sunscreen | 12 | 46.2 |
| Eating forbidden types of fish such as parrotfish | 5 | 19.2 |
| Buying forbidden marine animals or products | 1 | 3.8 |
| Perturbing the sediment with swimming fins | 1 | 3.8 |

**Section 2. Behaviors of Tourists of One Specific Nationality Affecting the Marine and Coastal Environment**

Table 7 presents views of the Thai licensed tour guides about tourist behavior for one specific nationality as it affects the marine and coastal environment in Phuket, Phangnga, and Krabi provinces, Thailand. The highest impact tourist behaviors were chasing and catching beautiful fish and/or marine animals (76.9%); secondly, feeding the fish and collecting beautiful stones, rare shells, and/or coral reefs at a similar level (73.1%); while very few tourists were buying forbidden marine animals or products or perturbing the sediment with swimming fins (3.8%). These behaviors are similar to those reported by Matichononline (29.5.2016) from tourist behaviors on Khainai Island, in Phuket province, not far from the coastline, namely that catching fish and feeding the fish could impede growth and development of the fish and harm ecology (Sa-nguansil, 2015), while collecting coral and littering also harm the ocean.

**Section 3. Role of Thai Tour Guides in Protecting Marine and Coastal Environment from Tourists**

This section presents roles of Thai tour guides, as they acted in the following roles to protect the marine and coastal environment from behavior of tourists of a specific nationality, except the role as a manager did not appear to have any relationship with protecting marine and coastal environment from tourists.

*1) Role of Educational Guidance* Thai tour guides had to explain information about Thailand, laws and regulations regarding marine and coastal tourism activities, as do and don't lists, in order to make tourists adapt to the marine and coastal tourism resources, and this information could help protect the marine and coastal environment from tourist activities.

2) *Role of Psychologist* Thai tour guides had to observe their group of tourists who were a bit varied in preferences by age, gender, knowledge and career. For example, a group of elderly people might be distracted while the tour guide had warned and cautioned about the marine and coastal environment, which could lead to breaking rules of marine and coastal tourism and/or a serious accident. This is similar to what Weng et al. (2020) mentioned, namely that the limitations of elderly tourists include degraded ability to follow or accept explanations.

3) *Role of Entertainer* Tour guides had to entertain tourists as much as possible to make the tourists pleased with the trip in Thailand. For example, they had to master the art of telling amusing stories, but these could be about permissions to marine and coastal tourists, from some previous group that could have been fined heavily for violations. These exciting and amusing stories were also education, making the guests aware of rules for the marine and coastal environment.

*4) Role of Ambassador* Tour guides had to cultivate good relationships of Thais with the tourist group, sharing information that helps interactions between the two cultures, such as manners in trading and other interactions, introducing places to visit, where to buy inexpensive souvenirs, and where to enjoy delicious food. Such information contributes to a good image of Thailand that the tourists can share back at home, encouraging visits to Thailand in the future. The trust gained also improves obedience to the tour guide during marine and coastal tourism activities.

*5) Role of Servant* Tour guide had to be service minded, advising and facilitating tourism under the laws and regulations of marine and coastal tourism. For example, taking care specially of kids and the elderly with limited mobility (Weng et al., 2020), as well as making the others wear life jackets before snorkeling as this could help avoid breaking coral unintentionally.

**Section 4. Results Obtained on Roles of Tour Guide Affecting Marine and Coastal Tourism Behavior**

This section presents the results obtained on roles of Thai tour guides, as they affect marine and coastal tourism behavior in a specific nationality of mass tourists. It was found that they could control and protect marine and coastal environment, by providing the tourists knowledge about laws and regulations of marine and coastal tourism in Thailand. This could reduce the impacts on marine and coastal tourism resources, as the tourists did not catch fish or other marine animals. In addition, the tourists enjoyed their time and were satisfied with the marine and coastal tourism services in Thailand.

However, not all Thai tour guide roles help avoid negative marine and coastal tourism impacts on the marine and coastal environment. For example, some of the tourists were distracted from listening when the tour guide explained what to do and not do in marine and coastal tourism activities, even though there were also signs and written instructions in the native language of the tourists to reduce miscommunication, available at tourist destination, supplementing the information shared by the tour guide. This hampered their knowledge of marine ecology concerns as well as laws and regulations in Thailand. Some tourists still fed the fish secretly, or smuggled collected beautiful corals and rare shells. This is also concordant with the barriers to communication according to the Organization for Economic Co-operation and Development (1999:16) which mentioned that "said is not heard, heard is not understood, understood is not accepted, and accepted is not yet done". In addition, regarding loss of the information shared by the tour guide, not all of the tourists were interested in listening at the same time. Some tourists might prefer to be taking photos, and wanted the tour guide to not spend much time talking (Muneenam et al., 2017). Moreover, some marine and coastal tourism resource impacts were from overcrowding by mass tourists from different countries, especially before the COVID-19 pandemic; and catching beautiful fish for tourist photos was sometimes done by a boat driver, not by the tour guide or the tourists themselves. These events were out of scope for the tour guide roles. Also, extra marine activities of tourists in their free time (Table 1) were not under control by the tour guides, such as sea walking, scuba diving, jet skiing, and speed boating.

Although there were successful and unsuccessful Thai tour guide roles affecting marine and coastal tourism behavior by one specific nationality, the respondent Thai tour guides stated that this group of tourists is as nice and kind as any other. Communication in a common language that both parties understand, as well as communication from the heart by the Thai tour guide are important to the tour guide roles in protecting marine and coastal environment from tourist behaviors.

**CONCLUSION**

This study presented roles of Thai tour guides in protecting the marine and coastal environment from mass tourists representing one specific (but unnamed) nationality in three provinces at Andaman ocean shores, in southern peninsular

Thailand, and found that their five roles were helpful in controlling and protecting against impacts on the marine and coastal environment: the roles of educator, psychologist, entertainer, ambassador, and servant. However, while these roles could control some impacts on the marine and coastal environment, other impacts emerged from barriers to communication, limited carrying capacity of marine and coastal ecology despite cumulative tourism, and uncontrolled impacts out of control by the Thai tour guides. Solutions to address these concerns warrant future research studies.

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# CREATING SUSTAINABILITY NATURAL TOURISM DESTINATION

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**Abstract:** Indonesia have many beautiful natural view but there are still a lot of un explore and unnoticed natural tourism destination to be discovered. That has potential for tourism. There are several natural tourism destination that already well-known, such as Bali, Bintan or Raja Ampat, but still have more natural tourism destination still have original a very view and not really noted. In this research, Sawarna Beach chosen as a research location. Sawarna Beach is very beautiful beach with various coastal characteristics. This beach has a complex and unique physiography, morphology and geological setting. The geological wealth of Sawarna coast can be a tremendous asset for tourism. This location has an outstanding potential to become a favorite tourist destination, given the natural beauty displayed. Sampling method used purposively method, data were collected by direct observations and interview, then the data were analyzed descriptively. The physical condition of the Sarwana Beach area is still not polluted, considering that the physical characteristics of the water on these areas are still below the threshold. The socio-economic conditions of the people in the Bayah area needs to be improved. The development itself is provide tourism services from the community is low considering that tourism development in this region is low. Lodging facilities have begun to develop but are limited to lodging, there are no hotels. The restaurants are limited to small restaurants that are not well organized. Local government efforts to organize natural tourism areas only need to be increased and carried out comprehensively. Efforts to make Sawarna Beach as a sustainable tourist de stinations can be achieved with the joint efforts of all parties including the community, government and academia.

**Key words:** natural tourism, sustainability, physical condition, socio-economic conditions

* * * * * *

## INTRODUCTION

Tourist destinations that feature natural beauty can be excellent for Indonesia, which is an archipelago with all its diverse ecosystems and cultures. The area of Bayah District, Banten Regency is an area in the south of the island of Java, has a coastal area facing the Indian Ocean with a long coastline and has a variety of different coastal views. The area of Bayah District is part of the southern mountainous zone of West Java which is composed of hundreds of years old volcanic rocks. The beauty of the beach in Bayah Subdistrict, especially Sarwana Village, has not yet contributed to the welfare of the community. According to data from the Central Bureau of Statistics of Bayah District, the livelihoods of residents in this sub-district are farmers, farm laborers, fishermen, fishing laborers, industry, construction, trade, transportation, mining / quarrying, civil servants, military, police, etc. The tourism sector is yet to be one of the people's livelihoods in this sub-district (BPS Bayah sub District, 2019). The distribution of the population based on their livelihoods is shown in Figure 1. Thus, the contribution of the tourism sector to regional income (GDP) is not yet visible. Mostly resident of Kecamatan Bayah is farmers (46.51 %), and farms workers (6.98%). Agricultural crops are dominated by rice, both lowland rice (641 ha of harvested area in 2018) and lading rice (27 ha of harvested area in 2018). The dominant plantation crop is coconut because this area is a good coastal area for coconut tree growth. The beach that belongs to the Bayah sub-district, especially the Sarwana village, is unique, which is rarely found on other beaches. Figure 2 shows some of the coastal views found in Sarwana beach. From Figure 2, you can see the potential for beach views in several places in the village of Sawarna which are very unique and interesting as tourist objects. However, it needs better attention, the development of this tourism needs more attention in order to provide benefits to all people in this village without damaging the environment. Therefore, the aim of this paper is to present the potential for tourism development in Sarwana village in a descriptive manner.

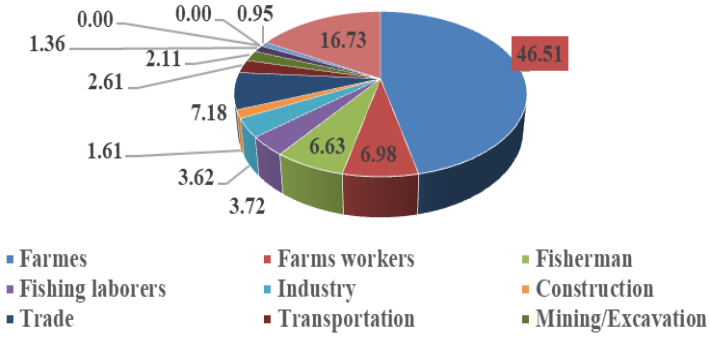


Figure 1. Distribution of Bayah District Population Percentage based on Livelihoods (%) (Source: Kecamatan Bayah Dalam Angka 2019, 2019)

## LITERATURE REVIEW

Tourism as one of the sectors that makes a major contribution to the development of the Indonesian economy, like in

* Corresponding author

European United countries, tourism plays a significant role in promoting economic growth of both Eastern and Western EU countries (Paramati et al., 2017). The tourism development must consider the carrying capacity of tourist areas, especially for nature tourism. Harmony between tourism development and the environment is dynamically changing, coupling factors between the environment and tourism will greatly determine the use of the environment for tourism (Tang, 2015).


Figure 2. Beach view in Sarwana Village (Source: Ismail, 1 Sandy Beach, 2,3,4 Rocky Beach, Sarwana Beach, Banten, Indonesia )

For sustainable tourism, it important to analyze the dynamic relationship between tourism and environmental quality (Danish and Wang, 2018). Excessive use of nature for tourism will have a negative impact on nature itself. There is a positive correlation between the environmental knowledge and the environmental attitude, a positive correlation between the environmental attitude and the environmental behaviour, and a positive correlation between the environmental knowledge and the environmental behaviour (Zheng et al., 2018). That will beneficial for culturing common people's environmental literacy, correct environmental attitude, environmental and ecological caring, and fulfilment of environmental behaviour. The competitiveness of tourism destination also determined by several economic, geographical, cultural, and political features (Gómez-Vega and J Picazo-Tadeo, 2019). From research of (Armenski et al., 2018) , there are five dimensions for Serbian competitiveness, risk management and adaptive environmental strategies, innovation and product development, planning for sustainable development, networking and community concern and education for sustainability. The study of pollution caused by tourism activities is an important thing to study. Based on (Ahmad et al., 2018), natural environment and scenic points in western part of China are an attraction for tourists but strict regulations are required to promote the positive impact of tourism. environment-friendly tourism. The relationship of ecotourism to other of tourism show at Figure 3. From Figure 3, ecotourism could have relationship with another type of tourism, and this relationship could give a good impact to environment. The natural tourism or wildlife tourism must

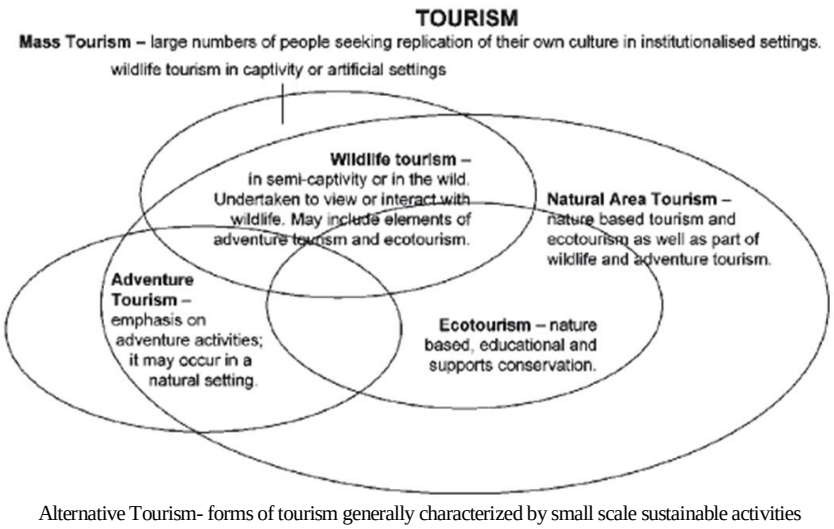


Figure 3. Relationship of ecotourism to other forms of tourism (Source: Hill and Gale, 2012)

keep the environment to support the experience and the amenities that offer by environment. In Bayah Beach, there are ecotourism such as cave that as a field laboratory for geology and used by geology student and lecturer for their research and teaching activities. The location of the cave is near the sandy beach that shown natural area tourism. The improvement in policies and regulations will increase tourism growth, although when tourism increases, so does, in turn, contamination of the environment, so that the relationship between tourism and environmental sustainability is shown to be bidirectional (Pulido-Fernández et al., 2019). There is significant and positive influence of environmental sustainability on tourism growth, the association factor is relatively low, indicating that there are other factors that affect tourism growth (obviously, the development of tourism is also affected by the quality of the accommodation on offer, the number of tourist resources, or the accessibility of the destination, among other factors). In the coupling coordination analysis between tourism and the environment it is found that the harmonious development of tourism and the environment system is a dynamic, analysis of coupling coordination in Heilongjiang Province, China from 1995 to 2012 showed is that the trend to ascend in general (Tang, 2015). Based on (Sun, 2019), the relationship between tourism and global value chains (GVCs) that GVCs increase a nation's tourism carbon competitiveness and relieve global carbon pressure. From an environmentally extended input–output model that assess the distribution of the tourism's economic and environmental effects in global segments find that high in carbon contents but low in economic linkage. In tourism development needs to facilitate the transition of domestic businesses toward better energy efficiency, and produced with a lower carbon intensity than the domestic production technology. Linkage between the natural ecosystem and economic ecosystem in tourism development might use industrial ecology approach (Lucchetti and Arcese, 2014).

## MATERIALS AND METHODS

In this research, Sawarna Beach were chosen deliberately, because in these areas, the tourism industry has started but has not been yet to be maximized and the environmental quality in this area must be maintained. Environmental aspects that measured in this research is water physical characteristics. At Sawarna Beach area, the water sample is taken at 4 points, which are Gua Langir, Pulau Manuk, Cisawarna and Ciasem. The consideration in choosing the sample point is these points have different condition and would represent the whole area. The parameters measured were turbidity, conductivity, pH and temperature, with 3 replication for each point. For social and economics aspect, respondent chosen purposively. Informant at Sawarna Beach is the guide who has been a tour guide for about 15 years, his name is Mr. Baduy. The method used to collect the data was interview with question guide and method used to analyze was descriptive (Biggs et al., 2021).

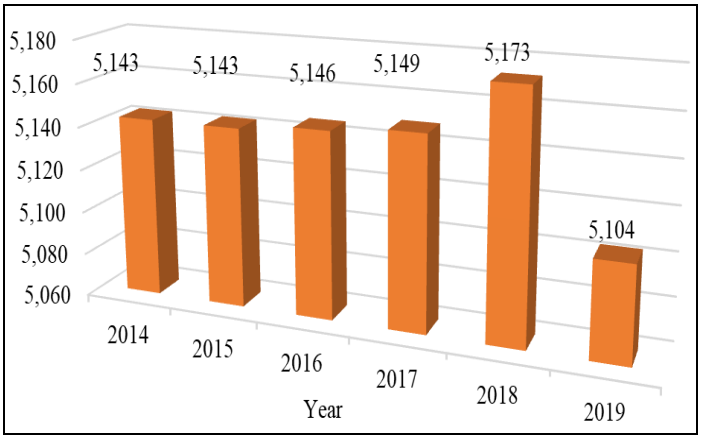


Figure 3. Population Development of Sawarna Village (people) (Source: Kecamatan Bayah Dalam Angka 2019, 2019)

Table 1. Parameter Fisik Air di Desa Sarwana Source: Primary data

| Sample Point | No | Conductivity (µS) | Turbidity (NTU) | pH |
|---|---|---|---|---|
| Gua Langir | 1 | 1,356.00 | 1.45 | 7.45 |
| | 2 | 1,371.00 | 1.91 | 7.48 |
| | 3 | 1,364.00 | 1.61 | 7.49 |
| AVERAGE | | 1,363.67 | 1.66 | 7.47 |
| Pulau Manuk | 1 | 580.50 | 30.70 | 7.52 |
| | 2 | 580.80 | 30.90 | 7.49 |
| | 3 | 582.10 | 30.40 | 7.48 |
| AVERAGE | | 581.13 | 30.67 | 7.50 |
| Cisawarna | 1 | 1,647.00 | 4.42 | 7.58 |
| | 2 | 1,824.00 | 3.88 | 7.61 |
| | 3 | 1,845.00 | 3.88 | 7.66 |
| AVERAGE | | 1,772.00 | 4.06 | 7.62 |
| Ciasem | 1 | 2.50 | 14.91 | 7.59 |
| | 2 | 2.75 | 15.20 | 7.58 |
| | 3 | 2.49 | 15.45 | 7.59 |
| AVERAGE | | 2.58 | 15.19 | 7.59 |

## RESULTS AND DISCUSSION

### 1. On Overview of Sawarna Village

Sarwana is a village which is located 12 km from the sub-district capital and 139 km from the capital of Lebak Regency, with an area of 17.70 hectares. The population growth in Sarwana village is shown in Figure 3. The development of the population in Sawarna village in the last 5 years (2014-2019) can be said that there has been no significant change. The mobility of people in and out Sarwana village could viewed from the type of road surface to Sarwana village, it is an asphalt road that can be traversed throughout the year and there is a fixed route to this village. There are 4 operators with signal conditions that cover most of the area of this village. The development of the population in Sawarna village in the last 5 years (2014-2019) can be said that there has been no significant change. For mobility of people in and out Sarwana village could viewed from the type of road surface to Sarwana village, it is an asphalt road that can be traversed throughout the year and there is a fixed route to this village. To develop tourism industry in this area, society may have environmental ethics that linked with tourism, and ecological virtue and literacy are key elements in this process (Holden, 2019). There are shifted from an instrumental ethic as a basis of conduct for the use of nature to more conservation based ethics (Holden, 2003).

### 2. Environmental Condition

To show environmental conditions, water samples were taken at four locations and its physical characteristics were

measured directly. Table 1 shows the results of measurements of the physical parameters of the water taken at the four sample points. From Table 1, the conductivity of water from 4 sample points have big differences, at Gua Langir from 3 times taken, the average conductivity is 1,363 µS, not too different with conductivity at Cisawarna (average conductivity is 1,772 µS. Conductivity at Pulau Manuk is lower compare to Gua Langir and Cisawarna, and the lowest average conductivity is at Ciasem sample point. The measurement of conductivity at this 4 sample points showed the difference because of the influenced of saline water from sea. Conductivity is a measure of water's capability to pass electrical flow. This ability is directly related to the concentration of ions in the water.

Compounds that dissolve into ions are also known as electrolytes. The more ions that are present, the higher the conductivity of water. Likewise, the fewer ions that are in the water, the less conductive it is. Sea water, has a very high conductivity. It means at Gua Langir and Cisawarna, sea wateris higher than the plain water but at Ciasem, plain water from the river still dominant. The next parameter measured is turbidity. Turbidity is the cloudiness or haziness of a fluid caused by suspended solids that are usually invisible to the naked eye. Water almost always contains suspended solids that consist of many different particles of varying sizes. Some of the particles are large enough and heavy enough to eventually settle to the bottom of a container if a sample is left standing (these are the settleable solids).

The highest turbidity is at Pulau Manuk, and the lowest is at Gua Langir. At Pulau Manuk, there is a movement of fish that will breed at a river from the sea. The society around this area, catch the fish using net, and that make a particle of soil muddy the water. Pulau Langir area is a beach with a cave that quite, desolate with few human activity place, and did not give much disturbance to the water. For pH measurement, all sample point showed the neutral level of acidity. This showed that the water at all sample point is not yet polluted.

### 3. Social and Economic Condition

Bayah District, especially Sawarna village is an agriculture area. Mostly people in this village is farmer especially paddy. They cultivated paddy at wet land or dry land. The harvested area for lowland rice in Sawarna village in 2018 was 641 ha with an average production of 5.28 tonnes / ha, for dry rice, the harvest area was 27 ha with an average production of 3.32 tonnes / ha. Rice production, both paddy and lading, is very low compared to the national rice production which can reach 9 tons / ha. In addition, the production of horticultural crops and fruits from this village is not optimal. For plantation crops, Sarwana village produces a lot of coconut compared to other villages in Bayah District (production in 2018 was 308.70 quintals. In Sarwana village, there are no financial institutions, there is no market, but there are 2 mini markets, 79 inns, 253 kiosks / stalls, and 11 restaurants. From the socio-economic conditions in Sawarna village, it can be seen that the tourism development has a high potential to be carried out in this village.

Agriculture society closed to natural resource, such land, water, and highly depend on it. Environmental behavior from tourist could hard to find, but it could get from more environmentally friendly architectures driven (Juvan and Dolnicar, 2017). Tourist satisfaction and environmental commitment mediated the relationship of the obtain from visiting a destination, as a perceived by tourist with environmentally responsible behavior (He et al., 2018).

### 4. Tourism Potential

With various coastal views, Sarwana village can develop many tourist spots for tourists. If all beach spots are developed, there will be several beaches that provide a different beach tourism experience. Tourism development can be started by opening access to the beach with a wider road and allowing visitors to go directly to the beach. In the current condition, visitors need to take a two-wheeled vehicle and take a small road to get several beaches. This is an obstacle to show the beauty of the beach directly to visitors. The vehicles available to reach the beach are two-wheeled vehicles, generally motorbikes, by paying motorcycle taxi drivers who have not been properly trained in transporting tourists, and also at rates that seem non-standard. From research of the United Arab Emirates as a popular tourism destination, destination resources, destination infrastructure and support services, and the general business environment have a significance influence on the UAE's tourism competitiveness (Michael et al., 2019).

Coaching motorcycle taxi drivers will open up good opportunities in developing tourism in the Sarwana village. Besides being able to take visitors, these *ojek* drivers can also function as tour guides. Honest behavior and hospitality can attract visitors to come back to Sarwana. In addition to the limited access to the beach in this village there is a lack of lodging availability. Home stays are starting to exist, but further guidance is still needed in the management of home stays, especially in providing cleaning services. The existence of restaurants and inns with low numbers and quality of services can be used as the starting point for the development of tourism support facilities. Community development to provide home stays is also a useful option, so that people can earn income from these tourism activities. However, mentoring and increasing public awareness to provide the best fair and honest service is very important. In the past few years, it happened that one of the restaurants on the Sarwana beach gave unreasonable prices to visitors.

This incident made visitors hesitate to buy food at restaurants around the beach and it is still affecting by restaurant entrepreneurs until now. In fact, this incident had been resolved by village officials and community leaders by imposing sanctions in the form of prohibiting selling for several months. This shows that the structure of the community still upholds community values and there are still community values that are followed. This also shows, very important to evaluate the Sarwana as a tourism destination. Evaluation of Zhangjiajie, China as a tourism destination using 4E rubric of economiy, efficiency, effectiveness, and environmental quality, showed significance event, natural disaster, and financial crises influence performance most (Luo, 2018). Study about the tourism evaluation in this area will take an important phase in development of this destination.

## CONCLUSION

The village of Sawarna with a very diverse coastal landscape has the potential to be developed as a tourist destination. Sustainable tourism development can be achieved, considering that the environmental impact, which is seen from the physical characteristics of the water, is still not polluted. Tourism development can increase people's income and ultimately improve their welfare. Develop this area to become the tourism destination need to highly consider about social, economy and environmental aspects at a same time.

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# THRESHOLD EFFECT OF INFORMATION TECHNOLOGY INFRASTRUCTURE ON TOURISM SECTOR DEVELOPMENT: EVIDENCE FROM TOP 10 AFRICAN DESTINATIONS

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**Abstract :** Tourism has become an information-intensive business that heavily relies on ICT to provide information and conduct transactions for consumers of touristic products and services. Thus, ICT infrastructure would play a major role in the development of the tourism sector. This paper aims to investigate the threshold effect of ICT infrastructure on tourism sector development in top10 African tourism destinations including ; Botswana, Egypt, Kenya, Morocco, Namibia, Rwanda, South Africa, Tanzania, Tunisia, Uganda. To do so, a double panel threshold regression model utilized over the period 2004 to 2017. The empirical results revealed a new perspective that there is a double-threshold effect of ICT infrastructure on the development of tourism sector, indicating a non-linear effect of ICT infrastructure on the development of tourism sector in top 10 African tourism destinations. More specifically, the empirical results reveal that ICT infrastructure weakly and positively derives the number of intentional tourism arrivals and international tourist receipts when the level of ICT infrastructure is less or equal to the first threshold, while it strongly and positively derives the number of intentional tourism arrivals and international tourist when the level of ICT infrastructure is less or equal to the first and second thresholds. Thus, this paper provides important implications for policy makers, in that maximizing the benefits from information technology in developing tourism sector can be achieved when its level between certain critical threshold values.

**Key words:** ICT infrastructure, tourism sector development, top 10 African destinations, panel threshold regression model

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## INTRODUCTION

Tourism is one of the fastest growing sectors in the global economy. According to the World Travel and Tourism Council, (WTTC), the tourism sector accounted for 8.8 trillion dollars (10.4%) of the total global gross domestic product (GDP) in 2018. Moreover, the contribution the sector makes to global GDP was 1.7 times higher than the mining sector, 1.5 times higher than banking and automotive manufacturing, and 1.4 times higher than agriculture. Africa is particularly significant to the tourism market with its tourism sector, founded on cultural and historical attractions, being considered one of the essential pillars of African economies (Butler and Rogerson, 2016; Okupe et al., 2018). The tourism sector in Africa has become one of the most significant contributors to economic growth as it comprises 8.5% of total GDP. Tourism is a fast growing sector in Africa with a growth rate of 5.6% in 2018, second only to Automotive manufacturing with 7.1%. It is also fourth in terms of job creation with 24.3 million employees in tourism, which accounts for 6.7% of total employment (WTTC, 2018).

Considering this data, it can be concluded that tourism has the potential to meaningfully accelerate Africa's economic development. More specifically, it can be seen that in countries that contain a top 10 tourist destinations, the tourism sector is one of the leading sectors in their economies. Statistic, (2018), the tourist sector accounts for nearly 25 million Pules (12.6%) to Botswanan GDP, 496.4 billion (9.3%) to Egyptian GDP, 137.8 billion Dirhams (11.7%) to Moroccan GDP, 806.3 billion Kenyan Shillings (8.2%) to Kenyan GDP, 28.610 million Namibian dollars (14.7%) to Namibian GDP, 354.9 billion South African Rand (7%) to South African GDP, 922 billion Rwandan Franc (10.2%), 5.141.1 billion Tanzanian Shillings (10.7%) to GDP, 15.761 million Tunisian dinars (13.9%) to GDP, 6.622 billion Ugandan Shillings (5.6%) to GDP. In addition, the tourism industry provides millions of jobs and thereby reduces unemployment rates, with 10% of the world's workers being employed in the tourism sector. According to the WTTC, in 2019 tourism sector provides 92.3 thousand jobs in Botswana, 2.490 million jobs in Egypt, 1.336 million jobs in Morocco, 1.579 million jobs in Kenya, 114.6 thousand jobs in Namibia,1.483 million jobs in South Africa, 331.2 thousand jobs in Rwanda, 1.550 million jobs in Tanzania, 373.5 thousand jobs in Tunisia, and 536.6 thousand jobs in Uganda. Despite this, the development of this sector in African countries is still at remarkably low levels compared to other regions. For example, in 2018, the number of international tourist arrivals was only 47.6 million in Africa, compared to 519.5 million and 320.2 million in European Union and Asia and pacific countries respectively.

Information and communication technology (ICT) infrastructure plays a major role in the development of the tourism sector through its influence on tourism firms' operations and performances. The spread and advisement of ICT infrastructure

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offer instruments that facilitate the construction of new tourism businesses and the restructuring of existing one (Buhalis, 1998, 2003). Also, the spread and advisement of ICT infrastructure can reshape and change the nature of tourist firms' products, processes, businesses and competition (Buhalis, 1998; Law and Jogaratnam 2005). Furthermore, ICT provides several strategies that tourism firms can benefit from, namely: creating barriers to entry; making provided products and services more distinguishable; reducing products' distribution channels; improving pricing competition abilities; diminishing product supply costs and facilitating supply products; as well as, increasing cost efficiency. Therefore, the adoption of advanced ICT enhances tourism firms' growth opportunities through reducing information asymmetry and agency costs (Chen et al., 2018). Given that tourism firms' performance and ICT infrastructure are closely connected, tourism firms have been encouraged to adopt the right ICT infrastructure to efficiently direct and manage their operations in order to help them provide competitive prices and thereby enhance their performance (Madhukar and Sharma, 2019), and consequently develop the tourism sector as a whole.

The improvement of ITC infrastructure also contributes to developing the tourism sector by providing tourists, and tourism-related businesses with necessary information and appropriate applications. In this vine, the internet, computer, and mobile technologies provide current and potential tourists with quick, direct and cheap information on destinations such as touristic landmarks, economic stance, security position, accommodation, transport, and any other related information. As a result, the number of incoming tourists coming would increase and thereby improve the development of the sector. In addition, advanced ICT offers tourism applications that have enabled tourists to plan all transactions related to their programs online, including booking tickets and hotels, travel insurance and other related transactions (Tan et al.,2017; Law et al.,2018). For example, mobile technology through mobile devices enhance transactions and provides guides on tourism transactions (Ukpabi and Karjaluoto, 2017), where 60% of global smart phone users download travel apps onto their devices with 45% of them using these apps regularly to plan transactions related to their touristic programs (Good Work Labs, 2016). As a result, tourism applications not only deliver appropriate advantages in terms of easy cancellations, modified offers, a secure payment platform, planning and research but they also deliver other advantages that save time and costs, such as comparative pricing and access to the best offers at lower prices (Madhukar and Sharma, 2019). Furthermore, utilizing advanced ICT infrastructure, in particular the internet, increases the online presence of a tourist destination, making it competitive in the global market by providing online applications that facilitate the work of tourist agencies and other related tourism businesses (Adeola and Evans, 2020).

This would efficiently promote domestic tourism in the global market, increasing the demand for tourism services and eventually enhance the sector's development. The deployment of mobile technology has fundamentally transformed what tourism is offering. In light of the above, tourism has become an information-intensive business that relies on ICT to provide information and conduct transactions for consumers of touristic products and services via internationally available applications (Gretzel et al., 2015). Thus, it is not surprising that ICT infrastructure has played an important role in developing the tourism sector (Gössling, 2021). For example, leading online travel companies like Booking Holdings and the Expedia Group made worldwide revenues of 15.07 billion and 12.07 billion US dollars respectively in 2019 (Statistics, 2019). Empirical evidence by Adeola, and Evans (2020), found that the increase of ICT by 1 unit leads to increasing tourism demand by 1.5 units. This indicates that the higher scale of ICT, the greater the number of tourist arrivals, implying that ICT significantly improves the level of the tourism sector.

Although, African countries have sought to adopt advanced ICT due to its potential to ameliorate tourism sector development (Ukpabi and Karjaluoto, 2017; Ankomah and Larson, 2019), The spared of ICT across the African continent had only increased in the late 2000s and early 2010s, (Ponelis and Holmner, 2015). It was only in the beginning of 2000s, that the internet became more commonplace in African households (Beda, 2019). In particular, the individual use of the internet in top 10 Africa countries have gradually progressed over the first decade of millennium (See the graph below). For example, the percentage of individual using the internet per hundred inhabitants in Botswana was 3.3% in 2004, 6% in 2010, and substantially reached to 47% in 2017, in Egypt this figure was 11.9% in 2004, 21.6% in 2010, and remarkably increased to 44.95% in 2017, in Kenya was 3.02% in 2004, 7.20% in 2010,and modestly increased to 17.8% in 2017 comparatively to Botswana and Egypt, in Morocco was 11.16% in 2004, increasing to 52% in 2010, and 61.76% in 2017 (International Telecommunication Union's World indicator, Statistics, 2017). Nevertheless, the level of African countries' ICT infrastructure in particular is still lower comparatively to their counterparts in developed countries. For example, individuals using the internet in developed countries is substantially higher, in the USA, for example, the figure was 64.67% in 2004, 71.69% in 2010, and substantially reached to 87.27% in 2017, in France was 39.15%,77.28% in 2010, and 80.50% in 2017 (International Telecommunication Union's, World indicator, Statistics, 2017). Moreover, the level of development in ICT infrastructure in African countries have not reached the desired level to meaningfully affect competitiveness of the regions' tourism sector (Wamboy et al., 2020), which in turn may influence the level of tourism sector development in those countries. Based on above this study proposes that the relationship between ICT infrastructure and tourism development in Africa is non-linear and there by attempts to answer the following question: what is the threshold for ICT infrastructure to meaningfully contribute to the development of the tourism sector in the 10 top African destinations? In investigating this area, this paper aims to empirically investigate the threshold effect of ICT infrastructure on tourism sector development by focusing specifically on Botswana, Egypt, Kenya, Namibia, Morocco, Rwanda, South Africa, Tanzania, Tunisia, Uganda during the period 2004-2017. Understanding the effect of ICT infrastructure including Internet usage by individuals, fixed broadband subscriptions, and broadband Internet connection via home computer in those countries will help tourism industry policy makers design policies, strategies, and programs that could maximize the benefits from that develop the tourism sector. The effect of ICT infrastructure on developing tourism sector has not fully and empirically been investigated.

The only study that has empirically studied the effect ICT infrastructure on tourism sector development carried out by Adeola, and Evans, (2020) which focused on the effect of ICT infrastructure on the number of intentional tourist arrivals in African countries. Thus, this paper contributes to literature in two main ways. First, it expands the literature's scope on the effect of ICT infrastructure on tourism sector development by investigating the threshold effect of ICT infrastructure on tourism sector development in top 10 African tourism destinations Second, this paper will provide comprehensive empirical evidence on the relationship between ICT infrastructure and the development of tourism sector by including the effect of ICT infrastructure on international tourist arrivals and international tourism receipts.

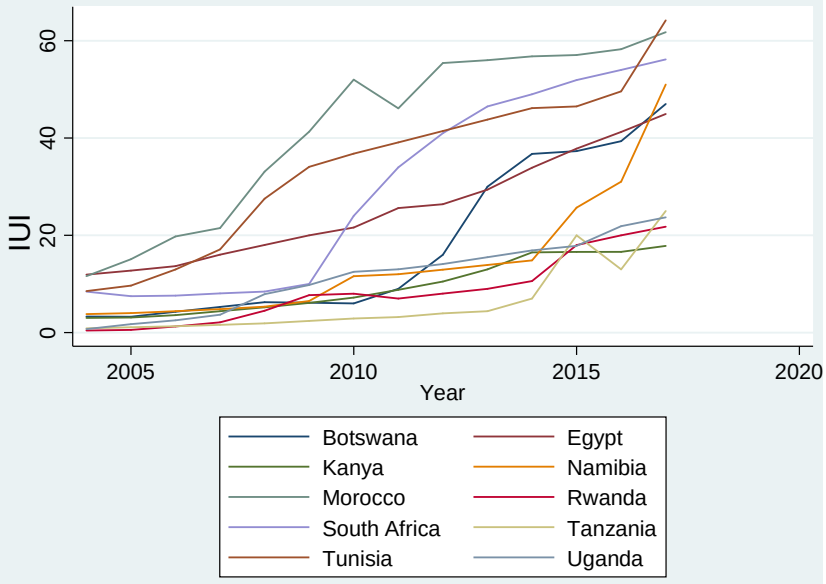


Figure 1. Individual use of internet as percentage of population in top 10 African destinations

## LITERATURE REVIEWS

### 1. Effect of macroeconomic variables on the development of the tourism sector

### 2.1. Effect of gross domestic product on tourism sector development

Several studies have addressed the relationship between tourism sector development and the level of aggregate economic activity. For example, Nemec Rudez (2008) examined the impact of GDP on international tourism expenditures in Slovenia. He found out that GDP has positive and strong impact on international tourism expenditure in Slovenia. Further, he indicated that income elasticity of outbound tourism falls when GDP increases. This results signifies higher level of GDP leads to slight change in tourism demand, indicating that foreign destinations on average are considered as luxury destinations for Slovenian tourists.

Also, Martins and Ferreira-Lopes, (2017) examined the effect of economic activity on tourism demand. They found that the World's GDP per capita, is the driving force among the macroeconomic variables that stimulates the number of international tourist arrivals. In the same way, Shahbaz et al., (2017) confirmed that GDP per capita in Malaysia stimulates tourism demand by increasing the number of international tourist arrivals and international tourism receipts. More recently, Rasool et al. (2021) investigated the relationship between tourism development and economic growth in BRICS countries and concluded that international tourism receipts per capita and economic growth are co-integrated and have long relationship.

Also, they found out a bi-directional causal relationship between international tourism receipt per capita and economic growth which therefore back up both the tourism-led growth hypothesis, and the economic-driven tourism growth hypothesis. Consequently, tourism sector is not only the driving force for economic growth, but the economic growth itself can contribute in developing tourism sector in BRICS countries.

### 2.2. Effect of exchange rate on tourism sector development

Another standard of literature have concentrated on the effect of exchange rate on tourism development as one of the most important factors influencing tourism industry, as it directly affects tourism companies' costs and revenues. Changes in foreign exchange can lead potential travelers to change their destinations or reduce the length of the holidays, both of which result in revenue loss to the host country's economies (Webber, 2001). However, the empirical studies have not reached to the same conclusion on the effect of exchange rate on tourism demand. Some studies have found out positive effect, negative effects, others found no effect. For example, Surugiu et al. (2011), Vita et al. (2013), Khoshnevis et al. (2017), showed that exchange rate had a negative impact on the international tourism demand in the case of Romania, Turkey, and the USA respectively. However, Quadri and Zheng (2010) analyzed the relationship between exchange rates and international arrivals of 19 host countries in the case of Italy.

The impacts only had the statistical significance in 8 countries, while exchange rates were found to be irrelevant with international tourist arrivals in eleven of the nineteen countries. Martins et al., (2017) indicated that the decline in the nominal exchange rate of the origin country against the tourist destination country could increase tourism demand by tourists from the origin country's as long as the level of prices in the tourist destination country relatively lesser than those in tourist origin country. Contrary, if the level of prices in the tourist destination country is higher than the origin country, the more likely it is for the number of tourists coming from the origin country to the tourist destination to the tourist destination country to decrease**.** Tung (2019) argued that devaluation of domestic currency has positive effect on the number of foreign tourists to Vietnam indicating that as the Dong exchange rate against the USA dollar increase, foreign tourists look for to other touristic destinations causing a decline in the number of foreign tourists coming to Vietnam. Sharma et al. (2019) also, found that number of foreign tourist arrivals in India is negatively affected by exchange rates in both the long and short-term, with greater impact in the short-term.

### 2.3. Effect of inflation on tourism sector development

Several studies have paid attention to the effect of inflation on tourism development. In this aspect (Salman, 2003; Lim, 2004; Dritsakis, 2004; Toh et al., 2006). Indicated that as the level of prices increase, the number of international tourist arrivals declines, indicating that inflation has a negative impact on the development of tourism sector**.** Saayman, and Saayman (2015) showed how tourist expenditure by international tourists in South Africa response to relative price in origin destinations as well as in competitor destinations. Results indicated the elasticity of tourist expenditure by tourists in South Africa with respect to relative price of origin destinations (Australia, Brazil, France, Germany, India, Netherlands, UK, and USA, was inelastic expect for Netherland. Therefore, tourist expenditure decrease by less than the increase in the relative price expect for Netherland. Furthermore, the substitute price elasticity was positive indicating that tourism destinations including Botswana, Kenya and Tanzania, are considered as international tourism destination substitutes to South Africa. Therefore, if prices in South Africa increases relatively to those destinations, the tourist spending in South Africa may declines, with more tourists spending money in alternative destinations. Finally, Martins and Ferreira-Lopes, (2017) pointed out that a decline of relative domestic prices do help boost tourism demand as measured by the number of international tourist arrivals, but relative prices become more important in affecting tourism demand when the international tourist expenditures is employed as the proxy for tourism demand.

### 2.4. Effect of financial development on tourism sector development

A limited number of studies have considered the role of financial development in deriving tourism sector development. For example, with a focus on India, Ohlan (2017), found that there is a long-term link between tourism and various financial development. Shahbaz et al. (2017) highlight that the Granger causality test shows bi-directional causation between financial development and tourism. They also, found that there is also a long-term link with the development of the tourism sector (foreign tourist arrivals and tourist receipts). Furthermore, they indicated that financial development positively affects tourist development in the long-term. Katircioglu et al. (2018) confirmed the existence of a long-term association between financial and tourist development, which can be attributed to the pecking order theory: better financial and market conditions will attract tourism entrepreneurship because firms will be able to use more capital instead of being forced to use leveraging. Yenisehirlioglu and Bayat (2019) investigated whether there is a causal relationship between tourism development and financial development in the MENA countries. They found out a unidirectional causal relationship running from financial development to tourism development in Jordan and Tunisia. Whereas, in Sudan and Morocco a unidirectional causal relationship was found from tourism development to financial development. In addition, Musakwa, and Odhiambo, (2020) investigated the causal link between financial development and tourism development in South Africa. They pointed out that the causal link between the two depends on the proxy being used for financial development. In the sense that a unidirectional causality link was existed in the short and the long- run from tourism development to financial development when broad money was employed to represent financial development. Whereas, a bidirectional causal link was found between them in the short -run, but a unidirectional causal link from financial development to tourism development was found to in the long-run when the domestic credit provided by financial sector was used to account for financial development.

### 2. Effect of ICT infrastructure on tourism sector development

A number of studies have indicated that ICT plays an important role in influencing the development of the tourism industry. Ma et al., (2003) examined how the development of ICT, particularly the internet, have transformed the Chinese tourism industry. They indicated that despite the development of ICT in China, Chinese business had not seen as much benefit as had been expected from the internet. Most tourism-related businesses in China still conduct their operations in traditional way with little application of an information network. Also, Bethapudi, (2013) and Firoiu and Croitoru (2013), point out that ICT has an essential role in developing and expanding the tourism industry's activities as ICT facilitates reaching tourism products and services by targeting customers across the globe, especially after the emergence of web technologies via mobile computers. All studies on the impact of ICT on the tourism industry have empirically ignored the effect of ICT on tourism development. The one exception to this is Adeola and Evans (2020), who found that ICT positively influences the number of intentional tourist arrivals in Africa. This paper seeks to expand the existing literature on this perspective by investigating the threshold effect of ICT infrastructure on tourism industry's development by focusing on the top 10 African tourism destinations. Moreover, Kumar and Kumar, (2020) studied the association between ICT infrastructure and tourism demand in major tourist destinations namely; China, France, Germany, Italy, Mexico, Russia, Spain, the United Kingdom, and the United States. They indicated that mobile subscriptions and broadband positively and strongly derive international tourist arrivals in both short and long-runs.

## DATA AND METHODOLOGY

### 1. Data

As mentioned above, this paper investigates the effect of ITC infrastructure on the development of the tourism sector in related to the top 10 African tourism destinations. To achieve this, yearly data covering the period from 2004 to 2017 will be employed. The start and end point for data duration was chosen based on the availability of data, with the 2004 starting date the result of the fact that some ITC infrastructure proxies, namely fixed broadband subscriptions (per 100 people), have been available in all countries since 2004. In the same way, the end date of 2017 was due to the availability of data related to dependent variables until this year. For example, data on international tourist arrivals, and international tourism receipts in Kenya and Botswana are available until 2017. Also, data on some independent variables, like the number of individuals using the Internet (% of population) are available up to 2017 in Botswana, Kenya, Namibia, South Africa, Rwanda, and Uganda.

**2. Dependent variables**

The dependent variable in this study is the development of the tourism sector which is represented by two indicators, namely, international tourist arrivals ($ITA$) and international tourism receipts ($ITR$) since the World Tourism Organization (UNWTO) considers these two indicators as important in gauging tourism development (Koçak et al., 2020). Furthermore, previous studies (e.g. Lee and Brahmasrene, 2013; Naradda Gamage et al., 2017) have concentrated on these as proxies for development in the sector, and they took them into account to represent the sector's development. Data on $ITA$ and $ITR$ was taken from World Bank data.

**3. Independent variables**

The key independent variable in this study is ICT infrastructure in the African countries that were the top 10 most popular destinations for tourists in the period 2004-2017. Existing literature (e.g.Toader et al., 2018; Bahrini and Qaffas, 2019) has used different proxies for ICT, including mobile cellular subscriptions per 100 people ($MCS$), the number of fixed telephone subscriptions per 100 people ($FTS$), the individual use of internet as percentage of population ($IUI$) ,and the number of fixed broadband subscriptions per 100 people ($FBS$). However, those proxies are at most highly correlated, as is shown in Table (1), and hence using them all or some of them in one model will rise multicollinearity problem. The influence of control variables on the tourism sector's development will also be taken into account following previous studies by including; gross domestic product ($GDP$), inflation rate presented by the growth rate of consumer price index ($CPI$), real exchange rate ($RER$) computed as nominal exchange rate (country inflation rate)/ the USA inflation rate), banking sector's development is proxied by credit to the private sector ($CPS$). Data on ICT infrastructure, as well as, data on macroeconomic variables were obtained from the World Bank's database. To overcome the multicollinearity problem related to $MSC, FTS, IUI$, and $FBS$ , an index of ICT infrastructure $(ICTIND)$ is constructed based on $MSC, FTS, IUI$,and $FBS$ employing principle component analyses following (Adeola and Evans, 2020). Therefore, in this study the 10 most popular African tourist destinations represent the ICT infrastructure variable. Table (2) shows the principal component analysis results where the first principal component account for 71.8% of the variation, while the second, third and fourth explain only 16.6%,7.9%, and, 3.7% of the variation respectively. Consequently, the first principal component is the best representative of $ICTIND$ that constructed from $MSC, FTS, IUI$, and $FBS$.Table (3) shows each variable statistical descriptions.

Table 1. Correlation matrix among independent variables

| **Correlation** | $CPI$ | $DCP$ | $GDP$ | $RER$ | $FTS$ | $FBS$ | $MCS$ | $IUI$ |
|---|---|---|---|---|---|---|---|---|
| $CPI$ | 1 | | | | | | | |
| $DCP$ | -0.013 | 1 | | | | | | |
| $GDP$ | 0.215 | 0.551 | 1 | | | | | |
| $RER$ | 0.111 | -0.460 | -0.290 | 1 | | | | |
| $FTS$ | -0.163 | 0.602 | 0.440 | -0.614 | 1 | | | |
| $FBS$ | 0.398 | 0.434 | 0.312 | -0.637 | 0.781 | 1 | | |
| $MCS$ | 0.568 | 0.533 | 0.377 | -0.379 | 0.719 | 0.687 | 1 | |
| $IUI$ | 0.482 | 0.535 | 0.385 | -0.283 | 0.663 | 0.826 | 0.781 | 1 |

Table 2. Principal component analysis for $ICTIND$

| | PCA 1 | PCA 2 | PCA 4 | PCA 4 |
|---|---|---|---|---|
| Eigenvalues | 2.87 | 0.664 | 0.316 | 0.148 |
| % of variance | 0.718 | 0.166 | 0.079 | 0.037 |
| Cumulative | 0.718 | 0.884 | 0.963 | 1 |
| Variables | Vector 1 | Vector 2 | Vector 3 | Vector 4 |
| $MCS$ | 0.518 | -0.191 | 0.769 | 0.318 |
| $FTS$ | 0.391 | 0.917 | 0.004 | -0.074 |
| $FBS$ | 0.531 | -0.180 | -0.626 | 0.541 |
| $IUI$ | 0.543 | -0.299 | -0.125 | -0.077 |

Note: PCA: principal component analysis; Vector: Eigenvectors

**4. Methodology**

This study proposes that the impact of ICT infrastructure on the tourism sector, in terms of the top 10 African tourist destinations, may be non-linear**.** In the sense that, African countries have devoted their efforts to adopt advanced ICT to ameliorate the level of tourism sector development (Ukpabi and Karjaluoto, 2017). Also, the spread of ICT across the African continent had only begun in the late 2000s, and increased in early 2010s (Ponelis and Holmner, 2015 and Beda, 2019). Therefore, this study suggests that ICT infrastructure has different impacts on the development of the tourism sector through the influence of different critical values of ICT infrastructure on development of the tourism sector. In other words, this study employs on threshold regression model in providing empirical evidence on the impact of certain values of ICT infrastructure ICT infrastructure on tourism sector development. More specifically, this study utilizes a panel threshold regression model (Hansen, 1999) using yearly data during the period 2004-2017 following Liu, and Fan (2020). In this paper, the panel threshold regression model implies that the response of the tourism sector to ICT infrastructure change is different under different ICT infrastructure levels. For example, when the ICT infrastructure exceeds a critical value, the sign or the magnitude of the ICT infrastructure coefficient significantly changes and thereby, the benefits from ICT infrastructure can be maximized in order to improve the level of tourism sector's development. The panel threshold model (Hansen, 1999) is set as follows**:**

$$Y_{it=} u_i + B_0' z_{it} + B_1' x_{it} I\,(q_{it} \le \gamma) + B_2' x_{it} I\,(q_{it} > \gamma) + e_{it} \quad (1)$$

This study utilizes a panel threshold model to estimate equation (1) based on the variables explained above. Therefore, if a single panel threshold model is used, the equation (1) needs to be rewritten in the following way:

$$Y_{it=} u_i + B_0' z_{it} + B_1' x_{it} I\,(q_{it} \le \gamma_1) + B_2' x_{it} I\,(q_{it} > \gamma_1) + e_{it} \quad (2)$$

While, if a double panel threshold model is used, the equation (1) needs to be rewritten as follows:

$$Y_{it=} u_i + B_0' z_{it} + B_1' x_{it} I\,(q_{it} \le \gamma_1) + B_2' x_{it} I\,(\gamma_1 < q_{it} \le \gamma_2) + B_3' x_{it} I\,(q_{it} > \gamma_1) + e_{it} \quad (3)$$

Where: $Y_{it}$ is the dependent variable which represented by international tourist arrivals (ITA) and, international tourism receipts ($ITR$), $u_i$ is the constant term, $z_{it}$ is a set of control variables including; gross domistic product (GDP), consumer price index ($CPI$), Real exchange rate ($RER$), credit to the private sector ($CPS$), $x_{it}$ is the main independent variable represented by information thechnology infrastructure index($ICTIND$),$q_{it}$ signifies the threshold variable which is information thechnology infrastructure index ($ICTIND$), $\gamma$ is the threshold value to be computed, $\gamma_1$, $\gamma_2$ are the first and second threshold variables respectively to be estimated, $e_{it}$represents the error term, $I(.)$ is the indicative function, that takes the value of 1 if the conditions in the parentheses are correct and 0 if the conditions in the parentheses are not established. $B_0$, $B_1$, $B_2$ are the variables' coefficients to be estimated for each variable, $i$ represents the country, and $t$ stands for years.

Table 3. Variables descriptive statistics

| Variable | Mean | Std. Dev | Min | Max | Obs. |
|---|---|---|---|---|---|
| $CPI$ | 106.27 | 31.097 | 50.335 | 231.094 | 140 |
| $DCP$ | 47.47 | 40.119 | 7.107 | 160.124 | 140 |
| $GDP$ | 8.61E+10 | 1.16E+10 | 3.54E+09 | 4.26E+11 | 140 |
| $RER$ | 479.198 | 856.116 | 1.232 | 3692.242 | 140 |
| $ITR$ | 3.41E+09 | 3.47E+09 | 4.40E+07 | 1.36E+10 | 140 |
| $ITA$ | 4050919 | 3807881 | 421000 | 1.41E+07 | 140 |
| $MCS$ | 73.748 | 43.156 | 1.581 | 163.875 | 140 |
| $FTS$ | 5.508 | 4.476 | 0.102 | 14.883 | 140 |
| $FBS$ | 1.173 | 1.551 | 0.001 | 7.012 | 140 |
| $ICTIND$ | 0.787 | 1 | -0.755 | 3.764 | 140 |

Table 4. Threshold effect test

| | **Test for threshold effect of $ICTIND$ based on $ITA$** | | | | |
|---|---|---|---|---|---|
| **Type of threshold model** | F-value | P-value | 1% | 5% | 10% |
| Single threshold model | 15.256*** | 0.145 | 14.365 | 12.254 | 11.968 |
| Double threshold model | 20.234*** | 0.000 | 15.123 | 12.365 | 9.235 |
| Triple-threshold model | 0.125 | 0.958 | 0.265 | 0.221 | 0.187 |
| | **Test for threshold effect of $ICTIND$ based on $ITR$** | | | | |
| | F-value | P-value | 1% | 5% | 10% |
| Single threshold model | 10.136*** | 0.165 | 9.369 | 8.357 | 8.985 |
| Double threshold model | 35.236*** | 0.000 | 25.358 | 21.369 | 19.968 |
| Triple-threshold model | 0.000 | 0.145 | 0.010 | 0.047 | 0.087 |

Note: *, **, *** indicate the coefficient that are significant at 1%, 5%, 10% levels respectively

Table 5. Threshold value estimates

| | **Estimating threshold value of $ICTIND$ based on $ITA$** | |
|---|---|---|
| Threshold value | 95% Confident intervals | |
| ($\gamma_1$) | (0.392,0.410) | 0.401 |
| ($\gamma_2$) | (1.452,1.501) | 1.512 |
| | **Estimating threshold value of $ICTIND$ based on $ITR$** | |
| Threshold value | 95% Confident intervals | |
| ($\gamma_1$) | (0.332,0.361) | 0.359 |
| ($\gamma_2$) | (1.412,1.453) | 1.442 |

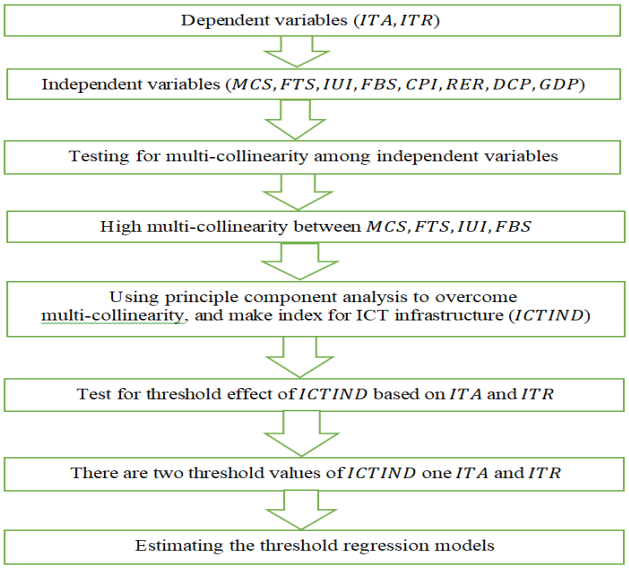


Figure 2. The study's methodology

Table 6. Threshold regression model results

| Variables | Model 4 |
|---|---|
| Constant | 0.501 |
| $CPI$ | -0.988* |
| $DCP$ | 0.358** |
| $GDP$ | 0.994** |
| $RER$ | -1.135*** |
| $ICTIND \leq 0.251$ | 0.052* |
| $0.251 < ICTIND \leq 1.412$ | 1.298*** |
| $ICTIND > 1.412$ | 1.987 |
| $F-$ test | 95.145*** |
| $R^2$ | 68.451% |
| Obs. | 140 |
| Variables | Model 5 |
| Constant | 0.189 |
| $CPI$ | -1.205*** |
| $DCP$ | 0.712 |
| $GDP$ | 0.662** |
| $RER$ | -1.458*** |
| $ICTIND \leq 0.299$ | 0.078* |
| $0.299 < ICTIND \leq 1.463$ | 0.741*** |
| $ICTIND > 1.463$ | 0.914 |
| $F-$ test | 83.1259*** |
| $R^2$ | 55.101% |
| Obs. | 140 |

Note: Model 4,and model 5represent the effect of $ICTIND$ on $ITA$ and $ITR$ respectively, *, **, *** indicate that coefficient that are significant at 1%, 5%, 10% levels respectively

## EMPIRICAL ANALYSIS

### 1 Testing and estimating threshold values

The adoption of double panel threshold model or a single panel threshold model depends on the statistical significance of the number of threshold values being estimated. This study attempts to test for a double threshold model, and thereby the model (3) can be rewritten and estimated as follows:

$$ITA_{it} = u_i + B_1 GDP_{i,t} + B_2 CPI + B_2 RER + B_4 CPI + B_5 ICTIND_{it} I(q_{it} \leq \gamma_1) + B_6 ICTIND_{it} I(\gamma_1 < q_{it} \leq \gamma_2) + B_7 ICTIND_{it} I(q_{it} > \gamma_1) + e_{it} \quad (4)$$

$$ITR_{it} = u_i + B_1 GDP_{i,t} + B_2 CPI + B_3 RER + B_4 CPI + B_5 ICTIND_{it} I(q_{it} \leq \gamma_1) + B_6 ICTIND_{it} I(\gamma_1 < q_{it} \leq \gamma_2) + B_7 ICTIND_{it} I(q_{it} > \gamma_1) + e_{it} \quad (5)$$

Where: $ITA$ is international tourist arrivals, $ITR$ is international tourism receipts , $u_i$ is the constant term, gross domistic product , $CPI$ consumer price index , $RER$ is Real exchange rate, $CPS$ is credit to the private sector, $ICTIND$ information thechnology infrastructure index,$q_{it}$ signifies the threshold variable which is information thechnology infrastructure index ,$(ICTIND)$, $\gamma_1$, $\gamma_2$ are the first and second threshold variables respectively to be estimated, $e_{it}$represents the error term, $I(.)$ is the indicative function, that takes the value of 1 if the conditions in the parentheses are correct and 0 if the conditions in the parentheses are not established, $B_0$, $B_1$, ,$B_2$ $B_3$, $B_4$, $B_5$, $B_6$,$B_7$ are the variables' coefficients to be estimated for each variable, $i$ represents the country, and $t$ stands for years.

Models 4 and 5 estimated by repeating data 500 times utilizing a bootstrap method to estimate the F and p-value. Based on model (4) and (5) there are three scenarios: the first scenario when neither the first threshold $\gamma_1$ nor the second threshold $\gamma_2$are statically significant implying that the model has no thresholds; the second scenario when model has one threshold if $\gamma_1$is statically significance and $\gamma_2$is not, the third scenario is the model has two thresholds if both $\gamma_1$ and $\gamma_2$are statically significant. Table (3) shows the number of threshold values for the threshold models of $ITA$ and $ITR$ as per of $ICTIND$. Results indicate that information thechnology infrastructure index $ICTIND$ has two threshold values for both $ITA$ and $ITR$ threshold models since the p-value of both single threshold ($\gamma_1$) and the double threshold ($\gamma_2$) are significant at the 1 % level of significance. After confirming existence of two threshold values ( $\gamma_1$ , $\gamma_2$ ), those two threshold values should be estimated based on the number of thresholds.

Table 5 shows the estimated threshold value results. According to the estimated threshold values shown in Table 5, model (4) and model (5) are classified into three segments. The first segment is when the level of threshold variable is lower than the first threshold value. The second segment is when the level of threshold variable is higher than the first threshold value but lower than the second threshold value. The third segment is when the level of threshold variable is higher than the second. After confirming the existence of two threshold values, the relation between the threshold effect of the ICT infrastructure and tourism sector development must be examined by regressing $ICTIND$ first on $ITA$ and second on $ITR$. Thereafter, the different impacts of the two threshold values of $ICTIND$ on $ITA$ and $ITR$ must be compared to determine the economic meaning of those threshold values.

**2. The threshold regression results**

This study aims to investigate the threshold effect of ICT infrastructure on the tourism sector's development in the top 10 African tourism destinations utilizing double panel threshold model that employs as the threshold variable. Results of double panel threshold model are displayed in Table 6 based on model 4 and model 5 which indicate that the effect of ICT infrastructure on the tourism sector's development in the top 10 African tourism destinations is not the same and varies according to the threshold values. Therefore, the relationship between, and is non-linear and the benefits of ICT infrastructure can be maximized to develop the tourism sector in the destinations mentioned.

This result is in accordance with Adeola and Evans, (2019) who indicated that the effect of mobile penetration, internet usage on tourism development is non-linear in African countries. More specifically, they pointed out that mobile penetration and internet usage significantly and negatively derive the number of international tourist arrivals only to a certain point, after which they significantly and positively influence international tourist arrivals. Model 4 in Table 6 is dedicated to investigate the threshold effect of ICT infrastructure on $ITA$in top 10 African tourism destinations.

According to Table 6 when the level of $ICTIND$ is equal or lower than the first threshold value ($ICTIND \leq 0.251$), the $ICTIND$ has significantly marginal and weaker positive effect on $ITA$. This result implies that when the level of $ICTIND$ is lower than the first threshold value, the tourism destinations cannot effectively maximize the benefits from investing in ICT infrastructure to enhance the number of international tourist arrivals. In other words, when the level of $ICTIND$ is too low,the response of $ITA$ to $ICTIND$ changes has not been in the desired level, and thereby supporting and leading role of ICT infrastructure has not been fully mobilized to develop the touristic sector in destinations analyzed. However, When the level of $ICTIND$ is higher than the first threshold value but lower than the second threshold value ($0.251 < ICTIND \leq 1.412$), the $ICTIND$ has the dominant impact on $ITA$ and also, the impact of $ICTIND$ on $ITA$ remains significantly positive but the magnitude effect has remarkably and strongly increased.

This implies that the tourism destinations can maximized the benefits from ICT infrastructure to effectively improve the level of their development by increasing investment in this area. However, when the level of $ICTIND$ is above the second threshold ($ICTIND > 1.412$), the effect of $ICTIND$ on $ITA$ is no longer positively and strongly significant, indicating that $ICTIND$ level of the majority of the top 10 African destinations have not yet reached the level above 1.412. In this regard, the level of $ICTIND$in destinations like Botswana, Kenya, South Africa, Tanzania, Rwanda Namibia, and Uganda has reached an upper limit of 1.006, 0.386, 1.260, 0.144, 0.636 ,1.008, and 0.606 respectively. However, the level of $ICTIND$ has exceeded the level of 1.412 only in three destinations namely, Egypt, Morocco, and Tunisia with $ICTIND$ level of 2.741, 1.741 and 3.764 respectively. This result is in line with Liu and Fan, (2020) pointed out that the effect of international technology spillovers on China's economic growth is nonlinear, that is, when

international technology factors are between the two threshold values, the benefits from international technology spillovers in enhancing China's economic growth are maximized. In the same way, the effect of ICT infrastructure on $ITR$ is non-linear and varies according to the level of ICT infrastructure. Table 6 shows that $ITR$ responses differently to changes in $ICTIND$ levels, where the response shifts from weakly negative into strongly positive as the level of $ICTIND$ increases. More specifically, when the level of $ICTIND$ is equal or lower than the first threshold value ($ICTIND \leq$ 0.299), the $ITR$ positively and weakly response to ICT infrastructure.

This result implies that when the level of $ICTIND$ is lower 0.229, the tourism destinations cannot enhance the magnitude of international tourism receipts because at this level of $ICTIND$ the tourism destinations cannot effectively maximize the benefits from investing in ICT infrastructure to enhance the number of international tourist arrivals. Whereas, when the level of $ICTIND$ is higher than the first threshold value but lower than the second threshold value ($0.299 < ICTIND \leq 1.463$), the $ITR$ remarkably an strongly responses to $ICTIND$, indicating that top 10 African destinations can maximize the benefits from ICT infrastructure to increases the magnitude of $ITR$.

However, when the level of $ICTIND$ is above the second threshold ($ICTIND >$ 1.463), the response of $ITR$ to $ICTIND$ is relatively higher but not statistically significant, indicating that $ICTIND$ level of the majority of the top 10 African destinations have not yet reached the level above 1.463. Therfore, tourism destinations must enhance the magnitude of investment in ICT infrastructure to enhance the magnitude of international tourist receipts.

It is noteworthy that $ITR$ is remarkably and substantially affected by the level of inflation and exchange rate not by the magnitude of ICT infrastructure as $ITA$. This may due to the fact that tourism expenditure is more likely to be highly affected by the level of prices represented by the level of inflation and exchange rate reflecting that $ITR$ is highly affected by the level of inflation and exchange rate. In this aspect, Saayman and Saayman, (2015) indicated that if the level of prices in the origin destination (South Africa) increases relatively to alternative destinations (Botswana, Kenya, Tanzania) the tourist spending in origin destination declines, with more tourists spending money in alternative destinations. Consequently, $ITR$ tends to substantially decreases in response to inflation level changes.

**CONCLUSION**

In this paper, we propose a double panel threshold model to investigate whether ICT infrastructure has had a threshold effect on tourism sector development in top 10 African tourism destinations during the period 2004 to 2017.The results show the ICT infrastructure has had a threshold effect on tourism sector development in top 10 African countries signifying that this effect of ICT infrastructure on tourism sector development is non-linear and varies according to the level of ICT infrastructure. More specifically, when the $ICTIND$ level is employed as a threshold variable, the response of both $ITA$and $ITR$ to changes in $ICTIND$ shift from weakly positive into strongly positive response as the level of $ICTIND$ increases, indicating that ICT infrastructure has a non-linear consistent effect on both measures of tourism sector development in Top 10 tourism destinations. In particular, (1) when $ICTIND$ level is below 0.251, the $ICTIND$ will have a positive weak effect on $ITA$. When the level of $ICTIND$ is higher than 0.215, but lower than 1.412, the positive weak effect of the $ICTIND$ on tourism development will be turn out to a strong positive effect. When the level of $ICTIND$ is higher than 1.412, the $ICTIND$ will be irrelevant on $ITA$. This conclusion indicates that the ICT infrastructure is not conducive to $ITA$ in countries with low ICT infrastructure levels. On the contrary, in countries with high ICT infrastructure levels will increase $ITA$. (2) On the same way, $ITR$ has the same pattern response to $ICTIND$ as $ITA$ did but different in the magnitude. When $ICTIND$ level is below0.299, the $ITR$ will have a positive weak response on $ICTIND$. When the level of $ICTIND$ is higher than 0.299, but lower than 1.463, $ITR$ will have a positive strong response to $ICTIND$ but this response is not as strong as the response of $ITA$ to $ICTIND$.

When the level of $ICTIND$ is higher than 1.463, the $ITR$ will not have a significant response to $ICTIND$. This indicates that the ICT infrastructure is not conducive to $ITR$ in countries with low ICT infrastructure levels. On the contrary, ICT infrastructure in countries with high ICT infrastructure levels will enhance $ITR$. To sum up, the level ICT infrastructure is an important factor that results in developing the truism sector in the top10 African tourism destinations when ICT infrastructure reaches to a certain level. In the sense that, when the ICT infrastructure is at lower level (lower threshold), the top10 African tourism destinations can hardly improve their tourism sector development. Whereas, when the level of ICT infrastructure is between the threshold values, the top10 African tourism destinations can effectively and substantially enhance their presence and become more competitive in international tourism market leading to increase the demand for tourism services and eventually enhance tourism sector development. In other words, the top 10 African tourism destinations can maximize the benefits of information technology only when its level between the two thresholds.

The results of this study shed the light on important policy implications. Because ICT infrastructure has shown a positive and strong relationship with tourism development only when the level of ICT infrastructure reaches a certain threshold given that many African destinations have begun to enhance the level of investment in ICT infrastructure sectors. Therefore, African policymakers in tourism industry need to consider ICT infrastructure trends to ensure that the potential benefits from ICT infrastructure are fully maximized to improve tourism sector. Based on the above research conclusions, the threshold of ICT infrastructure to fully maximize the befits from ICT infrastructure in developing tourism sector is relatively low in the majority of top 10 African countries expect for Egypt, Morocco and Tunisia. The lack of ICT infrastructure contribution in developing tourism sector in most of the African destinations can be attributed to lower penetration of the technology and lack of ICT skill. Therefore, countries with lower ICT infrastructure should encourage R&D investment in ICT sectors, speed up communication constructions, provide high-speed internet

facilities, reduce the cost of internet to be affordable by individuals and tourism enterprises, and pay attention to ICT infrastructure development. The findings also, have implications for academics researches by opening up new views on the relationship between ICT infrastructure and tourism sector development in emerging markets. Therefore, future researches are encouraged to further investigate in the effect of ICT infrastructure on tourism development in emerging and advanced markets under different threshold of financial development, country stability, and institutional quality.

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# GEO-TOURISM LAND SUITABILITY ANALYSIS OF CITATAH KARST AREA IN BANDUNG BASIN USING SPATIAL MULTI CRITERIA EVALUATION (SMCE)

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**Abstract:** The research goal is to evaluate land suitability for geo-tourism focuses on geology and landscape. Most of the Citatah karst area is natural-based industries or mining in particular. The ecological disturbance is an impetus for decision-makers to choose new use of land to deal with the conservation issues. SMCE techniques that apply geographic information systems (GIS) and analytical hierarchy processes. The use of land is formulated based on policy and stakeholder analysis. The research benefit is the possibility to change the area from mining to a geo-tourism area. There are two important results of research in spatial analysis, namely: intensive and extensive tourism areas, and the rest is for protective or no suitable area of tourism. In conclusion, the land suitability analysis is important for tourism industry development.

**Key words:** Geo-tourism; SMCE; GIS; Citatah Karst Area; Land Suitability evaluation

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## INTRODUCTION

Geo-tourism is a relatively new form of nature tourism that specifically focuses on geology and landscape as tourist attractions. Since the Indonesian geopark movement in 2010, geo-tourism has been one of the most rapid-growing market segments within the tourism industry in Indonesia (Cahyadi and Newsome, 2020). The goals of geo-tourism are to visit geosites, conserve geo-diversity, understand earth sciences, and appreciate nature. These goals can be achieved through independent or a guided tour visiting geological feature sites, walking geo-trails, doing geological activities, or conserving geological sites (Dowling, 2011; Newsome et al., 2012; Ólafsdóttir, 2018). Geo-tourism is closely related to ecotourism and cultural tourism (Dowling, 2013), the link between geo-tourism and ecotourism can be done through learning about nature, passive activities such as geo-tourism routes, and appreciation of flora and fauna. Furthermore, the relationship between geo-tourism and cultural tourism can be inferred, for example, when the local community uses geological materials forming the arts or cultural tools from the rocks. In addition, geo-tourism also has a relationship with adventure tourism that makes geological features a place for mountain climbing, rock climbing, or other extreme sports activities.

The fastest growth of geo-tourism worldwide is related to the increasing number of memberships of the UNESCO Global Geopark Network (Ólafsdóttir, 2019). Karsts are key issues in the study of geo-heritage and geo-tourism, many of protected karst are important parts of geoparks (Ruban, 2018). Karst is a terrain which characterizes by special landforms and drainage patterns, owing to its greater solubility of certain rocks in natural waters than the others (Urich, 2002). Karst is generally composed of limestones characterized by subterranean drainage, caves, and closed depressions. Karst generally has low porosity and temporary low water storage due to its rock characteristics, allowing water to flow through cavities and cracks, soil overlying the karst may store water longer. In present Spatial Plan Law No.26/2007, geological conservation area come as priority before development area. Furthermore, the conservationist urged that the Citatah karst area (CKA) should be protected as Citatah geopark. Citatah karst area is the area where the exokarst and endokarst are exist as a representative of karstification. Those have a function as cultural and geological heritage, groundwater recharge area, natural water storage (aquifer), and permanent springs. The research aims to evaluate land suitability of karst landform and other limestones formation in Citatah karst area for geo-tourism using spatial multi criteria evaluation (SMCE) to recommend a karst management that suitable for this area. SMCE already applied for cropping pattern

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planning (Rahman and Saha, 2008), landfill site selection (Gorsevski et al., 2012), land suitability analysis for wheat (Sarkar et al., 2014), site suitability for marina construction (Gumusay et al., 2016), foot sport orienteering (Tutic et al., 2018), tourism (Ebrahimi et al., 2019), and land suitability analysis for maize (Habibie et al., 2019)

## STUDY AREA

There are four main cities/regencies in Greater Bandung, including Bandung, Cimahi, West Bandung regency, and Bandung regency, which formed Bandung Metropolitan Area (BMA) (Tarigan et al., 2016). The BMA offers culture, education, and nature as its main attraction (Figure 1). In addition, shopping tourism, and MICE (Meeting, Incentive, Conference, Exhibition) events, and also knowledge-based tourism is rapidly growing. Citatah karst area (CKA) is located in West Bandung regency about 120 km from Jakarta and 20 km from Bandung. Citatah Karst Area is located in western part of Bandung basin that extending from Cimahi-Batujajar to Cililin and Saguling dam. Bandung basin is an intermontane basin surrounded by tertiary volcanic and mountain ranges that has many geo-tourism sites on one hand, and potential hazards on other hand (Rohaendi et al., 2021). The total area of Bandung basin is 2300 km$^2$, spans 60 km and 40 km in west-east and north-south directions, respectively, covering an area from elevation 650 m above sea level to peak about 2400 m high the late tertiary volcanic range. CKA has a strategic position because as the main gate for people who travel from Jakarta to Bandung. However, the area of karst is exploited as the mining industry. For a sustainable reason, the administration of West Bandung desires to change CKA from a mining industrial-based city to a natural tourism-based city. Currently, closed to Citatah, there are geology-based tourism such as Ciburuy lake, stone garden, and Pawon cave, which are also famous for an extreme sport such as rock climbing and orienteering (Wulung et al., 2019).

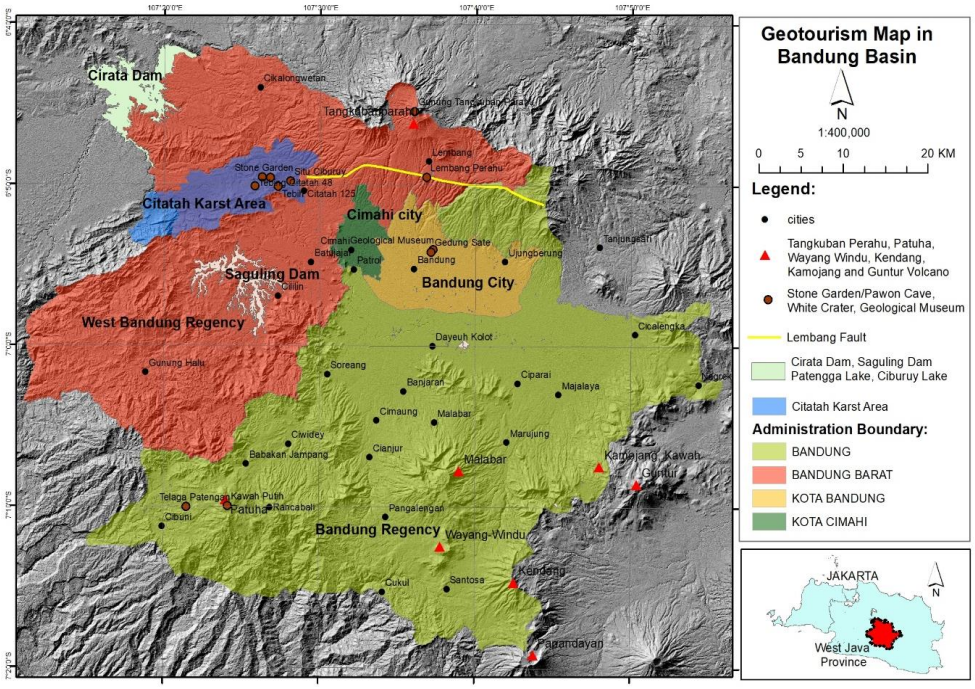



Figure 1. Some of famous geo-tourism site in Bandung basin: Lembang fault zone, volcanos, dormant volcanic crater, hot springs, natural lakes, and geothermal area (Source: DEMNAS –Geospatial Information Agency of Indonesia)

## MATERIALS AND METHODS

The determination of appropriate land use for CKA is assessed by Spatial Multi Criteria Evaluation using Ilwis 3.8.2, an open-source software developed by ITC Enscede, Netherland. This method includes problem structuring, standardization, weighing, suitability assessment, and location identification. Stakeholders are involved in problem identification, land use alternatives development, criteria selection, and weighing process. Land use alternatives and criteria of evaluation are formulated from literature review, policy, and stakeholder analyses. SMCE is applied to identify or design potential areas, which are biophysically and in proximity suitable for future land use categories. SMCE is exploited to evaluate potential sites considering economic, social, and environmental suitability. Here each point/pixel in the map is considered as a potential element of a site. The development of criteria structure for the design of suitability analysis in the study area is formulated by considering the policies analysis and stakeholder analysis.

### a. Policy Analysis

Based on government regulation No. 26/2008 (No.13/2017) about National Spatial Plan, in article 53 (b) the uniqueness of karst landform is part of geological conservation, which is an important part of national natural conservation. As consequence, the provincial government of West Java released regulation No. 22/2010 regarding spatial planning of West Java province from 2009 to 2029. It concerns the protection of Citatah karst area. It is followed by regulation from West Bandung regency about a spatial plan from 2009 to 2029 and regulation of west Bandung mayor No. 7/2010 about the protection of Pawon cave site and surrounding area. In the end, there is a master plan of Citatah karst area in 2010 from the agency of environmental protection management of west Java province (Figure 2).

To assist provincial and local governments, Ministry of Energy and Mineral Resources Regulation No. 17/2012 was released, as guidance for designing a spatial plan in a karst region. This regulation straightforwardly assigned the karst region as a geological protected area and part of the national protected area. This regulation encourages provincial and local governments to more actively protect the karst landscape in their region.

**b. Stakeholder Analysis**

Stakeholder analysis is designed to accommodate all parties interested in the planning and decision-making process. Stakeholders, any group or individual, can be affected either directly or indirectly by the decision-making process or the achievement of the organization's objectives (Bryson, 2007). The land use development model is not developed with a top-down approach but a more participatory exercise where stakeholders will provide some inputs to make a decision model. The participation of stakeholders signals how the public involves in the environmental decision-making process (Beierle, 2002). Public participation is an important component and tool for improving knowledge of the problem and not for receiving inputs to be used uncritically in the evaluation (Munda, 2004). Stakeholder selection for the study area is defined by literature review, discussion with local planners, and some factors such as time, expertise, representation, and access to stakeholders. (Aryantie and Suhirman, 2019). Some stakeholders are involved in decision-making as follows; central and local government, geological and mining experts (academic), mining companies, and community representatives (Table 1).

Table 1. Stakeholder Selection from Literature review and Discussion

| No | Stakeholder | Representatives |
|---|---|---|
| 1 | Central Government | Geological Agency of Indonesia, Ministry of Environmental, Ministry of Public Work |
| 2 | Local Government | Archaeology Agency of Bandung, Energy and Mineral Resources Agency of West Java Province, Environmental Management Agency of west Java Province, Development Planning Agency of west Java Province, Department of Highways and Irrigation west Bandung Regency, Environmental Office of west Bandung regency, Regional Development Planning Agency of west Bandung Regency. |
| 3 | Company | State owned company of Perhutani KPH south Bandung, Citatah Miners Association |
| 4 | Academic | Bandung basin research group, ITB, UNPAD. |
| 5 | Community | Cultural institutes of west Bandung, Tourism Awareness Group |

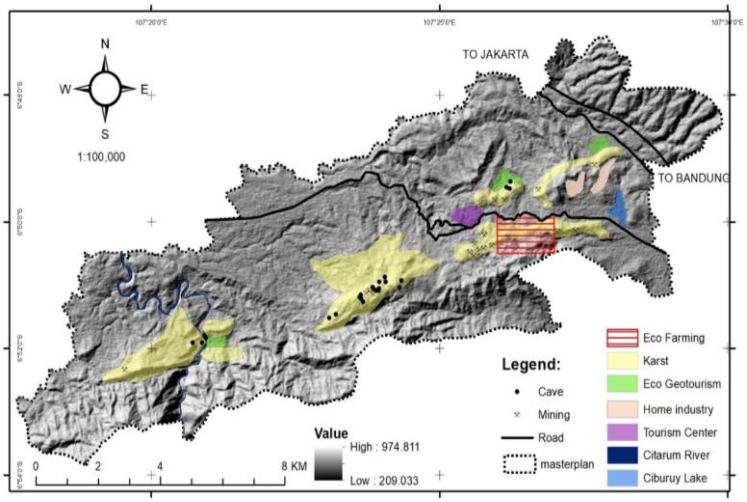



Figure 2. Master plan of Citatah karst area according to Government of West Java Province (Source: DEMNAS –Geospatial Information Agency of Indonesia)

**c. Multi Criteria Evaluation (MCE) and Analytical Hierarchy Process (AHP)**

Based on policy analysis and stakeholder analysis, there are two main objectives for suitability analysis for the study area including restoration of former mining land and accommodating new development of land use. The development of tourism areas is to provide job opportunities as new economic activities. Tourism has multiplier effects to encourage other sectors such as small industries and restaurants. In this case, land suitability evaluation was applied to determine the suitable location for the protected area (ecotourism), intensive geo-tourism area, extensive geo-tourism area, and extreme sport area. The protected area is can be used for ecotourism area and orienteering sport, the intensive geo-tourism area is geological based tourism that can be combined with other facilities such as shopping center, museum, or MICE, the extensive geo-tourism area is geological based tourism with the only focus on depth knowledge of geology and geomorphology, and extreme sport area is the place for an extreme sport such as rock climbing. To make spatial multi criteria evaluation possible, there are ten factors as inputs layers. The input layers are standardized from their original values to the value range of 0-1. The input maps have different measurement scales (nominal, ordinal, interval, dan ratio). The map is converted as pixel raster-based maps. SMCE module of ILWIS has different standardization methods such as concave, convex, maximum, interval, and goal. The weighting method is applied to an underlying nine-point recording scale to rate the relative preference on a one-to-one basis of each factor (Saaty, 1987). The scale used in analytical hierarchy studies is ranging from 1 (equal importance or indifference) to 9 (absolute importance or extreme preference). The nine points rating scale also has qualitative expression related to quantitative values (Table 2).

Tabel 2. The verbal statements judgement scale for paired comparison (Saaty, 1980)

| Numerical Value | The importance of parameters relative to each other |
|---|---|
| 1 | Equal importance |
| 3 | More relatively importance |
| 5 | More importance |
| 7 | Much more importance |
| 9 | So much importance |
| 2,4,6,8 | The importance of intervals |

Table 3. The effective factors for land suitability evaluation of geo-tourism

| No | Factor | Measurements | Source |
|---|---|---|---|
| 1 | Elevation | Classes of elevation heights in meter | DEMNAS (GIA) |
| 2 | Slope | Classes of land slopes in percentage | DEMNAS (GIA) |
| 3 | Aspect | Geographical slope direction of each land unit | DEMNAS (GIA) |
| 4 | Soil Biomes | Geomorphic phenomena in each soil unit | Map Analysis |
| 5 | Geology | Main units of each geo-form and landform | Geological Agency of Indonesia |
| 6 | Land cover | Main types of land covers | GIA |
| 7 | Ground water | Hydrological potentials of water discharge in each landform | Geological Agency of Indonesia |
| 8 | Main road | Distance from main road in meter | Topography map (GIA) |
| 9 | Fault | Distance from fault in meter | Geological Agency of Indonesia |
| 10 | River | Distance from main river in meter | Topography map (GIA) |

The overlay of factor maps will use to produce Geo-tourism-based land suitability analysis, as a sum combination of all raster data layers. In this study, the ten-factor map layers were multiplied by the weight value individually, then all factors

and their classes were overlaid to result in a suitability map. The value of weight ($W_{ix}$) is calculated based on the eigenvector associated with the maximum absolute eigenvalue. Consistency index is used to analyze the consistency of judgment using the equation below (Masih et al., 2018, Ebrahimi et al., 2019,);

$S = \sum_{x=1}^{n} W_{ix} X U_{ix'}$ (1) where, S = suitability index of each cell, $W_{ix}$ = weight of factor x in the pixel unit i, and $U_{ix'}$ = criterion score of factor x in the unit pixel i

$CI = \frac{(\lambda max - n)}{(n-1)}$ (2) where, CI = consistency index, n = the number of criteria, $\boldsymbol{\lambda}_{max}$ = the largest eigen value

$CR = \frac{CI}{RI}$ (3) where, CR : consistency ratio, CI : consistency index, RI : random index

## RESULTS AND DISCUSSION

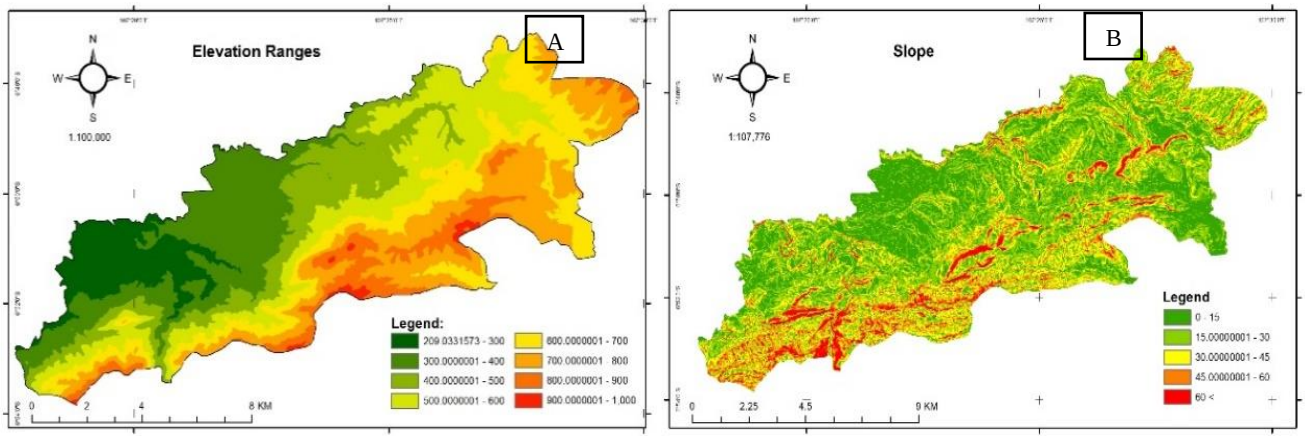
The result of the suitability analysis of CKA using SMCE will be presented in the sub section of land suitability evaluation. Then, the proposed development of geo-tourism of CKA will be discussed in sub section development of geo-tourism area.

### Land Suitability Evaluation

Citatah karst area has two main functions; built-up and conservation area. As the built-up (development) area, many mining companies operating for many years as the main source of economic development, and some mining areas have started a post-mining land use program. Based on stakeholder preferences analysis to develop the area as a geo-tourism area and the availability of the data for land suitability analysis, and notably by Ebrahimi et al. (2019) the most significant biophysical criteria for geo-tourism are elevation, slope, aspect, land use/cover, soil, geology, groundwater, distance from the main road, distance from the fault, and distance from the river. The main source of factors for GIS layers for elevation, slope, and aspect are DEMNAS (Digital Elevation Model National) with a spatial resolution of about 8 x 8 m and topography maps from Geospatial Information Agency of Indonesia (GIA) and GIS layer for geology and groundwater (hydrogeology) from Geological Agency of Indonesia (GAI) as presented in Table 3.

The elevation data show that the study area is ranging from 209 to 975 msl. Nearly 25% of the region above 750 msl. The high elevation is located in the southern and western parts of the study area (Figure 3a). The slope map of the study area is classified from <5 to >15%, where most of the region (80%) belong to slope class more than 15% with low or medium suitability for any spatial development (Figure 3b). The aspect as the direction of maximum slope of terrain surface was created using GIS, the sunny slopes as an aspect of $22.5^{o}$ – $157.5^{o}$ (figure 3c). Soil biome is defined based on the soil texture and geomorphic patterns in each soil unit. There are sedimentary slopes, volcanic slopes, alluvium, and lake bottom (Figure 3d).

Karst Citatah-Rajamandala area is prominent morphology of 42 hills of karst which occurred on limestones of Rajamandala formation (Figure 3e). Based on Sudjatmiko (1972), the geological unit the study area from the oldest to the youngest is andesite basalt, followed by limestone member of Rajamandala Formation (Oml), as solid limestone thus layered limestone, which is generally light-colored with big abundant foraminifera. After that, there are the clay, marl, and quartz sandstone of Rajamandala formation (Omc). Then, there is limestone and claystone member of Cantayan Formation (Mttl) and (Mttc). Lastly, there are sediment rocks from Citarum formation (Mtb and Mts) such as tuffaceous breccia, lava, sandstone, conglomerate, and siltstone. The youngest are volcanic quaternary rocks such as breccia, lava, volcanic-breccia lava, flow-breccia, lava sediment, and lava that shows out the plates and many arrangements between andesite and basalt. The groundwater of the study area based on hydrogeology map (Pasaribu et al., 1998) is divided into two classes: non aquifer and aquifer with well yield less than 5 liters/sec (Figure 3f). The geological structure of the Citatah karst area is one of the segments of the big Cimandiri fault system (Figure 3i). The dominant land cover is plantation about 29% of the total area, followed by grassland and shrubs about 23 and 22% of the total area respectively. The paddy fields, forest, and vacant land are covered about 14% of the total area, and the rest is built-up area about 12% of the total area. The mining area is occupied about 340 hectares of the total area or about 3% of the total area (Figure 3g). In the western part of the area, there is Citarum river, one of the biggest rivers in west Java. Considering as ancient Citarum area, this area is very important to be protected as a vulnerable area (Figure 3h). The main road crossing the Citatah karst area is the national road and toll road (Figure 3j). Considering the accessibility of the location is very important to tourism area.



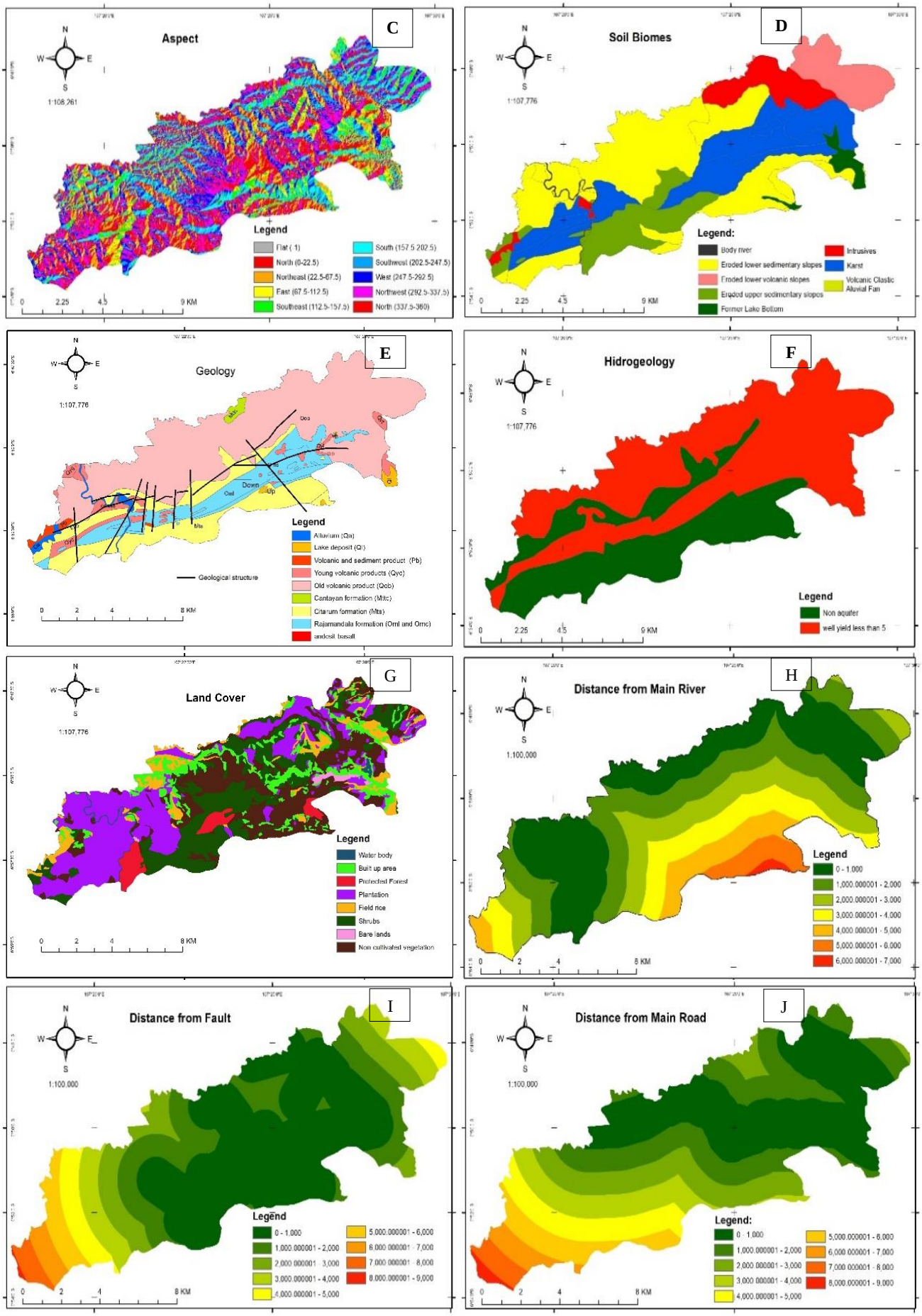



Figure 3. Ten factors for land suitability evaluation: a. elevation, b. slope, c. aspect, d. soil biomes, e. geology, f. hydrogeology, g. land cover, h. river, i. fault, and j. main road, for land suitability analysis, the list of references in Table 3

The weight of ten factors is assigned using AHP is presented in Table 4. Ebrahimi et al (2019) assigned higher weight on geological units and land cover, followed by slope and soil biomes, and lower weight on elevation, aspect, and groundwater. Planning Agency of West Java province (Bappeda, 2016) gives high value to natural resources and infrastructure, followed by business environmental and tourism policy. Based on this research, the highest weight is awarded lithology and land cover, then followed by the proximity to the fault and slope, followed by soil biomes, groundwater, distance to road and river, the lowest are aspect and elevation. The result of land suitability using SMCE is presented in Figure 4. The land suitability evaluation was classified into four qualitative classes based on equal interval method namely protected area (0 – 0.25), non-suitable class (0.25 – 0.5), an extensive area (0.5-0.75), and intensive area (0.75-1). The protective area is occupying about 10% of total area. The area has consisted of Citarum river body, protected forest, protected karst area, and possible protected karst area in future. The non-suitable area is 14.58% of the total area, the area is mostly the least value according to ten factors. For future development need special engineering approaches. The extensive area has the advantage of the biophysical area, however, for probably future development need an engineering approach. The intensive area is can be developed to intensified tourism in comparison to extensive tourism areas without a special engineering approach. The total area for each class is shown in Table 5.

Table 4. Pairwise comparison matrix, weights, and consistency ratio of the ten factors (Consistency ratio (CR): 0.0929)

| Criteria | Elevation | Slope | Aspect | Soil biomes | Lithology | Land Cover | Ground water | Dist. Road | Dist. River | Dist. Fault | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Elevation** | 1.00 | 0.33 | 1.00 | 0.33 | 0.20 | 0.20 | 0.33 | 0.33 | 0.33 | 0.20 | 0.0284 |
| **Slope** | 3.00 | 1.00 | 3.00 | 3.00 | 0.33 | 0.33 | 3.00 | 3.00 | 3.00 | 0.33 | 0.1107 |
| **Aspect** | 1.00 | 0.33 | 1.00 | 0.33 | 0.20 | 0.20 | 0.33 | 0.33 | 1.00 | 0.33 | 0.0333 |
| **Soil biomes** | 3.00 | 0.33 | 3.00 | 1.00 | 0.33 | 0.33 | 3.00 | 3.00 | 3.00 | 0.33 | 0.0888 |
| **Lithology** | 5.00 | 3.00 | 5.00 | 3.00 | 1.00 | 1.00 | 3.00 | 3.00 | 5.00 | 1.00 | 0.2002 |
| **Land cover** | 5.00 | 3.00 | 5.00 | 3.00 | 1.00 | 1.00 | 3.00 | 3.00 | 3.00 | 1.00 | 0.1902 |
| **Groundwater** | 3.00 | 0.33 | 3.00 | 0.33 | 0.33 | 0.33 | 1.00 | 3.00 | 3.00 | 0.33 | 0.0713 |
| **Dist. Road** | 3.00 | 0.33 | 3.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 3.00 | 0.33 | 0.0572 |
| **Dist. River** | 3.00 | 0.33 | 1.00 | 0.33 | 0.20 | 0.33 | 0.33 | 0.33 | 1.00 | 0.33 | 0.0391 |
| **Dist. Fault** | 5.00 | 3.00 | 3.00 | 3.00 | 1.00 | 1.00 | 3.00 | 3.00 | 3.00 | 1.00 | 0.1807 |

Table 5. Distribution of four classes land suitability analysis in study area

| LSA Classes | Hectare | Proportion (%) |
|---|---|---|
| Protective area | 1,279.1119 | 10.49 |
| Intensive area | 3,639.5627 | 29.85 |
| Extensive area | 5,213.8457 | 42.76 |
| No Suitable area | 2,059.3679 | 16.89 |
| Total | 12,191.8883 | 100 |

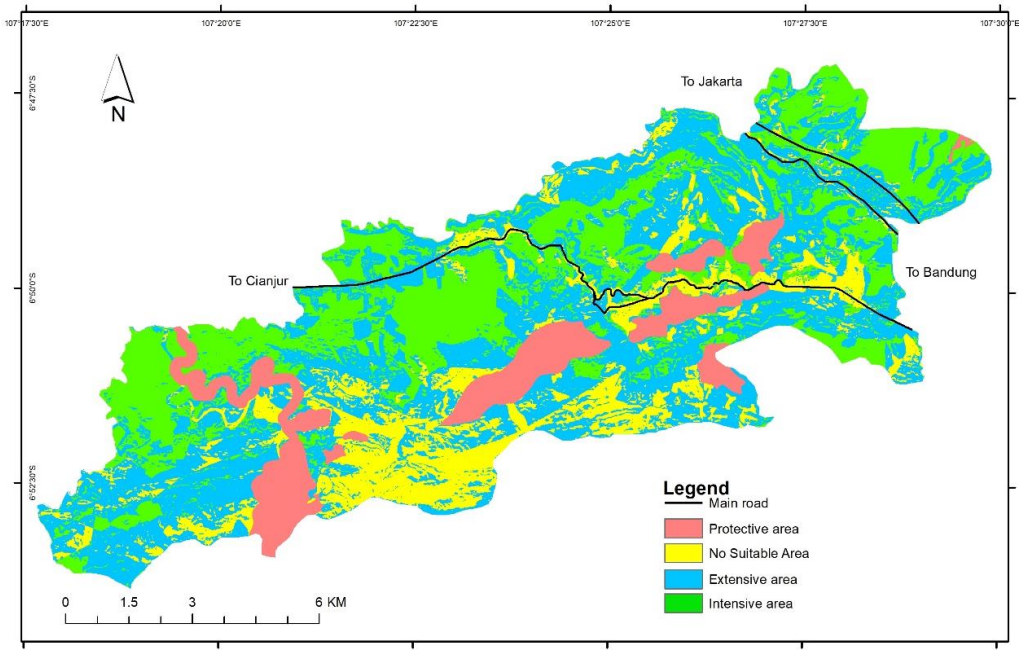



Figure 4. The resulting map of land suitability evaluation for geo-tourism in Citatah karst area using Spatial Multi Criteria Evaluation

**Development of Geo-tourism Area**

Future development of geo-tourism based on land suitability evaluation and assessment of existing tourism area can be divided into two areas development, namely east geo-tourism area (Citatah karst geo-tourism area) and west geo-tourism area (Citarum geo-tourism area). The assessment of present conditions is based on some aspects including geo-tourist attractions, accessibilities, tourist facilities, viewpoints and visibility of the site, safety level, and the availability of tour guides (Kubalíková, 2017).

It can be concluded that CKA has the potential to be developed as geo-tourism area, except for the safety level awareness that should be more careful since there are active mining operations, for example, the impact of hauling operation from a mining site to plant. The center of the east geo-tourism area is Citatah karst area which is dominated by extensive tourism suitable area (Figure 5). Geo-tourism can be combined with mining education-based tourism. The area has some active mining industries, and also there are geological and mining training centers, and mining research centers. Student universities from geological and mining departments usually visiting the area for field work-study. The occurrence of the site such as stone garden, stone walls for rock climbing sport (namely Citatah 48, 90, and 125), and many outcrops for geological structure study; for example, Karang panganten fault. The accessibility of area is very good since closer to the toll road than Citarum geo-tourism area. The surrounding area is very suitable to support current tourism in terms of facilities. Close to the east boundary, there are

Ciburuy lake and a new city. The Ciburuy lake is famous for canoeing or fishing and Kota Baru Parahyangan (New City of Parahyangan) is a settlement area for middle and upper classes society that is famous for MICE, shopping, and leisure sport such as golf. Furthermore, there is a tourism awareness group, the community who can provide tour guides.

On the other hand, the center of the Citarum geo-tourism area in the western part of study is Citarum river. The area is suitable for intensive tourism because the area has advantages in terms of biophysical factor based on land suitability analysis for example, low slope, stable lithology, groundwater, and land availability (Figure 5). The uniqueness and also constraints for tourism development are the ecosystem of Citarum river and protected forest. The river in this area is very important because it is connected between two big dam; Saguling dam and Cirata dam.

To protect Citarum river is to make buffer zone from the river. Furthermore, the area of Citarum has a uniqueness of geosites including caves for example Sanghyang kenit cave, Sanghyang Tikoro, and Sanghyang Poek cave, and waterfall, for example, Halimun, Hawu, Pangulaan, Cikahuripan, and Bedil, and also hot spring of Saguling (Wulung et al, 2019; Hadian et al, 2020). Fishing, swimming, and extreme water sport (Citarum rafting) are also famous as tourist attractions. For future development in Citarum geo-tourism area, there is opportunity to combine geo-tourism with agro-tourism based, since in the west boundary of study area (Cianjur) is agriculture area.

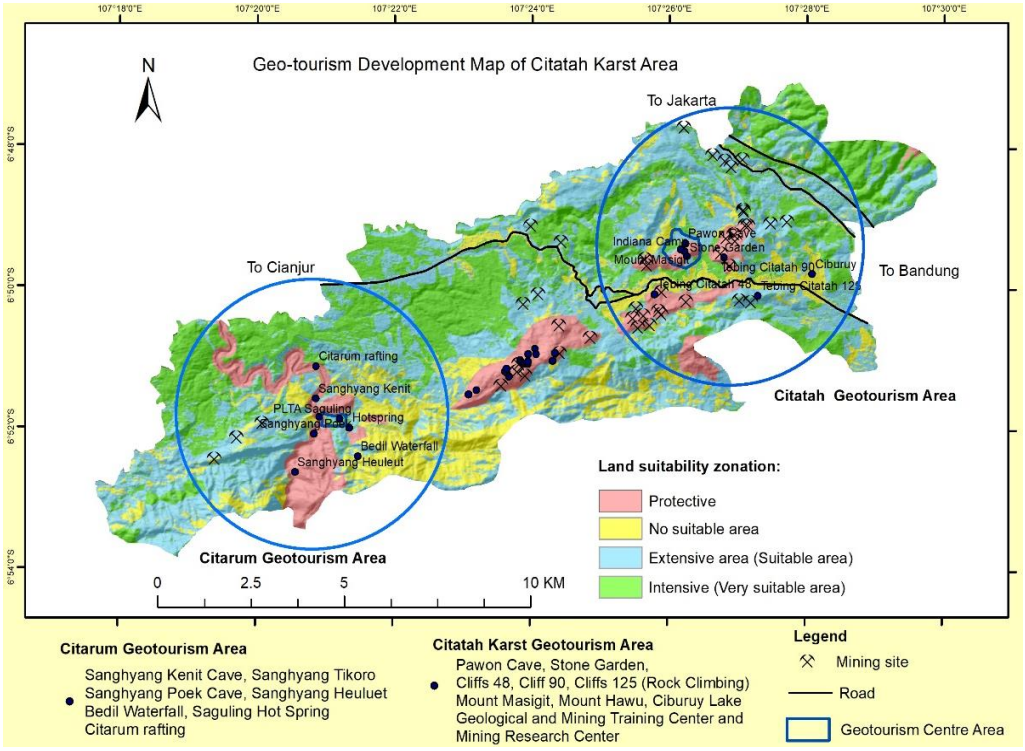



Figure 5. New development of Geo-tourism in Citatah karst area

According to the official statistic, the reason foreign tourists come to Greater Bandung is not only because of a tourist destination but also because of business. It can be expected if there is a new development area for geo-tourism will be an alternative tourism form for tourists visiting Bandung, and offer new educational experiences for tourist by introducing geological environmental aspect. Geo-tourism development must be planned comprehensively to contribute to the sustainability of geosite and the destination. In many cases, if there is no management properly will destroy the geosite or geoheritage itself. The subject of spatial multi-criteria evaluation of tourism in Indonesia is relatively new, multi-criteria evaluation is mostly for agriculture and natural disaster analysis. The future research will use any statistical approaches rather than biophysical model presentation and also need to calculate the carrying capacity of the area.

## CONCLUSION

The broad concept of geo-tourism encompasses many aspects of a range of tourism activities, including transportation, accommodation, destination amenities, recreation, planning, and management. The lack of process in many aspects will lead to destroying the geosite itself.

As part of the planning process, the research uses an integrated technique of analytical hierarchy process (AHP) and geographic information system (GIS) or spatial multi-criteria evaluation (SMCE), the module in ILWIS 3.8.2 for land suitability analysis for geo-tourism in karst area. Citatah karst area has many natural and historical characteristics. Geo-tourism has considered sustainable tourism led to dedicated the area as a conservation area or geopark.

Preparing an effective spatial multi-criteria evaluation method and fieldwork survey is very important to have a good physical model. The final land suitability analysis is divided into four classes including protected, intensive, extensive, and non-suitable tourism areas. For further research need sensitivity analysis to see the value of each factor to the result of the analysis. The future research will use any statistical approaches rather than biophysical model presentation and also need to calculate the carrying capacity of the area.

Future development of geo-tourism areas based on land suitability evaluation and assessment of existing tourism is very useful. Land suitability evaluation using spatial multi criteria evaluation is based on ten factors as inputs layers. The assessment of present conditions is based on some aspects including geo-tourist attractions, accessibilities, tourist facilities, viewpoints and visibility of the site, safety level, and the availability of tour guides.

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# FROM INDUSTRY TO TOURISM: THE CASE OF LX FACTORY IN THE ALCÂNTARA DISTRICT (LISBON)

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**Abstract:** In the past few years Lisbon has been through many changes, most of them related to the tourism growth. Alcântara is one of the neighbourhoods that became popular, once an industrial area that is presently experiencing a process of urban regeneration. Alcântara is probably the best district of Lisbon to recall the industrial era. At the same time, it has all the services that it needs to welcome visitors: diversity of tourist supplies; a vibrant image, trendy, but also authentic; a barycentric position between two well-known quarters (Baixa and Belém); a good accessibility, still being strengthened; a fast growth in accommodation supply. Arguably, an important role in the tourist development of Alcântara is played by the LX Factory, a former industrial area of around 23.000 $m^2$, where important companies were located. LX Factory is considered a successful experiment of reconversion of an industrial space into a multifunctional complex, which still preserves the former factory atmosphere, although according to a contemporary formula. The LX Factory was inaugurated in 2008. It hosts design offices, art ateliers, start-ups, shops, restaurants, cafés, night clubs, co-working spaces, and even a hostel. It also hosts cultural activities, concerts, workshops, and a Sunday market of vintage and biological products. A previous research (Zarrilli et al., 2019) showed that LX Factory is by far the main tourist attractor of Alcântara. In this contribution, we will try to deeper investigate what we may call the LX Factory phenomenon, in terms of tourist image, flows, motivations and assessments. At this aim, a questionnaire was administered to a sample of shop owners located in its facilities. Conclusions allow us to understand LX Factory main issues from the shop owners' perspective, regarding the commercial activity, the current image, the people who visit it, and their opinion about the neighbourhood.

**Key words:** urban tourism, industrial heritage, urban regeneration, LX Factory, Alcântara

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## INTRODUCTION

Currently, in order to attract tourists, tourist destinations are competing through the creation and promotion of unique and distinctive images, which combine the physical characteristics of the city with its intangible aspects (Ashworth and Turnbridge, 2000; Orbasli, 2000; Kolb, 2006). At the same time, tourists perceive as more important those elements that reveal the cultural character of the destination: The urban landscape and architecture, the daily life of local communities and the gastronomy. Nowadays, tourists try to integrate themselves into the life of the local community and deepen their tourist experience by living like the locals. On the other hand, contemporary tourists do not travel only for leisure: often the main purpose of their trip is work (conferences and meetings) or visiting family and friends who live and work in another country. Tourism and mobility are therefore increasingly intertwined. This has led to the expansion and complexity of the offer, and also to the spatial and typological diversity of tourism products, constantly changing and evolving (Joaquim, 2019).

The tourism sector is therefore fundamental for the recovery of urban spaces and vital in the regeneration of cities. Although we are witnessing a gentrification of old neighbourhoods, at least in old quarters of Lisbon (Sequera and Nofre, 2018), tourism can be a regenerating force (Brito-Henriques, 1996; Tiesdell et al., 1996), which prevents the degradation of cities by introducing new functions that attract dynamic young people with different lifestyles and consumptions. The question therefore appears to be at least controversial, since "there is no consensus in the literature regarding the final balance sheet of the effects of tourism in the city and there are reasons to consider that demonizing tourist gentrification is a simplistic way of facing the problem" (Safara and Brito-Henriques, 2017: 71). Unlike gentrification, touristification is a process in which a place becomes an object of tourist consumption, thus leading to changes in that very place (Bondora, 2019). "Some authors argue that touristification in central urban areas is the result of the complete transformation of the urban space into a tourist space" (Sequera and Nofre, 2018: 846). Touristification includes cross-class displacement, class diversity, Disneyfication, depopulation, worsening of community live ability, transnational and local real estate market and risk investment funds, and temporary accommodation (Sequera and Nofre, 2018: 850). Therefore, not unlike many capitals and small towns in Europe, Lisbon has been through a process of touristification since the 1990's, first in the centre and then in more peripheric neighbourhoods such as Alcântara, where tourism recently emerged to substitute the old 19th

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century industries (Jansen-Verbeke and Lievois, 1999). Regeneration, which has become a priority in urban planning in the last thirty years, is considered by Hackworth (2006), among others, to be the distinctive political tool of the neo-liberal city. It is generally justified by the need to overcome the phase of decline associated with deindustrialisation, to promote economic recovery by adapting the city to the challenges of the new global economy and to counteract demographic involution and aging of the population by attracting new residents, in particular young people belonging to the creative elites. The requalification of the building heritage and the urban environment linked to the competitiveness and territorial marketing of the city is therefore a crucial issue in the regeneration policies and in the new planning and governance solutions associated with neoliberal urbanism (Tallon, 2010; Guimarães, 2016). In Portugal, tourism became a sort of lever for urban regeneration. After deindustrialisation, new tertiary activities appeared (Zukin, 2010). Initiatives to restructure urban spaces, as well as the gentrification of old quarters and central Lisbon (Mendes, 2013; Nofre, 2013), are now beginning to take over more peripheral areas, such as Alcântara, which is the object of this article (Figure 1).

Following the increasing tourist demand, the amount of lodging units (particularly apartments for tourist use) in the Alcântara district is multiplying. In fact, if the presence of tourists in Alcântara was rather sporadic until a few years ago, it is now becoming part of the daily life of the neighbourhood, according to a model successfully tested in similar cases of functional reconversion (Gelbman, 2007). The reason is that Alcântara neighbourhood is well located, between the Museum District of Belém and the city centre called Baixa. Easily accessible, it is served by various means of transport (tram, bus, and train) a situation that tends to improve with the arrival of the metro within a short time. Therefore, Alcântara may become one of the most visited areas in the city, partly due to the constant passage of tourists on their way to Belém. The authors of the present study have analysed the tourism trends both in Lisbon and in the Alcântara district (Zarrilli and Brito, 2013; Brito et al., 2015a; Brito et al., 2015b; Zarrilli and Brito, 2017; Zarrilli et al., 2019). In this paper, we emphasise the role that tourism can play in the transition from an urban industrial 'kind of life' to a post-industrial one (Bujok et al., 2014; Bujok et al., 2015), particularly in the case of LX Factory services and trade zone. For this purpose, a survey was conducted including two questionnaires: a questionnaire to the visitors, delivered in 2018 to a sample of 303 foreign tourists (see at this regard Zarrilli et al., 2019), and another one to the shop's owners, which will be analysed in detail further in this paper. The results of the two surveys allow us to hypothesize a rising future linked to the tourist services sector. Conclusions show that the LX Factory is becoming increasingly visited and becoming less peripheral in the mental map of tourists, on the one hand, and a good investment for those who own a shop or a restaurant there.


Figure 1. Lisbon's division into *freguesias* (districts) (Source: Zarrilli et al., 2019)

**1. Heritage regeneration, touristification and gentrification**

At first glance, Alcântara looks like an ex-industrial district dominated by buildings of different types, but relatively recent; among others, the Ponte 25 de Abril, the Docas de Santo Amaro (or simply Docas) warehouses, which are very popular today, and above all the modern CUF 2 hospital (Figure 2), which is a good case of what we can call healthcare gentrification. CUF 2 is a private hospital for the middle-upper class who can afford their own medical care. A closer look to the landscape, however, reveals a neighbourhood with an interesting and very diversified heritage dating from a large period between the sixteenth century and the present. Alcântara counts a population of 13,943 people (2014), and an area of 4.40 km2[1]. The oldest monument in Alcântara district is the chapel of Saint Amaro (Figure3), a pilgrimage destination from the 16th century. Besides its outstanding glazed tiles, the chapel is currently known for the view over the whole neighbourhood and the river. In the 18th century several churches were built, one of them dedicated to Saint Peter of Alcântara, as well as palaces that belonged to the Portuguese aristocracy, such as Ribeira Grande Palace and Burnay Palace, just to give two examples – a number of noble families moved to Alcântara because they wanted to be close to the royal family, who decided to live nearby, in Ajuda district, an area that was not destroyed by the earthquake of 1755 that

[1] https://www.jf-alcantara.pt/freguesia/

destroyed the centre of Lisbon. From the beginning of 19th century, Alcântara became the industrial area of Lisbon. Still today, the factory atmosphere prevails in the neighbourhood, where several units can be found. From 1966, when the bridge over the Tagus was built passing over Alcântara, the factories moved to the other side of the river while the bridge became the most significant landmark of Alcântara. It is possible to access to the top of the bridge – the entrance is at pier 7 (Pilar 7), where an exhibition on the construction of the bridge can be seen. Other attractions in the area are: The Docas (docks) near a marina under the bridge, where the old warehouses were converted into restaurants, bars, and night clubs; Lisbon Underground, with co-work spaces and start-ups, inspired in the British one; Museums such as Carris museum, where one can find old means of transport that run in Lisbon in the last two centuries; Macau Cultural Centre, with a library and an display focused on china porcelain and; Berardo Museum of Art Deco (also called BE MAD), a private collection that incudes very beautiful and sometimes delicate pieces in Art Nouveau and Art Deco styles.

Figure 2. Hospital CUF 2 (Source: https://engexpor.com)

Figure 3. Chapel of Santo Amaro, Alcântaran (Source: authors)

Figure 4. 798 Art Zone (Source: topchinatravel.com)

Figure 5. Limits of LX Factory in Alcântara neighbourhood (Source: adapted from www.bing.com)

**2. The Lx factory**

Right in front of the Berardo museum is the key attraction in the neighbourhood: the LX Factory, an exciting instance of how an industrial complex can be converted into a multifunctional space. The concept is very similar to 798 Art Zone, in Beijing (Figure 4). LX Factory was inaugurated in 2008. It occupies a former industrial area of approximately 23,000m$^2$ and includes a main street and a secondary one with huge side buildings, previously branches of industrial businesses and/or their units (Figure 5). The area was reactivated by the Portuguese company Mainside Investments, preserving its original factory atmosphere, albeit according to a contemporary formula. In fact, about 200 offices, design studios and shops, art ateliers, start-ups, creative restaurants, cafes, bookshops, night clubs, co-working spaces and even a hostel, with a total occupancy of almost a thousand people can be seen and experienced today.

In 2017, the LX Factory was acquired by Keys Asset Management, a French company interested, according to analysts, in the profitability that an innovative formula such as the one embodied by the LX Factory can guarantee (Ferreira, 2017). The LX Factory hosts different events, cultural activities, workshops, concerts, and a Sunday market of vintage and organic products. It is a nice place to spend a Saturday night or Sunday morning, in a mood that some, like The Guardian newspaper (Moore, 2017), would define as cool (Figure 6). On this matter, the words of Xie may be quoted as follows: the LX Factory "experienced a process of gentrification from factory production to tourism" (Xie, 2015, p.174). "It is viewed as both an industrial icon and an ideal location for the logical transition to a service economy via the reinvention of traditions" (Xie, 2015: 191). For several years, Lisbon has been establishing itself as one of the most representative places

in Europe for so-called street art, with many important examples in the Alcântara district. Some artists are now internationally famous, such as Vhils, Bordalo II, How and Nosm and AkaCorleone. They have performed works that are displayed on the facades of buildings and masonry throughout the neighbourhood, as well as inside the LX Factory and the Village Underground. From what has been said above, we can argue that there has been a clear tourism development in the Alcântara neighbourhood, including regeneration, touristification and gentrification.

Regeneration is related to heritage recovery (different kinds of industrial heritage and cultural issues) as well as to the foundation of new museums – Carris museum, Lisbon Underground, Macau cultural centre, Experience Pier 7, and Berardo museum are examples of that. Touristification can be noticed in the restauration supply of the Docas area, in the recently built hotels and local accommodation, or even in the attractive vibrant decoration of some shops and the nightlife in the LX Factory as well as in the presence of a new tourist office, strategically placed where tourist pass on their way from the railway station to LX Factory. Finally, three types of gentrification can be identified in Alcântara: Housing gentrification, including several new housing facilities and apartments; commerce and services gentrification, especially the Docas and LX Factory; and healthcare gentrification in the brand-new private hospital CUF 2.


Figure 6. Sunday market in the LX Factory (Source: authors)

Table 1 - Accommodation facilities in Alcântara by 31st December 2020(Source: own elaboration on data Turismo de Portugal - Registo Nacional de Turismo (Tourism of Portugal – National Tourism Register) [2]

| Hotel | | | Alojamento local (Local accommodation) | | | Total | | |
|---|---|---|---|---|---|---|---|---|
| no. | rooms | beds | no. | rooms | beds | no. | rooms | beds |
| 2 | 453 | 906 | 347 | 670 | 1,105 | 262 | 1,123 | 2,011 |

## 3. ACCOMMODATION FACILITIES

In the Registo Nacional de Turismo (National Tourism Register) all the accommodation facilities in Portugal are sorted by year of opening and location. According to these data, there is evidence that a part of the housing stock of Alcântara has been reconverted into tourism facilities in the last few years. In addition to the two hotels in the district - large in size and of high quality - we can find an increasing number of accommodation facilities defined as *alojamento local* (local accommodation), consisting mostly of apartments that are rented to tourists for short periods. This phenomenon, also known as "airbnbsation" (see in this regard Sequera and Nofre, 2018: 850), in Alcântara consists of 347 non-hotel facilities[3], with 670 rooms and 1,105 beds (Table 1). All the units started their activity after 1st January 2015, and over 75% of these (264) have been operational only since 2018. In conclusion, the district of Alcântara can count an overall accommodation (hotel and non-hotel), as of 31st December 2020, of 1,123 rooms with 2,011 beds, which confirms the increasing presence of Alcântara in the "mind map" and in the knowledge of tourists.

## METHODOLOGY

The present research was based on a qualitative-quantitative approach. The qualitative study includes:

1) Direct observation of the investigated zone – field research took place between 2013 and 2020.

2) *In situ* information gathering from primary sources.

3) Literature review, with specific reference to

i) post-industrial tourism (Gelbman, 2007; Chmielewska and Lamparska, 2012; Xie, 2015; Bujok et al. 2014, 2015);

ii) Lisbon related research (Brito-Henriques, 1996; Mendes, 2013; Nofre, 2013; Tulumello, 2015; Muselaers, 2017; Barata Salgueiro et al., 2017; Safara and Brito-Henriques, 2017; Joaquim, 2019) and;

iii) Alcântara district related research (Marques de Abreu Pereira, 2009; Ribeiro, 2012; Rodrigues da Silveira, 2017; Vidal, 2014; Vidal, 2015), including Internet sites.

The quantitative research was based in data made available by institutional sources (Turismo de Portugal/Tourism of Portugal; Instituto Nacional de Estatística/National Institute of Statistics), and of a questionnaire delivered to shop owners, whose shops are in the LX Factory area. The questionnaire aimed at knowing the reasons for the shops' location choice, and the assessment of LX Factory, with reference to the tourist development of the latter and of Alcântara district in general.

### The survey

The questionnaires were filled out by a random sample of 30 shop owners (out of a total number of 200 among stores, restaurants, snack bars, design studios, art studios, start-ups, nightclubs, co-working spaces, and a hostel) in the months of January and February 2020, just before the spread of the COVID-19 pandemic. Therefore, the results of the survey refer to a pre-pandemic situation from the points of view of national and international mobility and purchase decisions.

[2] https://registos.turismodeportugal.pt/HomePage.aspx, visited on 25th August 2021

[3] Including the hostel "The Dorm", which is located inside the LX Factory

The questionnaires delivered to shop owners consisted of four sections:

1. General information about their business (type and age of the activity; property regime; size of the shop; staff).
2. Assessment of LX Factory context (location factors; satisfaction with setting; main positive and negative aspects of LX Factory).
3. Customers (average number of visitors/customers during workdays, weekends and holidays; average percentage of foreign tourists out of the clientele; main countries/regions of origin of foreign tourists).
4. Alcântara neighbourhood (tourist potential and perspectives of Alcântara district).

**RESULTS AND FINDINGS**

*General information* - The kind of activity most represented in the sample is trade with 17 stores, followed by catering, with 11 units among restaurants and snack bars (Figure 7). This composition of the sample reflects the situation on the ground, characterized by a prevalence of specialized stores aimed at customers with a medium-high cultural and income level. The catering sector, on the other hand, mainly consists of ethnic or specialised restaurants and snack bars, suitable for a demanding and wealthy clientele. Most businesses are recent: 7 units out of 30 started their activity in 2019 or at the very beginning of 2020, while another 12 started between 1 and 5 years before the survey (Figure 8). This can be seen as a sign of the recent development of the LX Factory as a leisure destination, both for residents and tourists.

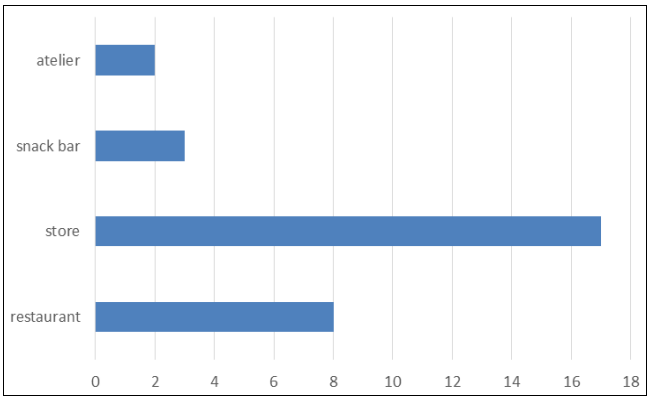


Figure 7. Type of activity/no. of units (Source: authors)

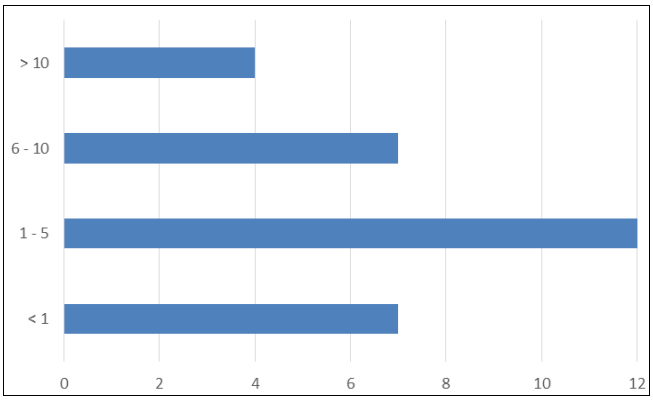


Figure 8. Years of activity/no. of units (Source: authors)

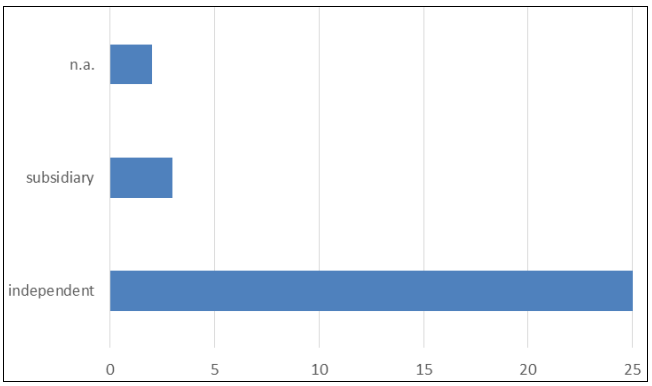


Figure 9. Property regime/no. of units (Source: authors)

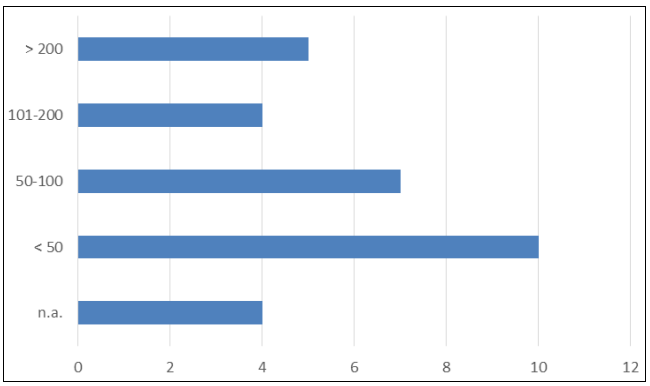


Figure 10. Size ($m^2$)/no. of units (Source: authors)

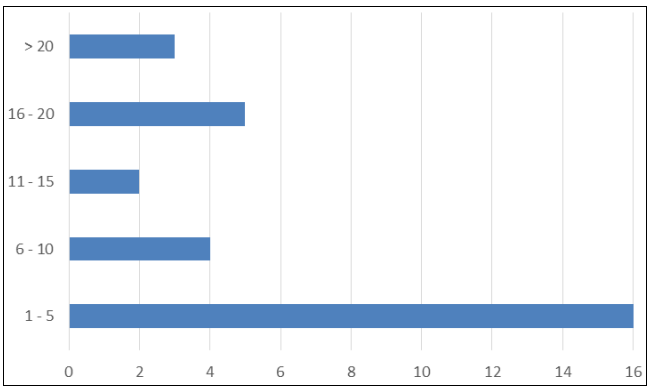


Figure 11. No. of personnel/no. of units (Source: authors)

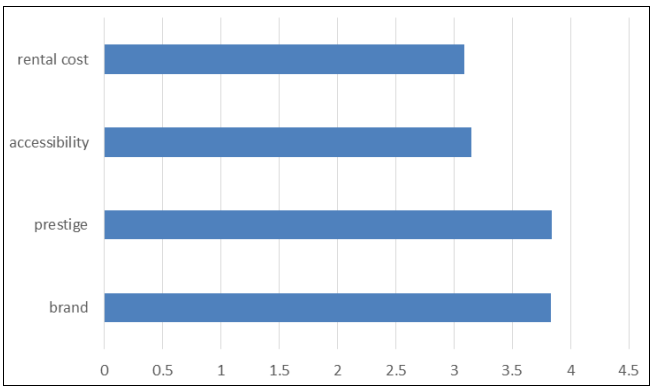


Figure 12. Localisation factors/assessment (Source: authors)

The great majority of the sample is independent from the point of view of the property regime (Figure 9) and small, both in terms of size of the premises - 17 units are smaller than 100 $m^2$ (Figure 10) - and of the staff involved - 16 units

employ between 1 and 5 people (Figure 11). This can be considered another sign of the sophisticated and not mainstream nature of the activities located in the LX Factory. As in the rest of the district, the phenomenon known as "disneyfication" - the dominance of major international trade brands, often aimed at mass tourist flows - does not seem to be taking place in the LX Factory (see at regard Zarrilli et al., 2019). *Assessment of LX Factory context* – First of all, the interviewees have been asked to give a score from 1 to 5 (according to a Likert scale, where 1 is "very bad" and 5 is "very good") to four features which may have influenced the decision to place their business in LX Factory (accessibility, rental cost, prestige, brand). According to the results of the survey, the main reasons seem to be related to the image and the attractiveness of this latter: the categories "brand" and "prestige" receive the highest rank (3.8), while "accessibility" and "rental cost" get a lower evaluation (3.1) (Figure 12). Anyway, the level of satisfaction with the decision made is quite high: 25 respondents gave a score of 4 or 5, with an average score of 4.1 (Figure 13).

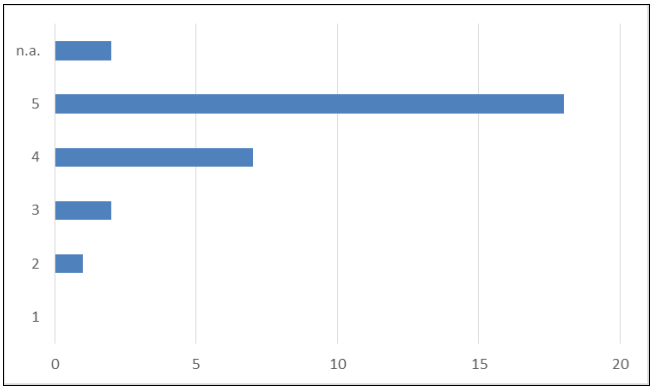


Figure 13. Level of satisfaction/no. of units (Source: authors)

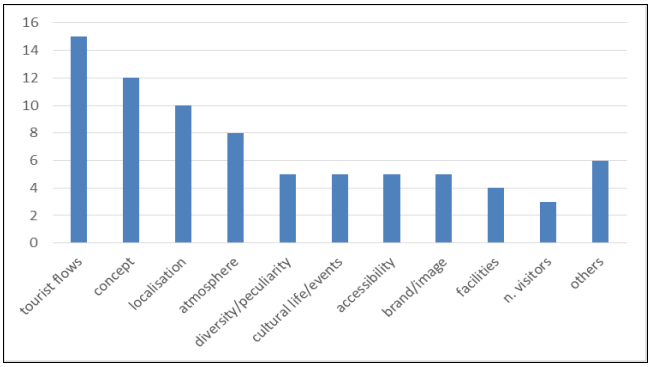


Figure 14. Main positive aspects (3 possible answers)/no. of answers (Source: authors)

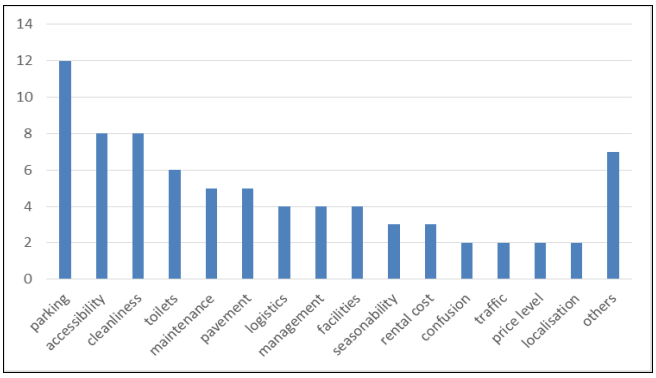


Figure 15. Main negative aspects (3 possible answers)/no. of answers (Source: authors)

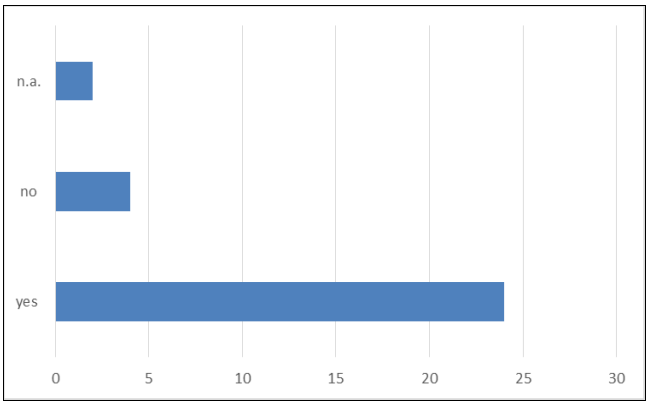


Figure 16. Pedestrianisation/no. of answers (Source: authors)

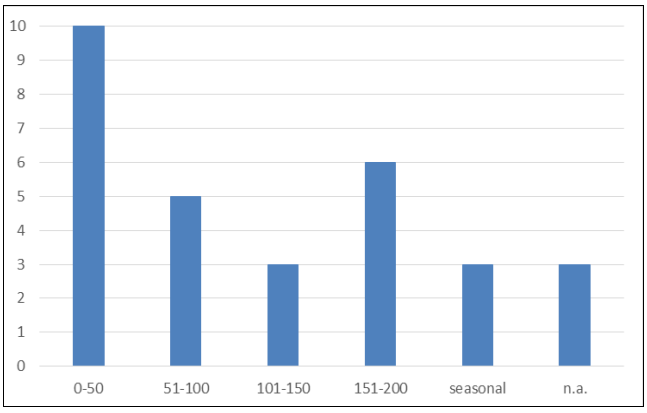


Figure 17. Average no. of visitors/customers during workdays (Source: authors)

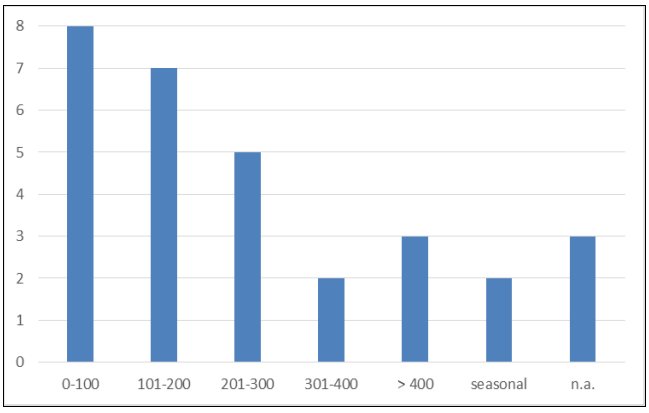


Figure 18. Average no. of visitors/customers during weekends/holidays (Source: authors)

The capacity to attract tourist flows is perceived by shop owners as by far the most positive feature, followed by the "concept" underlying LX Factory (Figure 14), which is consistent with what was stated above regarding image and attractiveness. On the other hand, many aspects related to the organisation and functioning of the structure are perceived negatively (Figure 15). We are talking in the first place about the parking area, which is inappropriate to the flow of visitors, as well as it is accessible from the main street that should be reserved for pedestrians. At this regard, there is a consensus of the respondents towards the complete pedestrianisation of the structure (Figure 16). However, aspects like

cleanliness, toilets, maintenance, and pavement preservation are perceived negatively as well, and this is a clear sign of discontent towards the management board that hesitates to make the necessary investments to update the facilities.

*Customers* - Predictably, the average number of visitors/customers more than doubles during weekends and holidays (Figure 17-18). However, it is reasonable to assume that during weekends the increase is due to both residents and tourists, while during holidays - especially in the summertime- the bulk of the increase is due to the latter, because many of the former left the city for vacations. According to the respondents, the percentage of foreign tourists out of the clientele is very high. For half of the interviewees, it is between 61 and 80%, and for another 7 respondents it exceeds 80% (Figure 19). France, Spain, Germany, UK, Italy, and The Netherlands are the main European countries of origin. Among extra-European countries, USA and Brazil are at the top, followed by Southeast Asian ones, presumably Japan, China, and South Korea (Figure 20). It can be noted that such national composition of foreign visitors/customers is mostly consistent with the official data, provided by Turismo de Portugal, relating to the arrivals of foreign tourists in the city of Lisbon (Figure 21), shown here for comparison.

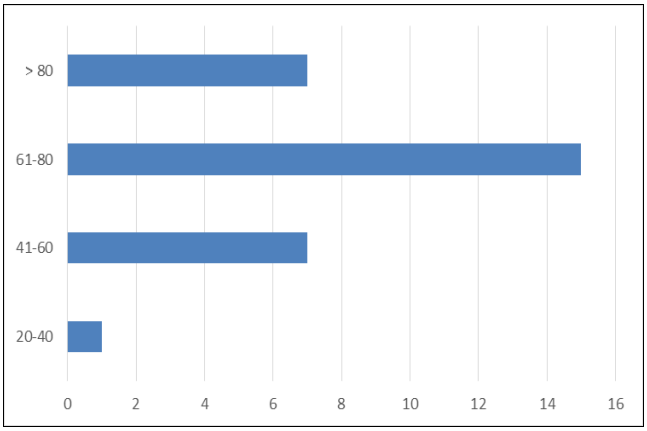


Figure 19. Percentage of foreign clientele/no. of units

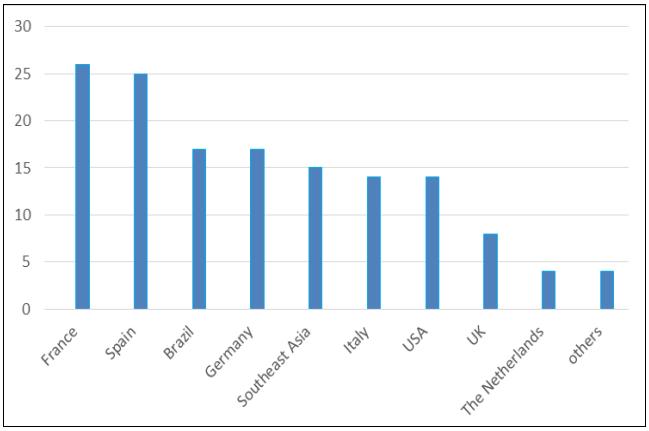


Figure 20. Main countries/regions of origin (5 answers)

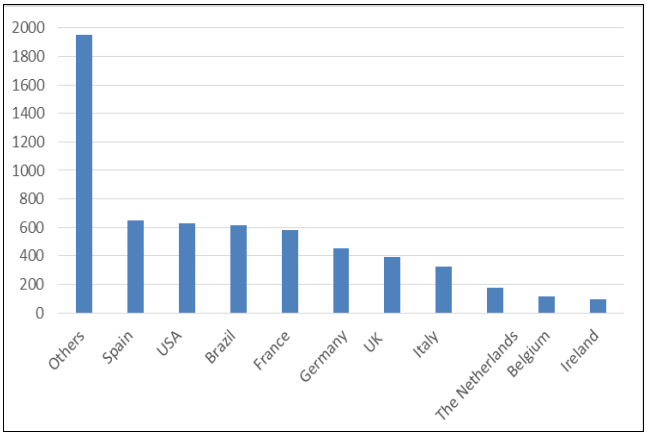


Figure 21. Foreign tourists in Lisbon. Arrivals by country 2019 (000) (Source: Insituto Nacional de EstatísticaNational Institute of Statistics)[4]

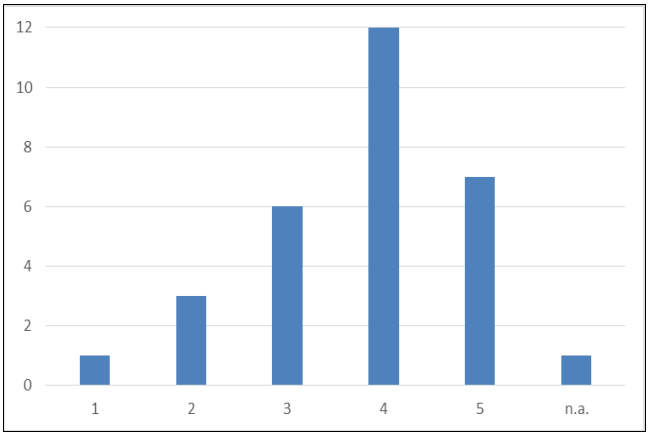


Figure 22. Tourist potential in Alcântara district Assessment/no. of answers (Source: authors)

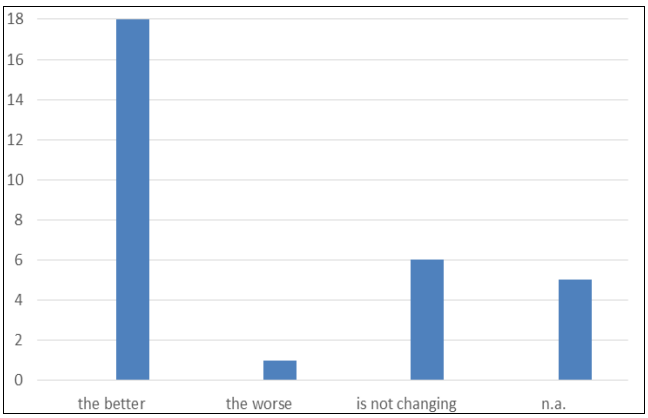


Figure 23. Alcântara district is changing for (Source: authors)

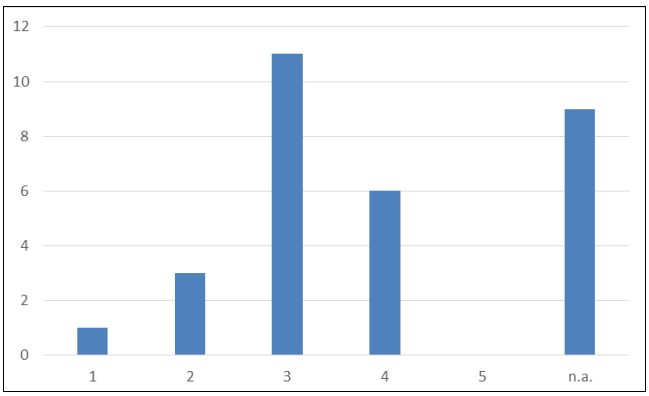


Figure 24. Evaluation of the public policies for the district Assessment/no. of answers (Source: authors)

[4]www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=445437698&PUBLICACOESmodo=2

*Alcântara neighbourhood* - To understand the tourist development of the LX Factory, one cannot ignore the evolution that is taking place in the district, as mentioned above. We therefore considered useful to include this issue in the questionnaire, and the findings are quite interesting. There is a widespread perception by the respondents that the tourist potential of Alcântara is high, with 19 respondents giving a score of 4 or 5 (Figure 22). At the same time, a similar number of respondents (18) believe that the district is evolving in a positive direction (Figure 23), and it is likely that tourism development is perceived as a non-secondary factor of this change for the better. However, in the perception of the shop owners, this positive evolution seems to be due to private initiatives and a spontaneous development in the first place. Public policies for the district are less important, considering the fact that the respondent's judgment on the latter is lukewarm at best - only 6 respondents show some enthusiasm, giving a score of 4; 11 interviewees give an average evaluation of 3; 3 of them give a low evaluation of 1 or 2, while 9 don't answer at all (Figure 24). This last circumstance could also be due to the fact that some, maybe many, shop owners are not resident in Alcântara, so they do not have a real awareness or interest in the evolution of the district.

There is no doubt that LX Factory is establishing itself as the main tourist attraction of Alcântara. At this last regard, it is possible to mention a previous survey that has been carried out in the months of March and April 2018 to a sample of 303 tourists visiting the district, aimed at understanding their motivations and assessment (Zarrilli et al., 2019). The findings showed that Alcântara is especially popular with young tourists looking for trendy places, such as LX Factory. At this regard, the answers to the question "motivations for visiting Alcântara" (Figure 25) gave a clear indication in this sense. A first group of answers (99 responses) referred to a generic motivation, namely the visit to the district (curiosity, desire to return, to go for a walk, because perceived Alcântara as fashionable, on the advice of friends and specialised media). However, the by far prevalent specific reason, with 89 responses (equal to 29.4%), turned out to be the visit to LX Factory. To these 89 answers we should perhaps add the 10 respondents (3.3%) who indicated shopping as the reason for their visit, which most likely will have taken place in the LX Factory, where most of the shops of interest to tourists are located.

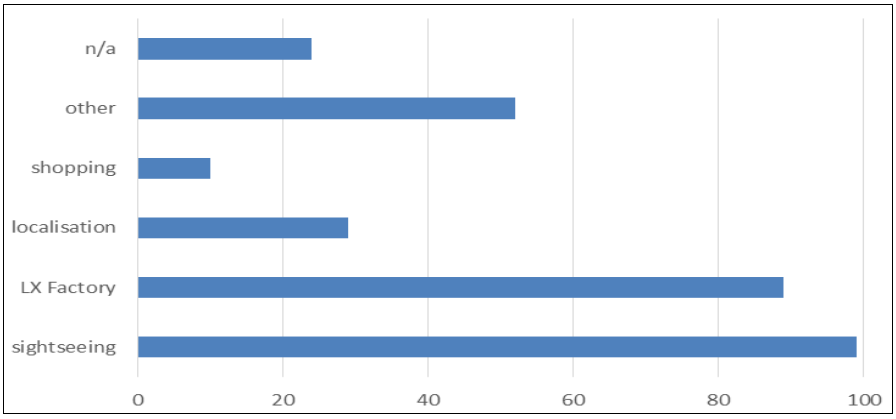


Figure 25. Motivations for visiting Alcântara/no. of answers (Source: authors)

## CONCLUSION

Alcântara is currently a neighbourhood of contrasts, and it seems to be also an emerging tourist area in Lisbon, still authentic but with an image of dynamism and transformation. Its barycentric location between two strong tourist areas, the historic centre and Belém, and its good accessibility, which can still be improved, contribute to the predictable future development of the area. Among the diversified tourist attractions of Alcântara, such as museums, religious buildings and restaurants, the former factories and the industrial landscape seem to be particularly appealing.

Alcântara is going through a process of regeneration. This process includes touristification, i.e. the introduction in the neighbourhood of several tourist attractions, among them LX Factory, as well as the construction of superstructures, such as apartments and a hospital that can be seen as signs of gentrification. The LX Factory is undoubtedly the most important attraction in the neighbourhood, both for Portuguese and foreigners with its small but trendy shops and events. It brought an artistic and intellectual contemporaneity not only for its perimeter but to the whole district. Arguably, tourism is playing a key role in the success of LX Factory as a growing leisure destination. Several elements allow us to state the following: there is a high satisfaction and the very positive assessment of the shop owners on the capacity of LX Factory to attract tourist flows, thanks to its innovative concept and its captivating image; most costumers are foreign tourists; the shop owners highly appreciate the tourism evolution of Alcântara, which is obviously having a positive impact on the turnover of the shops located in the LX Factory; the motivations of the tourists interviewed in our previous survey also indicate LX Factory as the main specific reason for a visit to the district of Alcântara.

Further studies on Alcântara should consider the effects of gentrification and touristification on the neighbourhood, two issues that are becoming increasingly evident when walking and visiting this area of Lisbon.

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# MINIPLIER AND ACCUMULATING USELESSNESS AS NEW REALITY OF TOURISM ECONOMY UNDER PANDEMIC

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**Abstract:** Stemming from the statistical data on tourism trends during 2018-2020 and author's own methodology of calculating the efficient tourist multiplier, to determine regularities and factors behind the reaction of the leading world economies to the critical fall in tourist services production under the coronavirus pandemic conditions. The research study is based on the statistical analysis of tourists' spending impacts on the dynamics of nominal GDP in 48 countries of the world and also on the author's own approach to determining the efficient tourist multiplier (miniplier in this case) as well as on the hypothesis about the accumulating uselessness of tourist services production. We have detected regularities in the dynamics of tourist multiplier as well as in restructuring of tourist services production in the leading economies of the world under the conditions when the tourist market environment was critically worsening. In the research the trends of tourist multiplier for 2018-2020 were determined and also recommendations on modernization of the state regulation system as well as on corporate strategizing were offered, taking into account the author's methodology of measuring the tourism efficiency multiplier (miniplier) and accumulating uselessness of tourist services production under crisis.

**Key words:** medical tourism, healthcare, medical services, insurance, Thailand, Russia

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## INTRODUCTION

Socioeconomic efficiency of tourism is obvious since it is directly connected with:

-the growth of a national tourist services production (creation of new objects within the tourist industry, modernization and efficiency increase for the already existing objects of tourist infrastructure and suprastructure; more tax payments leading to better social infrastructure in the country; growing number of people employed in the tourism sector; extra economic benefits from the growing popularity of tourist resources and tourist types of activity);

-the growth of investment attractiveness of the local tourism industry (thus leading to its higher profitability and better quality of the provided tourist services as well as to popularization of a tourist region in the home country of investors);

-attraction of personal savings from foreign tourists. Excellent quality of tourist infrastructure, vast opportunities for organization of leisure and entertainment activities, well-functioning market mechanisms in the region, low criminality rate, overall safety and security of the visitors' health, life and belongings — these are the primary factors behind the tourists' decision to spend more while they are staying in a particular destination.

Thus, inbound tourism is capable of providing the local markets with additional foreign currency resources, thus improving the payment balance of a region and the recipient country overall. Many authors (Archer and Owen, 1971; Armstrong and Taylor, 1985; Coccossis and Nijkamp, 1995; Milne, 1987; Pepping and Bruijn, 1991; Pleeter, 1980; Merrifield, 2006) understood the impact of inbound tourism on the economy of a recipient region in its relation with the growth of savings attracted from the visiting foreigners as an indirect effect, the strength of which is determined with the help of the tourist multiplier — the ratio showing how regional profit depends on tourists' spending.

Tourists' spendings are distributed across various subjects of the local market level by level — from a producer of a final tourist product to producers of various components within this tourist product (for example, from tour operators to hotels, transportation companies, restaurants and so on), excluding though the share which by default belongs to a tour operator. The size of this share would depend on the volume of savings planned by this tour operator (the larger is this volume, the smaller would be the share passed to the second level — to suppliers of various tourist services). Tour operator's share would also depend on the volume of taxes to be paid as well as on the volume of credit obligations.

In their turn, suppliers of tourist services getting their shares of profit from a tour operator are then able to settle their accounts and bills (for example, to pay for utilities, to pay salaries to their employees, to pay to their suppliers, etc.). Therefore, the initial amount paid by a tourist is becoming gradually smaller (and the size of each iteration would depend on the saving, tax and credit necessities of each subject working at the tourist market). Moving from a tour operator to suppliers of tourist services and then other market participants, tourist spending creates profit at every stage of this

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transition. Despite all the tragic consequences of the coronavirus pandemic, the year 2020 has provided a unique opportunity to study not only stimulating, multiplicative impact of tourism under volatile, yet stable global growth, but also under crisis conditions — when the growth became nearly -50%. This problem of a destimulating impact on a national economy due to rapid shortage of all international and internal tourist flows became the core of our research study, thus predetermining its objectives and tasks. Research objectives: to test the reaction of the economic systems in the contemporary states on the critical fall in tourist services production, using the available statistical data and the author's own methodology of calculating the efficient tourist multiplier; to determine its regularities and consequences for modernization of the whole system of state regulation and corporate strategizing within the industry. Research tasks:

-to suggest and explain the author's own methodology of calculating the efficient tourist multiplier taking into account its multifaceted nature;

-to analyze the statistical data as of 2020 which outlines the fall of tourist services production and drop in the nominal GDP in 48 countries of the world so that to determine the contents of the restructuring process at their national tourist markets along with the behavior of the tourist multiplier;

-to ground the time lag and the long-term impacts of the tourist services production dynamics on the growth/fall of the economic systems in the selected countries of the world;

-to evaluate the scale of the destimulating impact of the tourist sector condition on the GDP values in the selected countries.

Prior to the research state we have put forward the following hypotheses:

-The destimulating effect of the tourist spending shortage around the world during 2020 was more serious in those countries that back in 2019 had had the largest shares of income from tourism in their GDPs;

-The potential of internal tourism in the majority of countries (even those that are territorially and demographically large and have an already differentiated and competitive internal tourist product) would not be sufficiently large to overcome the disastrous consequences from the drastic drop in international travels.

-Efficient tourist multiplier (which reveals the degree of foreign and internal tourists' spending on the growth of nominal GDP) will be higher in the countries with more developed, capacious and less import-dependent tourism industries.

-The destimulating impact of the tourism industry collapse on the growth of GDP, same as the effect from the tourist growth, tends to reveal itself in a long (more than a year) term due to sophisticated nature of tourism integration into the structure of a national economy and multilevel structure of tourism infrastructure.

-Tourism industry demonstrates the signs of diminishing uselessness which are manifested through reduced destimulating impacts from tourism fall on GDP dynamics.

**LITERATURE REVIEW**

In a simplified form, the multiplier model may be presented as what is known in economic science as a simple Keynesian multiplier (Rusu, 2011: 73): where B stands for the marginal propensity to consume, $\frac{1}{1-B}$ defined as the ratio of changing spending to changing income. The economic sense of this multiplier is as follows: it shows how the equilibrium level of income is growing (within the closed economy) due to higher spending per unit. Due to recirculation of incomes their total impact on the economy of a country would be significantly stronger than the impact from direct current spending of tourists in the same country, and this is exactly what tourist multiplier is expected to show (Rusu, 2011).

However, we need to keep in mind the partial losses since the obtained income does not stay in a country/region in its full volume. There can be at least three major types of income losses on the level of a country/region: spending on imports (purchasing imported products and services); personal savings; taxes. Under current conditions of the world economy globalization and international integration processes within the tourism sector, the following factors tend to reduce the multiplicative effect from the inbound tourism: the volume of the income repatriated by foreign owners (or investors) of the tourist sector enterprises (in some countries this type of income could be as high as 40% of all tourists' spending (Butler, 2012); spending on servicing international credits and debt liabilities of the enterprises belonging to tourism infrastructure and suprastructure; spending on the salaries of personnel working on distance, outside the country (for example, top managers, consultants, marketers and so on); spending on the use of foreign brand names (franchising in the hospitality sector usually takes up to 15% of income from the recipient destination (Pilon, 2020); spending on international outsourcing (in some cases this category can be attributed to import operations).

Thus, the total of these categories of spending is taken out of the recirculation because region's economy does not get direct value from them, even though the local government gets some tax payments. A share of taxes might eventually return to the region, and this makes the impact of tourism on the development of a regional economy even stronger. For every country the ratio of income from tourism (or its multiplier) would depend on the share of losses. Real-life practice shows that the ratio of tourism income is usually in the range of 100-400% of all direct spending of tourists, that is, of all direct income (Kim and Kim, 2015; Idahosa, 2019; Bycroft et al., 2007; McDonald, 2009; Clulow and Walters, 2013; Ardahaey, 2011; Brohman, 1996).

The following is needed to increased the multiplier effect from inbound tourism (Verdonkschot, 1994):

-better development of tourism infrastructure;

-stable maintenance of the tourist resource base;

-development market environment and economy of the recipient region overall;

-availability of import-substituting commodities (especially living essentials, foodstuffs, tourism-related goods, etc.);

-local policies being oriented on stimulation of tourist spending during the tour and on discouraging personal savings by local population and enterprises of the local tourism industry.

**Research methodology**

Assessment of separate components within the tourism multiplier should be based on a thorough methodological basis and access to specialized software. At this, for each component of the tourism multiplier we need to take into account its contribution into the related economic sector and social policy of the state. For example, considering the production multiplier (the ratio of indirect impact of tourism on the production sector overall and production volumes in particular), we need to take into account the actual volume of the additional production generated thanks to tourists' spending in a certain region.

Table 1. Classification of countries included In our sample (Source: made by the authors)

| | | | |
|---|---|---|---|
| 1 | By geographical regions | Western Europe | 15 |
| | | Eastern Europe | 6 |
| | | Pacific Asia | 6 |
| | | South Asia | 2 |
| | | Middle East | 9 |
| | | Africa | 3 |
| | | Americas | 7 |
| 2 | By the volume of national GDP (by PPP, as of 2020) | G20 countries | 15 |
| | | GDP higher than 1,000 bln but not in G20 | 5 |
| | | GDP from 500 to 1000 bln USD | 8 |
| | | GDP from 300 to 500 bln USD | 8 |
| | | GDP from 200 to 300 bln USD | 4 |
| | | GDP from 100 to 200 bln USD | 6 |
| | | GDP lower than 100 bln USD | 2 |
| 3 | By the level of material well-being | Super rich countries | 14 |
| | | Rich | 6 |
| | | Average rich | 8 |
| | | Average | 9 |
| | | Average poor | 11 |

Table 2. Contribution of tourism in GDP of the selected countries, as of 2016-2020 (Source: here and after data from: TC360data)

| | Countries | contribution of tourism in GDP, bln USD | | | | |
|---|---|---|---|---|---|---|
| | | 2016 | 2017 | 2018 | 2019 | 2020 |
| 1 | USA | 1438 | 1540 | 1595 | 1666 | 846 |
| 2 | Japan | 352 | 349 | 367 | 390 | 234 |
| 3 | Germany | 299 | 321 | 344 | 353 | 208.8 |
| 4 | Italy | 237 | 253 | 274 | 279 | 132.2 |
| 5 | France | 229 | 242 | 265 | 271 | 123.2 |
| 6 | India | 207 | 233 | 247 | 277 | 121.9 |
| 7 | Mexico | 184 | 198 | 209 | 218 | 91 |
| 8 | UK | 279 | 288 | 310 | 323 | 89.6 |
| 9 | Brazil | 152 | 164 | 152 | 161 | 78 |
| 10 | Spain | 175 | 192 | 211 | 221 | 75.4 |
| 13 | Thailand | 105 | 97 | 109 | 117 | 41,7 |
| 40 | Hungary | 10.1 | 11.6 | 13.2 | 14 | 5.8 |
| 41 | Croatia | 12.4 | 13.6 | 15.2 | 15.9 | 5.7 |
| 42 | Dominican Rep. | 12.4 | 13.2 | 14 | 14.7 | 5.6 |
| 43 | Kazakhstan | 7.9 | 9.1 | 9.3 | 9.2 | 3,9 |
| 44 | Tunisia | 6 | 6.1 | 6.5 | 6.2 | 2.81 |
| 45 | Oman | 6 | 6.5 | 7 | 7.7 | 2.26 |
| 46 | Jordan | 7 | 7.6 | 8.4 | 9.1 | 1.9 |
| 47 | Azerbaijan | 5 | 5.6 | 5.9 | 6.5 | 1.22 |
| 48 | Namibia | 1.3 | 1.4 | 1.45 | 1.5 | 1.02 |
| All 48 countries in the sample | | 4708.19 | 5013.8 | 5282.77 | 5545.5 | 2614.2 |

However, this principle of building a multiplier stems from the assumption that the multiplier is static in its nature, that is, the conditions are well balanced and there is a linear dependence between the production function and the consumption function. In real life though, this dependence is hardly ever that linear. The disturbing factors here can be: a new investment strategy on production; inflationary processes in the country; rate of a region's economic development overall, etc. Considering these and other additional factors would be possible only when we have a methodology and a software available to account for the contribution of these factors. One of the most important tourism multipliers is the multiplier of income that is demonstrating the impact of tourism on the national budget.

It is valuable primarily because this information is used to forecast the GDP growth. When calculating this multiplier one needs to take into account the principles of "pure economic contribution", that is, the difference between total economic benefits and total economic spending of tourism. In the suggested here research study we have carried out the estimation of tourism multiplier for 48 countries of the world, data as of 2019 and 2020 (that is, under the conditions of negative impact of the pandemic on the industry). Countries in our sample have been distributed both geographically and economically (Table 1). Separately we need to note that we intentionally excluded those countries that managed to demonstrate some economic growth even in 2020 (for example: China, Viet Nam, Korea).

**RESULTS**

Contribution of tourism in GDP depends on a variety of factors, thus, its share ranges from country to country (Table 2).

As one can see in Table 2, the contribution of the tourism sector in GDP of various countries across the world during 2016-2019 was growing by about 4-5% each year, and then, due to the pandemic, it sharply dropped by nearly 50%. The most dramatic reduction in the shares of tourism in GDP was observed in the following countries of our sample: Cyprus (by 85%), Azerbaijan (81%), Jordan (79%), UK (72.4%) and Morocco (71.4%). The smallest reductions in the shares of tourism sector were observed in the GDPs of Saudi Arabia, Namibia, Japan, Germany and Pakistan. At the same time, we do not detect any obvious correlation between the dynamics of tourism shares' reduction on the one hand and those shares as of 2019, the size of specific economies (measured as total GDP) and the level of well-being (measured as GDP per capita) on the other. The correlation indicators are 0.32, 0.26 and 0.24 accordingly.

During the four years before the pandemic the world average tourist spending was stably growing in the range of 2.8-3.2%. Then, during the pandemic, the total spending of both foreign and internal tourists dropped in all 48 countries we are analyzing here. The "leaders" in this reduction (with the fall of over 65%) were, again, Cyprus, Jordan, Azerbaijan, and then also Greece and Spain — that is, the countries with an obviously dominating share of incoming international tourism. Needless to say, all these countries have been suffering the most during the pandemic. Besides that, all these countries (with the exception of Azerbaijan) are known primarily for beach tourism, and this type of tourism activities is always the first to be abandoned in case of negative externalities manifestation.The least significant drop of total spending by both

internal and foreign tourists (from 29% to 47%) has been observed in the countries that have very well developed internal tourism subsector prior to the pandemic crisis (USA, Japan, New Zealand, India, Pakistan and Brazil).

In all the countries under analysis (with the exception of Belgium, Poland and Pakistan) reduction in the foreign tourists' spending has led to the nearly automatic growth in the share of internal tourism. The leaders in such structural transformations in tourism were Cyprus (the share of internal tourism grew by 104,5% (!) — from as little as 9.4% up to 19.2%), Thailand (growth by 88%), Azerbaijan (growth by 70%), Greece (by 65.6%), and then also Malaysia, Croatia, Egypt, Jordan, and Spain. Most of these countries (but for Egypt and Jordan) used to have stable outbound tourist flows earlier, under the pandemic conditions these flows were logically redirected on domestic resorts, and this has helped to reformat the structure of sectoral income during 2020. On the other hand, serious reformatting (by at least 5% and more) of the structure of sector incomes was never observed in the tourism sectors of developed European countries (Germany, France, Belgium, Austria and the UK). The share of internal tourism in the tourist incomes of these countries was rather significant before the pandemic. Growth of internal tourism and the related reformatting of incomes was neither observed in the countries with limited internal demand for tourist services (internal or international), including the Dominican Republic, Pakistan, Brazil, Argentina. Thus, their shares of internal tourism incomes did not change much during 2020.

In relatively developed countries that have high potential of the internal tourism, the growth of demand for the national tourist product due to full closure of all international borders did not actually take place. This was the case for several reasons: geographical peculiarities of these countries (their small territories in particular), the implemented by the state anti-epidemic measures (full lockdown on the level of whole provinces and large cities, even for internal travellers), high prices for the national tourist product. In less developed countries that were initially oriented on foreign guests' inflow in the first place, internal tourism has hardly any chance to compensate for the loss of international travellers. Stemming from the above explanations of what is tourism multiplier, we would like to offer our own methodology of its calculation which is based on the aggregated indicators of the total contribution of tourism into national GDP and the volume of spending carried out by both foreign and local tourists.

Table 3. Tourists' spending (both foreign and internal) in the selected countries, 2016 to 2020

| | | tourists' spending, in bln $ | | | | |
|---|---|---|---|---|---|---|
| | Countries | 2016 | 2017 | 2018 | 2019 | 2020 |
| 1 | USA | 980.16 | 1003.5 | 1036.58 | 1207 | 687.8 |
| 2 | Germany | 379.92 | 390.19 | 400.3 | 376.8 | 193 |
| 3 | Japan | 209.22 | 218.11 | 223.13 | 261.7 | 156.7 |
| 4 | Mexico | 134.44 | 138.31 | 142.6 | 368 | 136.4 |
| 5 | India | 203.56 | 213.31 | 229.31 | 170.2 | 109.1 |
| 6 | Italy | 187.96 | 193.89 | 197.44 | 215.1 | 102 |
| 7 | France | 173.2 | 177.78 | 182.94 | 200.8 | 98.7 |
| 8 | UK | 193.28 | 205.21 | 209.23 | 240.6 | 85.1 |
| 9 | Spain | 125.85 | 134.77 | 138.87 | 158.4 | 53.3 |
| 10 | Brazil | 112.67 | 105.89 | 108.82 | 80.5 | 51.7 |
| **14** | **Thailand** | **70.39** | **75.1** | **81.09** | **90.6** | **34.5** |
| 40 | Croatia | 12.08 | 13.03 | 13.44 | 13.3 | 4.8 |
| 41 | Hungary | 9.43 | 9.75 | 10.02 | 11.06 | 4.37 |
| 42 | Dominican R. | 9.43 | 9.83 | 10.25 | 9.7 | 3.73 |
| 43 | Tunisia | 3.66 | 3.93 | 4.1 | 6.03 | 2.56 |
| 44 | Kazakhstan | 5.21 | 5.36 | 5.48 | 6.07 | 2.46 |
| 45 | Oman | 3.61 | 3.83 | 4.05 | 4.7 | 1.9 |
| 46 | Jordan | 5.2 | 5.53 | 6.02 | 6.58 | 1.54 |
| 47 | Azerbaijan | 3.91 | 4.34 | 4.61 | 3.24 | 1.01 |
| 48 | Namibia | 1.54 | 1.48 | 1.58 | 1.41 | 0.78 |
| 48 countries in total | | 3519,6 | 3649.8 | 3774.23 | 4239.9 | 2140.8 |

Table 4. Tourism multipliers of the selected countries, 2016-2020 (Source: authors' own calculations)

| | | Tourism multiplier | | | | |
|---|---|---|---|---|---|---|
| | Countries | 2016 | 2017 | 2018 | 2019 | 2020 |
| 1 | S. Arabia | 2.12 | 2.09 | 2.07 | 1.50 | 2.07 |
| 2 | Indonesia | 1.65 | 1.73 | 1.70 | 1.77 | 1.93 |
| 3 | Nigeria | 1.60 | 1.55 | 1.46 | 1.85 | 1.88 |
| 4 | Chile | 1.37 | 1.45 | 1.45 | 1.83 | 1.64 |
| 5 | Kazakhstan | 1.52 | 1.70 | 1.70 | 1.52 | 1.59 |
| 6 | Russia | 1.14 | 1.32 | 1.35 | 1.55 | 1.55 |
| 7 | Norway | 1.68 | 1.71 | 1.81 | 2.10 | 1.52 |
| 8 | Brazil | 1.35 | 1.55 | 1.40 | 2.00 | 1.51 |
| 9 | Dominican Rep. | 1.31 | 1.34 | 1.37 | 1.52 | 1.50 |
| 10 | Japan | 1.68 | 1.60 | 1.64 | 1.49 | 1.49 |
| **28** | **Thailand** | **1.49** | **1.29** | **1.34** | **1.29** | **1.21** |
| 40 | India | 1.02 | 1.09 | 1.08 | 1.63 | 1.12 |
| 41 | Tunisia | 1.64 | 1.55 | 1.59 | 1.03 | 1.10 |
| 42 | Morocco | 1.60 | 1.68 | 1.75 | 1.67 | 1.09 |
| 43 | Germany | 0.79 | 0.82 | 0.86 | 0.94 | 1.08 |
| 44 | UK | 1.44 | 1.40 | 1.48 | 1.34 | 1.05 |
| 45 | Belgium | 1.14 | 1.18 | 1.25 | 0.96 | 1.02 |
| 46 | Malaysia | 1.20 | 1.21 | 1.28 | 1.13 | 0.97 |
| 47 | Switzerland | 1.25 | 1.25 | 1.25 | 1.28 | 0.87 |
| 48 | Mexico | 1.37 | 1.43 | 1.47 | 0.59 | 0.67 |
| The total of 48 countries | | 1.39 | 1.40 | 1.44 | 1.45 | 1.31 |

Our logical assumption here is that we can draw a parallel between the multiplicative effect from the spending of foreign and local tourists with the volume of indirect contribution of tourism into a country's GDP. Stemming from the already existing definitions of the tourism multiplier, the methodologies used for its calculation are usually based on measuring the economic effect from the means brought into a tourist region by foreign and local tourists, with the deduction of the means extracted from the same region (that is, factors limiting the tourism multiplier). The methodology we would like to offer in this research study is different from the existing ones due to the following:

-we take into account the money assets brought in not only by foreign but also by internal tourists (in other words, we can measure the multiplier for one separate tourist destination, for example). On the one hand, internal tourists are not able to attract new savings and assets into a country. But on the other — they are still contributing to money exchange between the sectors and regions of the same country, thus promoting the growth in economic efficiency of the whole economic system (since, as a rule, money tends to flow from the sectors and region with smaller multiplier effect);

-we do not take into account the factors that are reducing the tourism multiplier (for example, the volume of credit payments, the volume of means moved by tourists out of the country, tax payments, etc.). Consequently, tourism multiplier of a particular destination is being considered taking into account its all peculiarities, including, inter alia, the country of origin of

the incoming tourists. Therefore, the obtained values of the multiplier may be considered as an efficient multiplier which has aggregated all the factors, including the limiting ones. This corresponds to the pre-set research tasks — to evaluate the economic efficiency of tourism as a whole, as a complex system of interactions between servicing enterprises on both sending and receiving sides. Obviously, tourism multiplier values obtained following this methodology would be significantly different from the results obtained based on the methodologies known earlier. Of course, our values would be much more modest in terms of digits, and in some cases they can be even smaller than 1 (for example, when local tourists spend much abroad, when tax rates are very high, or when there are large payments under foreign credit and/or franchising obligations, etc.);

-finally, our choice of a methodology for calculating tourism multiplier has been also predetermined by the opportunities to obtain official statistical data as of 2020 (on the date when this study was being prepared, July 2021).

Table 4 demonstrates the values of the efficient tourism multiplier for the selected and analyzed countries of the world, 2016 to 2020. As we can see from Table 4, in a range of countries the values of tourism multipliers were less than 1 (Germany, Belgium, Mexico). Consequently, the actual contribution of the tourism sector in GDP is lower than the volume of its direct spending (this might have happened due to, for example, high tax load, strong dependence on foreign labor force, foreign ownership of some assets, the use of foreign credits or foreign brand names and so on). Thus, in such cases, we are not really talking about a multiplier effect from tourism since this effect gets a directly opposite value. In this case we might call the effect "miniplying", and the indicators can be thus renamed as "tourist miniplier".

Also, Table 4 shows that the average efficient tourism multiplier in the countries under analysis was growing during 2016-2019, then it went down, primarily due to the growing share of tourism enterprises' savings caused by global instability, lowering of incomes and negative development trends of the whole industry.

On average, the spendings of both foreign and internal tourists in the analyzed 48 countries were 4.3 trln USD back in 2019, and in 2020 they were already 2.15 trln USD. Considering the dynamics of tourism multiplier back in 2019, the indirect income from tourism was around 1.9 trln USD, and in 2020 it was already 0.79 trln (that is, the drop was 58%, thus being more serious than the fall of direct tourism incomes during 2020 by at least 9% due to the tourism multiplier going down). Figure 1 demonstrates visually the analysis of two indicators — the level of tourism spending drop (both foreign and internal) and the level of GDP drop — for the selected 48 countries of the world. According to Figure 1, the direct incomes from tourism sectors in the analyzed countries have dropped by two-digit numbers, from 30 to 85% during 2020, while GDP values of the same countries were falling in the range from less than 1% to 10%.

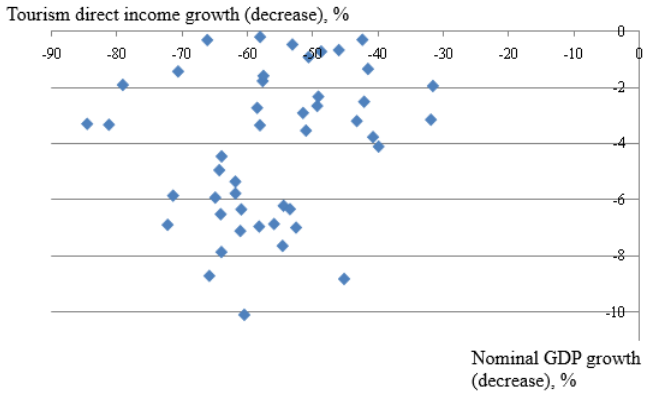


Figure 1. Reduction in direct incomes from tourism as compared to overall reduction in GDP in the selected countries, 2020 (compiled by the authors)

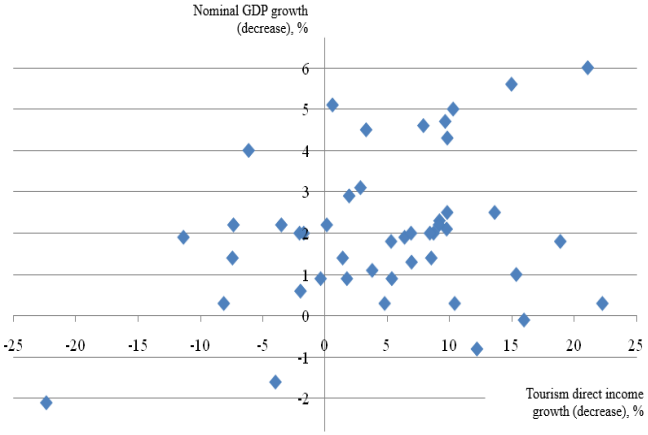


Figure 2. Volumes of direct incomes from tourism and GDP dynamics in the selected countries of the world, as of 2019 (compiled by the authors)

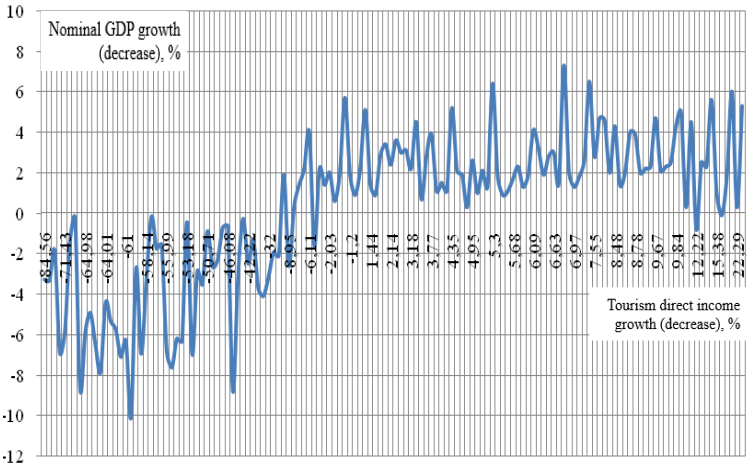


Figure 3. Dependence between direct incomes in tourism and the GDP dynamics in the selected countries, 2018 to 2020 (compiled by the authors)

Table 5. Tourism multiplier in the selected countries, as of 2020 (calculated by the author)

| Groups | Reduction of indirect incomes from tourism in 2020, in % | Number of countries in the group | Average reduction of GDP within the group, in % | Tourism multiplier, group average |
|---|---|---|---|---|
| 1 | over 80 | 2 | 3.29 | 1.12 |
| 2 | 70.1 – 80 | 4 | 4.01 | 1.14 |
| 3 | 60.1 - 70 | 12 | 6.11 | 1.3 |
| 4 | 50.1 – 60 | 15 | 2.44 | 1.31 |
| 5 | 40.1 – 50 | 11 | 3.05 | 1.34 |
| 6 | 30.1 – 40 | 4 | 2.53 | 1.69 |

To compare negative and positive dynamics of the tourism sectors development, let us give the same visual presentation for the 2019 data as well, since during that year the direct incomes from tourism were overall growing (Figure 2).

The graph in Figure 3 clearly demonstrates there is a certain regularity in the growth indicators of the nominal GDP of the selected countries and their direct incomes from tourism. In 48 analyzed countries and in the half with positive values, the growth of direct incomes from tourism (up to 23% per year) is associated with the growth of nominal GDP (around 7%). In some cases, the drop in direct income from tourism (even if it was as deep as -9% per year) did not seem to cause a reduction in nominal GDP.In that part of the graph where reduction of incomes from tourism is most serious (10% and more) we are observing a stable reduction of nominal GDP, however, it is also around 10%.

Assessing the correlation between the indicators of direct incomes from tourism and the nominal GDP we have detected that if we extend the duration of the analyzed period (from one year to three years), the correlation indicators start growing. Thus, for the year 2020 alone the correlation indicator is 0.22, for 2019 it is 0.29, and if we take the period of 2019-2020, then the correlation indicator becomes 0.81. Finally, for the period from 2018 to 2020 it would be 0.833.

At the final stage of our investigation we have assessed the values of tourism multiplier in the analyzed countries as of 2020, dividing our general sample into six groups, depending on the dynamics of direct tourism incomes reduction (Table 5). As it may be seen in Table 5, the value of tourism multiplier is decreasing from group to group, thus reaching its very minimum in the group with the maximum drop in the tourism sector indicators in 2020.

**CONCLUSION**

The global collapse of international and internal tourism in 2020 revealed itself through much smaller contribution of tourism in GDPs of all countries around the world (from 32% to 85% among the analyzed countries only). At this, reducing dynamics of the economic value of tourism in each country separately has been under the impact of multiple factors at the same time — not only macroeconomic indicators achieved back in 2019 or the shares of tourism sectors within the economic systems of various countries of the world, but also other, such as the efficiency of state stimulation measures under the pandemic conditions, the structure of internal and outbound tourist flows (for example, the shares of beach, ski, business, healthcare, and educational tourism, all of which have been suffering from the pandemic to very varying degrees, actually). Other factors also include the share of outbound tourism in a particular country and even the geographical sizes of the country and its potential to boost internal tourism under minimum time during the pandemic already (Our Hypothesis 1 has been rejected). The growth in the share of internal tourism within the total tourism incomes during 2020 is in reverse correlation with the dynamics of tourism incomes reduction during the same period (-0.755). This allows us to confirm Hypothesis 2 stating that in the absolute majority of countries the potential of internal tourism has turned out to be not sufficient for stabilization of the whole sector under the conditions when all international travels have been strictly limited.

Our analysis also shows that there is no significant correlation between the dynamics of the efficient tourism multiplier and the development indicators of the tourism sectors in the analyzed countries (the correlation indicators are within the range from -0.023 to 0.23 back in 2018). Thus, our Hypothesis 3 is rejected. Evaluation of the correlation indicators from various time periods confirms there is a long-term trend (over one calendar year) in the direct correlation between the indicators of changes in direct incomes from tourism and the nominal GDP of the country. Thus, our next hypothesis can be confirmed only partially. Direct mutual dependence between the drop in direct incomes from tourism and the dynamics of nominal GDP is rather high, however, only under the condition the analysis is carried out for the period of over two years, while when analyzed for one year only, the indicators of GDP and tourism incomes do not seem to be correlated at all.

On the one hand, this confirms strong dependence of national GDP from the direct incomes in tourism (which is not surprising, actually), however, on the other hand, there is also a rather long-term lag in how tourism impacts on the overall state of a country's economic system. According to our estimations, this lag is at least one year (or more). Within the time period of less than one year, the dynamics of direct tourism incomes and changes in a country's GDP are divergent. In other words, a fall in direct incomes from tourism in a current year are not able to cause reduction in the nominal GDP in the same year, moreover, they are not even able to stop GDP growth (see, for example, the results for Pakistan, India, Azerbaijan, Brazil and Peru as of 2019, or China and Viet Nam as of 2020).

Most probably, consequences from reduced incomes in tourism would reveal themselves in the nominal GDP reduction in the next year (for example, in Pakistan under the tourism incomes reduction by 1.6% the economic growth of the country dropped from 5.7% back in 2018 to as little as 1.9% in 2019). Similar correlation can be observed in the data as of 2020, the year which was critical for the world tourism sector in particular and the international economy overall.

Some countries were experiencing reduction in tourism incomes in 2019 already. Then, in 2020, when tourism incomes fell even more, their GDP suffered much more greatly than GDPs in other countries. For example, in both Argentina and Pakistan tourism incomes during 2020 dropped by about 40-45%, however, Argentina's GDP (in this country tourism incomes were gradually reducing since 2018) fell by 9%, while in Pakistan the drop in GDP was less than 1.5%. Similarly, in India and Switzerland the drop in tourism incomes was 55%, however, their drops in GDPs were 6.9% and 1.8% respectively. At this, in India direct incomes from tourism started falling back in 2019 already (by 6% a year).

Therefore, we can conclude that dramatic falls in direct incomes from tourism in many countries of the world back in 2020 are yet to be revealed in the nominal GDPs of these countries. Most probably, we will observe these negative consequences in 2021 already, even though tourist flows in some countries have been partially restored by now.

Extrapolating the indicators of correlation (0.83) from the period of 2018-2020 (that is, on three years) onto the period of 2019-2021 we can calculate that for stopping further fall of economic indicators in the analyzed countries they would need to demonstrate the growth (!) of tourism incomes by at least 7.2% (average for 48 countries). At this, Peru,

Argentina, Spain, Greece and Tunisia, for example, would need to demonstrate tourism income growth as high as 13-15%, while for Sweden, Denmark and New Zealand even 1% growth in direct incomes from tourism during 2021 should be enough. Majority of larger economic systems, including the USA, Russia, UK and Germany, are in the range of 6.5-11%. Our analysis of the efficient tourism multiplier values for the selected 48 countries of the world has confirmed its overall reduction (that is, according to our methodology of the tourism multiplier calculations, there is a decreasing stimulating contribution of direct incomes from tourism into GDP) while incomes from tourism overall were going down throughout the whole 2020. This confirms the initial hypothesis that the efficient tourism multiplier does not have a growing snowball effect since it can be working both ways — in the direction of positive dynamics of the national tourism development and in the reverse direction. Also, efficient tourism multiplier seems to be subject to the law of diminishing utility (when tourism demonstrates growth (Bajracharya, 2018) and then also to the law of accumulating uselessness (when tourism incomes drop). The accumulated uselessness of tourism industry is manifested through the destimulating and imbalancing effect on the economic system overall which may reach its peak even when tourism falls insignificantly, thus causing collapse in many other related sectors and subsectors along with capital outflow, raising unemployment, range of bankruptcies, disruptions in the international production & distribution chains and so on. Since this is exactly the opposite of what causes the growth of tourism for an economic system as a whole, we have been forced to switch from the terminology "utility" to introducing the term of our own — "accumulating uselessness".

When tourism incomes reduce insignificantly (by 5-10%), the uselessness would not be meaningful yet, since at that stage businesses, public authorities and general population usually start to acknowledge the value of tourism (which is temporary lost) and take efforts to restore it (through lower taxes, preferential crediting, more advertising and so on).

Of vital importance would be also changes in business perceptions and attitudes: it was just yesterday when local businessmen were taking crowds of travellers for granted, thus speculating on prices, introducing extra taxes on foreign tourists, not paying attention to the quality of services, wiping out capital from the country/region and optimizing own expenses (through semilegal and illegal financial scheming, illegal employment of labour migrants, crediting abroad, etc.). In other words, local businesses were feeling the diminishing economic utility from tourism which was accompanying its stable, even though not too dynamic growth. And now, under the conditions of reduced tourism inflows, the effect of diminishing utility has been substituted by its exact opposite — the effect of low uselessness.

At the same time, with a deeper fall in tourism indicators its uselessness seems to be rising. Let's take the Thai island of Phuket which experienced tourism numbers going down by 80-85% as an example to show the key stages in the growth of economic uselessness of tourism. When tourism fell by about 40%, local businesses were still trying to survive, asking for government support and referring to the importance of their sector for the local economy, its future prospects and so on. Businesses were also making attempts to reduce the prices, minimize own expenses, firing some of the employees. All these attempts have only made the quality of the local services go down, thus pushing away the still remaining few tourists. All tourism-related assets also went down in their value/price, including buildings, land, securities of tourism corporations, etc. Many enterprises stopped paying under their credits, thus, local debts went up. When tourism fell to the level of 50%, majority of small and mid-sized tourism enterprises simply left the market; local assets became depreciated; local level of life quality went drastically down; local government's spending on utilities, police and public transport was minimized to the lowest level possible. When tourism fell by 60, a wave of bankruptcies among large enterprises started to emerge. Thus, local assets became entirely depreciated, some of them were bought out by the businesses from other, less damaged sectors (private developers, transport and logistics companies, agrarian and industrial companies). Both government and banks stopped their financial support of failing tourism businesses, fearing that the wave of bankruptcies would go further, onto other sectors.

Finally, when tourism fell by 70%, the local population started leaving tourism resort areas, and local tourism assets quickly became delapidated. Local authorities had zero budgets to support tourism or even municipal basic infrastructure, thus whole districts were cut off and left without electricity, water supply, and garbage disposal services. Local transport was reduced to the absolute minimum, same with local trade, while criminality rates were inevitably going up. At that point, tourism was obviously not considered any longer as a promising sector with a bright future. Instead, it was seen as a sector requiring radical reformatting, new development tools and a new mode of integration into the national economic system.

Thus, our initial assumption about the accumulating economic uselessness of tourism has been statistically proven on the 2020 data. This crisis year actually became the first year to provide data for testing tourism behavior under the unfavorable conditions for development. And this data, in its turn, has helped us prove that once tourism numbers fall by 40%, its contribution to GDP becomes smaller than that of a traditional (not high-tech) agriculture and trade. According to the data presented in Table 5, tourism multiplier is less than 1.35, thus, it becomes comparable with the agriculture's multiplier in developing countries (around 1.4) and trade multiplier (1.32).

Accumulating uselessness achieved when tourism falls by 40% provides an opportunity to substitute tourism with more traditional sectors (namely, agriculture and trade). This substitution does not require huge investments, while world infrastructure of these sectors, even though volatile, demonstrates some improvement, unlike tourism in 2020.

**RECOMMENDATIONS**

The presented here results are mostly theoretical in their nature, however, they are oriented on developing radically new conceptual grounds for further development of the global tourist market and national tourism sectors. Our results, inter alia, allow outlining several recommendations on the measures of public regulation and strategic planning in tourism.

When determining the economic utility of tourism, it seems to be feasible to apply the methodology of the efficient multiplier calculations as it is initially based on the difference between direct incomes from tourism (spending by internal

and foreign tourists) and the necessary exclusions from these incomes (foreign credits, franchise payments, taxes, etc.), thus forming the accumulation ratio. Unlike some other, alternative methodologies of the tourism multiplier calculations, the one suggested in this study may show the multiplier values being below 1. This would mean that GDP of a country gets less assets from foreign tourists. In our view, this reveals the actual situation in the sector in a much more realistic way. Multiplier thus turns into what we name here miniplier which, in its turn, reduces the actual economic efficiency of tourism spending. In this case, experimental calculations of tourism multiplier would demonstrates its values as being around 3-4, and this, in our opinion, does not reflect the actual situation in the sector and economies overall.

In the situation when the tourism sector collapses (as nowadays), both public authorities and local businesses need to take into account the principle of accumulating uselessness from tourism. When this principle is observed in real-life economic situations, the damaging effect from tourism fall for the whole economy would be usually observed only during the first stage. With the course of time, when tourism assets start falling in their price, tourism labour resources are being shifted to other sectors and regions and crediting of tourism is stopped as such, the tourism sector becomes gradually substituted by other sectors and/or requires radical reformatting which would become the basis for its future restoration.

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# THE TRADITIONAL CEREMONIES OF TENGGER TRIBE AS A SUSTAINABLE TOURISM OBJECT IN INDONESIA

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**Abstract:** Traditional ceremonies are one of cultural representation that is passed from generations. The public interest in traditional ceremonies was decreased by the time, especially for the younger generation. This study aimed to describe traditional ceremony activities in the Tengger tribe as sustainable tourism objects. The research method is descriptive qualitative using field survey. Data is collected through literature review, observation, and interviews. In-depth interviews were conducted with key informants with extensive knowledge and experience about the research object. The research object is traditional ceremonies such as Kasodo, Karo, and Unan-Unan. Triangulation method was used to test the validity and reliability of research data. The result found that the Yadnya Kasodo is a spiritual ceremony aimed to purify nature and carried out as gratitude to God by offering agricultural goods (sajen) and ongkek. The agricultural goods managed by the community to be used in the ceremony are flowers, fruits, vegetables, and livestock products. This traditional procession is closely related to the Bromo Tengger Semeru National Park spatial layout. Traditional ceremonial activities could become objects of sustainable tourism and are supported by sustainable resources.

**Key words:** Tengger Tribe, Bromo Tengger Semeru National Park, offering, conservation, sustainable tourism

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## INTRODUCTION

Human interaction with the environment will form a system that interwoven and influence each other. Changes in one sub-system may impact other sub-systems and likewise (Chandra and Kumar, 2021; Goh, 2021). The environment forms an ecosystem and a spatial system in human interaction (D'Arco et al., 2021). Human activities directly impact nature, while the environmental impact is based on space and time (Marten, 2001; Astina, 2021). Deforestation in mountain areas brings floods to the lowland. No impact happens suddenly but differs in frequency and time, resulting in various other complications (Bintarto and Surastopo, 1979). Human interaction with nature creates a culture (Wood, 2002). Culture results from the works, creativity, taste, actions, and ideas passed down through generations in society (Jovicic, 2014). The elements of culture consist of a religious system, a social system or social organization, a livelihood system, a living equipment system, and technology, art, and language (Koentjaraningrat, 2009). The elements of culture have developed in sync with science and technology, the community, and external influences (He et al., 2021; Pickel-Chevalier et al., 2021).

Traditional ceremonies are one of culture that is passed from generation to generation. The ceremonial activities were periodically involving all members of the community. Traditional ceremonies are a series of actions arranged by customs and legal norms agreed by the community (He et al., 2021). Traditional ceremonies are associated with various events that are considered sacred or significant in a tribe's community (Cathrin, 2017). A tribe is a social group in the cultural system with a specific meaning or position because of heredity, customs, religion, and language (Spillane, 2002). Each tribe has a different culture and customs. It is related to the natural environment, both abiotic and biotic (Plumwood, 2002), while custom is related to community behavior and the sanctions applies (He et al., 2021; Pickel-Chevalier et al., 2021; Soekanto, 2009).

Indonesia has many different cultures and customs in each region. Culture and customs are passed to generations through traditional ceremonies and family education (informal). The ritual ceremony involves all community members, but it is involved the older generation more than the younger generation in ritual activities. Meanwhile, public interest and attention in traditional ceremonies have decreased, particularly among the younger generation (Syarif et al., 2016; Junaidin

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et al., 2020; Mena, 2020). Cultures and customs in some regions began to decrease, even some residents and community members stopped performing certain customs and cultures (Kurniawan et al., 2019).

Tengger tribe is one of the tribes in East Java, Indonesia. This tribe is located in the Tengger Mountains, covering four districts: Probolinggo, Pasuruan, Malang, and Lumajang (showed in Figure 1). This tribe has a distinct culture and customs that were preserved to the present day. Even though the area is a national and international tourist attraction, it is still maintained by the Tengger tribe. Tengger culture and customs remain intact, both sacred and profane, as diversification of tourism objects. This area is designed by the government as Bromo National Park, Tengger Semeru (Sutarto, 2008; Ratman, 2016; Astina, 2021).

Based on the research background above, this study aimed to describe traditional ceremony activities in the Tengger tribe as sustainable tourism objects. Moreover, this study included the process of traditional ceremonial activities and the relationship to the conservation of natural resources and sustainable tourism development.

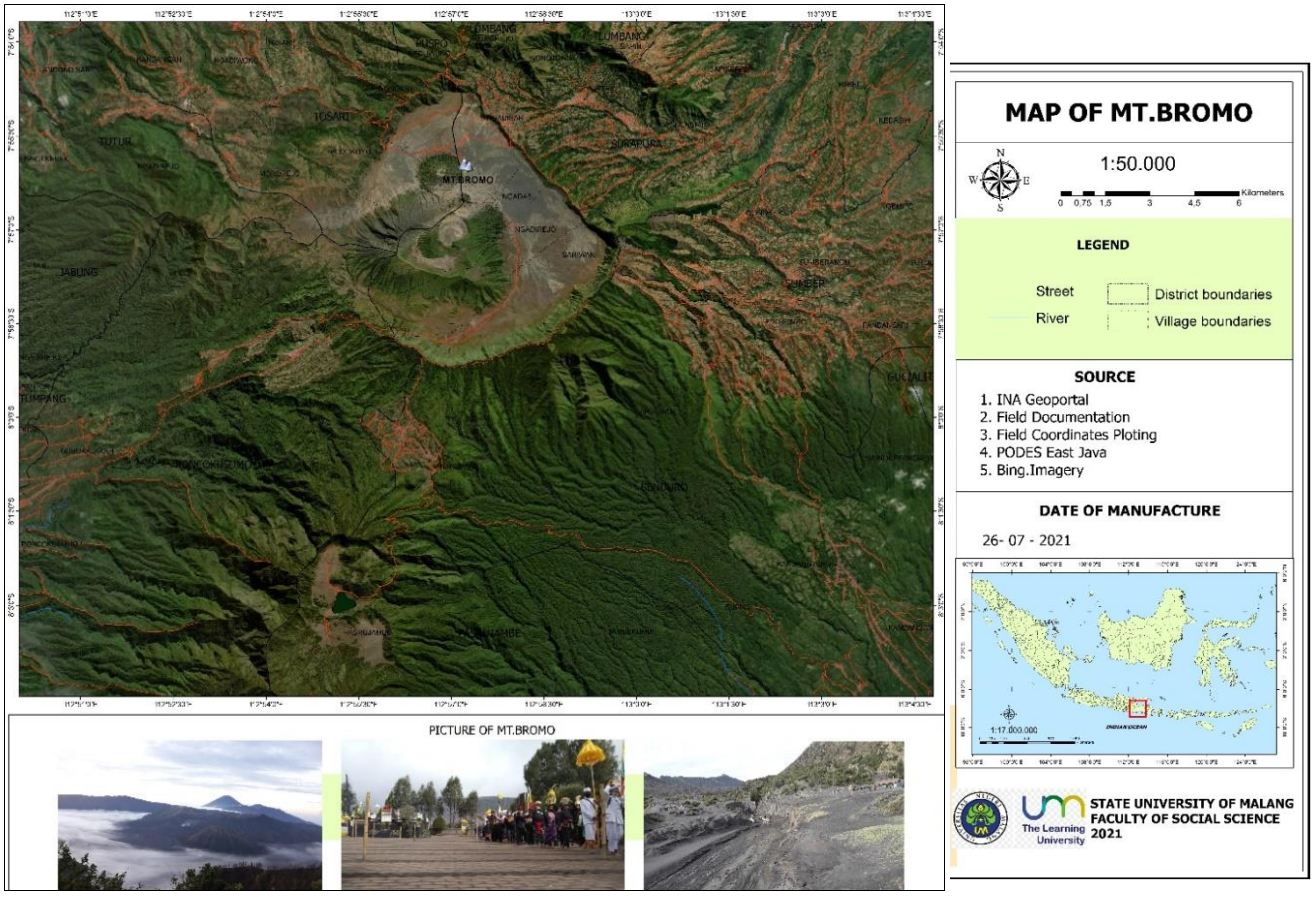


Figure 1. The map and culture of Bromo mountain area

## RESEARCH METHODS

The research studied the Tengger tribe in East Java using qualitative descriptive research. The Tengger tribe lives in the Tengger Mountains or the slopes of Mount Bromo. The Tengger tribe are administratively divided into four regencies: Probolinggo, Pasuruan, Malang, and Lumajang. The research objects are the traditional ceremonies, including Yadnya Kasodo, Karo, and Unan-Unan. Data were collected through literature studies, field observations, and interviews. The data analysis used the triangulation model to study the local wisdom in Tengger Community. Moleong (2016) stated that triangulation is a data validity technique that uses something other than the data to check or partially compare the data. The researchers began with a review of the literature from various sources and then verified through observation and in-depth interviews with traditional leaders, government officials, and community members.

## RESULTS AND DISCUSSION

### Tengger Tribe Ceremony

According to its etymological origin, Tengger means 'to stand upright' or 'to remain motionless.' Meanwhile, the community's beliefs defined tengger as a noble Buddhist, a sign or characteristic that gives a special nature to something. Tengger also can mean 'noble character traits.' The Tengger tribe lives a simple and peaceful life, enjoys collaboration, has a high tolerance for others, and is a hard worker as they usually work from morning to evening in the fields. The tribe lives in a mountainous area, specifically on the slopes of the Tengger and Semeru mountains. The Tengger tribe has 5 'ma' principles to avoid: maling (thief), main (gambling), madat (drugs), minum (drunk), madon (cheating), and 5 'wa' principles to follow: waras (healthy), wareg (proper eating), wastra (proper clothing), wasis

(proper knowledge), wisma (decent living). Culture is a comprehensive system of human ideas and actions resulting from human interactions with the environment in a particular area. Culture takes the form of ideas or standards, activities, objects, and people. The culture functions to express a sense of community, stimulate changes and fulfill the community's needs through a way of living (He et al., 2021). Custom has several meanings based on the Indonesian dictionary (Ministry of National Education, 1988). A custom is a repeated pattern that has developed into a habit. Another definition of custom is a system of values, norms, and rules related to each other. Customs are permanent and conduct from generation to generation, as an inheritance integrated with community behavior patterns.

Traditional ceremonies are a series of actions or activities with specific rules according to religion or customs in an area. Traditional ceremonies are closely related to religious rituals or rites (Atmadja, 2020; Sumarmi et al., 2019). Rituals are symbolic of religion, or rituals are religion and actions (Ghazali, 2011). The traditional ceremony is determined by four factors: the location, the time, the objects and equipment used, and the people involved in the implementation. The traditional ceremonies are located in a sacred place or sacred place believed by the community. The ceremonies were happed in a specific year, month, and day based on the traditional calendar, agreed by the traditional elders and the community. The ceremonial objects and equipment are considered sacred as well based on community beliefs. The view in Bromo montain that used for ceremonies is shown in Figure 2 and Figure 3.

Figure 2. (A) The view of Bromo mountain and Sea of Sand covered in sunrise's fog
(B) The flowers that used for ceremonies equipment by Tengger tribe

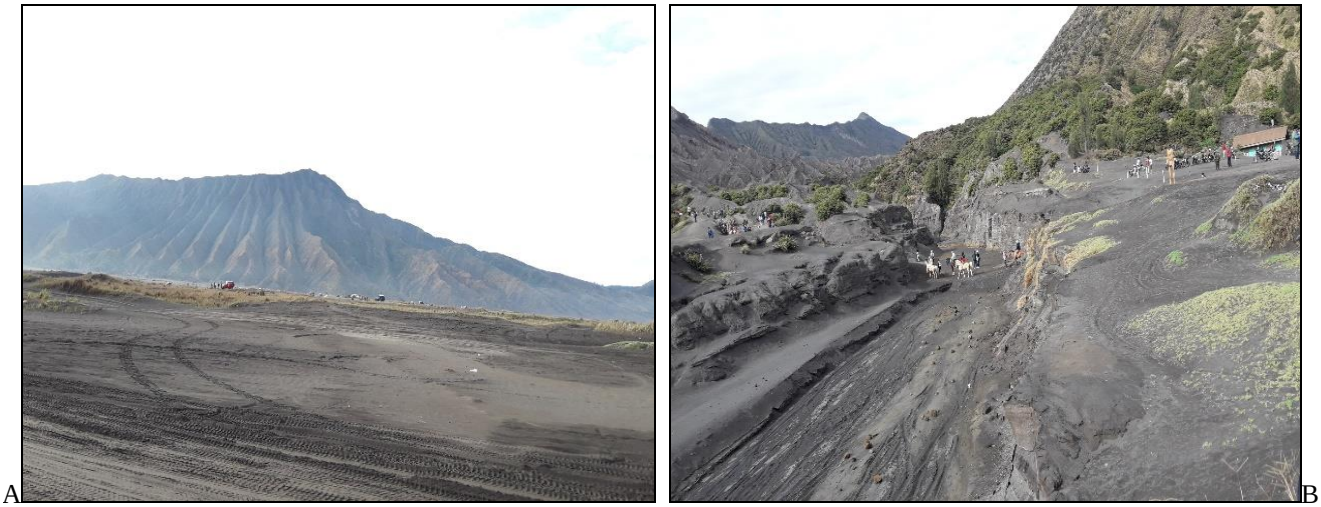

Figure 3. (A) The Sea of Sand's parking area (B) Walking route and horse trail to Bromo mountain peak

The Tengger tribe believed that the universe and all of its components, including humans, were created. Human birth and life are representations of the goodness of God, the gods, Pitra, and Rsi (Satriawan, 2019; Mertayasa, 2019). Therefore, humans should "pay the debt of goodness" (Rna, Sanskrit) to God, ancestors, and the sages to create balance, harmony led to happiness and peace. The human debt is owed to God as the creator (Brahma), the preserver (Vishnu), and the destroyer (Ciwa) called Lord Rna. Pitra Rna (pitr = father and mother) is a debt to the ancestors, while Rsi Rna is a debt to those who have given knowledge and guidance towards goodness and peace. The thing that should be done to "pay" the debt is through a sacred offering or sacrifice called Yadnya (Panca Yadnya). The implementation of Yadnya in the Tengger community is carried out in various traditional ceremonies. Three traditional ceremonies, including Yadnya Kasodo, Karo, and Unan-Unan, are explained in the following section.

**Yadnya Kasodo**

The Yadnya Kasodo ceremony is a sacred offering ceremony (Yadnya) addressed to God (Hyang Widhi), the gods, and the ancestors of the Tengger people. The ceremony is related to the legend of Roro Anteng and Joko Seger, which later became the name of the Tengger tribe. The legend tells of the sacrifice of their beloved last son (25) (Savitri, 2010). This ceremony is a spiritual honor and purification of nature (Bhuwana Agung), including mountains, by worshiping God (Hyang Widhi), the gods, and ancestors by offering Yadnya. It is aimed to get a beautiful and fertile nature that gives prosperity and prosperity (Chandra and Kumar, 2021). The Yadnya Kasodo ceremony was attended by the Tengger tribe in Probolinggo district, Pasuruan, Malang, and Lumajang.

Based on the historical background, procedures, equipment, and the implementation of this ceremony is a combination of local beliefs and Hinduism. However, this ceremony was followed by the Tengger tribe as a whole, including the non-Hindu member. The day before the Kasodo Yadnya is held, the community performed a self-cleaning ceremony and ceremonial equipment (Melasti) at the water source on Mount Widodaren. The Kasodo ceremonies began from the shaman Pandita's pavilion house to carry out the preparation ceremony for offerings and ongkek.

Furthermore, the parade group traveled together to the Poten noble temple. This temple is located in the Sea of Sand at the slope of Mount Bromo (Figure 1). This temple is the meeting center (Pancer) from the four scattered regions (papat sedulur). A prayer ceremony is held in the central part of the Poten temple mandala. A trip to Mount Bromo is made at midnight to offer banten and ongkek in the mountain's crater. While the Yadnya Kasodo ceremony was held, a Pandita/traditional shaman called Diksa Widhi was also tested and graduated.


Figure 4. The map of Tengger and Pura caldera

The Luhur Poten temple (see 1) were used as pancer or center. The Papat Sedulur center with the main rooms is Dhankahyangan Agung Kerta Jaya Temple, Tosari, Pasuruan (2), Brahma Karana temple, Sukapura, Probolinggo (3), Tri Kahyangan Jagad Temple, Senduro, Lumajang (4) and Sapto Argo temple, Ngadas, Malang (5). All traditional ceremonies are related to the five locations. The Bromo crater is an offering place made for God or Hong Pukulun or Hyang Widhi, the gods and the ancestors of Tengger tribe. The crater is called 'Port' to invoke the harmony of nature as a location for offering (by anchoring or throwing). The offering includes 'Banten' consisting of a series of flowers and leaves, and 'Ongkek' is the offering bowl for fruits and cakes, each totaling 30. Tengger tribe offered chicken and goat for a special purpose. All the equipment was provided by Tengger tribe. The ceremony is held annually by the Tengger Tribe. The ceremony is held between the 14th, 15th, and 16th day of month Kasada, according to the Tengger calendar during the full moon. The offerings are agriculture and livestock products. It is arranged into banten and Ongket (consists of 30 types of fruit and 30 types of cakes) as a symbol of creators, preservers, and destroyers (Interviews with youth leaders and EK educators from the Tengger tribe). The map of Tengger area and Pura caldera is shown in the following Figure 4.

**Yadnya Karo Ceremony**

Yadnya Karo ceremony is the most extended series of traditional ceremonies carried out by the Tengger tribe.

According to the Tengger Calendar, the ceremony is held on the sixteenth day of the full moon in Karo month. Karo refers to the origins of human existence, and the descent of the spirit returns to Hyang Widhiwasa. This yadnya is also an expression of gratitude to God, Hong Pukulun Hyang Widhi who has created the pair Joko Seger and Roro Anteng as ancestors of the Tengger tribe (Setiawan and Ratnasari, 2015). This ceremony is performed as Rna by performing Yadnya Karo, Yadnya Dewa (God and the Gods), and Yadnya Pitra (ancestor). The Yadnya Karo ceremony lasts for two weeks, with various series of ceremonies. The ceremony starts from each household with a 'Ping Pitu' ceremony by inviting the Spirit or Atman of their ancestors. This ceremony of *Sesanding* or *Sesanti* can also be held at the local village hall.

Furthermore, the 'Prepekan' ceremony is an offering (*ngaturi*) of the 'Danyang' (the guardian spirits of the village), punden, and water sources. This place is sacred by the Tengger tribe. Further, the community visited the village leader's house to gather and eat together (Kauman) accompanied by traditional entertainment (Tayub). Then residents visited the village leader's house with small tumpeng (rice). The pandita shaman leads the worship procession and the offering of the cone with various complementary offerings (makeup). After that, all residents fought over the tumpeng, to be enjoyed and some to take home. It is represented as a symbol of prosperity, hope, and prayer for a successful harvest.


A

Figure 5. The preparation of Kasodo ceremony in Luhur Poten temple


B

Figure 6. The departure of Kasodo ceremony from Luhur Poten temple


A

Figure 7. The parade of Kasodo ceremony in Luhur Poten temple


B

Figure 8. The parade group goes to Bromo mountain peak to put sajen (offering)

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A sacred dance, the *Sodoran* dance, is performed during the Yadnya Karo traditional ceremony. This dance described the history of human creation on earth in pairs of men and women (Purusha and Perdana). The dance began with a parade of village brides (male symbols) carrying heirlooms such as kitchen utensils and decorated bamboo sticks to the village hall for village brides (female symbols). Village brides from these two villages are symbols of the meeting of two people (Karo means two, and Karo also means the second month in the Tengger Calendar system).

This event started with a man dancing with buffalo horns. It described a mighty man looking for a mate or partner. Then the dancers take turns in pairs carrying bamboo sticks with decorations. It described men as guardians and will fight for the integrity and peace of the household (Ratih and Juwariah, 2020). Male Tengger residents are the only ones that witness this dance, while female residents with food in a basket wait outside. The eating session was held after the dance. The ceremony process is shown in Figure 5 to 8.

The next ceremony is 'nundung arwah,' a ceremony to invite the spirits of the ancestors to return to their nature. Furthermore, the Pandita (village shaman) and several ceremony officers traveled around the village to visit the community with Prapen (Fire stove) and holy water (Tirta) (Savitri, 2010). Prapen with a fragrant smell (incense) as an intermediary symbol to God, as a destroyer of bad things (mala), while water symbolizes the grace and cleansing of nature and humans. On the final day, Sadranan ceremony was held on the tomb to pray for ancestors and family spirits.

**Unan-Unan**

This ceremony was aimed to purify the earth or the village of all dangers and disturbances. It is also aimed to clean or purify the imperfect spirits. This ceremony is held every five years with a big ceremony carried out in Punden village. The facilities used in this ceremony are "Dandanan" offerings in large quantities and offerings of buffalo heads (maheso). The ceremony leader is a Pandito (customary shaman) to perform purification and offerings with Tengger traditional mantras.

Unan-unan is based on the Tengger word 'nguna,' which means to attract or complete the lost moon to return. The traditional calendar divides each month into 30 days and another into 29 days, resulting in a difference of five or six days each year. The difference in days is included in the 11th month to complete this deficiency (Dhesta or Jhiesta Month). Therefore, once every five years, the Tengger tribe conducted the Unan-Unan ceremony (interview with traditional leaders). The Unan-unan ceremony is used to keep the village clean and free of all spirit disturbances. It is also used to purify spirits that remain impure in the world after physical death to escape hell and return to nirvana. The following are the tools required for the Unang-unang ceremony: (a) new 'klasa' (bamboo mats), (b) plentiful of rice, (c) 100 pieces 'takir' (banana leaf bowl), (d) betel, (e) 100 pieces of satay skewer made from sacrifice meat, (f) 100 pieces of concoction, and (g) buffalo's head. The community kills a buffalo the day before the Unan-Unan ceremony. The meat is needed to make 100 pieces of skewers. The buffalo's head, skin, and four legs are left. The ceremony's equipment includes offerings of flower arrangements, leaves, and fruit, as well as 100 tumpeng and 100 leaf-wrapped snacks.

According to the Tengger tribe belief, the buffalo was the first animal that appeared on earth. This animal is also a symbol of the prosperity of society. They believe that buffalo is a technology created by the ancestors as a balance to natural energy. The parts of the buffalo used for offerings include the skin, head, tail, and a small portion of the buffalo meat for the skewer. The rest of the meat is given to the community.

The buffalo heads are paraded through the village, accompanied by a mantra from Pandita to the Main Hall, as a symbol of rural areas being cleaned up and a ceremony being conducted smoothly. The Unan-unan ceremony is used to enact protection from God, Hyang Widhi, Hong Pokulun (another name for God), and ancestors to neutralize negative forces in nature, not just for the Tengger tribe but for all humankind (Interviews with young community leaders EK).

**Traditional Ceremonies and Sustainable Tourism**

The Tengger tribe lives in the Bromo Tengger Semeru National Park area. It is a volcanic complex with large calderas in the four-stage evolution of a stratovolcano. The calderas are Nongkojajar Caldera, Ngadisari Caldera, Tengger Caldera and Sand Sea Caldera (Sutarto, 2008). This mountain complex has natural geological resources related to volcanoes, water resources, geomorphology, ecology, culture, and tourism (Chandra and Kumar, 2021; D'Arco et al., 2021). Bromo Tengger Semeru mountain area is one of ten tourism strategy areas developed by the Indonesian government. The development includes attractions, public infrastructure and facilities, tourism facilities, and community empowerment (Nugroho, 2011; Ratman, 2016). Therefore, a spatial arrangement of objects and tourism supporters is required for the destination's development as a sustainable tourism destination (Chandra and Kumar, 2021; Goh, 2021). The Tengger tribe has a traditional spatial layout, namely Tri Mandala consist of main, middle, and nista (Suryadarma, 1993). The Main mandala (Utama Mandala) is a sacred space that must be respected, protected, and conserved. The Madya mandala is a transition place from sacred and profane places for limited tourism activities, while Nista mandala is a profane space (Astina, 2021).

The Tengger tribe lives in this National Park area is committed to preserving the natural environment as a livelihood. They maintain the area's sanctity based on the belief that the mountain is the home of the gods (Div) or holy rays from God, Hitun or Hyang Widi, and the ancestors. Mountains, hills, other elevated areas, and forests are the top ecosystems that protect the space ecosystem or the lower part (Odum and Barret, 2017). In general, this space is physically and spiritually higher (Suryadarma, 1993; Astina, 2001; Sukari, 2004; Andik, 2003).

Pedanangan, Punden, and water sources, including the ecosystem with existing plants and animals (Sukojo, 2003; Kurniawati et al., 2020), are sacred rituals associated with traditional ceremonies. All traditional Tengger ceremonies occur continuously according to a schedule based on their traditional calendar. The ceremony will continue to take place as long as the traditional society exists. Agricultural products such as flowers, fruits, and vegetables, including natural flora such as Edelweiss flowers, are the materials used in all traditional ceremonies (Wood, 2002; Sumarmi, 2018). The ceremony requires livestock products such as poultry (chickens and ducks) and goats. The ceremony occurs at a specified time on annual basis, so it is necessary to meet the ceremony's requirements.

The Tengger tribe's ceremony has not decreased in popularity due to modernization but has actually increased enthusiasm among the younger generation. Performing a traditional ceremony as a Yadnya (sacred offering) is not a waste of time or money but a spiritual requirement obtained from the natural environment. The Tengger tribe's traditional ceremony is closely connected to the Bromo, Tengger, and Semeru area's attractions. It provides additional evidence for a sustainable tourism process. The Tengger tribe's cultural resources play a critical role in the development of tourism in Mount Bromo. The carrying capacity of tourism includes two categories: physical and non-physical categories (Chandra and Kumar, 2021; D'Arco et al., 2021). Physical categories include the natural environment, village spatial planning, architecture, fauna (horses used for tourist transportation), and flora (used as ceremonial instruments), while non-physical categories include customs, ceremonies, and the arts (Sumarmi, 2018).

Conservation of the previously mentioned resources is highly dependent on the Tengger community and the traditional leaders' role (shamans). The Tengger tribe's strength in honoring noble intrinsic values as ancestor heritage must be preserved. It is demonstrated by the Tengger tribe's commitment to performing rituals based on the beliefs that have passed down through generations, such as the Kasodo, Karo, and Unan-unan ceremonies. The strong paternalistic

culture also contributes to the preservation of the Tengger tribe's cultural resources. Based on the result by (Sutiarso, 2018) showed that the development and change of Tengger tribe are closely connected to the role of influential people, such as traditional leaders (shamans) and village government leaders. All kinds of village ritual activities are determined, led and regulated by traditional leaders (shamans). Meanwhile, no resident dared to change, substitute, or violate the shaman's ruling. Due to the charismatic influence of the shaman on village leadership, Tengger's socio-cultural values to new generations have been successful in many cases. It has a significant impact on the sustainability of Mount Bromo's tourism industry, which is closely related to the culture (Jovicic, 2014).

Some myths still dominate the Tengger tribe's life and contribute to tourism in Bromo Tengger Semeru National Park in nature conservation. One of the myths that have remained is the belief in the sacredness of Mount Bromo and surrounding areas. The Kasodo ceremony is a form of respect for the sacred myth of Mount Bromo. The Kasodo ceremony believes in the spiritual power that humans must submit to Sang Hyang Widhi and work diligently for their lives while prioritizing the preservation of nature (the existence of ecological wisdom) to avoid losing the support of nature acquires autonomous power. Sustainability development aimed to develop tourism area that care to natural resource and human needs (Pickel-Chevalier et al., 2021; Zhang and Chan, 2020).

## CONCLUSION

The Tengger tribe's traditional ceremony involves a sacred offering called Yadnya. Yadnya is carried out obligations or Rna to God, Hitun or Hyang Widhi, and the ancestors. The ceremony is determined based on the traditional calendar, repeated every year for Yadnya Kasodo and Karo, and five years for Unan-Unan. This ceremony is a part of the Bromo Tengger tourist attraction. The Trimandala spatial planning concept supports the sustainable development of tourism objects. It is related to the sacred space that must be protected, the madya space, and the profane space.

The traditional ceremony is performed according to a spatial layout that spiritually purifies the Bromo Tengger Semeru National Park area. The offering goods in the ceremony are agricultural products, such as flowers, fruits, vegetables, and livestock products. The offering represents gratitude to God Hong Pukulun, Hyang Widhi, and the ancestors for the gift of beautiful and fertile nature. The traditional ceremony of the Tengger Tribe has been proven to have preserved the Bromo Tengger Semeru National Park's natural condition and has been developed into an international tourist attraction. Therefore, this ceremony must be supported by government regulations.

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# NICHE TOURISM IN SOUTH AFRICA: A RENEWED POLICY FOCUS IN THE COVID-19 ENVIRONMENT

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**Abstract:** The COVID-19 pandemic is a catalyst for new patterns of demand and supply for the tourism sector. One consequence is a renewed policy interest in the importance of niche tourism products for destination development. This paper investigates the importance of niche tourism and its (re-) emergence on the policy agenda of tourism stakeholders in South Africa. It is argued that with a resurgence of niche tourism as policy focus there is a need for an extended research agenda on niche tourism in South Africa. The analysis represents a contribution to the changing agendas of tourism scholarship in the global South which have been impacted by the COVID-19 pandemic.

**Key words:** niche tourism, tourism policy, COVID-19, South Africa

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## INTRODUCTION

The COVID-19 pandemic has been deemed an unprecedented "supershock" for the global tourism industry (Wassler and Fan, 2021: 1). Tourism geographers have demonstrated that its ramifications have included the collapse of international travel, country lockdowns and the implementation of major restrictions on border crossings which virtually eliminated the tourism economy across the world (Bianchi, 2020; Butler, 2020; Carr, 2020; Cheer, 2020; Gössling et al., 2021; Saarinen and Wall-Reinius, 2021). The mass movement of people, and therefore the phenomenon of 'mass tourism', has been severely curtailed as it imposes great health risks with travellers vulnerable to health hazards (Hall et al., 2020; Fotiadis et al., 2021). The COVID-19 pandemic thus is causing shifts in consumer demands and represents a potential paradigm shift for researching tourist behaviour and decision making (Nair and Sinha, 2020; Rogerson and Rogerson, 2021a). It is reiterated "what was previously taken for granted may not hold anymore in the COVID-19 era" (Kock et al., 2020: 2). New research agendas are emerging (Zenker and Kock, 2020) including for tourism scholars in the Global South (Rogerson and Baum, 2020; Rogerson and Rogerson, 2021b). Uneven geographical impacts are observable in terms of the vulnerability of tourism destinations (Rogerson and Rogerson, 2020, 2021c).

One consequence of the pandemic crisis is that tourism destinations are forced to re-examine their practices and consider 'alternative tourism' which can play an important role in the recovery of the sector and protection of tourism stakeholders (Ioannides and Gyamóthi, 2020). As is made clear by Farsani (2020: 93) within the recent (pre-COVID-19) competitive world of tourism "similarity is the enemy and niche products are a way to escape sameness". Arguably, in a post COVID-19 world, consumers might pivot away further from mass tourism experiences and instead seek out what are styled 'niche tourism' products and experiences. Globally, tourism scholars suggest that in a post-COVID-19 environment the tourism sector is likely to see mobility patterns emerge wherein people start travelling again in smaller cohorts or social bubbles where the risk of catching an infection is relatively lower (Fotiadis et al., 2021). Accordingly, the tourism sector is anticipated to see significant future growth occur in various forms of 'niche travel' and driven primarily by the confidence of travelling in a less risk-prone environment and in smaller groups.

The major policy implications of COVID-19 for changing demand and supply patterns in South Africa's tourism industry are only beginning to be understood and investigated through the pursuit of evidence-based research (Rogerson and Rogerson, 2021a; Rogerson, 2021). South Africa's diverse landscapes and rich natural and cultural heritage can be fertile territory for the development of alternative forms of niche tourism (South African Tourism, 2021). COVID-19 presents an opportunity to explore tourism offerings in which smaller-scale, controlled and operated niche products can be developed to satisfy the shifting demands and needs of consumers. Against this backdrop the aim in this paper is to interrogate the importance of niche tourism and its (re-) emergence on the policy agenda of tourism stakeholders in South Africa. The discussion represents a contribution to the changing directions of tourism geographical scholarship as recently

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identified by Rogerson and Visser (2020) and which have been impacted by the COVID-19 pandemic. In addition, it can be read as strengthening the extant literature about tourism and change in the global South (Saarinen and Rogerson, 2021).

## METHODS

In terms of research methods this paper follows that of several parallel investigations which have appeared recently as a 'rapid response' critical assessment that brings together a variety of available sources and intelligence on COVID-19 impacts and policy ramifications (Baum et al., 2020; Bogale et al., 2020; Foo et al., 2020; Korinth and Ranasinghe, 2020; Gössling et al., 2021). The research reported in this paper therefore is anchored on (1) a desk-top survey of international research on niche tourism as sourced through searches of Google Scholar and Scopus; and (2) the collection and scrutiny of policy documentation mined from a range of South African government sources including the Department of Trade and Industry, the Department of Tourism, and South African Tourism.

## RESULTS

The findings of this investigation are organized into the following three sub-sections of material and discussion. These deal with *inter alia*, (1) definition and conceptual issues; (2) international debates on niche tourism; and, (3) South African policy debates.

### Definition and Conceptual Issues

A starting point for the analysis is that tourism can no longer be considered a singular phenomenon and that 'tourism' is a generic term to cover a broad continuum of travel-related practices. In the view of Papathanassis (2011: 1) as a consequence of the increasing segmentation of the tourism sector as a whole "it would be imprudent to generalize about the development of the tourism sector". Indeed, the tourism industry must be viewed as a fragmented (and fragmenting) industry. Accordingly, macro-perspectives on tourism supply and demand overlook the paradigm shift taking place globally from mass markets to what scholars such as O'Regan (2014, 2017) identify as "mass niches".

For Ali-Knight (2010) the origins of literature and conceptual debates around niche tourism can be traced back to the 1980s with discussions emerging around 'special interest tourism', which is viewed as the predecessor for niche tourism and set the context for the development of niche tourism markets. In a seminal contribution to the literature Novelli (2005) asserts niche tourism can be viewed as breaking down tourism into large homogenous market sectors or macro-niches (such as sports tourism) each of which can be further segmented into sets of micro-niches (such as cycling tourism or ski tourism). Niche tourism products are thus a counterpart to the undifferentiated mass tourism product and refer to specific tourism products focused on meeting the needs of particular market segments. As observed by Connell (2009: 203) during the decade of 2000s a number of "new and significant niches in tourism have steadily appeared and evolved".

Arguably, whilst the concept of 'niche tourism' has entered tourism scholarship debates it remains lacking a clear definition (Macleod, 2003; Robinson and Novelli, 2005). Its origins are rooted in marketing theory with the concept of 'niche marketing' building upon earlier notions of an ecological niche (Richards, 2010). According to Sivadasan (2017: 31) the niche concept "in business enables entrepreneurs to commit resources and products that meet the needs of specific segments". For Marques and Cunha (2010) niche tourism markets are made up of identifiable groups of individuals with similar interests, needs and wants, where specific products can then be tailored to meet the needs of particular market segments, and of varying sizes. For tourists, niche tourism offers a more meaningful set of experiences in the knowledge that their needs and wants are being met (Agarwal et al., 2018). Essentially, it is contended that the suppliers of niche tourism products escape intensified competition in mass markets by "seeking a specific niche which is better suited to them than to their competitors" (Richards, 2010: 79). Although the role and importance of niche tourism has been challenged as a major driving force in tourism growth and destination development there remains a growing body of scholarship that demonstrates niche tourism can offer destinations a valid opportunity to reposition themselves or strengthen their competitiveness (Ali-Knight, 2010; Agarwal et al., 2018; Pforr et al., 2021).

### International Research Directions

Among others Dallen Timothy (2021: 36) argues that from a tourism-specific perspective the development of niche tourism illustrates a trend "towards attractions and destinations that appeal to specialised markets". During the past 20 years there has been a continued expansion of international scholarship as well as the rising tempo of policy debates concerning niche tourism (Weiler and Hall, 1992; Rittichainuwat, 2018; Pforr et al., 2021). Of particular significance is the recent edited volume of contributions by Agarwal et al. (2018) which pinpoints the almost interchangeability of the terminology of 'special interest tourism' with that of niche tourism. It is contended that these concepts have "clear overlaps" and "in truth there is little that separates them other than the latter is perhaps more production-centred whilst the former is driven by the consumer's specific interest-based motivations" (Agarwal et al., 2018: 3). The traditional ways of conceptualizing niches have adopted a tourism product supply approach which focuses on an array of products – such as food, film, golf or wine – that might be developed and emerge as a 'portfolio' for particular destinations enabling them to differentiate themselves from competitors. An alternative 'market-led' approach concentrates upon the characteristics of special interest tourists – motivations, behaviour and consumption patterns – that would lead to the attractiveness of certain niches. Illustratively, tourists interested in experiencing alternative cultures might be the target market for food tourism or slow tourism (Agarwal et al., 2018). In a recent contribution Richards (2021: 1) stresses the case for taking a broader view of market niches and highlights that relatively little research attention has been paid "to how niches are identified, develop and are consolidated".

In several countries tourism policy makers have embraced the promotion of niche tourism, niche tourism products and niche tourism routes (Macleod, 2003; Marques and Cunha, 2010; Farsani, 2020). Among several countries which have instituted policy initiatives for niche tourism development some of the best documented are Romania (Gheorghe, 2014; Gabor and Oltean, 2019), Sri Lanka (Samarathunga and Gamage, 2020) and India (Prabakaran and Panchanatham, 2013; Beigi, 2020; Bandam and Kumar, 2021). In India Malik (2018: 80) records that the national Ministry of Tourism "has started an initiative to recognize, develop and foster niche tourism products". In both India and Sri Lanka much policy interest surrounds niche tourism concepts such as wellness, yoga, tea tourism, Ayurveda and spiritual tourism (Malik, 2018; Samarathunga and Gamage, 2020). According to the World Tourism Organisation and the World Travel and Tourism Council niche tourism is viewed as more valuable for host communities than traditional modes of tourism because of greater spending in destinations (Farsani, 2020). This said, the actual boundaries between mass versus special interest tourism are seen as increasingly "blurry" (Ma et al., 2020: 21) as their behavioural characteristics suggest dividing lines between the two segments which may not be as sharp as often believed.

Arguably, for tourism policy makers and destination managers the concept of niche tourism is compelling as a vehicle for promoting sustainable development and inclusion. Indeed, the niche tourism approach appears to promise "greater opportunities and a tourism that is more sustainable, less damaging and, importantly, more capable of delivering high spending tourists" (Robinson and Novelli, 2005: 1). For tourism policy makers concerned with 'responsible' tourism the attractions of supporting niche tourism are in light of its implied small-scale character and of the discerning and sensitive nature of niche tourists. In addition, niche tourism is touted as having the potential to advance the goals of an inclusive and sustainable economy. In an examination of Portugal Dinis and Krakover (2016) pinpoint the potential contribution of niche products for the development of sustainable tourism in small peripheral localities. Niche product development further can be used to deal with the perennial problems of seasonality for destinations (Malik, 2018). Richards (2021) maintains that a consideration of niche markets is critical for local and regional development futures as increasing competition in the pre-COVID era forces destinations to seek to specialize and differentiate themselves from others. Overall, for successful niche tourism development in any country it is acknowledged there is a need for strategic intervention in the form of policy support which, in turn, demands evidenced-based research in order to inform policy interventions. The COVID-19 pandemic further underlines the importance of developing strategic interventions which are targeted to the requirements of specific niches and informed by an understanding of the changing supply-demand situations of different niches in the post-/continuing environment of COVID-19 (Samarathunga and Gamage, 2020).

Table 1. Research on niche forms of tourism in the urban places of the Global South (Source: Adapted after Rogerson and Rogerson 2021e)

| Form of Niche tourism | Country and Research Examples |
|---|---|
| Adventure | South Africa (McKay, 2013, 2017, 2020) |
| Begging | India (Gowreesunkar et al., 2020) |
| Coastal and marine | South Africa (Rogerson and Rogerson, 2019) |
| Creative | South Africa (Rogerson, 2006; Booyens and Rogerson, 2019; Drummond and Drummond, 2021); Thailand (Somnuxpong, 2020) |
| Cruise | South Africa (Rink, 2020) |
| Culture/heritage | Argentina (Schettini and Troncoso, 2011; Kanai, 2014); China (Li and Wu, 2013; Su and Wall, 2015; Wu et al., 2015; Wang et al., 2020); India (Singh, 1992); Kenya (Sarmento, 2010); Morocco (Lee, 2008); South Africa (van der Merwe, 2013; van der Merwe and Rogerson, 2013, 2018); Thailand (Trupp and Sunanata, 2017) |
| Dark | Argentina (Korstanje and Baker, 2018); Mexico (Speakman, 2019); South Africa (Proos and Hattingh, 2020) |
| Film | Mexico (Adie and Cepeda 2018) |
| Gastronomy | Bolivia (Cruz et al., 2019); China (Chen and Huang, 2016; Pu et al., 2019); Colombia (Gálvez et al., 2020; Rodriguez-Gutiérrez et al., 2020); India (Chand et al., 2007; Kaushal and Yadav, 2020); Indonesia (Komaladewi et al., 2017); Malaysia (Khoo and Badarulzaman, 2014); Peru (Gálvez et al., 2017); South Africa (Naicker and Rogerson, 2017; Rogerson and Rogerson, 2021d); Thailand (Lunchaprasith, 2017); Vietnam (Avieli, 2013) |
| Gay | Mexico (Cantu, 2002; Mendoza, 2013); South Africa (Visser, 2002, 2003; Rink, 2013) |
| Geotourism | Brazil (Del Lama et al., 2015) |
| Graffiti | Colombia (Seok et al., 2020) |
| Halal | South Africa (Bhoola, 2020); Thailand (Uansa-ard and Binprathan, 2018) |
| Medical | Thailand (Lertwannawit and Gulid, 2011; Yin, 2014) |
| Nature | Kenya (Mbatia and Owuor, 2014); South Africa (Burton et al., 2020) |
| Off the beaten track | South Africa (Opfermann, 2021) |
| Sex | Argentina (Jeffrey et al., 2017); Brazil (de Jesus, 2020); Cuba (Wonders and Michalowski, 2001); Peru (Gálvez et al., 2017) |
| Sport | Brazil (Steinbrink, 2013) |
| Volunteer | Mexico (McGehee and Andereck, 2009); Peru (Burrai et al., 2017); South Africa (Rogerson and Slater, 2014) |
| Wedding | South Africa (Rogerson and Wolfaardt, 2015) |

The sheer diversity of niche tourism offerings can be illustrated by examining the differentiation of niches in the context of urban destinations. Indeed, tourism in urban centres has been a major focus for the development of various forms of niche products. As is shown for the global South a host of different niche tourism products have been used across urban places to strengthen the competitiveness of urban destinations (Rogerson and Rogerson, 2021e). Table 1 provides a snapshot of niche tourism studies for the urban Global South. Three points are observed. First, is the

remarkable array of niches of tourism that are utilised in the global South for the building of competitive urban destinations. Of interest is that in many cases these innovative niche forms of tourism are pursued outside of major cities and in secondary or intermediate urban places. Second, is that the most popular, as well as the best-documented niches, are the maximisation of local assets for cultural and heritage tourism or food and gastronomy. In many cases these represent the leveraging of particular assets which have been accorded international recognition by UNESCO as either World Heritage Sites or in terms of the designation of Creative Cities. One South African example is the Overstrand which was declared Africa's first UNESCO Creative City of Gastronomy in 2019 (Rogerson and Rogerson, 2021d). Beyond food and gastronomy a burst of other creative tourism offerings is further evidenced in the setting of the urban global South. Finally, in terms of the diversity of niche tourism offerings it is suggested from the weight of existing research that urban destinations in South Africa are, perhaps, the most varied at present. This diversity is, in part, accounted for by understanding the evolution of policy interest that has surrounded niche tourism in South Africa.

**Niche Tourism Policy in South Africa**

Policy interest by government in niche tourism in South Africa is not a recent phenomenon. It pre-dates the COVID-19 crisis and observed that policy interest concerning niche tourism in South Africa goes back to 2004-5 with the work undertaken by the Tourism Unit within the Department of Trade and Industry (DTI) (Rogerson, 2011). Indeed, prior to the establishment of a separate national Department of Tourism, the activities of the former Department of Environment Affairs and Tourism (DEAT) mainly focused on environmental issues and on poverty reduction associated with government supported tourism projects. From the early 2000s until 2009 therefore the DTI functioned as the lead Ministry in South Africa for national tourism development and planning. By 2005 DTI already had started a process for identifying strategic niche forms of tourism in the economy (Rogerson, 2011).

The promotion of niche tourism markets was considered by the mid-2000s a vehicle for both diversifying the country's tourism products as well as growing volume of tourism. It was stressed that in order to complement the international marketing strategies implemented by South African Tourism the DTI was "keen to understand high growth niche tourism segments" and thus engaged in discussions "with various stakeholders to identify niche tourism segments that should be prioritized for support" (Grant Thornton, 2006: 1). Within broader sectoral planning the DTI considered wide benefits could be obtained from the promotion of niche tourism to enhance tourism's competitiveness. The DTI's analysis was informed by existing international thinking on niche tourism and most especially the works of Novelli (2005) and Robinson and Novelli (2005). The definition of niche tourism as used by South Africa's DTI was that "Niche markets are core groups of people within a target audience who have similar occupational and/of lifestyle characteristics towards which a tourist product may be targeted" (DTI, 2007: 5).

The DTI's approach towards policy development was 'research-led' and began by commissioning research investigations on potential niche markets to inform strategic policy interventions. During 2005 the DTI Tourism Unit isolated the initial three 'niche segments' and funded research studies on business tourism, backpacker tourism and community-based tourism. The business tourism research mainly concentrated on boosting South Africa as a competitive MICE (meetings, incentives, conferences and exhibitions) destination. The objective was to "provide practical recommendations (based on research) as to how the DTI could support the growth of business tourism" (Grant Thornton, 2006: 2). The study on community-based tourism in South Africa centred upon the development of route tourism and implementing themed niche routes as a vehicle for leveraging opportunities for historically disadvantaged enterprises seeking to enter the mainstream tourism economy (ECI Africa, 2006a). The establishment and promotion of tourism routes was viewed as especially important in peripheral spaces to spread tourism benefits to poorer localities and distressed areas with limited economic potential. The third study involved research on backpacker tourism and was wider in scope and provided a set of recommendations for supporting this growing niche market through DTI interventions (ECI Africa, 2006b). In many ways the research on backpacker tourism provided the DTI with a research 'model' for evolving support interventions for niche tourism. Three steps were undertaken. First, was an examination of the market size, value, growth potential and economic impact of the niche sector. Second, package research findings and identify development opportunities to industry stakeholders; and, the third a process of strengthening relevant niche sectors through targeted support measures channelled via relevant (niche) tourism associations. The backpacker tourism investigation disclosed the existence of a vibrant sector that largely had been neglected by government support mechanisms. It revealed opportunities to boost youth tourism and pinpointed the existence of a series of 'barriers to competitiveness' for backpacker tourism that needed to be tackled by policy interventions in South Africa (ECI Africa, 2006b).

Although national government's interest in promoting niche tourism continued to expand, policy uncertainty surrounded the definition of appropriate 'niches'. Arguably, the problems in defining niches were experienced from the outset of DTI's engagement with the concept. The DTI's continued endorsement of niche tourism was manifest in subsequent commitments made under the 2009-2010 Industrial Policy Action Plan which was a set of strategic interventions to lift the growth path of the South African economy (Rogerson, 2014). For the sector of tourism the DTI committed to "the formulation of a Niche Tourism Development Framework" (DTI, 2010a). The purpose of initiating such a framework was to "guide niche tourism development in South Africa and identify high growth and high yield niches to be developed" (DTI, 2010a: 82). Consensus as to the definition of appropriate niches for policy support became ever more complex after the establishment of the separate ministry for tourism. By 2010 a situation existed that two national departments were committed to support niche tourism in South Africa albeit both engaged separately in identifying priority niche segments for support. The two departments selected different niche segments. By September 2010 the core

responsibility for the initiative for identifying niches effectively had transitioned from the Tourism Unit of the DTI to the new national Department of Tourism (Rogerson, 2011). During 2011 the new Department of Tourism launched its National Tourism Strategy within which a role for niche tourism was isolated (Department of Tourism, 2011a).

The niche tourism development framework had been issued jointly by the DTI and Department of Tourism in 2010 (DTI & Department of Tourism, 2010). The rationale to conceive, develop and resource niche tourism in South Africa was driven variously by it representing a potentially high value visitor target, its opportunities for encouraging a geographical spread of tourism, addressing seasonality and supporting new market opportunities for small, medium and micro-enterprises. Niche tourism markets, it was stated were "extremely important to the key objectives of South Africa's tourism agenda" (DTI & Department of Tourism, 2010: 9). The niche tourism development framework was to chart a pathway for stimulating niche tourism development in the country. By this time, the DTI had completed its investigations on backpacker tourism, business tourism, community-based tourism and avitourism (DTI, 2010b). In addition, it launched plans for work to be commissioned on accessible tourism and educational tourism for financial year 2010-11. The Department of Tourism started its work on niche tourism with research studies on cruise tourism and medical tourism.

Overall, it is evident the years 2010-2011 represented an intense period of commitment to research for support of the niche tourism development framework. The DTI produced in 2010 a landmark investigation on the potential for birding or avitourism in South Africa (DTI, 2010b). This was followed in 2011 by the appearance of market studies commissioned on educational tourism (Department of Tourism, 2011b) and accessible tourism (Department of Tourism, 2011c). The production of these research studies indicate the major policy interest that surrounded niche tourism at this time within national government. Further endorsement for niche product development and support in South Africa came with the National Tourism Sector Strategy (NTSS) which appeared in early 2011 (Department of Tourism, 2011c).

For the period 2010-2020 the NTSS identified niche product development and 'rural tourism' as one of the Department of Tourism's major focal points for policy work (Department of Tourism, 2011d). Niche product development increasingly became aligned with the promotion of 'rural tourism'. The central thrust of what was termed 'rural tourism' promotion would be directed geographically towards the spaces of the Bantustans (the former apartheid-established Homelands) which were the core 'distressed' regions of South Africa.

During the next five years the priorities of the Department of Tourism became firmly focused on issues around 'transformation' with the consequence that niche tourism appears to have become relegated to the policy side-lines. As Abrahams (2019) points out transformation essentially is focused on shifting the racial complexion of ownership and benefits from tourism development with specific targets for formerly disadvantaged groups (especially Black South Africans) under apartheid. Although transformation initiatives go back to the early 2000s they gained a strong policy momentum in the decade of 2010-2020. It was argued transformation was "regarded as a national imperative in South Africa to deal with inequalities of the past" and represented even a possible growth stimulant for the tourism sector in pre-COVID-19 times (Abrahams, 2019: 821). Undoubtedly, 'transformation' became the central focus of policy work by the Department of Tourism. Nevertheless, the continued commitment of the Department of Tourism to niche tourism was demonstrated in November 2017 with the revision and updating of the National Tourism Sector Strategy. Niche tourism now became discussed also as contributing to government transformation objectives (Department of Tourism, 2018). By 2018 it could be asserted that the "South African government perceives niche markets as a unique leverage to inclusively develop a destination" (Van Wyk-Jacobs, 2018: 57). The significance of strategic interventions for critical niches in tourism was further evident in a 2020 Economic Survey report on South Africa which was produced by the Organization of Economic Cooperation and Development (Glocker and Haxton, 2020).

This report emphasized that tourism in South Africa "has good potential to support the South African economy and contribute to employment growth post-COVID-19" (Glocker and Haxton, 2020: 3). At the provincial level in South Africa also niche tourism has gained support for integration into tourism development planning as is evidenced by recent findings from Free State (Proos and Hattingh, 2020). The 2021 Tourism Sector Recovery Plan issued by South African Tourism is government's major policy statement in response to re-energising the tourism economy in the COVID-19 environment (South African Tourism, 2021). It recognises re-igniting demand requires a robust marketing strategy, the agility to respond decisively through an uncertain global re-opening phase and responsiveness to changes in consumer preferences that require a focus on intrepid, experiential traveller segments which include niche tourism development. Overall, the pandemic further underlines the importance of developing interventions that are targeted to the requirements of specific niches. As observed by Nel (2021: 50) tourism "on a small scale as seen in niche tourism and special interest tourism has begun to play an ever more vital role in South Africa following the economic decline that occurred due to the COVID-19 virus and associated lockdowns".

## CONCLUSION

In the pre-COVID-19 era it was observed as far back as the early 1990s that fundamental changes were occurring in the market for tourism with the emergence of new patterns of tourist consumption (Weiler and Hall, 1992). A decade later it could be re-iterated that "the development of niche tourism is widely acknowledged as a major trajectory in contemporary tourism" (Robinson and Novelli, 2005: 7). Furthermore, McKercher and Chan (2005: 21) alluded that the special interest tourism market was "thought to be very special". Policy interest has emerged in several countries across the global South in the potential of leveraging opportunities from niche tourism. The example of South Africa shows that niche tourism development has continuously appeared on the agenda of national tourism policy makers since 2000 which makes the country an instructive case study in niche tourism policy.

The government's policy focus around transformation has been the number one policy priority for the latter part of the 2010 decade. With the acceleration of the COVID-19 pandemic the importance of niche tourism is reinforced for tourism policy and planning in South Africa as consumer demands shift from 'mass attractions' to smaller-scale forms of tourism. Arguably, niche tourism can be an element for tourism COVID-19 recovery planning as well as for leveraging the growth of an inclusive and sustainable tourism in South Africa (Glocker and Haxton, 2020). This underlines the relevance of an extended research agenda to understand international good practice for niche tourism planning as well as the pursuit of research investigations in South Africa on critical niches in order to provide an evidence base for supporting niche tourism. A comprehensive research programme is merited to support the renewal of interest in niche tourism policy development. It should address local knowledge-gaps about the changing supply-demand situations of particular niches during and post COVID-19. At least two sets of policy research work would be useful. First, is research to tackle certain critical knowledge lacuna about niche tourism, best practice policy interventions, and of specific forms of niche tourism in South Africa. Second, is to undertake research which critically examines the challenges for leveraging niche tourism for achieving the Department of Tourism goals for an inclusive and sustainable tourism economy in South Africa and with due recognition to the demand/supply challenges resulting from the uncertain times of COVID-19.

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# PROMOTING SLOW TOURISM TO WRESTLE THE CHALLENGES OF SHORTER LENGTH OF TOURIST STAY: IMPLICATIONS FOR SUSTAINABLE TOURISM

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**Abstract:** Slow tourism is an eminent concept that aims to embolden extended tourist stay within a destination. The current study adopts qualitative research approach and extracts data from purposefully selected tourism professionals. The researcher employed both interview and focus group discussion to collect data required for this study. Findings of the current study unfold that slow tourism as a unique approach augments the overall tourism activities, mainly within emerging destinations. Even though slow tourism has received limited attention in Bahir Dar and its surroundings, it is quite substantive to discourage the negative economic, sociocultural and environmental impacts of tourism. However, absence of developed tourism infrastructures and limited understanding of stakeholders restrain the practice and development of slow tourism in the study area. In terms of policy references, the present study suggests that there is a need to develop a practical guideline to inculcate the fundamental concepts related to the practical applications of slow tourism in emerging destinations.

**Key words:** Bahir Dar, emerging destination, slow tourism, slow travel, sustainable tourism

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## INTRODUCTION

Slow tourism as a crucial approach is intending to help tourist destinations through improving tourist length of stays and boosting the economic, sociocultural and environmental qualities (Losada and Mota, 2019; Serdane et al., 2020; Szromek et al., 2020). The concept of slow tourism incorporates any travel that discovers new tourism resources in order to enhance tourist experience (Jensen, 2013). On the other hand, the adoption of slow tourism activities would allow visitors to be habituated with wide variety of tourism products (Wilson and Hannam, 2017; Wondirad et al., 2021). Since its origin is from the food industry (Millington, 2011), the theory of slow tourism is intermingled with slow food that enlivens the cultural, economic and environmental aspects of a destination (Clancy, 2017; Wilson and Hannam, 2017). As slow tourism gives much emphasis on providing authentic tourism products, it nurtures the economic development of the local people (Shang et al., 2020). However, as tourist activities in developing destinations lack proper management (Wondirad et al., 2020), it is elusive to carry out slow tourism. That, in turn, partly affects tourist length of stays (Gossling et al., 2018). Pragmatically, the role of slow tourism in deterring the chronic problems of tourist length of stays has not been examined yet in most emerging destinations (Moira et al., 2017). Due to this reason, slow tourism is still pulverized in emerging destinations (Shang et al., 2020). Hence, it has been underlined that little is known about slow tourism due to inadequate research in such field (Wondirad et al., 2021). In a similar vein, the demand side of slow tourism development has been nebulous, mainly in emerging destinations (Oh et al., 2 014). As a reaction to this, the current study seeks to look at how slow tourism is substantive in elongating tourist length of stays and augmenting sustainable tourism. On the other hand, employing qualitative research with in-depth interview received little attention in most slow tourism researches (Wondirad et al., 2021). Subsequently, this study aims to: (1) inspect whether slow tourism is practiced in Bahir Dar City and its environs (2) to probe how slow tourism could improve tourist length of stays, thereby supplementing the sustainable tourism development and (3) explore the major challenges of slow tourism development in the study area.

## LITERATURE REVIEW

### Slow tourism in diverse perspectives

In the setting of developed destinations such as the Netherlands, Australia and USA, slow tourism has been contemplated as one of the most prominent tools in encouraging host and guest interactions (United Nation World Tourism Organization Report, 2017). These matured destinations have realized slow tourism through providing assortment of tourism products for tourists (Zmyślony et al., 2020). Therefore, in developed destinations, advocating slow tourism is instrumental to enhance tourists' length of stays and reinforce sustainable tourism development (Howard, 2012). Given the presence of enormous tourism products, developing destinations such as Thailand, Laos, Cambodia and Vietnam have untapped potential for the development of slow tourism (World Tourism Organization and Organization of American States Report in 2018). Very recently, due to the provision of new tourism products, these destinations are widely preferred by young travellers who need to

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take part in slow tourism activities (Mayer and Knox, 2006; United Nation World Tourism Organization Report in 2019). In the continent of Africa, mainly Kenya and South Africa have strived a lot to introduce multiple slow tourism activities through promoting their own distinctive tourism resources (World Tourism Organization and Organization of American States Report in 2018). As slow tourism considers tourist preferences (Hall, 2006), it is presumed to be a panacea for the convoluted problems in tourist length of stays within a destination (Shang et al., 2020). Paradoxically, the nomenclature of slow tourism in diverse perspective is different (Khan, 2015). Hence, it is comprehended that what is slow in a given destination may not be slow in the context of other destinations (Miele, 2008). As a response to this, Nistoreanu et al. (2011) proposed that slow tourism should at least satisfy two crucial concepts. 1/ duration: slow tourism activities should encourage tourists to spend at least one week within a destination. 2/ product utilization: in order to expand slow tourism, destinations should offer tourist products that are chiefly local based. Practically, if a destination adopts slow tourism approach, tourist length of stays is supposed to be extended. That, in turn, fosters tourist experiences (Jensen, 2013; Szromek and Naramski, 2019).

**Supplementing tourist length of stay through slow tourism**

Most importantly, tourists need to stay longer to experience a variety of tourism resources (Jensen, 2013; Steen-Jacobsen et al., 2018). Hence, tourist length of stays could be enhanced through introducing a range of tourism products (Gossling et al., 2018). That would be vital for developing destinations where poor host-guest interaction has been manifested for long. Thus, adopting the concept of slow tourism is substantive in augmenting tourist length of stays (Sun and Lin, 2018; Wondirad et al., 2021). As tourists often need to experience many trips (Martı ´nez-Garcia and Raya, 2008), slowing down the fast pace of travel is profoundly imperative to enhance tourist length of stays within a destination (Howard, 2012; Sun and Lin, 2018). Since an extended tourist stays has multiple significances, it has to get a prominent consideration among tourism business operators (Yang et al., 2011). Hence, so as to compliment tourist length of stays, tourist service providers should imagine the real time that tourists need to spend through referring tour itineraries that tourists pursue during travel (Wang et al., 2012). On the other hand, tourism business operators could handle their administrative costs and adjust their own promotional strategies (Martı ´nez-Garcia and Raya, 2008; Ritchie and Crouch, 2005). A few studies in tourism purported that tourist length of stays is impacted by tourists' demographic characteristics, level of income and price of the tourism products and services (Alegre and Pou, 2006; Barros Pestena and Machado, 2010; Yang et al., 2011). However, the current study emphasized that introducing slow tourism undertakings could be one of the most crucial factors that enrich tourist length of stays. Thus, in tourist areas where shorter visitor stay continues, reducing the fast pace of travel would be viewed as one of the most important remedies for the chronic problem in tourist length of stays (Gossling et al., 2018; Lumsdon and McGrath, 2011; Peypoch et al., 2012; Sun and Lin, 2018). As far as the current study is considered, the link between slow tourism initiatives and tourist length of stays has three scopes. 1/ as slow tourism development is partly improved through giving adequate attention to natural and cultural tourism resources, it encourages many tourists to experience more and stays longer within the study area 2/ slow tourism development is helpful to create proper channel of communication among tourism business operators working in the study region, thereby fostering the tourist experience and enhancing tourist length of stays. 3/building long-term host-guest interaction and satisfying the interests of tourists could be helpful to supplement slow tourism development that will enhance tourist length of stays.

**Setting the research context**

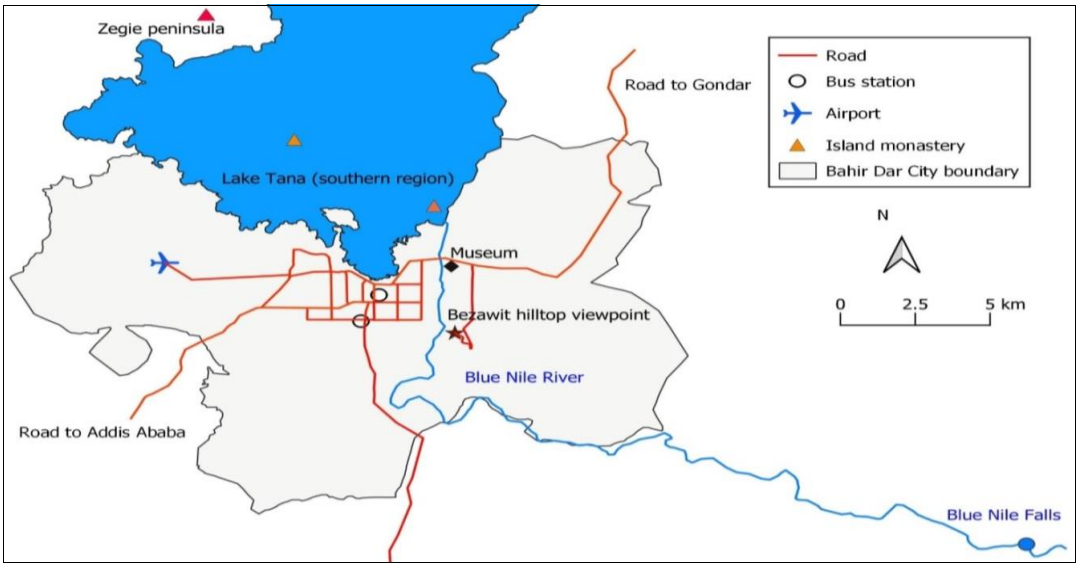


Figure 1. Map of Bahir Dar City and its hinterlands

This study was conducted in Bahir Dar City and its hinterlands. It is located in the North Western Ethiopia. The city is situated about 578km Northwest of Addis Ababa. Bahir Dar City has an elevation of 1840m above sea level. It is the capital city of the Amhara region. Zegie Peninsula Monasteries and Tis Abay/ Blue Nile Fall are the most prominent tourist sites found within the territory of Bahir Dar city administration. As shown in Figure 1, Bahir Dar City is one of the most historical

part of Ethiopia hosting several manmade and natural attractions. The monastery of Zegie Peninsula, Island Monastries, Bezawit hill top viewpoint, Museum, Lake Tana and the Blue Nile River are the most often visiting places found in Bahir Dar and its hinterlands. Lake Tana, the largest lake of Ethiopia, entices the visitors with its atmosphere of timless spectacle.

## RESEARCH METHOD

Qualitative research method is the preferred approach used in exploring new concepts and issues in the field of tourism and hospitality (Robbins and Cho, 2012). As the current study scrutinizes slow tourism practice and its role in boosting tourist length of stays and sustainable tourism development, a qualitative approach has been pursued. Regarding data collection instruments, studies to be conducted through taking data from professionals often use interview and focus group discussion in order to investigate major concepts and associated problems (Berg, 2007; Lumsdon and McGrath, 2011; Oh et al., 2016). Thus, the present study executed face to face structured and semi-structured interview types and focus group discussion to extract data from research participants.

### Sampling and participant recruitment process

The contemporary studies emphasized that the number of research participants in qualitative studies would be different based on the nature of the problem to be investigated (Waseema, 2017). To mention some studies, Dickinson et al. (2011) has selected eight samples in his study about slow travel and tourism. On the other hand, Lumsdon and McGrath (2011) used twenty-five participants who have been involved in tourism businesses. For the present study, 40 research participants were selected through purposive sampling technique. Data collection was conducted in Bahir Dar City (the capital of Amhara National Regional State, Ethiopia), Tiss Abay (a small town where the Blue Nile Fall is found) and Zegie Peninsula (a home to more than 10 ancient monasteries and found in the Lake Tana region).

Table 1. Demographic profile of research participants

| Lists of participants | Relevance to research | Places | Codes | Age | Sex | Y.E | T.L |
|---|---|---|---|---|---|---|---|
| Academicians | Academicians are supposed to have deeper knowledge regarding slow tourism and its role for tourist length of stay and sustainable tourism development. | Bahir Dar | $AD_1$ | 20-30 | F | 6 | 7 |
| | | | $AD_2$ | 31-40 | F | 11 | |
| | | | $AD_3$ | 31-40 | M | 11 | |
| | | | $AD_4$ | 20-30 | F | 9 | |
| | | | $AD_5$ | 31-40 | M | 12 | |
| | | | $AD_6$ | 31-40 | M | 8 | |
| | | | $AD_7$ | 20-30 | M | 7 | |
| Tourism business consultants | To the best of the researcher's knowledge, travel and tourism business consultants have good understanding with respect to slow tourism and sustainability issues. | Bahir Dar | $CT_1$ | 41-50 | M | 10 | 5 |
| | | | $CT_2$ | 50+ | M | 15 | |
| | | | $CT_3$ | 31-40 | F | 9 | |
| | | | $CT_4$ | 31-40 | M | 11 | |
| | | | $CT_5$ | 41-50 | F | 11 | |
| Tour operators | As tour operators are expected to utilize slow tourism potentials and curb challenges, the present study has used data obtained from them. | Bahir Dar | $TR_1$ | 20-30 | M | 6 | 4 |
| | | | $TR_2$ | 31-40 | F | 12 | |
| | | | $TR_3$ | 41-50 | M | 13 | |
| | | | $TR_4$ | 31-40 | F | 11 | |
| Destination management experts | Problems with respect to tourist length of stay and slow tourism are the concern of destination management experts. Hence, it is crucial to involve them in this study. | Zegie | $DM_1$ | 50+ | M | 17 | 4 |
| | | | $DM_2$ | 41-50 | M | 14 | |
| | | | $DM_3$ | 31-40 | F | 12 | |
| | | | $DM_4$ | 31-40 | F | 15 | |
| | | Tiss Abay | $DM_5$ | 50+ | M | 17 | 2 |
| | | | $DM_6$ | 20-30 | F | 7 | |
| Tour guides | As tour guides have an extensive contact with tourists, they are supposed to know some crucial factors that determine tourist length of stay. | Zegie | $TG_1$ | 20-30 | M | 7 | 3 |
| | | | $TG_2$ | 20-30 | M | 9 | |
| | | | $TG_3$ | 31-40 | F | 12 | |
| | | Tiss Abay | $TG_4$ | 31-40 | F | 10 | 3 |
| | | | $TG_5$ | 20-30 | M | 9 | |
| | | | $TG_6$ | 31-40 | M | 11 | |
| Focus group participants | | Bahir Dar | $FGP_1$ | 31-40 | M | 13 | 4 |
| | | | $FGP_2$ | 20-30 | F | 7 | |
| | | | $FGP_3$ | 50+ | M | 16 | |
| | | | $FGP_4$ | 31-40 | F | 10 | |
| | | Zegie | $FGP_5$ | 20-30 | F | 6 | 4 |
| | | | $FGP_6$ | 41-50 | M | 18 | |
| | | | $FGP_7$ | 31-40 | F | 13 | |
| | | | $FGP_8$ | 41-50 | M | 15 | |
| | | Tiss Abay | $FGP_9$ | 20-30 | M | 7 | 4 |
| | | | $FGP_{10}$ | 31-40 | F | 13 | |
| | | | $FGP_{11}$ | 50+ | M | 19 | |
| | | | $FGP_{12}$ | 20-30 | F | 7 | |
| Total sample selected ----------40 **YE:** Year of experiences **SS**: Sample selected | | | | | | | |

As evidences obtained from Amhara National Regional State Culture and Tourism Bureau (2019) divulges, most experienced tour guides and destination management experts have been working in Zegie and Tis Abay. Thus, destination management experts and tour guides were selected from Tiss Abay and Zegie whereas academicians, tourism

and hospitality business consultants and tour operators were selected from Bahir Dar City (Table 1). Interviews were conducted in three phases. Phase one has been done in Bahir Dar for two months. Phase two has been conducted in Zegie for six consecutive weeks and phase three has been undertaken in Tiss Abay for four weeks. In all the three phases, data saturation has been considered while conducting interview and checking whether to proceed to the next participant (Kebete and Wondirad, 2019). On the other hand, to triangulate data obtained through interviews, the researcher conducted focus group discussion in Bahir Dar City. Hence, purposefully selected experienced tourism professionals working in Zegie (4), Tiss Abay (4) and Bahir Dar (4) have partaken in the discussion.

## DATA ANALYSIS PROCESS

Since the researcher extracted data from participants through using semi-structured interview and focus group discussion guides, the following four steps have been pursued to record and analyze the data: First, the researcher has conducted interview and undertaken audio taping. Second, transcribe data and arrange it carefully. This step shows representation of noticeable and visual data into written form (Gibbs, 2002). Thus, it is an interpretive process which is considered as the first step in analyzing qualitative data (Berg, 2007). Third, code the data and produce themes: in this phase the researcher was looking for similar words or phrases mentioned by the interviewees and focus group discussants to generate categories/themes (Pink, 2008; Wondirad et al., 2021). Fourth, the researcher made comprehensive statement from the themes and interpreted the result in light of existing literatures in the field of slow and sustainable tourism studies. Overall, the present study has followed the techniques of thematic analysis.

## RESULTS AND DISCUSSION

The demographic profile of respondents shows that 55% of participants are male, while the rest 45% are female. 43% of participants have professional experience covering from six to ten years, whereas 45% of them have eleven to fifteen years of experience. 12% of participants had experience from sixteen to twenty years. As far as age is concerned, 43% of participants belong to the age category of 31-40 and 30% of them belong to the 20-30 age categories. On the other hand, 15% of respondents were found between the age of 41 and 50 whereas the 50+ category consists of only 12% of the entire participants.

### Slow tourism and its applicability in Bahir Dar and its surroundings

It has been realized that Bahir Dar and its environs has not been fully working on slow tourism for long (Wondirad et al., 2021). This is due to the fact that tour operators, travel agents and tour guides operating in the study area did not copiously apprehend the concept of slow tourism and its contribution in extending tourist length of stays (Amhara National Regional State Culture and Tourism Bureau, 2019). This is further strengthened by what research participants stated below:

Tour operators, travel agents and tour guides working in the study area were not able to show which potential tourism activities stimulate slow tourism. Due to this circumstance, many visitors could not have deeper experience during their stay within Bahir Dar City and its environs. It is also understood that limited slow tourism practices in the study region partly made tourist length of stays minimal ($TR_4$, December 2020). As far as I know, tour and travel companies functioning in the study area have limited understanding with respect to slow tourism. As a result of this, slow tourism activities are executed to a little extent in Bahir Dar City and its surroundings. Practically, there is almost no propensity to develop slow tourism in the study area. Hence, it is supportive to introduce a range of tourist activities in order to undertake slow tourism activities in the study area ($DM_3$, October, 2020). In line with this, Lumsdon and McGrath (2011) and Waseema (2017) pointed out that slow tourism as a distinctive approach embroils wide variety of tourist activities with slow movement to acquire in-depth experience and ensure longer tourist stay. On the other hand, pertaining to the unique features of slow tourism, a tourism and hospitality business consultant mentioned that: Based on my expertise in slow tourism, there is a tendency to practice the whole things indigenous. For example, cultural restaurants should buy food ingredients from the local market rather than using imported food raw materials. That, in turn, encourages local food suppliers to produce larger quantities of ingredients. In addition to this, in the study area, tourists often tend to use the local modes of transportation to travel from one tourist site to the other. Thus, one inimitable feature of slow tourism is its strong attachment with local communities' resource. As slow tourists are local lovers, they are encouraged to taste something exceptional without distracting local resources within the study area. Finally, for the sake of ensuring slow tourism development, Bahir Dar and its environs would better promote tourist activities that are predominantly indigenous ($CT_4$, May 2019).

This result of the present study corresponds with the finding of Szromek and Naramski (2019) who accentuated that slow tourism primarily utilizes local resources and mainly emphasis on the exploration and provision of products that are not extensively available elsewhere. Research participants were also asked: do you think that slow tourism is a solution for the fast pace of travel and tourism activities in Bahir Dar City and its vicinity? How? Yes, on average, tourists stay in Bahir Dar for not more than two nights. They visit popular attractions (Blue Nile Falls and Zegie Peninsula Monasteries and the Lake Tana region) in one and half day. As such, tourists' movement within these prominent attractions is conducted in a hurry, and they do not have enough time to explore and experience other attractions. This is especially true for tourists that come in package tours and travel in a fixed schedule with little chance to interact with the local people. As the current tourism development in Bahir Dar and its surroundings suffers from what is called the 'tourist bubble', evolving slow tourism activities could be part of the solution ($AD_1$, September 2020). Yes, it could be a solution. So far, tourists that have been visiting Bahir Dar and its surroundings travel rushing, and they don't learn more and don't spend a lot. Thus, slow tourism would be a panacea for the fast pace of travel in the study area ($FGP_7$, May 2019). In my perception, as Bahir Dar and its hinterlands attract tourists that acquire in-depth experience and intrinsic learning, slow tourism contributes a lot in elongating tourist length of stays ($TR_3$, September 2020). Slow tourism should be considered as an eminent strategy in

reducing fast movement of visitors (Sun and Lin, 2018). Therefore, it has to get a great emphasis in the contemporary tourism development agendas (Losada and Mota, 2019). As it supplements the overall tourism activities ($DM_4$, August 2020), slow tourism extends tourists length of stays within the study area (Wondirad et al., 2021). Hence, implementing slow tourism would act as an antidote for the problem in tourist length of stays in most emerging tourist destinations such as Bahir Dar and its vicinities ($TA_3$, May 2020). More importantly, slow tourism initiatives meaningfully enhance sustainable tourism development in tourist receiving areas across the globe (Shang et al., 2020; Szromek and Naramski, 2019).

**Slow tourism as a driver of sustainable tourism development**

Since the practice of slow tourism intensifies much contact between tourists and local communities (Dickinson and Peeters, 2014), it would be helpful to augment the sustainable tourism development approaches (Lin, 2017). As Bahir Dar and its environs include people with diverse culture, adopting slow tourism activities advance the socio-cultural, economic and environmental aspects of sustainable tourism (Amhara National Regional State Culture and Tourism Bureau, 2019). Regarding slow tourism and its role in strengthening the socio-cultural sustainability of the study area, a tourism and hospitality business consultant mentioned that: As far as my experience is concerned, slow tourism enables visitors to obtain deep understanding about the social and cultural elements of the study area. Hence, it is substantive to safeguard local authentic culture, heritage and history of the study area. Since Bahir Dar and its environs embrace eccentric cultural tourism resources, slow tourism upholds sustainable tourism development. On the other hand, as slow tourism revitalize careful usage of cultural resources; it plays its part in enlarging tourist length of stays and buttressing the socio-cultural sides of sustainable tourism ($CT_4$, September 2020). This result of the present study confirms what Nilsson et al. (2011) accentuated as slow tourism struts the socio-cultural dimension of sustainable tourism through maintaining religious and traditional values. Distinctly, ethical aspects that do not harm the local people need to be contemplated as an important element in slow tourism (Pecsek, 2016). Moreover, slow tourism appreciates long-term contact between the host and the guest within tourist destinations (Shang et al., 2020). In this juncture, slow tourism practices allow tourists to have strong interaction with the local community and learn more about local culture and the environment ($DM_2$, March 2020). In relation to environmental issues, slow tourism activities do not often damage the natural balance of tourist destinations (Shang et al., 2020). Therefore, in all aspects, slow tourism needs to be performed via maintaining the environmental settings of the study area as stated by a research participant below:

As you may also know, slow tourism would enrich tourism activities that improve environmental qualities. I want to underscore that the development of tourism in Bahir Dar City should stimulate slow tourism activities in order to encourage environmental conservation and preservation undertakings. Thus, slow tourism approach is quite prominent in ensuring sustainable tourism development in the study area ($CT_3$, February 2020). Moreover, performing slow tourism activities enrich the environmental sustainability of tourism through discouraging ecological degradation and reducing the use of chemicals for waste management (Lenzen et al., 2018; Shang et al., 2020). On the other hand, slow tourism considerately advances the duty of tourists in combating environmental pollution and augmenting careful utilization of tourism resources (Valls et al., 2019; Widz and Brzezińska-Wójcik, 2020). Regarding the interest of slow tourists towards protecting the environment from damage, a tour guide working in the study area pointed out that: Slow tourists are presumed to be approachable to the natural and cultural resources of the study area. Slow tourists who are interested in culture must be friendly to the cultural environment. On the other hand, slow tourists that are concerned for nature must be careful to the natural environment. Hence, slow tourism in the study area needs to encompass a responsible travel to the natural and cultural environment ($TG_2$, May 2020).

Practically, slow tourism embraces ecological sustainability in it (Gunesch, 2017; Pecsek, 2016). In light of that, introducing environmentally friendly tourism activities with comfortable travel are fundamental for the development of slow tourism (Jernsand et al., 2015; Shang et al., 2020). Thus, enabling tourists to stay longer and enjoy the lesser known tourism products would allow tourist destinations to rejuvenate extensively visited and environmentally degraded sites (Alegre et al., 2011). Even though ecological sustainability issue is part and parcel of slow tourism development, it has received little emphasis in Bahir Dar and its environs (Amhara National Regional State Culture and Tourism Bureau, 2019). As a result, there is almost no attention paid for the prudent utilization of the natural and cultural resources in order to boost the local economy through strengthening sustainable tourism within the study area ($FGP_7$, May 2019).

The link between slow tourism and local economic development mainly contingent on communities' resource and thus it is less costly than other tourism activities emphasizing on imported products (Wondirad et al., 2021). So long as slow tourism products are local based, tourists are supposed to pay fair price for the products and services (Oh et al., 2016). Money to be generated from slow tourism activities would be utilized within the study area in order to support the local economy as the following statement unfolds: The adoption of slow tourism in Bahir Dar and its surroundings encourages local entrepreneurship. That is substantive to create job opportunities for the youth and enlarge tax revenue for the government. That, in turn, underpins the infrastructural developments within and around Bahir Dar City ($AD_3$, June 2020). Therefore, local communities could take full advantage of slow tourism in terms of creating a greater level of quality experience (Fullargar et al., 2012; Valls et al., 2019). This is further strengthened by a research participant as underscored below: Slow tourism enhances a viable and long-term economic operation through providing socio-economic benefits for all stakeholders including local communities within the study area. It appreciates the creation of stable income and social services designed for host communities, thereby contributing to the poverty alleviation initiatives of Bahir Dar City and its surroundings ($DM_1$, August 2020). It has been pointed out that if slow tourism received strong focus in the sustainable tourism development programs, unemployment and poverty related problems would be slackening in the study region ($TR_3$, August, 2020). Thus, from the economic aspect, slow tourism and sustainable tourism upsurge tourist expenditure within Bahir Dar City and its surroundings (Wondirad et al., 2021).

Furthermore, after reviewing extant literatures in the field of slow tourism and sustainable tourism and analyzing data obtained from research participants, the researcher proposed slow tourism framework that interconnects slow tourism, sustainable tourism and tourist length of stays within tourist destinations. Implementing this framework is ideal for the study area and other similar destinations to improve sustainable tourism development through slow tourism.

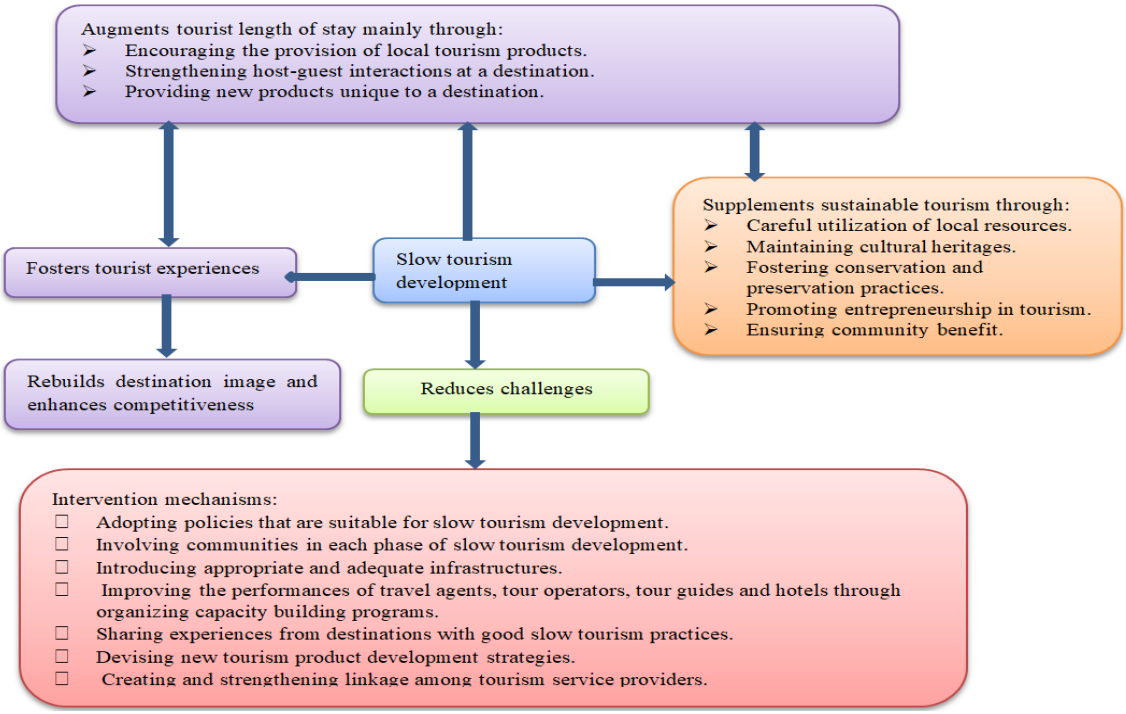


Figure 2. Slow tourism framework linking sustainable tourism and tourist length of stay (generated from interview and focus group discussion results)

As illustrated in Figure 2, the development of slow tourism steps up sustainable tourism as it facilitates the prudent utilization of natural and cultural heritages and boosts the social, economic and environmental qualities of tourist destinations. The implementation of slow tourism in tourist destinations is profoundly paramount in improving tourist length of stays through encouraging the provision of locally owned tourist products and increasing the performances of tourism business operators in order to meet the interests of the tourists. As shown in Figure 2, the conceptual framework of slow tourism comprises four major components. 1/ tourist experiences: as slow tourism desires the provision of multiple tourist products, it satisfies the interests of tourists, thereby enhancing the tourist experience within the study area (Jensen, 2013). 2/ tourist length of stays: since slow tourism adds tourist experiences and satisfies tourists' demand, it has a great role in enlarging tourist length of stays in Bahir Dar City and its vicinities (Sun and Lin, 2018). 3/ destination image and competitiveness: as long as slow tourism braces tourist experiences and length of stays, it improves destination image and competitiveness. 4/ sustainable tourism: the ultimate goal of slow tourism is to ensure sustainable tourism development through improving tourist length of stays (Shang et al., 2020). On the other hand, applying intervention mechanisms would be instrumental to reduce the challenges that slow tourism confronted in emerging destinations including Bahir Dar City and its hinterlands.

**Challenges of slow tourism development in the study area**

Although slow tourism contributes its part in expanding sustainable tourism development, it encounters many challenges, mainly in emerging tourist destinations (Pecsek, 2016). In the context of Bahir Dar and its surroundings, the absence of adequate tourist infrastructures hold down the development of slow tourism (focus group discussion, May 2019). For instance, there has not been any seat designed for tourists who walk on foot within Zegie and around the Blue Nile Fall ($TR_1$, June 2019). Because of this reason, aged and physically disabled visitors were not able to go further in order to visit more within Zegie Peninsula Monasteries (Kebete and Wondirad, 2019). This circumstance dissuades the development of slow tourism in the study area as a focus group participant mentioned below:

Even though slow tourism activities entail plentiful tourism infrastructures, the provision of inadequate facilities do not enable visitors to stay longer within the study area. This condition hampers tourist activities, thereby reducing the tourist experiences. That restricts the development of slow tourism ($FGP_5$, May 2019).

In line with this, Murphy et al. (2000) and Dupeyras and MacCallum (2013) pointed out that in slow tourism, tourists expect abundant facilitates within a destination equivalent to what they desire to enjoy. However, absence of hotel facilities along with insufficient health services made tourists not to stay longer in Bahir Dar and its surroundings ($TR_3$, May 2020). This problem is burgeoning, chiefly in Zegie and around the Blue Nile Falls as the following quote unveils: As far as I know, though the study area is endowed with tremendous organic food items, there were no organized traditional restaurants that provide local cuisines for tourists. For example, on February, 19 2020, I visited Zegie Peninsula Monasteries. During that time, I found no restaurant providing food services, despite the presence of ample agricultural products. On the other hand,

there were no local transport facilities that support visitors to enter into each part of Zegie Peninsula Monasteries. This circumstance impedes tourist experience, thereby lessening the tourist length of stays in the study area. Therefore, promoting locally owned tourist facilities would be helpful to curb problems in tourist length of stays, thereby escalating the development of slow tourism in one hand and sustainable tourism on the other hand ($CT_5$, June 2020). Moreover, as far as the study area is concerned, one of the missed concepts is about promotional activities related to slow tourism as it usually hinges on the same values and principles that are not vital for searching the big pictures of tourism activities ($AD_1$, November 2020). No matter how rich in spectacular tourism resources the study area is, marketing and promotional activities have been done without contemplating the interests of the tourist and the local community (Amhara National Regional State Culture and Tourism Bureau, 2017). This sense is against to the notion of slow travel as it respects and ensures the benefits of both the local people and the tourist (Dickinson and Lumsdon, 2010; Egresi, 2018; Pink, 2008). Practically, absence of coordination among tourism stakeholders in the study region overwhelms the development of slow tourism. Hence, tour operators, travel agents, tour guides, hotels, transportation service providing institutions and government should work in cohabitation in order to improve tourist length of stays and enlarge sustainable tourism development in the study area.

## CONCLUSION AND IMPLICATIONS

In the contemporary tourism destinations, tourist experience is influenced by the practice and development of slow tourism initiatives (Caffyn, 2012; Lenzen et al., 2018; Waseema, 2017). Findings of the current study unfold that consistent provision of authentic tourism products would be helpful for improving slow tourism activities in the study area. Even though its scope is wide, the current study discussed slow tourism in relation to seven fundamental dimensions. 1/ Travel: slow tourism embraces slow travel to tourist destination where tourism resources are extensively available (Sun and Lin, 2018). Regarding this, a destination management representative underscored that there is an immediate need to interconnect each tourism resource with slow tourism in the study area ($DM_2$, June 2020). On the other hand, travel as one of the most crucial components of slow tourism has to be guided by well-planned itineraries (Dickinson et al., 2011; Sun and Lin, 2018). 2/ Authenticity in culture: as slow tourists seek to experience something unique (Jensen, 2013; Meng and Choi, 2016); Bahir Dar and its surroundings ought to provide authentic tourism products ($TA_1$, August 2020). Therefore, the provision of genuine tourism product would enhance the development of slow tourism in tourist destinations (Egresi, 2018; Nilsson et al., 2011). (3) Natural resources: since the study area is rich in natural resources (Amhara National Regional State Culture and Tourism Bureau, 2019), there is a great opportunity for slow tourists to take part in many tourism related activities. As most tourism activities are undertaken in the natural environment (Wondirad et al., 2020), slow tourism has been chiefly contingent on natural resources (Andrews, 2006; Lenzen et al., 2018; Szromek and Naramski, 2019). (4) Tourist experiences: since slow tourism links tourist demand with tourism supplies (Shang et al., 2019), the study area has to properly utilize its tourism resources and examine whether those resources indulge tourists' demand ($AD_2$, June 2020). As such, in order to promote slow tourism, tourism business operators should commensurate the supply of tourism products with the immediate demand of the tourist (Warren, 2011). (5) Stay: slow tourism activities encourage tourists to stay longer as peculiar tourism products are frequently provided within emerging destinations like Bahir Dar and its surroundings (Meng and Choi, 2016; Miele, 2008). (6) Learn: slow tourism provides chances for guests to learn more and create strong interaction with the local people. (7) Provision of multiple tourist products: As Bahir Dar and its environs seek to advance slow tourism activities, several tourism products are likely to be available for tourists (Yurtseven and Kaya, 2011). However, inadequate road and transportation services, poor health and telecommunication facilities along with insufficient hotel services curtail the development of slow tourism in the study area. Thus, both the government and the private sector should work cooperatively to develop infrastructures that are substantive for slow tourism initiatives.

### Theoretical implications

Previous studies in slow tourism have been done through involving tourists from the demand side (Losada and Mota, 2019). Hence, the concept of slow tourism has been associated with tourist behaviors and perceptions (Lin, 2017). However, the current study argues that the adoption and practice of slow tourism would partly be influenced by the tourist destination's overall infrastructural development. The findings of this study unravel that the provision of local tourism products would act as a springboard in promoting slow tourism. This study has identified the fundamental components of slow tourism such as product uniqueness, ecological friendly activities, extensive host-guest interaction, longer tourist stay and less travel. On the other hand, the present study proposed a comprehensive slow tourism framework that integrates the concept of slow tourism with tourist length of stays and sustainable tourism in tourist destinations.

### Practical implications

Adopting the concept of slow tourism in tourist destinations advocates the development of tourism (Moi ra et al., 2017). Hence, the practical implication of the present study is discussed in relation to each tourism stakeholder. Primarily, local communities as owners of tourism resources would get substantial benefits if slow tourism activities are executed. Slow tourism enables local communities to promote their own culture, history, heritage and natural resources. On the other hand, improving slow tourism activities would be profoundly obtrusive for tourism business operators to enhance their performances. When tourists stay longer within a destination, tour operators, travel agents, tour guides, hotels and local transportation service providers could sale more tourism products. Thus, practically, adopting the paradigm of slow tourism enables destinations to generate much amount of income from the visitor economy (Losada and Mota, 2019). Moreover, policymakers could use the findings of the current study as a reference in order to devise sustainable tourism related

policies. In terms of policy, this study recommends as there is an immediate need to make all stakeholders working together for the proper implementation of slow tourism in emerging destinations where tourist length of stay is short. It could also be helpful to tourism and hospitality business consultants and academicians to get an in-depth understanding with respect to slow tourism and widen their knowledge. Overall, as slow tourism supports sustainable tourism development, tourism stakeholders should do a concrete work to encourage the sociocultural, economic and environmental sustainability agendas and discourage the negative impacts of tourism within a destination (Knox, 2005).

**Limitation and future research directions**

Since this study was conducted through employing qualitative research approach, it has been a challenge for the researcher to check the validity of data. However, the researcher used structured and semi-structured interview along with focus group discussion to triangulate data obtained from research participants. Thus, future studies in the area of slow tourism would better employ mixed research approach to obtain wide-ranging results.

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# PSEUDO EMPOWERMENT: TRACKING THE LEVEL OF COMMUNITY EMPOWERMENT IN THE ECOTOURISM AREAS DEVELOPMENT IN BANGKA ISLAND, INDONESIA

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**Abstract:** The development of an ecotourism area needs local residents' involvement for the proper management integrating with the conditions of local wisdom, and also empowers the community. Bangka Island, located in South Sumatra, Indonesia, is used as an alternative post-mining area for the tourism sector and acts as an interesting locus to assess the level of community empowerment. This study aims to trace the working process of the empowerment dimension in the development of ecotourism in Bangka Island. The quantitative descriptive method was used to collect data from 260 respondents spread across various districts/cities in Bangka Island. The result showed that the level of empowerment in Bangka Island is still very limited, tends to be elitist, and lacks economic benefits. However, interestingly, the community supports future development despite not being certain of their involvement in the process. This study also reveals that empowerment is still pseudo in this community, which means that it has not touched all aspects of the essence of empowerment due to a sense of pride in their region's popularity.

**Key words:** empowerment, ecotourism, local community, development, Bangka

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## INTRODUCTION

The development of the tourism sector in a community, which simultaneously supports an alternative economy, is closely related to two main aspects. The first is the community's extent involved with the government and other business actors during the development process. The second is the extent to which the community is involved in the empowerment process. Besides, these aspects are relevant because of the economic impact. The problems associated with developing this sector in certain areas are divided into two, namely, management by private business actors and directly controlled by the government. Although it was discovered that the local residents or neighboring communities mostly initiate the development of an ecotourism area, the existence of government plays a significant role (Mafruhah et al., 2018).

The development of an ecotourism area has indeed experienced several fundamental challenges. It includes the issue of business opportunities that supports the economy of the neighboring areas, the tug of war over ownership and management, implications associated with the culture of the surrounding local communities, as well as the readiness to embrace social transformation. Generally, the aforementioned problems are closely related to polemic management control. This implies that the private sector's ecotourism areas do not usually involve the local communities, whereas the reverse is the case with the government. However, the development of a tourism sector is closely influenced by the surrounding communities.

In addition, concern, and interest in the development of this sector, also determines the level of community empowerment. Based on the beneficial aspect, community empowerment dimensions to any degree are extremely relevant because it is in direct contact with efforts to boost welfare. Bangka is an archipelago that comprises stunning stretches of beaches and islands. According to Sulista et al. (2019), this is also known as a mining area, which has the potential for optimally developing ex-mining areas. In recent years, local governments in these islands have realized the impact of mining on the economy. Furthermore, the tourism sector's development is also perceived as an alternative for future economic growth (Ibrahim et al., 2019). This creates a multiplier effect condition alongside several other impacts it has on the neighboring communities and routes commonly used by tourists (Nugroho et al., 2018). Generally, this research focuses on the management of ecotourism or environmental tourism in Bangka Island. Nature is a tourist locus developed with environmental management principles. The development of an ecotourism area is closely related to the fundamental objectives and strategies used to boost the regional economy. These include community involvement and economic strengthening as the general goal of developing a tourism area. Community involvement in tourism development is important because it is related to empowerment. According to Butarbutar and Soemarno (2012) and Ngurah and Utama (2018), broad

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access to neighboring communities facilitates the mobilization of social capital and local resources while enhancing the empowerment quality. The general livelihoods of the Bangka Island people is predominately agriculture and tin mining (Bidayani and Kurniawan, 2020; Sulista, 2019; Ibrahim et al., 2018a; Rosyida et al., 2019; Punaweni et al., 2019a), with little variation in the world of tourism. This is because community empowerment has not run optimally in the midst of ecotourism, at least in terms of economic income. Therefore, it is important to explore this problem to identify the basic problems from the aspect of community empowerment. This is because a weak community empowerment only benefits the owners of capital.

According to Zimmerman (2000) empowerment is an effort to develop community, improve the quality of life, and provide opportunities for citizen participation. This research is started from the identification of environmental conditions related to empowerment, as well as the dimensions carried out in tourism development. This study explores the community's involvement in developing tourism areas on Bangka Island, which creates empowerment opportunities for a more independent society. According to Setiani and Sugiyanto (2020) empowerment is related to efforts to involve and utilize the potential of a community in regional development, through planning and implementation. Interestingly, tourism development is still at the inception stage in this Island due to the low contribution to the Gross Domestic Product (GDP) sector and regional income sector despite various government efforts. Several new areas are managed and developed to ensure proper planning and empowerment. Although Bangka is widely known as an island with promising tourism potential, the impact of the booming Laskar Pelangi on Belitung Island (Ibrahim et al., 2019) has helped popularize both Islands, which are located in one province with similar characteristics. This study provides adequate analysis on strategies utilized by the empowerment sector in the development of ecotourism areas on Bangka Island. Several preliminary studies carried out on tourism development on Bangka Island, only focused on the development strategy, potential, and existing conditions of tourism (Hartoko et al., 2021; Megawandi, 2020; Purnaweni et al., 2019; Ariefianda et al., 2019; Futaesaku, 2019). Furthermore, these studies are not in accordance with the level of community empowerment, and this is the novelty position of this research.

**ECOTOURISM 'STARTUP' ON MINING ISLAND**

Bangka Island has the largest tin reserves in Southeast Asia. This area has been mined for over 400 years, starting from the Dutch colonial period to the current regime. It tends to industrial needs globally and plays a central role in various manufacturing activities. As a non-renewable commodity, tin is competed periodically. However, even in the transition of power, both in the pre-independence and modern history of Indonesia, the governance and distribution of tin has always been problematic. In the modern history, tin plays an important role as the mainstay commodity that supports people and a regional autonomy history. Furthermore its decentralization to regions, the management authority is still a trade-off. Recently, the central government withdrew the authority in issuing permits through Law Number 4 of 2020 concerning Minerals and Coal.

Apparently, the impact caused by mining is yet to be resolved. Therefore, this community is trying to escape from the shadow of tin dependence by trying to develop the tourism sector. Tin mining has been going on in Bangka Island since 1998, from the New Order under Suharto to the Reform Order under the regime of regional autonomy and democracy expansion.

Long before the accessibility of tin mining, the people in this area depended on the marine and plantation sectors. However, when access was granted along with the division of authority between the central and local governments, individuals and groups turned massively to the tin mining sector, both legally and illegally. Previously, people were only spectators in the tin exploitation process because the central government-controlled it entirely through state and private companies.

The open tin mining era is the result of a political concession between the local and the central government. Through the division of authority, locals are given a larger portion to regulate themselves, with the opportunity to form a more autonomous government through the formation of provinces. The Bangka Belitung Islands then became a separate province from South Sumatra and at the same time marked the acquisition of two regional autonomy privileges, with access to manage tin freely. However, the process of job shifting, as well as the regional autonomy formation, had a major impact on the local political system and resources. This transition was followed by changes in various things, including social relations in work, price fluctuations, economic activity, and environmental impacts due to massive tin mining (Nurtjahya et al, 2017; Ibrahim et al., 2018b; Ibrahim et al., 2019c). The environmental hazards awareness is associated with shared anxiety and has met with quite massive opposition in the construction process due to the massive dependence of people on tin. Local governments are trying to determine new economic alternatives by developing the tourism sector. It is wide open because the regional pattern provides the opportunity to develop the area to be like Bali, Lombok, or Hawaii in the United States with their beautiful beaches, coastal nature, and archipelago. The local government has programmatically attempted to encourage the development of the tourism sector, although it is still dealing with the environmental impacts. It is important to visualize their seriousness in preparing the tourism sector in the middle of tin mining's strong grip. The development of ecotourism has the potential to support conservation and save the environment in many ways (Hadmoko et al., 2021).

By analyzing the Regional Development Plans for these islands it was discovered that the local governments consisting of the provincial, district, and city governments, rely on tourism. The study carried out by Ibrahim et al., (2019) reported that local leaders have included tourism in various campaign agendas (Imelda, 2020). However, technically it has not been maximally worked on in planning documents that are integrated with other sectors. Therefore, with the existence of special offices for tourism, it is clear that tourism development efforts are a priority sector of the government.

According to Sulista et al (2019) and Ibrahim et al (2018c), tourism development in this area is running warmly along with tin mining which is currently experiencing a shift from the awareness aspect of long term environmental damage. Although the contribution to the economy society still needs to work hard. Data from the Bangka Belitung Central Statistics Agency (2020) showed a good development with several records, including the growth of star and non-star hotels and the number of visits. The following data shows some indicators of the tourism development sector.

Table 1 shows that the number of facilities is relatively limited with an average stay and low occupancy rate. It also indicates that tourism development tends to increase rapidly on Belitung Island (Harefa, 2020), with limitation on Bangka Island. Belitung has only 2 regencies with 66 non-star hotels out of 142, while Bangka Island has 5 regencies with 30 out of 55 star-hotels available. This shows that there is a disparity in development between the islands and the province area. According to Megawandi's records (2020) tourism sector contributed 4.06% to Bangka Belitung's GRDP in 2017. Therefore, the provinces of both Islands are still trying to maximize tourism.

Table 1. Tourism facilities in the Bangka Belitung Islands Province (Source: BPS Babel, 2021)

| *Indicator* | Total |
|---|---|
| Number of Star hotels | 55 |
| Number of Non-star Hotels | 142 |
| Average stay of foreign guests | 3.03 |
| Average stay of domestic guests | 1.62 |
| Star hotel occupancy rate | 21.59 |
| Non-star hotel occupancy rate | 13.47 |


Figure 1. Map of Bangka Island and Surrounding Area (Source: https://www.arcgis.com/home/webmap/viewer.html)

## COMMUNITY EMPOWERMENT IN ECOTOURISM DEVELOPMENT

The development of an area is intended to provide benefits to residents' and promote the community. In this context, it is important to determine how development encourages people to become empowered. Zimmerman (2000) stated that empowerment analysis is based on the process (empowering) and achievement (empowerment). It focuses on analyzing access to resources, the openness of government structures, and sensitivity to differences at the community level. Meanwhile, in terms of achievements, it is important to focus on the analysis of institutional coalitions, plural leadership, and citizen participation skills. Perkins (1995) stated that at the community level, the empowerment process includes collective action to gain access to government and other resources. Therefore, wider connections are an important issue in empowerment, which is in accordance with the research carried out by Lord and Hutchison (1993). According to them, empowerment requires practical, moral support, and mentoring support, which are associated with direct involvement, motivational support, and mentoring process, respectively. It is important to note that empowerment is a process (Lord and Hutchison, 1993; Mernin, 2017; Aghazamani and Hunt, 2017; Cavalieri and Almeida, 2018). Zimmerman (1995) stated that empowerment is an effort to give people the opportunity to control their destinies or influence decisions that affect their fate. Efforts to gain control, access to resources, and a critical attitude towards understanding the social context are important empowerment principles. Therefore, empowerment means (1) involving community members in the development process, (2) designing environmental identity, (3) partnership or cooperation, and (4) opportunities. According to Wilcox (1994) the stages of empowerment to achieve goals are initiation, preparation, participation, and continuity.

However, Weidenstedt (2016) reported that empowerment is not only a gap between the rich and the poor, the powerful and the non-powerful, or the underprivileged and the extravagant rather it is a broader construction of interests. This does not always mean an invitation for those that are not privileged, rather a meaning towards bigger changes. According to Zimmerman (2000), an empowered community consists of well-connected organizations. This also means that there is equal access to resources and opportunities for engagement. Empowerment at the community level becomes the focus during changes in the socio-political structure. This means that social change occurs when there is an effort to encourage economic orientation from mining to ecotourism on Bangka Island. Joo et al. (2019) stated that empowerment in tourism development need to move from individual to community. Furthermore, a good knowledge of tourism is needed to promote better empowerment efforts. Khalid et al. (2019) also stated that good empowerment in the world of tourism ensures its sustainability. This means, the better the empowerment the more successful the future of tourism in this area.

## STUDY METHOD

This is a quantitative research with data obtained by proposing 15 questions. The location chosen was the natural tourism area on Bangka Island with a total of 13 points scattered in the Regency of Bangka, Central Bangka, South Bangka, West Bangka, and Pangkal Pinang City. Heads of the 5 closest households were selected from the right to the left sides of each area. The sample consists of 260 people spread across 14 tourist area locations. The respondents were asked 4 to determine their involvement in planning and implementing regional development, as well as their commitment to engagement.

## RESULT AND DISCUSSIONS

### Ecotourism on Bangka Island

Bangka is a tin island that has been mined by various authorities for hundreds of years, starting from the Sultanate of Palembang, Netherlands, England, Japan, and the Indonesian government. Every year, hundreds of tourists frequently visit this Island due to the numerous attractive areas. Unfortunately, this Island is currently experiencing lots of environmental damage due to tin mining (Firdaus and Endah, 2015; Hengky, 2017; Ibrahim et al., 2019; Pratama, 2019). Bangka Island is also synonymous with beautiful coastlines, which is similar to Belitung Island and synonymous with Laskar Pelangi. Located in the southern region of Sumatra, this Island is home to 4 regencies and a city. The Island is part of the Bangka

Belitung Archipelago Province, formed in 2000. This area is also known as home to popular Yusril Ihza Mahendra, Ahok, and Andrea Hirata as national leaders from Bangka Belitung and a place of ethnic harmony for the Malays, Chinese, and many other ethnicities. The tourism areas on Bangka Island are generally based on nature by relying on relatively new and simple management. Generally, it is based on coastal areas, with some of its regencies/cities popular as new tourist destinations. Interestingly, residents' tourism management in this area is generally initiated with the majority supported by the local government in terms of providing basic facilities and infrastructure. The private sector manages some areas, however, the areas that are the object of this study are easily accessible to the public and relatively represent favorite coastal areas in each region. In this section, provides a general description of the tourist area being researched as a locus of study.

Matras Beach is one of the coastal areas in the Bangka Regency supervised by the local government and managed by local residents. It is a fine sandy area with strong waves, which residents favor because it has a sloping stretch of beach, a large parking area, and is relatively close to the city center. Another is Takari Beach, which is a coastal area conserved by a foundation. The landslide at the top of this beach along the coast is planted with neat and lined pine trees, thereby creating an unusual sight. A visit to this beach costs no money because it is managed by local residents. Its slope and wide stretch of sand make Takari Beach a favorite place for families to spend time. Unlike Takari, there are fees attached to the Temberan Beach, located in the Air Anyir Village area, Bangka Regency, despite the fact that it is managed by residents. The voluntary admission fee collected at the location close to the eastern causeway, and the newness of this area, have made Temberan Beach attractive to the community. In this regency, Tikus Emas Beach is also an interesting area of study because it has adequate facilities. Apart from its soft sandy nature, other facilities include diving, large parking lots, and manicured trees.

This study analyzes two coastal and non-coastal areas in Central Bangka Regency. The first is Tapak Antu Beach, located in Batu Belubang, and one of the new tourism areas generally under supervision by the local government, with local residents' daily involvement. Tapak Antu Beach is known for its historical rocky areas with large footprints, which raises residents' curiosity. There are also mangroves around this beach with the addition of a small pier which adds to the attraction of tourists. The second is Kebang Kemilau Beach, an interesting area located on the edge of the main road and included in Arung Dalam Village's administrative area. This Beach is easy to reach, visited by tourists, and managed by both local government and residents are involved, as cleaners and sellers of food and drinks. The third is the Mangrove area in West Kurau, developed by one of the local residents and grouped into a community. This area comprises river cruising tourism, which attracts tourists, thereby transforming into a bustling and popular place on Bangka Island. Meanwhile, Central and South Bangka's border area comprises a famous lake known in recent years for its blue water, named the Kaolin Lake. This is an ex-tin mining area forming a former puddle and known as Kolong by local residents. In South Bangka Regency, 2 tourist objects are being studied, namely Batu Belimbing and Tanjung Kerasak Beach. Batu Belimbing is a unique area with large stones resembling star fruit above other rocks, which attracts yearly tourist visits. Furthermore, this area consists of various facilities built by the local government, and residents are involved in several roles, including parking attendants, salespeople, and tour guides. Meanwhile, Tanjung Kerasak Beach, located in the Toboali Sub-District, was initially popular to easily witness a solar eclipse. Furthermore, this area is famous for its beautiful beaches with clusters of rocks.

This research analyzed 2 tourists objects in West Bangka Regency, namely Batu Rakit and Tanjung Kalian Beach. Batu Rakit is a beach built with government facilities to prevent silting and abrasion of the coastal area. The government built water flow regulating facilities around residential areas to attract tourists because it connects the coastal area with residents' housing. This area acts as a relaxation region for families and young people. Meanwhile, Tanjung Kalian is a beach located on the port edge of the large vessel berth. This beach has a lighthouse from the Netherlands with an attractive coastal area due to its coastline and a bustling view of the leaning vessels. In Pangkal Pinang, Pasir Padi Beach is the most attractive area for visitors and approximately 5 KM from the city center. Apart from having adequate facilities, this beach has a long line with sloping shapes, and local residents are involved in the managerial process.

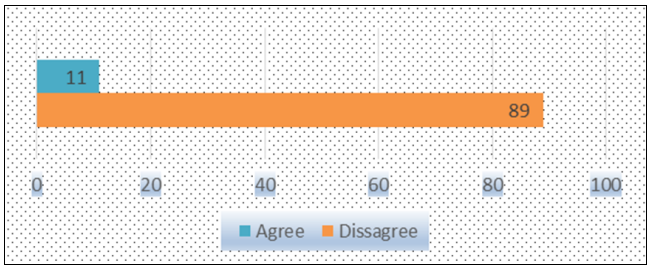


Figure 2. The involvement from start

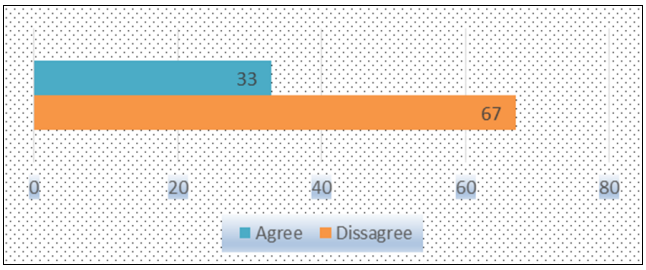


Figure 3. Community involvement from start

**Weak involvement in the initial planning**

According to studies, it is important to empower residents around tourist destination areas to boost local economies. Giriwati et al. (2019) stated that the community involvement scheme has at least three stages, namely planning, implementation, and profit-sharing. In developing tourism areas, it is important to determine the resident involvement according to the government or tourism area managers' initial plans. The graph above shows that 11 % of respondents stated that they were involved instead of the remaining 89 %. It is also important to ask the involvements of many residents in the initial planning process. The following figure presents the respondents 'answers regarding their involvements. The graph above shows that approximately 33 % of respondents stated that there were many residents involved from the start, as opposed to 67 %. This means that most respondents stated that not many residents were involved in the area process. Another important

question asked by the authors is regarding the government's initial plans to provide or manage the local people from the area development plan. The following are the respondents' answers: Based on the graph above, only 26 % of the respondents agreed that the government had described the benefits from developing tourist destinations in their area, while 74 % disagreed.

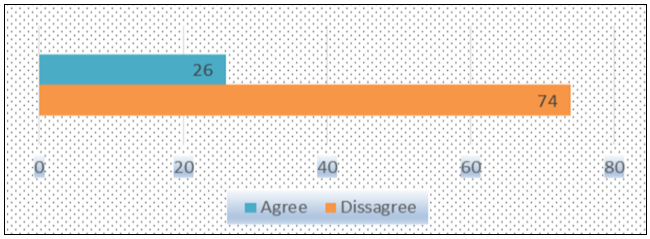


Figure 4. Benefits overview from start

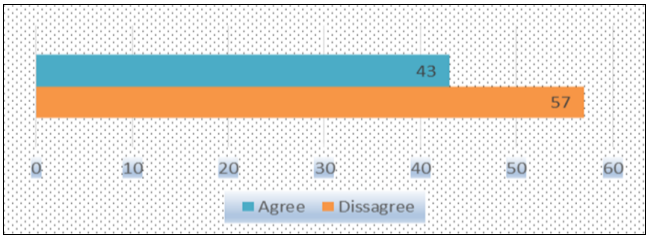


Figure 5. Opportunity to get involved

**Low involvement**

Local residents need to be involved in the tourism development process. Therefore, the authors asked the respondents whether the same opportunity is given to all residents or only to certain groups. The following table shows the respondents' answers: A total of 57 % stated that not all residents have the same opportunity to be involved in the area's management and development. The authors also asked for their full-time involvement in the development of the area, which was opposed by 89 % of the respondents. This means that their dependence on the management of these tourism areas is still very limited. Meanwhile, only 11 % of respondents stated that they were involved full-time. This is in line with the question of whether residents get the same opportunity to be involved or not. The majority stated that not all residents had the same opportunity to be involved. Meanwhile, this study needs to determine the government or managers' ability to provide education to local residents on tourism and hospitality management. This is because many tourism areas do not pay attention to aspects of good governance, while at the same time, not all residents understand how to be part of the process in developing a tourist-friendly environment. The following are respondents' answers: The graph above shows that approximately 80 % of respondents stated the unavailability of education on tourism and hospitality management. This means that residents do not fully understand what they need to carry out and the process needed. Furthermore, the authors asked the respondents if the tourism development process empowered them. The graph shows that approximately 68 % of respondents stated that they had not been empowered by the government or the tourism area manager, as opposed to the remaining 32 %. The empowerment process is considered inadequate assuming the flow of respondents' answers is limited. This means that people do not feel that they are significantly involved, from planning to management, as well as in getting the benefits.

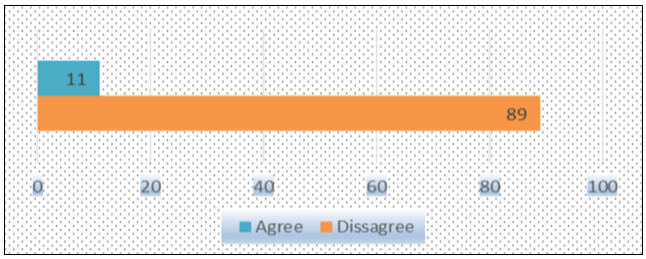


Figure 6. Full time involvement

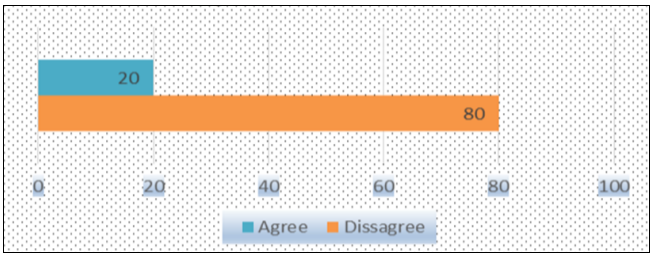


Figure 7. Education about governance

**Area development impact anomaly**

Development of tourism areas and the terminology of empowerment mean enabling the surrounding communities to gain economic benefits. Therefore, the local residents were asked their opinion regarding the economic impact of these tourism areas. The following are the answers from the respondents: Approximately 57 % stated that they did not get economic benefits instead of the remaining 43 %. This means that the majority did not receive economic benefits from the development of the area. Furthermore, the authors asked the respondents for other benefits associated with their answers, as shown in the following graph. The graph above shows that approximately 71 % of the respondents stated that there were other benefits asides from the economic advantages, as opposed to the remaining 29 %. Furthermore, the respondents were asked to determine the impact of tourism development on residential areas. The graph shows that 77 % of respondents agreed that there was a broad impact on the areas, while the remaining 23 % disagreed. The question regarding the possibility of the area having a promising future due to tourism development showed that only 40 % were optimistic, while the remaining 60 % were pessimistic. This means that for most respondents, the area's development is not very promising for the future. Therefore, this graph is basically related to the people's optimism towards the development of the area. Meanwhile, social changes due to a conflict are often encountered at the beginning of the tourism area development process due to the suitability of tourism conditions with the resident's culture. Therefore, the respondents were asked whether the development of the tourism area was in accordance with the resident's culture. Interestingly, 82 % stated no problem, while the remaining 18 % reported unsuitability between the developing conditions and residents' culture. Therefore, to explore the above questions, this study specifically asks for the bad impacts caused by the development of these tourism areas. The following provides answers to the questions. The graph above shows that 88 % of the respondents stated that there were no bad impacts caused by the development of tourism areas instead of the remaining 12 %.

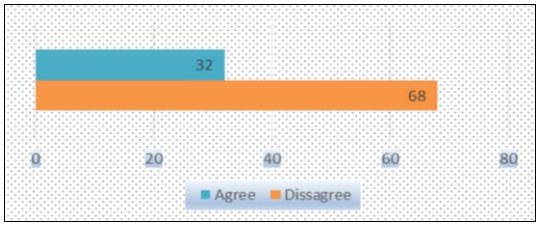


Figure 8. Feeling empowered

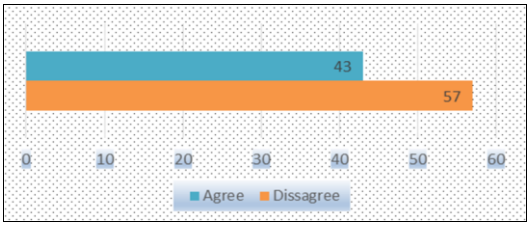


Figure 9. Economic benefits

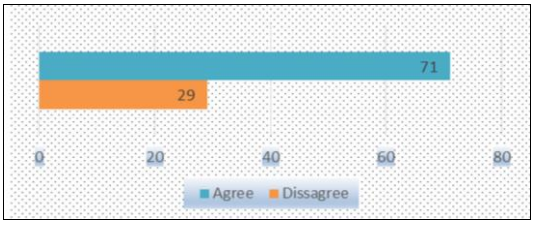


Figure 10. Benefits outside the economy

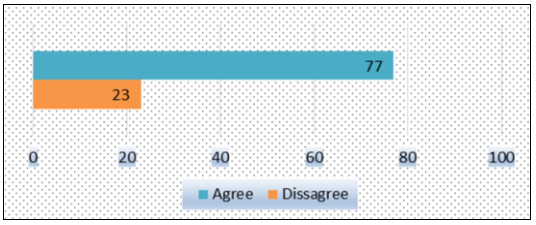


Figure 11. Broad's impact on the region

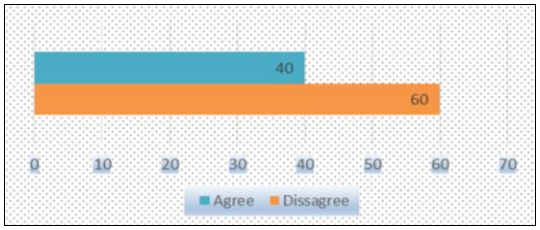


Figure 12. Promising the future


Figure 13. Conformity to the peoples' culture

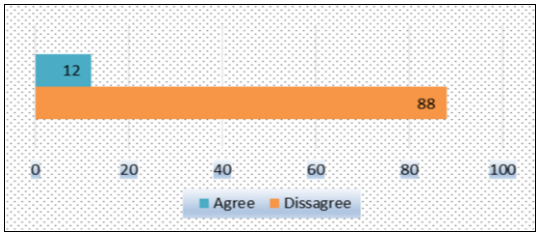


Figure 14. Bad impact on the region

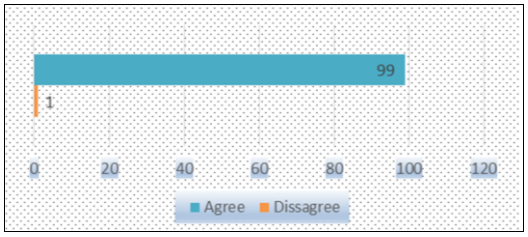


Figure 15. Support for further development

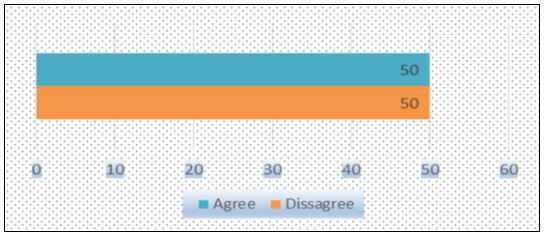


Figure 16. Commitment to involve

| Variable | Indicator Tendency |
|---|---|
| Involvement in planning | Individually involved from the start |
| | Many people have been involved |
| Involvement in management | Equal opportunity |
| | Full time involvement |
| | Education on governance |
| | Already feeling empowered |
| Development impact | Economic benefits |
| | Benefits outside the economy |
| | Positive impact for the region |
| | Promising in the future |
| | Fit with the people culture |
| | Bad impact |
| Participation commitment | Support further development |
| | Will be more involved |

Table 2. Tendency of respondent's view (Source: Summary of research results) Information: Red (Negative tendency); Yellow (Tendency to balance); Green (Positive tendency)

**High commitment to involvement**

The commitment involved in the development area is shown in the following graph: The study shows that 99 % of respondents supported the development of tourism areas around them, while the remaining 1 % objected. The respondents' commitments were determined using the following answers. Commitment to support does not necessarily mean getting involved, rather it is associated with the respondents' answers, which are divided into two. Approximately 50 % stated their ability to continue, while the remaining 50 % opposed being involved.

**Pseudo empowerment**

According to Zimmerman (1995) adequate attention need to be paid to several factors, including the basic involvement and opportunity for equal engagement opportunities. In this study, the level of empowerment is observed in some fundamental factors. The first is associated with the strategy utilized by a community in the planning process, followed by the second, which is the extent to which the empowerment process enables the community to be more empowered, especially on an economic basis. The third is the strengthening aspects of locality and developing cultural values of the surrounding community, while the fourth is the commitment of residents involved due to individual interests.

The simplified result is shown in the following table: The data above shows some interesting things, *the first* is related to the planning process. Participatory planning should involve the community early in a variety of forms. Communicating effectively to promote community participation is a simple thing that should be carried out by governments or managers.

Indika and Vonika (2016); Wahyuni (2018); Putri et al., (2020) stated that planning involves local communities from the start, with the benefits extending to touch economic and social levels, therefore local communities cannot be neglected in tourism development (Ludic and Yekela, 2020; Naja et al., 2021). Residents surrounding this area generally stated that they were less involved in the planning process for developing tourist destinations. Furthermore, local residents did not feel that they had the same opportunity to be involved, while others thought that the government or management did not provide an overview of the potential benefits obtained when residents were involved as shown in Table 2 with negative tendency for all indicators. This means that residents generally felt that they had not been involved from the start.

The results of qualitative interviews with local residents show that the empowerment only focuses on local institutions such as youth organizations and village government officials. This shows that planning is still organization-based despite the community involvement carried out through institutional groups in the associated region. Due to the fact that planning involving local residents has not been maximized, it is not surprising that this study also finds other interesting things, namely the less optimal involvement of local residents. Khalid et al., (2019) stated that empowerment is more synonymous with collective action and not individual. *Secondly*, the residents stated that only a small proportion is fully involved in the development process. Those involved are generally village government officials or certain people. Residents also stated that they were not given enough education and felt less empowered in the end. The study carried out by Eraku et al. (2021) showed the maximum local community involvement with many benefits such as economic (Sumarmi, 2020; Utomo et al., 2020; Waridin and Astawa, 2021) and local wisdom utilization (Marlina et al., 2020; Kodir et al., 2020). Akbar et al. (2021) conducted a research on the importance of the government's role in bridging community participation in tourism development.

*Thirdly* although the local residents do not feel the economic impact, other resources need to be obtained. This means that community support for the development of this area is not only due to an impetus for economic benefits (Nordin et al., 2014) rather it is associated with changes and broad impacts imagined to change their area. Table 2 showed the negative tendency for economic benefits indicators and prospects, with positive results for non-economic benefits, significant impacts, cultural suitability, and bad impacts on the surrounding environment. The interview shows that the aspect of pride is more dominant as another perceived benefit. Their area becomes crowded, and the construction of facilities also provides other benefits.

This is in line with the research carried out by Mensah (2017), which stated that even though community empowerment is less optimal, the development of tourism area makes the region well known to many people. The residents agreed that there was no bad impact from the development of this area. This means that there is support for the development of tourism areas, not only for economic benefits. The data above shows that although the development of tourism area is not very promising for the future, residents feel it is still in accordance with the local culture. *Fourthly*, this study also found that almost all respondents expressed their support for the development of their tourism areas as showed by Table 2. However, the need to be directly or indirectly involved yields a balanced answer. This shows that the community agrees to the development, however, their respective involvement does not matter. The authors stated that although tourism is insignificant for economic gain, real support is provided. Therefore, although planning was not carried out in a participatory manner based on the data, support was still provided. This means that the development of the area is projected to positively impact the surrounding residents' areas and automatically give promises for wider development. This is known as pseudo empowerment, which does not only focus on the process of building economic capacity, rather it also provides other values capable of boosting the image of the region.

According to Scheyvens (1999), this condition is artificial because community empowerment has at least 4 frameworks, namely economic, psychological, social, and political. Meanwhile, Putri et al. (2020) stated that the government needs to focus on hard and soft skills. Pseudo empowerment does not focus on empowerment content, rather on pride for area development, projected to provide great benefits for tourist destination areas. According to Zimmerman (2000), it is difficult to achieve the level of empowerment in this case due to inability to carry out the empowerment process optimally. Although this study found that people in tourist sites do not always associate aspects of empowerment with economic benefits, they have not felt a significant impact beyond the popularity pride in the area. Therefore, the government and stakeholders need to review their perspective on the empowerment process. This is in order to avoid the process of obtaining a half-hearted transformation to the tourism sector (Ibrahim et al., 2020) and the artificial empowerment process. Furthermore, enabling the community to be independent and empowered is a fundamental need that needs to be evaluated to achieve economic, social, and cultural aspects and encourage wider benefits from empowerment. Joo et al. (2019) stated that good empowerment move from individual to community level, thereby promoting peoples' ability to understand the nature of tourism development. Furthermore, Khalid et al. (2019) stated that the sustainability of tourism in this area is also not promising, therefore, more studies need to be conducted.

## CONCLUSION

The development of tourism areas, especially those based on nature as an object, need to be able to involve local residents for wider benefits. Therefore, community empowerment plays an essential role in utilizing local wisdom as an inseparable part of this development and providing benefits felt directly by residents around tourism areas. Generally, ecotourism areas on Bangka Island have recently developed widely in line with the increasing interest in environment-based tourism. Therefore, community involvement needs to be the basic spirit of this development because it starts with integrated naturalization with residents around tourism areas. This study reveals that community involvement is generally limited to the initiating, developing, and operating processes, which are open to the public. In general, community involvement is elitist and tends to focus on the involvement of existing local institutions hence there seems to be elitism in the empowerment process. Furthermore, although local residents' involvement is relatively limited, they actually still support and hope that the tourism areas in their region continue to develop. Economically, the benefits felt by local residents are considered low, and the majority are not sure of their future involvement. However, this study reveals strong support from residents and the perception that tourism areas' development does not adversely affect their area. There is a sense of pride outside of economic affairs which is the basis for the benefits expected from the development of an ecotourism area.

Therefore, the authors stated that empowerment is pseudo and limited, although it gets support because of non-economic benefits. Meanwhile, a comprehensive dimension of empowerment needs to include the benefits of physical development, economic advantages, and other empowerment, which enable the community to get broad benefits for the development of an area. This study focuses on the empowerment aspect in the ecotourism development on Bangka Island based on the views of residents around the area. Further study capable of examining the views of managers and elements of policymakers in the regions need to be conducted. In addition, statistical measurements on the impact of ecotourism development on local economic development, such as home industries, and the economy of residents that depend on its management, such as housewives and those with disabilities need to be further studied.

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# DEVELOPING GASTRONOMIC RESOURCES: PRACTICES OF UNESCO CREATIVE CITIES OF GASTRONOMY

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**Abstract:** The category of Cities of Gastronomy has been an integral part of UNESCO Creative Cities Network due to the importance of gastronomic experiences. Against this backdrop, this research aimed to synthesize the gastronomic practices among these member cities and develop a framework based on the synthesis for cities with long-standing gastronomic identities to incorporate gastronomic resources into their long-term planning for gastronomy tourism development. This research adopted thematic analysis to analyze 17 monitoring reports that were submitted by Cities of Gastronomy. The findings identified four key dimensions (infrastructure, attraction, organization, and education) encapsulating 13 sub-dimensions of developing gastronomic resources among these member cities.

**Key words:** gastronomic resources, gastronomy tourism, food tourism, City of Gastronomy, UNESCO Creative Cities Network

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## INTRODUCTION

It has been widely acknowledged that gastronomy is closely associated with tourism (Chaney and Ryan, 2012; Chang and Mak, 2018). Nowadays, gastronomic experiences have become a creative tourism resource for destinations to promote and brand their images (Boyne et al., 2003; Lin et al., 2011) and an influential factor that affects the decision-making process of tourists around the world (Basil and Basil, 2009). In particular, enjoying local cuisines has become one of the significant motivations for tourists to decide where their next holiday destinations will be (Lee and Scott, 2015; UNWTO, 2017). Nowadays, tourists have much easier access to food-related information, including reality shows, review sites, and social media, etc. to help them make such decisions (Park et al., 2019). Moreover, gastronomic experiences, being a core part of travel experiences, have contributed to the overall satisfaction and enjoyment among tourists (Henderson, 2009; Horng and Tsai, 2010). Due to the highly competitive nature of the tourism and hospitality industry, it is of great importance for destinations and cities that have long-standing gastronomic identities to develop, expand, and optimize their existing resources to stand out from the competition and attempt to achieve faster recovery from the impacts exerted by the COVID-19 pandemic. Because of the significant impacts of gastronomic experiences, destinations at national, regional, and local levels have become increasingly aware of the importance of incorporating the development of gastronomic resources into their long-term planning for gastronomy tourism (Karsavuran and Dirlik, 2019). To acclimate such a trend, Cities of Gastronomy, under the framework of the UNESCO Creative Cities Network (UCCN), were awarded to create a platform for member cities to optimize gastronomic resources via local practices and international cooperation and networking (Rosi, 2014).

Although food and food-related experiences have rapidly gained significance within the tourism industry, and account for over 30% of overall expenditure among tourists (Mak et al., 2012), not all cities with gastronomic traditions and resources have fully turned their strengths into opportunities and revenues (Mohamed et al., 2019). One of the primary goals of UCCN is to fully capitalize on gastronomic potential for creative and sustainable urban development via pioneering ideas and experiences (UCCN, n.d.a). Moreover, many existing studies have focused more on a single destination, region, or city to look into gastronomy tourism (for example, Alimohammadirokni et al., 2021; Karsavuran and Dirlik, 2019; Khoo and Badarulzaman, 2014; Mohamed et al., 2019; Xie, 2021; Yılmaz et al., 2020); few attempts have been made to synthesize the gastronomic practices undertaken by Cities of Gastronomy within UCCN to develop and optimize gastronomic resources. Against this background, the objectives of this research are to focus on Cities of Gastronomy that have submitted their monitoring report within UCCN, specifically: (1) synthesize the gastronomic practices among Cities of Gastronomy within UCCN, (2) develop a framework based on the synthesis for cities with long-standing gastronomic identities to incorporate gastronomic resources into their long-term planning for gastronomy tourism development.

## LITERATURE REVIEW

### UNESCO Creative Cities Network

UCCN, launched in October 2004, is committed to fostering the creative industry sectors and promoting knowledge

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sharing and exchanges among member cities (UCCN, n.d.a). UCCN was created to deal with the fast development of cities and allow each city to find its unique path for cultural diversity and sustainable development through cooperation and interaction (Rosi, 2014). The network covers seven categories, including City of Crafts and Folk Arts, City of Media Arts, City of Film, City of Design, City of Literature, City of Music, and City of Gastronomy. As of 2020, 246 cities from all over the world within the network strive to achieve common missions: developing and promoting creative industry sectors, undertaking creative initiatives at local, regional, national, and international levels, and aiming to strike a balance between creativity and sustainability (UCCN, n.d.a). Cities around the world that are interested in becoming a member of UCCN need to illustrate their willingness in the following aspects: (UCCN, 2016):

- Showcase their cultural assets on a global platform;
- Make creativity an essential element of local economic and social development;
- Share knowledge across cultural clusters around the world;
- Build local capacity and train local cultural actors in business skills;
- Cultivate innovation through the exchange of know-how, experiences, and technological expertise;
- Promote diverse cultural products in national and international markets.

Following the detailed objectives of UCCN (n.d.a), cities within the network are committed to the following practices by engaging with various stakeholders, including the public sector, private sector, and the general public: firstly, they need to actively participate in the creating, producing, distributing and disseminating cultural products and services; secondly, they need to foster a center for creativity and innovation and create more opportunities for cultural professionals; thirdly, they need to promote cultural events to wider audiences so that the whole community, either mainstream or marginalized, can enrich their cultural lives; lastly, they need to strike a balance between cultural creativity and sustainable development. By doing so, these cities not only can upgrade their unique creativity for destination branding on an international stage (Rosi, 2014) but also exert a far-reaching impact on local communities.

**Cities of Gastronomy**

As of January 2021, 36 cities around the world have been awarded the title of UNESCO Creative Cities of Gastronomy. Research has suggested that becoming a UNESCO Creative City of Gastronomy is conducive to exchanging knowledge on promoting destinations through gastronomy, enhancing the destination images, and eventually creating economic, cultural, and social values for the local community (Pearson and Pearson, 2017). Before being awarded the title of City of Gastronomy, candidate cities should justify how they meet the following criteria: 1) well-developed gastronomy that is characteristic of the urban center and/or region; 2) vibrant gastronomy community with numerous traditional restaurants and/or chefs; 3) endogenous ingredients used in traditional cooking; 4) local know-how, traditional culinary practices and methods of cooking that have survived industrial/technological advancement; 5) traditional food markets and traditional food industry; 6) tradition of hosting gastronomic festivals, awards, contests and other broadly targeted means of recognition; 7) respect for the environment and promotion of sustainable local products; 8) nurturing of public appreciation, promotion of nutrition in educational institutions and inclusion of biodiversity conservation programs in cooking schools curriculum (UCCN, 2016). After joining the network, each city needs to submit a monitoring report at some point to demonstrate its commitment to gastronomy development at local, regional, and international levels (UCCN, n.d.b). One of the agendas of UCCN is to turn traditional, historical, and cultural resources within destinations into driving forces for creative development (Xiaomin, 2017). Research has revealed that joining UCCN has improved the reputation and popularity of the Cities of Gastronomy (Yılmaz et al., 2020). Thus, UCCN is beneficial for cities that have strong gastronomic identities and resources but lack global fame and popularity to develop and brand their destinations through international networks and cooperation.

**Gastronomy Tourism**

Gastronomy tourism refers to the touristic experiences of appreciating and enjoying food-related products in a particular destination (Smith and Xiao, 2008). Food-related experiences not only fulfill the primary needs for the everyday lives of tourists, but also offer a cultural lens to look into local culture and customs while traveling (Sangkaew and Zhu, 2020). Under the combined influences of culture (history, traditions, customs, ethnic people, & heritages) and the environment (geography & climate), gastronomic identity can be formed by encapsulating the ingredients, produce, cooking techniques as well as the tastes, flavors, and textures associated with food and beverage of a particular region (Harrington, 2005). Thus, the gastronomy sector has also become an important source of forming cultural identities and destination images (Richards, 2002). Gastronomy has been viewed as a creative and aesthetic cultural product, which is deeply embedded in the urban ambiance and daily lives (Xiaomin, 2017). The creative gastronomic culture can serve as a unique theme for urban development (Nelson, 2015), providing tourists with an important lens of obtaining an insightful understanding of local food culture. Thus, gastronomy tourism serves as one of the appealing and creative sectors that can help a destination to brand itself and attract potential tourists (Kivela and Crotts, 2005; Nelson, 2015), which has developed into one of the vibrant sectors among cities (Mohamed et al., 2019). Nowadays, driven by the changing needs of tourists and homogeneous urban development (Rosi, 2014), local industry practitioners need to innovate local cuisines and modernize gastronomic traditions (Hjalager, 2002). Nowadays, gastronomic creativity and innovation derive from culture, heritage, traditions, and customs inspired by local wisdom and knowledge covering a variety of food-related activities (Xiaomin, 2017).

**Developing Gastronomic Resources**

Tourism destinations have become increasingly competitive around the world to attract tourists and generate revenue

(Khoo and Badarulzaman, 2014; Mohamed et al., 2019) due to rapid changes in technology, disruptive innovation, and globalization (Riza et al., 2012). Although Gastronomic identity was shaped by unique culture, history, and traditions, making it difficult for competitors to imitate (Karsavuran and Dirlik, 2019), it is of great significance for cities to develop a stronger gastronomic identity by optimizing gastronomic resources. The development of gastronomy tourism requires a holistic approach to extend beyond the traditional understanding and perception of consuming local food and appreciating food culture (Karsavuran and Dirlik, 2019), and provide tourists with a combination of a wide range of gastronomic experiences based on local gastronomic culture and traditions. Thus, it is of great significance for destinations to incorporate gastronomy tourism into their long-term planning and optimize gastronomic resources for long-term benefits and advantages (Seyitoğlu and Ivanov, 2020). In terms of the development of gastronomy tourism, Hjalager (2002) explained how to add value to tourists' experiences through a four-order hierarchical typology, which illustrated the complex and sophisticated nature of the gastronomic value chains. Indeed, it illustrates a very holistic way to develop gastronomic tourism at destinations; however, the conceptual typology may be more suitable for destinations to respond to tourist demands, rather than cities with long-term strategic planning for gastronomic tourism (Seyitoğlu and Ivanov, 2020).

Later, Smith and Xiao (2008) formulated a typology of culinary tourism resources that comprises four aspects, including facilities, activities, events, and organizations, for the development of gastronomy tourism. The typology did cover a wide range of aspects for destinations to develop gastronomy tourism but failed to acknowledge tourism education and research as well as professional training as gastronomic resources. Seyitoğlu and Ivanov (2020) proposed a conceptual framework for cities to develop gastronomy tourism through three steps: forming gastronomic identity, developing gastronomic products, and developing strategies to position differentiation. However, the model is more suitable for destinations that have just begun to position gastronomy as a strategic role, rather than cities that have already developed gastronomic identities and tourism products, such as Cities of Gastronomy within UCCN. As mentioned above, Cities of Gastronomy had to meet a series of criteria before being awarded by UCCN, indicating these cities have formed gastronomic identities and developed gastronomic products. However, there has been a paucity of understanding of how these Cities of Gastronomy developed and optimized their gastronomic resources, which can provide references for cities that newly joined UCCN, and cities with gastronomic identities that want to further develop their gastronomic resources.

## METHODOLOGY

This research aims to synthesize the gastronomic practices among these Cities of Gastronomy within UCCN, and develop a framework based on the synthesis for cities with long-standing gastronomic identities to incorporate gastronomic resources into their long-term planning for gastronomy tourism development. To achieve these objectives, this research has utilized the monitoring reports submitted by Cities of Gastronomy for data analysis as these documents provide a holistic perspective of the topics that have been limited studied (Hsieh and Shannon, 2005). As of January 2021, 36 cities around the world have been awarded Cities of Gastronomy within UCCN (see Table 1). UCCN has recently established a four-year period for member cities to submit their monitoring reports, so some early member cities have covered a relatively longer period in their reports and some have not submitted yet. Currently, as seen in Table 1, 18 member cities have submitted their monitoring reports to UCCN. In this research, English is the main language for analyzing the documents and presenting the results, so the monitoring report submitted by Popayán, Colombia, which was written in French, was excluded from this research. Therefore, 17 monitoring reports submitted by Cities of Gastronomy have been collected on UCCN website. Since these reports are available for download online, which pertain to the public domain; therefore, no ethical consideration or approval is required for undertaking the research (Kozinets, 2010). The monitoring report is a document that should be submitted to UCCN by member cities periodically to illustrate what they have committed to the development of gastronomy tourism and share the practices among member cities (UCCN, 2021). The report is normally comprised of six sections, including executive summary, general information, contribution to the program's global management, the initiatives implemented at the local and / or city levels as well as intercity and / or

Table 1. Member cities that have been designated as "Cities of Gastronomy" within UCCN as of January 2021

| Cities of Gastronomy | Country | Year Designated | Monitoring Report Period (if submitted) |
|---|---|---|---|
| Popayán | Colombia | 2005 | 2005-2016 (in French) |
| Chengdu | China | 2010 | 2010-2017 |
| Östersund | Sweden | 2010 | 2011-2017 |
| Jeonju | South Korea | 2012 | 2012-2017 |
| Zahlé | Lebanon | 2013 | 2013-2017 |
| Florianópolis | Brazil | 2014 | 2014-2018 |
| Shunde | China | 2014 | 2014-2018 |
| Tsuruoka | Japan | 2014 | 2014-2018 |
| Belém | Brazil | 2015 | 2015-2019 |
| Bergen | Norway | 2015 | 2015-2019 |
| Burgos | Spain | 2015 | 2015-2019 |
| Dénia | Spain | 2015 | 2015-2019 |
| Ensenada | Mexico | 2015 | 2015-2019 |
| Gaziantep | Turkey | 2015 | 2015-2019 |
| Parma | Italy | 2015 | 2015-2019 |
| Phuket | Thailand | 2015 | 2015-2019 |
| Rasht | Iran | 2015 | 2015-2019 |
| Tucson | United States | 2015 | 2015-2019 |
| Hatay | Turkey | 2015 | Not yet |
| San Antonio | United States | 2015 | Not yet |
| Alba | Italy | 2017 | Not yet |
| Buenaventura | Colombia | 2017 | Not yet |
| Cochabamba | Bolivia | 2017 | Not yet |
| Macao | China | 2017 | Not yet |
| Panama City | Panama | 2017 | Not yet |
| Paraty | Brazil | 2017 | Not yet |
| Afyonkarahisar | Turkey | 2019 | Not yet |
| Arequipa | Peru | 2019 | Not yet |
| Belo Horizonte | Brazil | 2019 | Not yet |
| Bendigo | Australia | 2019 | Not yet |
| Bergamo | Italy | 2019 | Not yet |
| Hyderabad | India | 2019 | Not yet |
| Mérida | Mexico | 2019 | Not yet |
| Overstrand Hermanus | South Africa | 2019 | Not yet |
| Portoviejo | Ecuador | 2019 | Not yet |
| Yangzhou | China | 2019 | Not yet |

international cooperation that contribute to achieving UCCN objectives, and proposed action plans for the upcoming reporting period (UCCN, 2021). To address these objectives, this research has focused on the two sections of the monitoring report, which are the gastronomic initiatives at local and intercity levels for analysis. Thematic analysis has been adopted as the method for data analysis, as it has been identified as a frequently adopted and particularly useful method in tourism research to interpret written documents (Walters, 2016).

It allows the researchers to interpret the patterns and themes identified in the data (Braun and Clarke, 2006). Since the synthesis of practices and initiatives of multiple cities has been under-researched, it is exploratory of this research in synthesizing the practices and initiatives undertaken by Cities of Gastronomy. Therefore, a bottom-up inductive approach was adopted to identify themes, which enabled the data to speak for themselves and offered straightforward responses to the research question rather than trying to fit the data into existing frameworks (Braun and Clarke, 2006; Sandelowski, 2000). To capture the initiatives undertaken to develop gastronomic resources, this research focused on the explicit meanings of the data to identify semantic themes and summarize the patterns (Braun and Clarke, 2006).

The thematic analysis involved a series of steps in an iterative and recursive way (Braun and Clarke, 2006). Firstly, the two sections mainly relating to gastronomic initiatives at local and intercity levels in these 17 monitoring reports have been read and re-read to gain familiarity with the content of these documents. Secondly, upon repeated reading, the texts of these two sections were coded for searching basic themes. Following the coding process, basic themes were developed by consolidating all similar codes. In this research, 13 basic themes have been developed, namely, gastronomic facilities, culinary routes, food districts, events, markets, museums, tours, networking within UCCN, local associations, beyond UCCN, academic programs, research, and professional training.

Then, these basic themes were grouped into organizing themes that encapsulated the similarities at a higher level. Four themes (infrastructure, attraction, organization, and education) at an upper level were developed to reflect the homogenous feature. Lastly, these themes were illustrated by selecting compelling excerpts from the empirical materials to display how Cities of Gastronomy developed gastronomy tourism by optimizing local resources and international cooperation. These findings were also discussed with reference to existing literature.

## FINDINGS AND DISCUSSION

### Infrastructure

Infrastructure relating to gastronomy constitutes the backbone of the gastronomic resources within the cities and provides tourists with opportunities to learn about the culinary landscapes and consume local cuisines. These Cities of Gastronomy have established gastronomic facilities, culinary routes, and food districts with creativity to offer impressive experiences to visitors.

Gastronomic Facilities - Cities of Gastronomy understand the importance of providing tourists with unique and memorable gastronomic experiences when they visit the cities; thus it is important to have high-quality gastronomic facilities that incorporate food preparation, processing, demonstration, and consumption. Bergen, for instance, has allowed certain public places to showcase gastronomy: As part of an urban transformation project, the Food Park was established, enabling pop-ups, free cooking courses, and a range of food and creativity related activities for all citizens, including pop-ups from other UNESCO Creative Cities of Gastronomy.

Culinary Routes - Culinary routes and trails are other examples of gastronomic infrastructure that cities can optimize gastronomic resources by working with neighboring regions, including food routes, wine routes, and gourmet trails. Different cities have adopted different strategies to promote these culinary routes. Burgos created thirteen culinary routes to synthesize local gastronomic facilities and resources across the region, including wineries, farms, bakeries, and cheese factories. A brewery trail consisting of nice breweries of the Greater Florianópolis area was designed to provide visitors with sensational and unforgettable memories via artisan beers and gastronomic events.

Food Districts - Creating food-themed districts allows cities to optimize the use of limited space and offer a concentrated zone for tourists to personally taste local specialties and delights as well as understand local cuisine culture. For instance, Gaziantep established a pistachio park where local Gaziantep cuisines are served with locally produced ingredients. By working closely with local stakeholders, including industry practitioners, universities, and scholars, Jeonju developed a unified management system for high-quality ingredients and turned the Hanok Village into a Model Restaurant District with 36 restaurants.

### Attraction

Another important aspect of developing gastronomic resources is to offer diversified gastronomic attractions, which play an essential role in attracting potential tourists. These attractions allow tourists to involve themselves in gastronomic experiences, including acquiring culinary knowledge, sampling local specialties, and touring within the cities or regions, etc. The most popular gastronomic attractions developed by Cities of Gastronomy encapsulate events, markets, museums, and tours.

Events - Gastronomic events are the most popular initiatives undertaken by Cities of Gastronomy in different ways, such as food festivals, food expos, cooking shows, etc., as hosting gastronomic events can attract a large crowd of culinary tourists to the destination within a specific period and increase the visibility of the destination via media exposure and social media. Cities of Gastronomy not only hosted annual gastronomic festivals but also participated in similar festivals hosted by other cities. For instance, Rasht hosts a Pumpkin Festival each year to showcase the localized pumpkins that were originally from all around the world and the creative dishes made from these pumpkins. Belém launched the

Gastronomic Circuits to promote traditions and "encourage new local food scenes" by creating a platform connecting local stakeholders with tourists: The Gastronomy Circuits include the participation of renowned local and national chefs as well as new talents, also promoting regional cuisine through the boieiras and their traditional street fare.

Markets - Local markets offer a place for tourists to taste food and cuisines, enjoy shopping, as well as appreciate unique local culture and ambiance (Hsieh and Chang, 2006). It is worth noting that the Women Handcraft Market (also called Gil Banoo Project) launched in Rasht, which not only promoted the gastronomic heritage of the city but also empowered women to make economic contributions to the family and society:

Gil Banoo project is a handcraft market with intention of job-creating for women especially female-headed families in the area. […] Gil Banoo project provides local products of Guilan and especially Rash which is the representation of its folk and cultural identity. Such activities not only recover folk and historic identity but also it helps women to have earning and in this way, the economic condition of bread winner women will be flourishing.

Museums - Museums are another representation of iconic gastronomic attractions within the cities, showcasing local culture, history, heritage, and cuisines. Cities could turn museums into a unique gastronomic attraction by featuring a particular type of locally famous food or produce, such as pistachio in Gaziantep. The world's first museum dedicated to pistachio was opened by Gaziantep Metropolitan Municipality to inform its visitors about the cultivation and use of pistachio in Gaziantep's cuisine. The pistachio shaped museum building can be visited to learn about and to observe different types of products made of pistachio. In the museum, the story of Pistachio is told with moving sculptures made of wax depicted in the traditional and natural pistachio collecting environment.

Tours - Taking a gastronomic tour within the city is another way to grasp a comprehensive understanding of local gastronomic culture. Many Cities of Gastronomy offer creative urban tours targeting tourists. For instance, supported by its longstanding history and gastronomic wealth, and sponsored by governments at different levels, Gaziantep became the starting point of the Gastroway Mesopotamia Tour. Similarly, building up the award-winning cheese, Bergen designed a wine and cheese tour to connect with the Bergen Food Festival where "a range of restaurants invited people of Bergen to participate in a 'wine and cheese walk', choosing to follow one of three different routes".

**Organization**

UCCN is one of the most important organizations that facilitate gastronomic development. Cities of Gastronomy have not only worked together in different programs but also cooperated with different creative fields within UCCN. Meanwhile, many cities have cooperated with local associations to issue their food classification system and establish the standard within the region. Moreover, these cities have also participated in organizations beyond UCCN to maximize their gastronomic potential.

Networking within UCCN - On one hand, Cities of Gastronomy have enjoyed the networking and promotional activities in the gastronomic sector. For example, cities like Gaziantep, Tsuruoka, Östersund, Jeonju, and Chengdu among others have taken part in the History of Food Culture-based relations on the Silk Road Project whose purpose is to reinforce cooperation among cities along the Silk Road. To achieve sustainability, it is important to start from the small but common things in daily lives. With regard to food and eating, one obvious aspect is about the leftovers. To tackle this issue, Parma, working with Tucson, launched an initiative of Doggy Bag and encouraged the Cities of Gastronomy to adopt easy anti-waste measures and achieve the mission of "great taste and zero waste". On the other hand, Cities of Gastronomy have collaborated with other creative categories within UCCN. For example, Östersund participated in International Design Manufacturing for Young Designers organized by Shenzhen, City of Design within UCCN. Moreover, Cities of Gastronomy, including Bergen, Dénia, Gaziantep, Tucson, etc., together with other creative cities within the network, participated in the Days of Bread Project, illustrating the important roles bread plays in our daily lives.

Local Associations - Local associations also play a critical role in establishing gastronomy-related regulations and certifications, and promoting particular cuisines and/or destinations to a wider audience. Thus, it is also significant for cities to establish a close relationship with local associations. For example, by cooperating with local associations like the Chamber of Commerce, Chamber of Industry, etc., Gaziantep has created a system of geographical indicators to protect and promote unique local products. More than 40 local products have been registered under the Gaziantep geographical indicator (Karsavuran and Dirlik, 2019). Similarly, Phuket has worked with local government agencies to establish two systems: food hygiene standards for certifying food vendors and Phuket Gastronomy Standard for local restaurants and signature dishes that meet the criteria.

Beyond UCCN - Cities of Gastronomy have also participated in other organizations beyond UCCN to further enhance their visibility on the international market and use the networking effect to promote their destinations, such as the Delice Network, Culinary Heritage Network, and Erasmus+ projects initiated by the European Union. For instance, Gaziantep is not only a member city within UCCN, but also joined Delice Network and Culinary Heritage Network to market their gastronomic heritage and products through a series of professional and international networking. Furthermore, Cities of Gastronomy in Europe, such as Bergen, Dénia, Parma, Östersund, and Gaziantep, have taken part in Erasmus+ projects launched by the European Union like Youth4Food and TastingSchool Union to promote sustainable gastronomic development and encourage youth mobility within the European Union.

**Education**

Cities of Gastronomy not only created activities to cater to the needs and interests of tourists from the consumption

perspective but also attached great significance to academic and professional programs to lay the foundation for qualified graduates, researchers, practitioners, and workforce in the gastronomic sector.

Academic Programs - Some member cities have incorporated academic programs into urban gastronomic development, aiming at fostering interests among young people and cultivating young students in gastronomy. For instance, The University of Alicante (UA) not only offers a Master's Degree in Rice and Applied Mediterranean Haute Cuisine and Undergraduate Degree in Gastronomy and Culinary Arts, but also works with local stakeholders in Dénia to launch the UA-Dénia Mediterranean Gastronomic Center. It aims to become a hub for research teams, employers in the sector and other interest groups, and also to gather resources and tools to boost knowledge, development and innovation in food sciences and culinary arts, as well as excellence in scientific research and technological development.

Research - Many cities have worked with local universities to undertake extensive research on creative and sustainable gastronomy tourism. For example, Östersund collaborated closely with Mid-Sweden University to study how culture, creativity, and gastronomy add value to the development of cities. Also, the Gastronomic Observatory was launched among partner institutions in Florianópolis, aiming to gain an in-depth understanding of the gastronomic sector through research. The Faculty of Agriculture at Yamagata University in Tsuruoka has studied indigenous crops and seeds to understand the local cuisine and traditional cultivation techniques.

Professional Training - Member cities have attached great importance to gastronomic personnel since joining UCCN, including vulnerable and marginalized groups in the society, by providing professional training courses, seminars, and workshops. Cities like Jeonju and Tsuruoka have offered training courses and sessions for cuisine experts, cooks, and servers. Also, other cities, such as Zahlé, Phuket, Burgos, Dénia, Shunde, and Gaziantep, have organized professional training courses targeting vulnerable and marginalized groups, including youth, seniors, women, people with disabilities, unemployed people, etc., to ensure that they have equal opportunities to equip themselves with new knowledge and skills and stronger empowerment to play their roles in the society and support their family.

## DISCUSSION

This research is concerned with the synthesis of the gastronomic practices among these Cities of Gastronomy within UCCN and develop a framework based on the synthesis for cities with long-standing gastronomic identities to incorporate gastronomic resources into their long-term planning for gastronomy tourism development. The dimensions identified from the thematic analysis offer theoretical insights into developing and optimizing gastronomic resources when compared to the extant literature. This research identified four dimensions— infrastructure, attraction, organization, and education—that Cities of Gastronomy adopted to develop their gastronomic resources, which is different from the typology of culinary tourism resources that encompasses four aspects—facilities, activities, events, and organizations (Smith and Xiao, 2008). Specifically speaking, the attraction dimension identified in this research encapsulates a variety of places and occasions where culinary tourists can have an opportunity to be personally involved in the gastronomic experiences, which incorporates some aspects of facilities, activities, and events. More importantly, the typology by Smith and Xiao (2008) failed to acknowledge human resources as one of the core elements of culinary tourism resources for long-term planning. Nowadays, it is of great necessity to acknowledge the significant roles played by qualified human resources, including graduates, researchers, and professionals, to provide memorable gastronomic experiences and plan the development of local gastronomic tourism.

Hjalager (2002) put forward a hierarchical typology of culinary resources which involves four stages of development, including indigenous, horizontal, vertical, and diagonal, but Seyitoğlu and Ivanov (2020) pointed out this typology was not suitable for cities that aim to incorporate gastronomic tourism into their long-term tourism development planning. In this case, Cities of Gastronomy within UCCN already have very well-known gastronomic heritages and histories as well as the initial development of gastronomy tourism initiatives assessed by other member cities when they applied to join UCCN. Also, member cities of UCCN are required to make clear action plans for the next four years by introducing a wide portfolio of gastronomic initiatives for their long-term development. Thus, these member cities did not follow the four stages set out by Hjalager (2002) but developed their gastronomic resources based on their cultural heritages and local specialties.

Rosi (2014) argued that although there were a series of initiatives, such as exhibitions, seminars, workshops, developed and undertaken by Cities of Gastronomy at local levels, the involvement and participation from other member cities were limited. Indeed, it is difficult for other member cities to participate in some local gastronomic initiatives, such as infrastructure. However, the findings have suggested that many member cities have optimized the networking effect and strengthened their alliance by becoming more involved in local initiatives of member cities, including gastronomic events, educational programs, etc. The findings also indicate that the level of engagement and cooperation among these member cities has been strengthened as the network continues to develop. Xiaomin (2017) argued the threshold criteria of a City of Gastronomy only showcased what these cities may look like, but failed to demonstrate how to develop their culinary resources. However, the findings have offered insightful understandings of how these Cities of Gastronomy have developed their gastronomic resources through various initiatives during their first review period. Also, Xiaomin (2017, p. 63) summarized four common characteristics of the first eight Cities of Gastronomy within UCCN, including Popayán, Chengdu, Shunde, Östersund, Jeonju, Zahlé, Florianópolis, and Tsuruoka:

- Cuisine, tourism, and festivals are common features that constitute "City of Gastronomy";
- Sustainability remains a central vision for "City of Gastronomy";
- The extension of creative value chain becomes a new frontier for "City of Gastronomy"

- Fostering cultural creativity in "City of Gastronomy" through a network of educational institutions and initiatives.

Sustainability and creativity were further supported by the practices done by Cities of Gastronomy. Indeed, Cities of Gastronomy have undertaken numerous sustainable initiatives, striving to contribute to the Sustainable Development Goals adopted by all United Nations Member States. However, the other two characteristics failed to capture the holistic pictures of these Cities of Gastronomy. Firstly, the common features that constitute these member cities also include gastronomic heritage, facilities, and publications among other dimensions that as shown in the findings, rather than just cuisine, tourism, and festivals. Secondly, fostering cultural creativity in these member cities was embedded in many aspects and beyond the network of educational institutions, such as how to creatively use public space to promote gastronomy, how to reduce food waste in creative ways, how to work with creative cities in other fields, like literature, design, etc. within and beyond UCCN, and so on. The member cities that have submitted their monitoring reports have already illustrated a great deal of potential in fostering creativity in developing their gastronomic resources.

Drawing from the findings, this research proposes a framework for cities that have rich gastronomic identities to develop their gastronomic resources as their long-term planning for gastronomy tourism development. The framework incorporates two levels: local level and intercity level. At the local level, cities need to make sure the infrastructure is sufficient enough to support the development of gastronomic attractions. The framework is consistent with the argument that infrastructure is significant for developing food tourism (Mohamed et al., 2019). Also, cities need to provide various platforms for all stakeholders, including researchers, educators, local stakeholders, and industry practitioners, to collaborate based on their actual needs. For instance, cities could fund various research projects to generate practical outputs for local gastronomy tourism to recover from the pandemic.

Or cities could work with educators and local associations to provide supplementary training for those professional industry practitioners who lost their jobs during the pandemic. At the intercity level, the framework encompasses cooperation through networking, knowledge and expertise sharing, and education and research collaboration. The framework highlights the important roles played by cooperation and networking through UCCN or other types of regional or international networks. For cities that have newly joined UCCN, it is of great importance to make the most of the benefits and advantages offered by the network. Cities with gastronomic identities that want to further develop their gastronomic resources could consider joining UCCN or other gastronomic networks to further enhance their gastronomic identity, increase their visibility, and optimize their gastronomic resources through cooperation, networking, and sharing. Moreover, the framework acknowledges the importance of sharing knowledge, expertise, personnel training, education, and research outputs at the intercity level for cities to learn the best practices from each other, which extends the scope of culinary tourism resources (Smith and Xiao, 2008).

## CONCLUSION

By undertaking the thematic analysis, this research synthesized the gastronomic practices among these Cities of Gastronomy who have submitted their monitoring reports and identified four key dimensions (infrastructure, attraction, organization, and education) encapsulating 13 exemplary practices (gastronomic facilities, culinary routes, food districts, events, markets, museums, tours, networking within UCCN, local associations, beyond UCCN, academic programs, research, professional training) among these cities for developing gastronomic resources. The findings indicated that these member cities have undertaken a wide range of gastronomic initiatives at local and intercity levels to develop and capitalize on their gastronomic resources, which provides examples and references for cities that have long-standing gastronomic identities to develop their gastronomic resources. The research also highlighted that joining international gastronomic networks, such as UCCN, provides advantages for member cities to facilitate further cooperation and networking. This research is one of the first that provided a synthesis of the gastronomic practices and initiatives undertaken by multiple Cities of Gastronomy within UCCN to develop their gastronomic resources and promote their gastronomic identities. The findings of this research contributed new insights regarding the typology of gastronomy tourism, which challenged the previously defined typologies of culinary tourism (Hjalager, 2002; Smith and Xiao, 2008). Another important contribution of this research is to provide a framework (see Figure 1) that encompasses two levels and a range of key dimensions for developing and optimizing gastronomy tourism as their long-term goals for cities with gastronomic identities. The proposed framework goes beyond the Cities of Gastronomy within UCCN and could be applied to cities that have long-standing gastronomic identities and/or intentions to join one or more global or regional gastronomic networks to optimize their gastronomic resources.

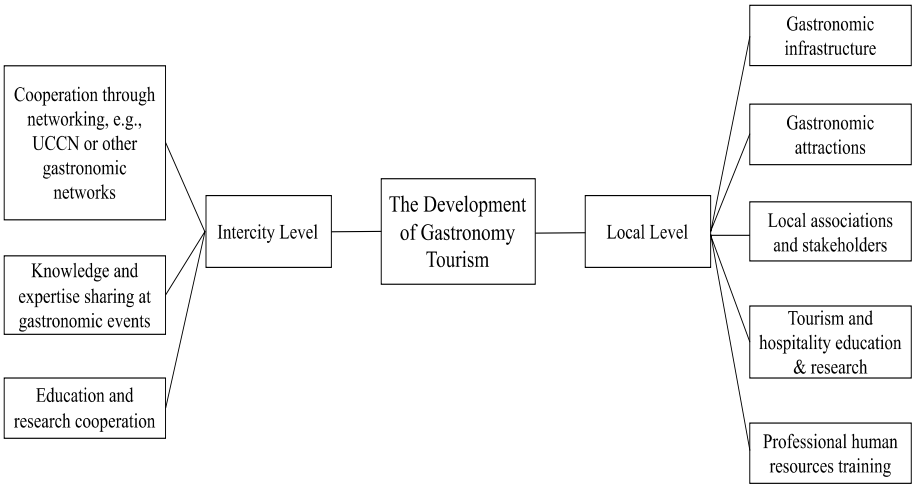


Figure 1. The framework for cities with gastronomic identities to develop their gastronomic resources (Source: Developed by Authors)

Furthermore, the research suggests that sustainability and creativity have been embedded in core dimensions to achieve gastronomic development, which goes beyond the scope of the Cities of Gastronomy as well as UCCN. The findings of this research will also provide practical implications for gastronomy tourism. Firstly, for those Cities of Gastronomy that have not submitted their monitoring reports, the findings have offered insights about formulating the monitoring report. Secondly, for newly designated Cities of Gastronomy and cities with gastronomic identities, the findings have demonstrated exemplary practices to integrate sustainability and creativity into gastronomic practices at various levels. Thirdly, for cities with gastronomic identities, the findings have illustrated the networking benefits of joining UCCN to facilitate international cooperation. Lastly, the findings have also offered directions for cities that want to revive their gastronomy tourism in a post-COVID-world and/or incorporate gastronomy resources into their long-term development plan.

In addition to offering significant contributions and practical implications, this research also suffers from limitations. Firstly, not all existing Cities of Gastronomy within UCCN have submitted their monitoring reports. So future studies could further look into these gastronomic initiatives when more monitoring reports become available. Secondly, among the available monitoring reports of these member cities, the one submitted by Popayán was written in French, which was excluded from this research. So researchers who are fluent in both English and French could incorporate monitoring reports in both languages into future studies. Thirdly, this research only looked at the monitoring reports submitted for the first round. Since member cities within UCCN need to submit monitoring reports at regular intervals.

So future studies could compare the first and second monitoring reports submitted by the same member cities or holistically look into the second monitoring reports submitted by member cities. Lastly, all the monitoring reports employed in this research were submitted before the COVID-19 pandemic, so this research cannot incorporate the impacts exerted by the global pandemic and how these cities creatively develop their existing gastronomic resources to minimize such impacts, which paves the way for future studies.

Besides the theoretical and practical implications, this research also suffers from the following limitations. Firstly, the empirical data only covered a short period before the start of the Phuket Sandbox Scheme, so future studies could collect more data that cover a longer period for analysis. Secondly, the online comments were not made by actual visitors who entered Phuket under the Sandbox Scheme since the scheme was just initiated, so future studies could either use qualitative or quantitative methods to collect data from international tourists that actually participated in the Phuket Sandbox Scheme.

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# APPLICATION OF HIGH-TECH AGRICULTURE BY HOUSEHOLDS IN THE RED RIVER DELTA OF VIETNAM

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**Abstract:** This study is conducted to model the factors that influence the decision to apply high technology in agricultural production (agricultural production) of farmers in the Red River Delta (RRD), Vietnam. Data used for the study are surveyed in fact 600 households participating in agricultural production in the RRD. The paper uses the Binary Logistic regression analysis method to identify the factors affecting the decision to apply high technology to agricultural production. The research results show that factors such as farm households' education, people's participation in social organizations, the impact of urbanization, capital and market availability all have positive effects extreme decision to apply technology of farmers. Based on the results of the study, the paper proposed policies to be focused on to enhance the application of high technology in agricultural production by farmers. The findings of this study demonstrate that people's application of high technology to agricultural production is improved by enhancing their production capacity.

**Key words:** High-tech agriculture, agricultural production, technology application, Red River Delta, Vietnam

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## INTRODUCTION

From the new pressures of international economic integration and the impact of climate change, the need for the development of high-tech agriculture (HTA) is put at the forefront towards the goal of improving efficiency, breakthrough in productivity, and quality of products. HTA is an agriculture that applies new technologies to production including agricultural technology (ie production mechanization), automation, biotechnology, information technology, new materials and plants and animals with high productivity and quality, high efficiency per unit acreage and develop sustainably on the basis of ownership, at the same time, HTA can also protect the environment through reducing use of agrochemicals (Xo and Nhuong, 2006; Wolf and Terrell, 2016). The Covid -19 pandemic took place, once again affirming that agriculture is a safe platform for countries with agricultural advantages like Vietnam (Gregorioa and Ancog, 2020). Vietnam is considered an agricultural country with over 80% of the population in rural areas and about 74.6% of the population working in agriculture. In recent years, growth and development of the agriculture in Vietnam, according to some studies, is still mainly based on the use of human resources, natural resources and input materials (Tri, 2021).

At the same time, the value of agricultural products is still low because most of them are still in raw form and their quality is not high, their competitiveness is low, they have not really used effectively and brought into play all resources. The RRD is a large land located around the lower Red River in northern Vietnam. The land of the region is very suitable for intensive wet rice cultivation, crops and short-term industrial crops. The region has the second largest growing area of food crops in the country with an area of 1242.9 thousand hectares. Most of the provinces in the RRD (Ha Nam, Nam Dinh, Thai Binh, Hai Duong, Ninh Binh, etc.) lead the country in land consolidation, land accumulation to form large

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fields, bringing mechanization into production to improve labor productivity, thereby forming concentrated production areas, such as: The carrot growing area in Gia Binh is 700 ha wide and the potato growing area in Que Vo is nearly 1,500 ha (Bac Ninh) ; the carrot growing area in Cam Giang (Hai Duong) is over 500 ha wide, the onion and garlic growing area in Kinh Mon (Hai Duong) is over 3,000 ha; flowers and ornamental plants in Van Giang (Hung Yen) are over 250 hectares wide, etc. (Chinh, 2020). However, the process of applying high technology to agricultural production in the RRD is still slow, inconsistent and spontaneous (Dang et al., 2011; Luu et al., 2019). Therefore, this study selected the RRD region as a typical model for the study. The topic of high-tech application in agricultural production is also quite attractive to interested researchers (Biwas, 2010). Some recent empirical studies show that the level of access to high technology depends on many factors such as demographics, production conditions of farmers, policies, extension services, market (Li et al., 2019; Baffoe-Asare et al., 2013; Son and Thanh, 2014).

Many methods are applied to evaluate the factors affecting the decision to apply industrial technology, such as the Tobit regression method, which is used to evaluate socio-economic factors affecting the decision to apply public works high technology (CODAPEC) of farmers in central Ghana (Baffoe-Asare et al., 2013; Eneji et al., 2012; Thien and Hanh, 2019); structural modeling method (SEM) to determine the factors affecting the degree of agricultural mechanization in China (Li et al., 2019); the regression and correlation analysis method is used to examine the relationship between the factors affecting the application of agricultural technology by smallholder farmers in Kakamega (Kinyangi, 2012); logistic regression method and factor analysis (EFA) are used to evaluate the factors affecting the decision to apply technical advances and the degree of application of technical advances to rice production of farmers in Hau Giang province (Son and Thanh, 2014). In this study, the authors choose the Binary Logistic Model to identify the factors that affect the farmers' decision to apply high technology in agricultural production.

Since the Binary Logistic Model is used to estimate the probability of an event, the feature of the model that the dependent variable has only two values of 0 and 1 is called a binary variable. When the dependent variable is in binary form, it cannot be analyzed with conventional regression because it will violate assumptions, most clearly when the dependent variable has only two expressions, it is not suitable to assume that the remainder has the normal distribution, but instead it will have the binomial distribution, which would statistically invalidate the tests in the normal regression (Son and Thanh, 2014; Loc, 2019; Phuong and Hien, 2014). This study aims to analyze the factors that affect the farmers' decision to apply high technology to agricultural production. The main objectives that need to be addressed in the article are: (i) Building a model of factors that affect decisions on high technology application and determining analytical methods; (ii) Analyze the results from the model, discuss and draw limitations of the research, and at the same time give the next research direction; (iii) Proposing a number of recommendations to promote the agricultural technology development of farmers in the RRD in particular and Vietnamese farmers in general.

## MATERIALS AND METHODS

### 1. Study Area

The RRD region extends from latitude 21°34´N (Lap Thach district) to the alluvial area about 19°5´N (Kim Son district), from 105°17´E (Ba Vi district) to 107°7´E (Cat Ba Island). The RRD including 10 provinces and cities such as Vinh Phuc, Hanoi, Bac Ninh, Ha Nam, Hung Yen, Hai Duong, Hai Phong, Thai Binh, Nam Dinh, Ninh Binh. The whole region has an area of 20.973 km², accounting for 7% of the total area of the country. The population density of the region is the highest in Vietnam (1064 people/km$^2$, population is 22 million). The area of agricultural land is about 760,000 ha, of which 70% is fertile alluvial soil, which has great value for agricultural production. Agricultural land occupies 51.2% of the area. Three provinces including Nam Dinh, Thai Binh, Hai Duong are selected as study areas because they are the key agricultural areas in the RRD. Nam Dinh is a province located in the south of the Northern Delta (also known as the RRD). Nam Dinh province stretches from 19°54′N to 20°40′N and from 105°55′E to 106°45′E. To the north, it borders Thai Binh province. To the south, it borders Ninh Binh province. The West borders Ha Nam province.

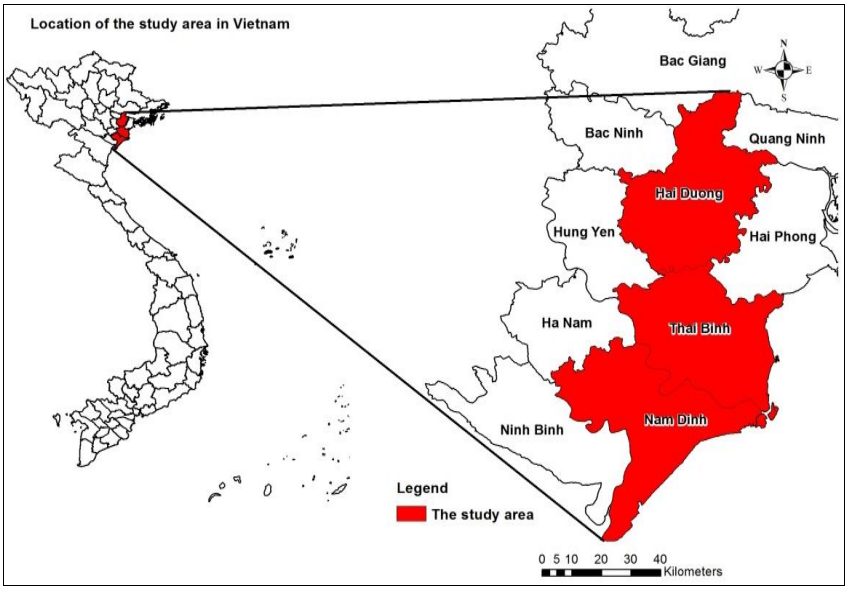


Figure 1. Location of three selected provinces in the RRD, Vietnam

East sea bordering the east. (The administrative atlas of Vietnam, 2013). In 2020, The province's gross domestic product (GRDP) was estimated at 46,121 billion VND, up 5.5% over the previous year. In which, the agriculture, forestry and fishery sector was 9,590 billion VND, up 3.99%. Economic structure: The agriculture, forestry and fishery sector accounts for 22.46%; industry and construction accounted for 39.48%; service sector accounted for 34.93%; product tax minus product subsidies accounted for 3.13% (namdinh.gov.vn).

Thai Binh is a coastal province in the RRD . Thai Binh province has coordinates from 20°18′N to 20°44′N, 106°06′E to 106°39′E. The North borders Hai Duong province, Hung Yen province and Hai Phong city. The West borders Ha Nam province. To the south, it borders Nam Dinh province. East sea bordering the east. (vi.wikipedia.org). Thai Binh is a coastal province in the RRD, with a natural area of 1,534.4 $km^2$, a population of about 1.8 million people. Thai Binh is a coastal province in the RRD, with a natural area of 1,534.4 $km^2$, a population of about 1.8 million people. 2020, Gross domestic product in the GRDP is estimated at 53,523 billion VND, an increase of over 3.2% compared to 2019; in which the agriculture, forestry and fishery sector increased by 3.4%. The per capita income of Thai Binh province in 2020 is estimated at 50.76 million VND/ person / year (thaibinh.gov.vn). Hai Duong stretches from 20°43' to 21°14' north latitude, 106°03' to 106°38' east longitude. The North borders Bac Giang province. The East borders Quang Ninh province and Hai Phong city. The West borders Bac Ninh province and Hung Yen province. To the south, it borders Thai Binh province. Hai Duong has an area of 1,662 km². In 2020, Hai Duong is the 8th largest administrative unit in Vietnam in terms of population with 1,916,774 people, the GRDP growth rate is 2.1%. GRDP reached 134,700 billion VND (equivalent to 5.790 billion USD), GRDP per capita reached 69.8 million VND (equivalent to 3,020 USD) (vi.wikipedia.org).

**2. Basis for building research model**

Based on the conceptual framework of Kinyangi (2012); Wei et al. (2019); Kinyangi (2012); Bucci et al. (2019); Anh (2012); Baffoe-Asare et al. (2013); Son and Thanh (2014); and in combination with consulting experts and results of the trial investigation, the research selected Binary Logistic model with the following variables: $\text{Ln}\left[\frac{P(Y=1)}{P(Y=0)}\right] = \beta_0 + \beta_1$ NOE + $\beta_2$ EDU + $\beta_3$ PSO + $\beta_4$ CAP + $\beta_5$ EXP + $\beta_6$ URB + $\beta_7$ MAR

In which: Y is a binary variable, representing the application of high technology of a farmer to production and is measured by two values 1 and 0 (1 is a farmer with at least one high-tech model application, 0 is farm households that do not apply high technology or are called traditional agricultural households).

P (Y = 1) = $P_0$ is the probability of applying high technology;

P (Y = 0) = 1 - $P_0$ is the probability of not applying high technology;

$\text{Ln}\frac{P_0}{1-P_0} = \beta_0 + \beta_1$ NOE + $\beta_2$ EDU + $\beta_3$ PSO + $\beta_4$ CAP + $\beta_5$ EXP + $\beta_6$ URB + $\beta_7$ MAR

Odds: $O_0 = \frac{P_0}{1-P_0} = \frac{P(applying\ high\ technology)}{P(not\ applying\ high\ technology)}$ Thus, the Binary Logistic regression function on factors affecting the decision to apply technology in agricultural production is as follows:

$$\text{Ln}\ O_0 = \beta_0 + \beta_1 \text{NOE} + \beta_2 \text{EDU} + \beta_3 \text{PSO} + \beta_4 \text{CAP} + \beta_5 \text{EXP} + \beta_6 \text{URB} + \beta_7 \text{MAR}$$

Table 1. Interpretation of the variables in the model (Source: Authors synthesized, 2020)

| Variable | | Interpretation | Source | Expectation |
|---|---|---|---|---|
| Independent variables | Number of employees (NOE) | Total number of employees directly involved in agricultural production in the household of a farmer. | Li et al., 2019; Son and Thanh, 2014 | + |
| | Education (EDU) | Years of schooling that the head of the household has studied up to the time of the study. | Baffoe - Asare et al., 2013; Bucci et al., 2019 | + |
| | Participation in a social organization (PSO) | 1 = farmer participates in a social organization<br>0 = farmer participates in any organization | Son and Thanh, 2014 | + |
| | Capital (CAP) | 1 = farmer has a loan<br>0 = farmer has no loan | Baffoe-Asare et al., 2013; Kinyangi, 2012. | |
| | Experience (EXP) | Number of years the household head was participated in agricultural production as of the study time | Richard Baffoe - Asare et al., 2013 | + |
| | Urbanization (URB) | Farmers' assessment of the affected urbanization process agricultural production activities (1 = completely unaffected;…; 5 = completely affected) | Anh, 2012 | + |
| | Market (MAR) | Farmers' assessment of market availability for agricultural products (1 = complete do not affect;… .; 5 = refund full influence) | Anh, 2012; Kinyangi, 2012 | + |
| Dependent variable | Decision on application of high technology in agricultural production (DAHT) | 1 = applying high technology<br>0 = not applying high technology | Kinyangi, 2012; Son and Thanh, 2014 | |

**3. Sampling method**

To ensure the science and representativeness of the primary data, the minimum sample size to achieve is calculated by the formula N> 50 + 8 * m (m: number of independent variables) [24]. This study consists of 7 independent variables, so the minimum sample number will be N = 50 + 8 * 7 = 106 survey samples. However, in order to have accurate results, the topic has arranged to survey 600 questionnaires to ensure the number of questionnaires. The data collection includes the steps:

*Step 1:* Contacting the survey site to select the study area, consulting with local officials and experts to select the site. After consulting, the author selected survey locations in 3 highly representative provinces: Nam Dinh, Thai Binh, Hai Duong.

*Step 2:* Based on the results of document review, consult experts and local practices, research to build and complete the initial survey. After that, the authors group conducted a trial investigation of 50 questionnaires to check the suitability of the survey, and at the same time correct the survey.

*Step 3:* After editing the survey questionnaire, the authors conduct an official survey with a sample size of 600 farmer households. The survey process will be conducted from May to July 2020.

After collecting and synthesizing the questionnaires, the study used SPSS 20 software to analyze the data. The specific analysis steps are as follows: Descriptive statistical analysis; Analysis of tests; Binary Logistic regression results discussed.

## RESULTS AND DISCUSSION

### 1. Descriptive statistics

Based on the results collected from the survey, there are 32 unsatisfactory responses, 568 valid votes are collected, the results are presented in Table 2. Out of 568 interviewees, female farmers are more likely to respond than men, this could also indicate that more men are working in factories, companies, and institutions. more organizations than women; Women stay mainly at home, farming and taking care of the children.

The age group to participate in interviews is relatively equal, but the groups that respond the most are 20-29 and 40-49 years old. The results indicate that experience, knowledge, competencies and skills seem to increase with an increase in years at work, in which the group with more than 11 years of experience responded more with 66.72%. Most of the farmers here have education from lower secondary school and above and are not illiterate.

Table 2. Demographic characteristics
(Source: According to the author's survey, 2020)

| **Characteristics** | **Percent of frequency** | |
|---|---|---|
| **1. Age** | **N = 568** | **100%** |
| 20 -29 years | 261 | 45.95 |
| 30 – 39 years | 104 | 18.31 |
| 40 – 49 years | 203 | 35.74 |
| **2. Sex** | **N = 568** | **100%** |
| Female | 389 | 68.49 |
| Male | 179 | 31.51 |
| **3. Experience** | **N = 568** | **100%** |
| Less than 5 years | 74 | 13.03 |
| 5 – 10 years | 115 | 20.25 |
| 11 – 16 years | 255 | 44.89 |
| Over 16 years | 124 | 21.83 |
| **4. Academic level** | **N = 568** | **100%** |
| Primary school graduated | 49 | 8.62 |
| Secondary school graduated | 308 | 54.23 |
| High school graduated | 186 | 32.75 |
| College and University graduated | 25 | 4.40 |

Table 3. Results of regression analysis using Binary Logistic mode (Source: According to the author's survey, 2020)

| **Variable** | **B** | **S.E.** | **Wald** | **Sig.** | **Exp(B)** |
|---|---|---|---|---|---|
| CAP | 3.546 | 1.303 | 8.347 | 0.000** | 39.116 |
| PSO | 2.782 | 0.890 | 7.552 | 0.001** | 14.174 |
| EDU | 1.584 | 0.412 | 12.612 | 0.004*** | 4.511 |
| URB | 2.409 | 1.174 | 3.604 | 0.039** | 10.801 |
| MAR | 1.764 | 0.671 | 5.723 | 0.026** | 6.281 |
| Constant | -48.302 | 12.832 | 13.871 | 0.007 | 0.000 |

Note: ***, **, * are significant at 1%, 5%, and 10%

Table 4. Predictive classification (Classification Table)
(Source: According to author's calculations, 2020)

| Observation | | Prediction | | |
|---|---|---|---|---|
| | | Decision | | Percentage Correct (% ) |
| | | No | Yes | |
| Decision | No | 224 | 12 | 94.92 |
| | Yes | 45 | 287 | 86.45 |
| Overall Percentage | | | | 92.08 |

Table 5. Omnibus Tests of Model Coefficients
(Source: According to the author's survey, 2020)

| | | **Chi-square** | **df** | **Sig.** |
|---|---|---|---|---|
| **Step 1** | **Step** | 211.385 | 5 | .000 |
| | **Block** | 211.385 | 5 | .000 |
| | **Model** | 211.385 | 5 | .000 |

### 2. Binary Logistic Regression Results

#### 2.1 Analysis of tests

a) Verification of the regression coefficient

The regression results with 7 initial independent variables showed that, Sig (EXP) = 0.818> 0.1 and Sig (NOE) = 0.213> 0.1, so the two variables of experience (EXP) and number of employs (NOE) are not statistically significant. Statistics or not affect the decision on application of high technology in agricultural production (DAHT). The remaining variables are education, participated in a social organization, capital, urbanization and market, with Sig values of 0.003, 0.016, 0.004, 0.032, 0.000 <0.05 respectively, so it is statistically significant and influential to decide to apply high technology in agricultural production (DAHT). After eliminating two experience variable (EXP) and number of employs variable (NOE), Binary Logistic was performed with SPSS 20, and obtained the following results:

From the results of the above regression analysis, we can see that the significance level Sig of the variables has the value <0.05, so the independent variables in the Binary Logistic regression model correlated with the dependent variable is decision to apply high technology in agricultural production (DAHT).

b) Verification of the suitability of the model

Verify the forecast accuracy of the model: The results in Table 4 show that there are 236 observing cases of not applying high technology in agricultural production, predicting there are 224 cases of not applying high technology in agricultural production and the prediction rate is correct. 94.92%. There are 332 observational cases with high technology application in agricultural production, predicting there are 287 cases of high technology application in agricultural production with the correct prediction rate of 86.45%. Hence, the correct prediction rate of the whole model is 92.08%.

Check the suitability of the model: Based on the results of the Omnibus test on the suitability of the model in Table 5, we have Chi-square = 211.385 and Sig = 0.000 <0.05, so the independent variables have a linear relationship with dependent variable in the population. The model is suitable.

In Table 6, using the results of the regression coefficient column (B) and column Exp (B), form a scenario where the probability changes when the initial probabilities are 10%, 20%, and 30%, respectively 40% and 50%. The results are as follows:

*Variable CAP:* Assuming the probability of applying technology of the original farmer is 10%. When other factors do not change, if a household has a loan, the probability of this household's high-tech application will increase to 81.3%.

Similarly, 90.72%, 94.37%, 96.31%, 97.51% respectively when the initial probabilities are 20%, 30%, 40% and 50%. This result shows that the capital variable has a positive impact on the decision to apply high technology in agricultural production, with results consistent with the study (Kinyangi, 2012; Baffoe-Asare et al., 2013; Son and Thanh, 2014). If farmers are supported with loans, they will have the opportunity to invest in modern equipment and machinery in agricultural production. This investment in the long term will help farmers save costs such as labor costs, mechanized hiring costs, etc. thereby helping farmers increase profits in production.

**2.2. Discussion on regression results**

Calculate and simulate the probability of applying high technology in agricultural production by the following formula:

$$P_1 = \frac{P0xe^{\beta}}{1 - P0(1-e^{\beta})}$$

Where: P0 is the initial probability; P1 is the change probability

Table 6. Simulate probability of applying high technology in agricultural production (Source: According to the author's survey, 2020)

| Variable | B | Exp (B) | Simulate the probability of applying technology when independent variable has changed 1-unit and the initial probability is: % | | | | |
|---|---|---|---|---|---|---|---|
| | | | 10 | 20 | 30 | 40 | 50 |
| CAP | 3.546 | 39.12 | 81.295 | 90.722 | 94.370 | 96.306 | 97.507 |
| PSO | 2.782 | 14.17 | 61.163 | 77.990 | 85.864 | 90.430 | 93.409 |
| EDU | 1.584 | 4.51 | 33.387 | 53.002 | 65.908 | 75.045 | 81.854 |
| URB | 2.409 | 10.80 | 54.547 | 72.974 | 82.234 | 87.805 | 91.526 |
| MAR | 1.764 | 6.28 | 41.103 | 61.093 | 72.913 | 80.722 | 86.26562 |

*Variable PSO:* Assuming the probability of applying technology of the household is initially 10%. When other factors do not change, if a household participates in social organization, the probability of applying high technology of this household will increase to 61.16%, Similarly, 77.99%, 85.86%, 90.43 respectively. %, 93.41% when the initial probabilities are 20%, 30%, 40% and 50%. This result shows that the participation in social organization variable has a positive impact on the household head's decision to apply high technology in agricultural production, with consistent results (Son and Thanh, 2014; Kinyangi, 2012). That's right, because through social organizations, farmers are exposed to different strata in society, helping people to expand their knowledge, helping them realize the progress of science. reporting by participating in training courses, propaganda and seminars of social organizations. From there, it helps people to change perceptions and give up outdated farming habits.

*Variable EDU:* Assuming that the probability of applying technology of the household is 10% initially. When other factors do not change, if the number of years of schooling of the household head increases by one unit, the probability of applying high technology of this household will increase to 33.39%. Similarly, 53%, 65.91%, 75.05%, 81.85% respectively when the initial probabilities are 20%, 30%, 40% and 50%. This result shows that the education variable has a positive impact on the household head's decision to apply high technology in agricultural production, with results corresponding to the study (Kinyangi, 2012; Li et al., 2019; Baffoe-Asare et al., 2013). This is very true in fact, when the education level of the household head is higher, the ability to grasp high-tech equipment is higher than that of those with low education. Therefore, it has increased the ability to decide on the application of high technology in agricultural production.

*Variable URB:* Assuming the probability of applying technology of the original farmer is 10%. When other factors do not change, if the impact of urbanization increases by one unit, the probability of high technology application of this household will increase to 54.55%, Similarly, 72.97%, 82.24%, 87.81%, 91.23% respectively when the initial probabilities are 20%, 30%, 40%, and 50%. This result shows that urbanization variable has a positive impact on the decision to apply high technology in agricultural production. Urbanization has a significant impact on agricultural production, such as reducing arable land area, and reducing productivity. This motivates farmers to apply high technology to production to increase productivity and quality to meet market demand. Not only that, but urbanization also helps farmers to easily absorb technological advances, helping people no longer fall out of date in production (Anh, 2012).

*Variable MAR:* Assuming that the probability of applying technology of the household is initially 10%. When other factors do not change, if availability of market increases by one unit, the probability of this household's high technology application will increase to 41.1%. Similarly, 61.09%, 72.91%, 80.72%, 86.27% respectively when the initial probabilities are 20%, 30%, 40%, and 50%. This result shows that the availability of market variable positively influences the decision to apply high technology in agricultural production, this result corresponds to the study (Kinyangi, 2012). When markets are available, agricultural products are consumed quickly, and farmers have more incentive to produce. Because if there is no market for consumption, the leftover goods cause great damage to farmers because most agricultural products have a very short shelf life. Thus, revenue will decrease and farmers do not have money to pay for and invest in the next crop, so the application of technology will also decrease.

## CONCLUSION

The research has built up a model of factors affecting the decision to apply high technology in agricultural production of farmers in the RRD. Based on the results of the Binary Logistic regression analysis and tests, it can be confirmed that the factors have affected the high technology application of the farmers include the farmer's education, participation in the social organization, the impact of urbanization, capital and availability of market is positive. The results of this study show that policies should be focused on enhancing the application of high technology, including establish appropriate policies to encourage households to borrow capital to invest in agricultural production. At the same time, the authorities strengthened the direction of the banking system to step in so that farmers could easily and conveniently access loans.

There are appropriate plans to quickly implement the work of *land consolidation and exchange*, on that side, do well the planning of fields, irrigation, and intra-field traffic to meet the requirements of synchronous mechanization.

Increase funding for training for technical staff, households, farm owners, agricultural enterprises on skills in operating and maintaining agricultural machinery and equipment. Implementation of agricultural planning, regional planning and regional linkage in the direction of promoting local comparative advantages, and based on domestic and international market demand, should not be fixed area of rice, so conservation of agricultural land.

Enhance the role of social organizations such as the Farmers' Union, Women's Union, Youth Union and the Vietnam Consumers Association in encouraging the application of high technology in agricultural production and replication of examples, as well as promoting the link between farmers and enterprises in the chain of production, breeding and consumption of products. Although the initial research objectives have been set, the research still has certain limitations. Firstly, the survey was only conducted in 3 provinces of Nam Dinh, Thai Binh and Hai Duong, so the scope of research is limited. Secondly, the number of respondents who are female respondents is higher than that of men, gender equality among the respondents to this study is not achieved, so the representative of respondents may be limited. The next research direction for these studies is to compare the differences in the efficiency of agricultural production by the households using high technology and the group that does not use high technology in agricultural production.

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# POTENTIAL RESOURCES, LOCAL COMMUNITIES' ATTITUDES AND PERCEPTIONS FOR OUTDOOR RECREATION AND ECOTOURISM DEVELOPMENT IN URBAN FRINGE HAREGO AND BEDEDO CONSERVED FOREST, SOUTH WOLLO ZONE, ETHIOPIA

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**Abstract:** The study identified the potential resources and examined the local communities' attitudes and perception towards outdoor recreation and ecotourism development in the urban fringe Harego and Bededo conserved forest, Ethiopia. Mixed research approach was applied along with descriptive and sequential explanatory design. Questionnaire, interview and personal observations were data gathering instruments. Consequently, 336 respondents were randomly selected while key informants were selected purposefully. Simple descriptive analysis, crosstabs and independent t test has been applied to analyze the quantitative data while the qualitative data was analyzed using interpretative analysis technique. The study revealed that the areas have plethora of fauna and flora resources, amazing landscapes and are huge potentials for outdoor recreation and ecotourism development. More significantly, there is positive attitude and perception from the local people which is important for outdoor recreation and ecotourism, their intentions of direct involvement for the development necessities are also very promising while there is a statistically significant difference between high school and below holders (Mean=18.11, sig. 0.001) and college diploma and above holders (Mean=20.89, sig. 0.001).

**Key words:** ecotourism, outdoor recreation, perception, attitude, urban fringe and conserved forest

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## INTRODUCTION

According to the International Union of Conservation of Nature (IUCN), Ecotourism, outdoor recreation activities and protected areas are closely integrated and thus, majority of the ecotourism and outdoor recreational activities were conducted in protected areas (Poffenberger, 1996). The International Ecotourism Society defines ecotourism as "a responsible travel to natural areas that conserves the environment, sustain the wellbeing of the local people, and involves interpretation and education'' (Haloi et al., 2017). Different forms of outdoor recreational activities including watching wildlife, photography, health and relaxation, games, study, educational activities and conservational practices are performed in protected areas (Goharipour and Hajiluie, 2016). Hence, dealing about ecotourism, linking tourism with environment and local communities' interest is highly important as a sustainable form of tourism.

As one form of nature based tourism, ecotourism and outdoor recreation are fast growing industries (Bell et al., 2007). Based on the report of United Nation World Tourism Organization, ecotourism covers 10-15% of the tourism industry share. By its nature ecotourism relied on natural resources and the driving force of environmental education, conservation of local culture and natural environment, ensure economic benefit of the local and the sustainable development of the areas (Golubeva et al., 2016). In the century of the cities and urbanization, many people become less and less connected with the rural land. Consequently, many people are seeking to regain a connection with nature and with wild landscapes and forested areas to participate in different outdoor recreation and ecotourism activities. The participation of local communities in protected area management is also key factor in the long-term conservation of the natural resources (Asmamaw and Verma, 2013). Protected areas managed as ecotourism sites play a significant role in generating much needed revenue to pay for conservation of biological diversity as well as improving the financial income of the local communities (Abeli, 2017). However, protected areas have been vulnerable by human induced factors resultant from growing human development activities around residents (Eshetu, 2014). Perhaps, these days local community involvement in tourism is intricate part of research paradigm because the primary objective of community involvement in tourism is to assimilate locals into viable economic systems while there is little evidence that portrays the nature of interaction between local communities and tourism development (Mudimba and Tichaawa, 2017). But still the number of studies on local community attitudes towards future tourism development is increasing due to the nexus between community support and government future development emphasis on tourism (Hanafiah et al., 2013).

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Community involvement emerged as a key element of both sustainable tourism and ecotourism, and hence agreed to include public participation in decision-making and residents' benefits from tourism. Therefore, studying the local communities' attitudes is a key factor for tourism planning and development in general (Harun et al., 2018), and helps to identify the factors that influences their perceptions for ecotourism development in particular (Tesfaye, 2017). Because knowing local communities' attitude towards tourism development and the impacts can help practitioners to identify real concerns and issues for appropriate policies and action to be taken (Adeleke, 2015). Likewise, perceptions and attitudes are understood to be important experiences of people's behavior in relation to resources management or conservation (Tadesse and Teketay, 2017). In many situations there is a conflicted relationship between local communities, tourists and protected areas (Asmamaw and Verma, 2013; González-Ramírez et al., 2019).

Some have positive attitude for protected areas around while others have negative perception towards conservation of protected areas and ecotourism development. For instance, residents who perceive a greater level of economic gain or personal benefit from ecotourism seem to have positive perceptions towards it (Türker and Öztürk, 2013; San Martin Gutierrez et al., 2018). On the contrary, the perceptions and attitudes of others are negative because people living near protected areas have subsistence needs that are direct opposition to the needs of the protected areas (Asmamaw and Verma, 2013). This goes to the essence of social applied theory in tourism which implied that the local communities attitude and participation is determined and improved with the benefit that those populations receive from involving directly in from the destination (Adeleke and Nzama, 2013; Harun et al., 2018). There are also other factors influencing the perceptions of residents at the tourist destination such as personal characteristics and expectations (Robbins and Coulter, 2005); extrinsic factors like tourism stage of development (Butler, 1980), seasonality, tourist type, economic dependency on tourism and degree of cultural differences between host and guest (Türker and Ozturk, 2013).

Although the factors influencing residents' perception about tourism have been extensively investigated (Harum et al., 2018; Assante et al., 2012; Robbins and Coulter, 2005), it becomes necessary to replicate studies in various locations and at different points (González-Ramírez et al., 2019), critical element in determining the tourism development, not overemphasized. Therefore, in the present world the number of research on local community attitudes and perceptions for any future tourism development shall be increased due to its significance to judge tourism appropriateness for particular communities (Abas and Hanafiah, 2014). Thus, the roles of communities for any tourism development in a particular area are critical and cannot be overemphasized (Fridgen, 1991, as cited in Nchor and Agbor, 2018). It is obvious to create different perceptions about the ecotourism and its impacts among the community members who live in the same destination (Gnanapala and Kaninathilaka, 2016). Even though Ethiopia has more than 40 protected areas established to conserve biodiversity and enhance eco-tourism, the value given to protected areas development is very low as compared to countries which are involved with similar activities such as Kenya, Tanzania and South Africa (Fetene et al., 2012). The same is true in the surrounding areas of Harego and Bededo conserved forest.

The local communities' perception and attitude towards outdoor recreation and ecotourism development in the surroundings of Harego and Bededo conserved forest are not studied previously and the ecotourism potentials of the areas remain untapped. More significantly, the town of Dessie, the seat of south Wollo zone administration, is situated in the foot of mountain relatively a strategic place for outdoor recreation and ecotourism development. On the other hand, the number of population and rural to urban migration is too high in the surrounding towns (Dessie, Kombolecha and other small towns like Haik and Sulela) and hence, the people in the town demand fresh air from the surrounding protected forests to escape from urban traffic. Therefore, the study tried to identify the potential ecotourism and outdoor recreation resources and products and the local communities' perceptions and attitudes towards outdoor recreation and ecotourism development in the urban fringe protected areas of Harego and Bededo conserved forest, South Wollo Zone, Ethiopia.

**Objectives of the study**

- To assess the tourism potentials of Harego and Bededo conserved forest for outdoor recreation and ecotourism development
- To examine the attitudes and perceptions of local communities towards outdoor recreation and ecotourism development in the study areas.

## LITERATURE REVIEW

The study of local community perspectives of tourism is started from 1980s (Rasoolimanesh and Jaafar, 2016), while today's intention is the casual relationships (Çelik and Rasoolimanesh, 2021). Tourism has undergone a tremendous growth for the last decades worldwide with the important role of local communities' attitudes and perception for sustainable tourism (Harun et al., 2018). The ever increasing competitions of land today are putting huge pressure on protected areas so that positive attitude and perception for protected areas are equally important. However, the positive attitude towards it is very limited (Bragagnolo et al., 2016). Not every local resident has the same perception and attitude toward tourism. It would rather depend on the dependency on the sector as well as the degree of involvement (González-Ramírez et al., 2019; San Martin Gutierrez et al., 2018; Türker and Ozturk, 2013) as well as the impact of tourism development on the community (Rasoolimanesh et al., 2017). Study conclude that, while residents who are entrepreneurs tend to prioritize the financial profits stemming from tourism development, the rest of the community places the emphasis on non-economic aspects (Cawley and Gillmor, 2008; González-Ramírez et al., 2019). The author grouped local residents' perception and attitude factors into intrinsic such as socio demographic characteristics, involvement to the tourism sector) and extrinsic factors including cultural difference, seasonality, tourism development level and the like.

According to Balogu (1998), attitude has three interrelated components: cognition (perceptions/belief), affective (feelings) and conation (behavioral intentions). Considering the traditional approach of attitude, residents attitude towards tourism are enduring predisposition towards the tourism development is either positive if the benefits of tourism development exceeds the cost or negative if the cost of tourism exceeds the benefit (San Martin Gutierrez et al., 2018) and more significantly, the equitable share of the benefits (Kariuki, 2013). This is related with the social exchange theory developed by sociologist George Homas in 1958 that mostly focused on the relationship between the host community and tourism development in tourism concept (Rua, 2020). Moreover, local communities' attitude and perception can be also influenced by socio economic factors including age, gender, income, race and educational status (Kariuki, 2013).

## MATERIALS AND METHODS

Description of the study areas

The study was conducted in the urban fringe areas of Bededo and Harego conserved forest surrounding Dessie, Kombolcha and nearby small town of Sulula, Bededo, Qorke and Jeme, South Wollo zone, Ethiopia. The zone is found in Amhara Region and endowed with different historical, cultural and natural attractions including Dessie Museum, Nigus Mikael complex, battle field and historic site of Mekedela Amba, Boru Meda historic site, historic site of Yisma Niguse, Jema Negus Mosque, Tedibabe Mariyam and its environs, Tenta St. Mikael church, Gishen Debre Kerebie Monastery, Lake Aredibo and Haiq, Borena Sayint Worhimeno National park, Woleqa Abay Tasabi Park, Yegof mountain, Harego and Bededo protected forests, Tossa Mountain and many more which can entertain, amaze and create breathtaking feeling for tourists (Amhara Culture, Tourism and Parks Development Bureau, 2011; South Wollo zone culture and tourism office, 2019; Teklie, 2011).

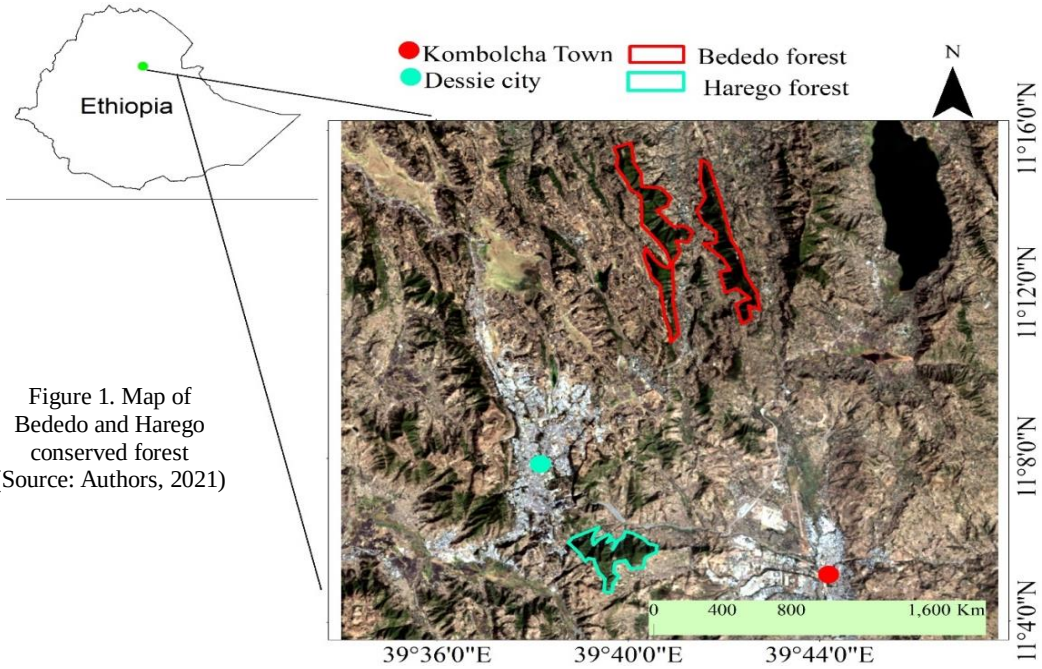


Figure 1. Map of Bededo and Harego conserved forest (Source: Authors, 2021)

### Study Approach and Design

In this research the potential resources were identified and the perceptions and attitudes of local communities towards outdoor recreation and ecotourism development are analyzed. To do so, the study employed a systematic and scientific investigation of qualitative and quantitative properties of phenomena along with descriptive and sequential explanatory research design.

### Types and Sources of Data

In an attempt to do the research more wide-ranging and constructive, the researchers used secondary and primary data. The secondary data has been used to construct a detailed and comprehensive literature review from published sources, thesis and government reports to state the problem clearly. Literatures were collected from different research articles related with the community participation, perception and attitude for tourism development in general and ecotourism and outdoor recreation activities in particular. Primary data were collected by using interview, questionnaire and observation tools. In order to extract detailed and important data about the tourism potentials of the areas, the researchers prepared semi structured interview questions. Interview was conducted with 26 experts from culture and tourism offices, agriculture and environment conservation offices, rural kebele leaders and local administrators. On the other hand, open and closed ended questionnaire was prepared because closed-ended questions used to enable the researchers to examine people's response on specific pre-coded aspects, while open questions are particularly useful for identifying the reasons why a particular respondent held such a point of view on a particular aspect (Long, 2007). Thus, three point Likert scale questionnaire was distributed to the households to examine their perceptions and attitudes towards outdoor recreation and ecotourism development. In the three Likert scale questionnaire 1 stands for disagreement, 2 represents neither disagree nor agree and 3 stands for agreement on the issue. Finally, the questionnaire was administered by the researchers and data collectors/enumerators. The researchers observed the sites in order to identify the potential resources of the area for

ecotourism and outdoor recreation activities, the use of forests for the local communities and the type of ecotourism and outdoor activities more appropriate in the study areas. The data was recorded photographically and by note taking.

**Population, Sampling and Sample Size Determination**

For the effectiveness of this study simple random and purposive sampling technique was applied. Simple random sampling was employed to take representative samples from the local communities whereas purposive sampling was employed to select experts for interview. Based on South Wollo zone culture and tourism office (2019), the populations living in the surrounding area of the Harego and Bededo conserved forest are 10412 and by considering 5 individuals are living within a household, there are 2082 households around the study area. Consequently, 336 samples was determined and taken using Yemane (1967) formula.

$n = \frac{N}{1+N(e2)}$, where n is sample size, N is total target population, e is level of precision as presented in Yamane (1967).

**Data Analysis Plan**

Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 21 using descriptive statistics; percentage, mean and crosstabs. Moreover, inferential statistics particularly independent t test was applied to investigate the perception and attitude of local communities on ecotourism and outdoor recreation benefits, willingness to involve in tourism business and to welcome tourists. The qualitative data collected from interview and observation was analyzed using interpretative analysis technique.

**Ethical considerations**

The researchers asked the respondents and reached at consensus in all manners to collect data. Moreover, all materials taken for the study are dully acknowledged.

**Results and Discussion**

Based on the sampling procedure described, from 336 distributed questionnaires, 309 questionnaires were properly filled and returned for analysis (91.9%). The questionnaires contained mainly the demographic variables of the respondents, and the main questions related to the attitudes and perceptions of the local communities towards outdoor recreation and ecotourism development.

Table 1. Demographic profile of the respondents (Source: survey result, 2021)

| Variables | Category | Percentage | N |
|---|---|---|---|
| Age | 18-28 | 26.5 | 82 |
| | 29-39 | 35.3 | 109 |
| | 40-50 | 23.9 | 74 |
| | 51-61 | 12 | 37 |
| | Above 62 | 2.3 | 7 |
| Gender | Female | 31.4 | 97 |
| | Male | 68.6 | 212 |
| Level of education | High school completed and below | 73.1 | 226 |
| | College diploma and above | 26.9 | 83 |
| Source of income | Agriculture | 34.3 | 106 |
| | Business | 21 | 65 |
| | Civil servant | 19.1 | 59 |
| | Self employed | 19.7 | 61 |
| | Sale of plants or non-timber products | 4.2 | 13 |
| | Sale of timber | 1.6 | 5 |

**General Information about the respondents**

The demographic profiles of respondents were assessed in age, gender, level of education, and sources of income categories. As a result, the age distribution of respondents assessed in different age ranges; 26.5% of the respondents were aged from 18-28, 35.3% aged from 29-39 and 23.9% were from 40-50 while the remaining 14.3 % were aged 51 and above. The results of the gender distribution of the community household also indicate that the majority of the respondents (68.6%) were male whereas the remaining 31.4% were females. In response to the respondents level of education, 73.1 % (226) were high school completed and below and 26.9% (83) were college diploma and above holders. The finding further suggests that the majority of the respondents had little education. Respondents were also asked their sources of income, and 34.3% were depend on agriculture while 21% are involved in small and medium scale business practices. Besides, 19.1% are civil servants and 19.7% are self-employed. The remaining 4.2% involved in sale of plants (non-timber) whereas 1.6% respondents are participated in sales of timber from the forest.

**Potential Ecotourism and Outdoor Recreation Resources in Harego and Bededo Urban Fringe Conserved Forest**

Based on the observations and interview, the study areas possess a huge potential for ecotourism and outdoor recreation destinations. These are due to the presence of abundance of fauna and flora resources and species which have a potential to attract visitors. The true potential of the areas has to date remain untapped and not effectively and efficiently explored for the development agenda of the local economy.

**Fauna Resources of the Study Areas**

The researchers' observation and key informants interview outlined that the areas possess the fauna species. Over 34 species of animals have been sheltered to date. According to the district agriculture officer, around 20 wild animal species are found only in Harego conserved forest. The most common animals are; Meneliks deer (Yeminilik dikula), Tiger (Nebre), Sesame (Sesa), Monkey (Zenejero) and Vervet Monkey (Tota), Rock Hyrax (shikoko), Echidna (Jart), and spotted hyena. Spotted hyena is very common animal species found in the study areas. Additionally, more than 90 species of birds are found in these two conserved forest. The most common were Crow (Qura), Guinea fowl (Jigera), Falcon (chilfite), Owl (gugut) and others bird species are listed (South Wollo zone culture and tourism office, 2019).

**Flora Resources of the Study Areas**

The areas also covered with majorly planted (more than 80% coverage) forests especially Harego conserved forest.

The community representative and the district agriculture office confirmed that the forests are the effort of human being in the forestry science (Figure 2, 3). The areas are covered with an indigenous trees of *Juniperus procera* (yehabesha Tsede in Amharic), *Hagenia abyssinica* (Bruce) J.F. Gmel (Koso in Amharic, *Olea europaea* subsp *cuspidata* (Wall. Ex DC.) Cifferri. (Woyera in Amharic), Euphorbia Candelabrum (Qulequal in Amharic), planted eucalyptus tree (Bahirzafe in Amharic), African Black wood or its scientific name is *Dalbergia melanoxylon (*Tikure enchete in Amharic), *Dodonaea Angustifolia L.F (Sapindaceae)* or Kitkita in Amharic, Erica arborea L. (Ericaceae) or Aseta in Amharic, *Phytolacca dodecandra* L'Herit (Phytolaccaceae) or Endod in Amharic, Rumex *nervosus* Vahl (Polygonaceae) or Embuacho in Amharic, *Carissa spinarum* L. (Apocynaceae) or Agam in Amharic, *Podocarpus falcatus* (Thun) Mirb or Zigba in Amharic, *Acacia SPP or Girar in Amharic, Rosa abyysinica or Qega in Amharic* trees.

All these plant species are found in Ethiopia only (South Wollo zone culture and tourism office, 2019). Therefore, the areas are the guarding place of indigenous trees of Ethiopia. Researchers believed that the areas give a good lesson for those barred land of Ethiopia because of its value on the conservation of indigenous trees through human effort (plantation) and hence, these resources create an idyllic and eye-catching place to visitors**.**

Figure 2. The scenic view of Bededo conserved forest (Source: Photo by researchers, 2021)

Figure 3. The indigenous *Juniperus procera* trees in Bededo (Source: Photo by the researchers, 2021)

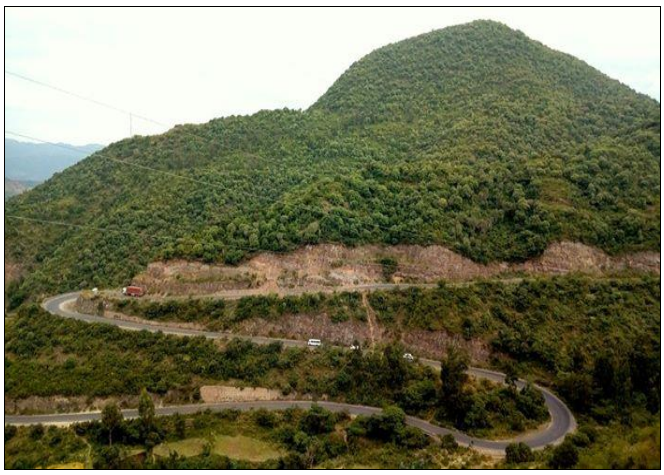

Figure 4. Harego road commonly known as"S" road

Figure 5. An aesthetically pleasuring Harego conserved forest (Source: Photo by Alemsged, 2020)

**Local communities' attitudes and perceptions towards outdoor recreation and ecotourism development**

Local communities' attitude and perception plays significant role in determining the tourism development in the host destination. Consequently, in this study before measuring the perception and attitude of local communities towards outdoor recreation and ecotourism development, respondents were asked whether they know what ecotourism and outdoor recreation is. Thus, descriptive analysis particularly crosstabs were applied to analyze their knowhow about ecotourism and outdoor recreation. According to Bragagnolo et al (2016), the most important predictor of knowledge related to protected area and tourism development is education followed by occupation. Knowledge is associated with the level of education and participation. Therefore, the present study sustained that respondents with better educational level had better understanding of what ecotourism and outdoor recreation mean. It was assessed based on the level of education of respondents (Table 1). Hence, 89.8% and 92.9% of high school and below completed respondents replied that they didn't know what ecotourism and outdoor recreation mean and the remaining small percentage of respondents (10.2% and 7.1% respectively) responded that they have knowhow about ecotourism and outdoor recreation.

Table 2. Respondents understanding of ecotourism and outdoor recreation (Source: survey result, 2021)

| Questions | Level of education | | | | | |
|---|---|---|---|---|---|---|
| | High school and below | | | College diploma and above | | |
| | Yes | No | Total | Yes | No | Total |
| Do you know what ecotourism is? | 23 | 203 | 226 | 72 | 11 | 83 |
| | 10.2% | 89.8% | 100% | 86.7% | 13.3% | 100% |
| Do you know what outdoor recreation is? | 16 | 210 | 226 | 80 | 3 | 83 |
| | 7.1% | 92.9% | 100% | 96.4% | 3.6% | 100% |

On the other hand, college diploma and above completed respondents (86.7% and 96.4% respectively) reacted that they have understanding about ecotourism and outdoor recreation while 13.3% and 3.6% of respondents replied that they have no knowledge of it respectively. Consequently, the finding pertinently notes that high educational status determine the knowledge of tourism development at a destination (Ejiofor and Elechi, 2012). Moreover, as shown in the demographic variables, all respondents are involved in non-tourism activities since tourism is not yet developed well in the study area and this would contribute for no understanding of what ecotourism and outdoor recreation mean.

**Attitude and willingness of local communities to participate in ecotourism and outdoor recreation business activities**

To narrate the attitude and willingness of local communities to participate in ecotourism and outdoor recreation business activities, a three point Likert scale questionnaire was distributed in two sections (Harego and Bededo protected landscapes). Thus, respondents were asked their willingness to participate in ecotourism and outdoor recreation development and management activities and 57.6% of the respondents agreed with the idea, 20.7% refrained while the remaining 21.7% disagreed with the idea. On the same way, 45.3% of respondents reflected their willingness to engage in conservation of natural resources so as to develop outdoor recreation and ecotourism activities whereas 26.2% respondents neglect neutral. As indicated in the 3$^{rd}$ row of table above, 62.8% of respondents were agreed to show their commitment to support new ecotourism and outdoor recreation facilities that will attract more tourist in the community while small number of respondents (15.5%) disagreed with the statement. On the other hand, 21.7% were neutral or no concept for the statement. In the 4$^{th}$ row of the table, respondents were also asked whether they are participating in illegal harvesting of forests in the protected areas or not and the majority of respondents (79.6%) replied that they are not participated in illegal harvesting though small number of respondents (9.4%) engaged in illegal harvesting. In ascertaining the local communities' willingness to support decisions on ecotourism and outdoor recreation development, only 11.4% of the respondents disagreed and 20.4% of respondents remained neutral. 68.3% of the respondents agreed that they are willing to support decisions on ecotourism and outdoor recreation development.

Table 3. Attitude and willingness of local communities to participate in ecotourism and outdoor recreation business activities (Source: survey result, 2021)

| Items | N | Mean | Level of agreement in percentage | | |
|---|---|---|---|---|---|
| | | | Disagree | Neutral | Agree |
| I am willing to participate in ecotourism and outdoor recreation development and management activities | 309 | 3.45 | 21.7 | 20.7 | 57.6 |
| I am willing to engage in conservation of natural resources so as to develop outdoor recreation and ecotourism activities | 309 | 3.27 | 26.2 | 28.5 | 45.3 |
| I will support new ecotourism and outdoor recreation facilities that will attract more tourist in my community | 309 | 3.62 | 15.5 | 21.7 | 62.8 |
| I am not participating in illegal harvesting of forests in the protected areas | 309 | 3.87 | 9.4 | 11 | 79.6 |
| I am willing to support decisions on ecotourism and outdoor recreation development | 309 | 3.79 | 11.4 | 20.4 | 68.3 |
| I will be happy if I engage in ecotourism and outdoor recreation business | 309 | 3.85 | 13.4 | 20.1 | 71.9 |
| I am willing to receive ecotourism and recreation management education and training | 309 | 3.86 | 10.4 | 11 | 78.6 |
| Grand mean | 3.67 | | | | |

Table 4. Result of independent t test (Source: survey result, 2021)

| Items | Level of education | N | Mean | Std. Deviations | F | T- value | Sig. |
|---|---|---|---|---|---|---|---|
| Perception and attitude towards ecotourism and outdoor recreation benefits | High school and below | 226 | 25.35 | 3.349 | 7.172 | -2.988 | .008 |
| | College diploma and above | 83 | 26.69 | 3.838 | | | |

Furthermore, 71.9% of the respondents will be happy if they engage in ecotourism and outdoor recreation business whereas 13.4% disagreed that they have no demand to engage in ecotourism and outdoor recreation services and 78.6% of the respondents are willing to receive ecotourism and recreation management education and training. On the other way, in order to reveal the average perception and attitudes of local communities towards outdoor recreation and ecotourism development based on their level of education, independent t-test was used.

As depicted in the independent t test above, there is a mean difference between high school and below (25.35) (Std. deviation= 3.349) and college diploma and above (26.69) (std. deviation=3.838) holders in their perception and attitude towards ecotourism and outdoor recreation benefits. The Levene test of equality of variances and t test for equality of means also confirmed that there is a statically significant difference between high school completed and below and college diploma and above with F score=7.172, T value=-2.988 and sig. =.008 with P< .05. This implied that the college diploma and above holders have better understanding, perception and attitude towards ecotourism and outdoor recreation benefits in Harego and Bededo protected landscapes. The crosstabs result also supported that 86.7% and 96.4% of respondents having college diploma and above know what ecotourism and outdoor recreation mean respectively. The result pertained with the study conducted by Ejiofor and Elechi (2012), that local community with formal and high level of education had better understanding of their environment for tourism purpose.

**Attitude and Perception of local communities towards ecotourism and outdoor recreation benefits**

In order to gain a better understanding of the perceptions and attitude of local communities towards ecotourism and outdoor recreation benefits respondents were asked whether outdoor recreation and ecotourism development can diversify employment opportunity for the locals. As a result, 51.7% of the respondents agreed with the statement while 34.3 % didn't believe with the concept and remained disagreed.

Despite the fact that ecotourism and outdoor recreation can be a livelihood option for the local, 49.6% of the respondents disagreed and didn't believe that it can be a livelihood option for the local communities. Only 33% of the survey respondents believed that ecotourism and outdoor recreation can be option to for the locals' economy.

Table 5. Perception and attitude of local communities towards ecotourism and outdoor recreation benefits (Source: survey result, 2021)

| Items | N | Mean | Level of agreement in percentage | | |
|---|---|---|---|---|---|
| | | | 1 | 2 | 3 |
| Outdoor recreation and ecotourism development can diversify employment opportunity for the community | 309 | 3.23 | 34.3 | 13.9 | 51.7 |
| I believe ecotourism and outdoor recreation can be livelihood option for the local community | 309 | 2.76 | 49.6 | 17.5 | 33 |
| Ecotourism and outdoor recreation improve the environment for future generations | 309 | 3.15 | 33 | 26.5 | 40.4 |
| I know that protected areas are important for outdoor recreation and ecotourism development | 309 | 3.28 | 29.4 | 23.6 | 47 |
| I believe that ecotourism development is significant in environmental conservation of protected areas and its ecosystem | 309 | 2.97 | 42.7 | 16.2 | 41.1 |
| Ecotourism development helps to proud in culture through producing locally made products | 309 | 3.45 | 20.4 | 20.7 | 58.9 |
| Grand mean | 3.14 | | | | |

Of all respondents, 40.4% indicated that ecotourism and outdoor recreation improve the environment for future generations though 33% disagreed with the concept and 26.5% were neutral. Moreover, 47% know that protected areas are important for outdoor recreation and ecotourism development, 41.1% of them also believe ecotourism development is significant in environmental conservation of Harego and Bededo protected landscapes. 58.9 % of the respondents believed that ecotourism development helps to proud in culture through producing locally made products in the areas.

Table 6. Result of independent t test (Source: survey result, 2021)

| Items | Level of education | N | Mean | Std. deviation | F | T-value | Sig. |
|---|---|---|---|---|---|---|---|
| Willingness and attitude to participate in ecotourism and outdoor recreation business activities | High school and below | 226 | 18.11 | 3.727 | 12.116 | -5.526 | .001 |
| | College diploma and above | 83 | 20.89 | 4.431 | | | |

It is important to have knowledge about the value which local communities attach to outdoor recreation and ecotourism development. The classic response of respondents' willingness and attitude to participate in ecotourism and outdoor recreation business activities showed that there is a mean difference between high school completed and below (18.11; Std. deviation=3.727) and college diploma and above (20.89, Std. deviation=4.431). The Levene test of equality of variances and t test for equality of means also articulated that there is a statically significant difference between high school completed and below and college diploma and above with F score=12.116, T value=-5.526 and sig. =.001 with P< .05. This implied that the willingness and attitude of college diploma and above respondents is better to participate in ecotourism and outdoor recreation business activities in Harego and Bededo protected landscapes of south Wollo zone. The finding was consistent with the study conducted by Bragagnolo et al. (2016) that local attitude to ecotourism and protected areas are mainly shaped by education, gender and income.

**Attitude and Perception of local communities to welcome tourists**

In the group statistics and Levene test table, the mean of high school and below holders' perceptions and attitudes to

welcome tourists is 9.423 with std. deviation of 2.515 for high school and below holders and the mean of college diploma and above holders are 10.90 with std. deviation 2.560. As depicted from the table the sig. value is 0.813 which is greater than 0.05 and this means that the perceptions and attitudes of the local communities to welcome tourists was not significantly different. Hence, all the respondents have good attitude and perception to welcome tourists to Bededo and Harego protected landscapes regardless of their educational level.

Table 7. Perception and Attitude of local communities to welcome tourists (source: survey result, 2021)

| **Items** | Level of education | N | Mean | Std, deviation | F | T-Value | Sig. |
|---|---|---|---|---|---|---|---|
| Perception and attitude of local communities to receive tourists | High school and below | 226 | 9.42 | 2.515 | .056 | -4.587 | .813 |
| | College diploma and above | 83 | 10.90 | 2.560 | | | |

## CONCLUSION AND RECOMMENDATIONS

The study focused on potential resources and the local communities' attitudes and perceptions towards outdoor recreation and ecotourism development in Harego and Bededo conserved forest, south Wollo, Ethiopia. The study concluded that; the areas were a huge potential for outdoor recreation and ecotourism development for both domestic and international visitors due to the presence of both fauna and flora resources. Because of its presents in the urban fringe areas; the sites will have prospect in outdoor recreation and ecotourism.

Consequently, the crosstabs result of the study outlined that the average understanding level of ecotourism and outdoor recreation is depend on the level of education of respondents. Thus, 89.9% and 92.9% of high school completed and below respondents didn't know what ecotourism and outdoor recreation mean while 86.7% and 96.4% of college diploma and above holders have the understanding of what ecotourism and outdoor recreation mean

The findings of the descriptive statistics also revealed that local communities have both positive and negative perceptions and attitude towards outdoor recreation and ecotourism. The grand mean (mean score=3.67) of attitude and willingness of local communities to participate in ecotourism and outdoor recreation business activities confirmed that the local communities have positive perception and attitudes towards ecotourism development. On the same way, the grand mean score 3.14 shown that the local communities have good perception and attitude towards ecotourism and outdoor recreation benefits. Furthermore, the result of the independent t test confirmed that the local communities of Harego and Bededo protected landscapes have positive and significant different between diploma and above holders and high school and below completed holders towards willingness and attitude to participate in ecotourism and outdoor recreation business activities and ecotourism and outdoor recreation benefits while the locals are equally willing to welcome tourists to their destination. From the conclusion the following recommendation were drawn.

- South Wollo zone culture tourism and sport department in collaboration with Wollo University shall develop the surrounding areas of Harego and Bededo protected landscapes for community based ecotourism site.
- Wollo University has to enhance awareness of the local communities through providing training on what ecotourism and outdoor recreation mean and its benefit.
- All stakeholders need to collaborate to develop the area as one tourist destination and to make it livelihood option.

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# MAPPING A ERUPTION DISASTER-PRONE AREA IN THE BROMO-TENGGER-SEMERU NATIONAL TOURISM STRATEGIC AREA (CASE STUDY OF MOUNT SEMERU, INDONESIA)

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**Abstract:** Tourism is a sector of the world's economy, a macro-industry, and dynamic that has the fastest growth rate in the world. Tourism is often associated with beauty and pleasure. But behind that tourism is an economic activity that is very vulnerable to natural disasters, including volcanic eruptions. Management of tourism mapping in the Semeru Volcano disaster-prone area (Bromo Tengger Semeru National Park Tourism Strategic Area) can be used as a reference in development guidelines, disaster mitigation, and recovery in tourist areas. Thus, the purpose of this study is to produce a mapping of disaster-prone areas and the distribution of tourist attractions around Semeru Volcano. The research method used is the use of ArcGIS and Microsoft Excel applications. The data used is from the Population, Tourism, and Disaster Data of Semeru Volcano. The analysis technique uses map buffering and overlaying. Based on the results of the mapping, 57 villages are predicted to be affected and experience heavy losses. The number of villages is divided into 17 villages in Malang Regency and 40 villages in Lumajang Regency. These villages belong to several sub-districts, namely Ampelgading, Poncokusumo, Tirto Yudo, Wajak, Pasrujambe, Candipuro, Pronojiwo, Pasirian, Candipuro, Tempursari, Tempeh, Sumbersuko, and Tempursari. In addition, these disaster-prone areas are areas that have a lot of tourism potential. Most of the tourist attractions are affected by the eruption zone and affected by the lava flow. The tourism objects studied in this study amounted to 23. While the tourist objects that are classified as safe amounted to 11 objects. All tourist attractions around Semeru Volcano require the provision of pre-disaster knowledge, disaster mitigation, and restoration of tourist areas. With this knowledge, tourism will become the main economic sector of the community and can recover quickly after volcanic activity.

**Key words:** Tourism Objects, Disaster-Prone Areas, Mapping

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## INTRODUCTION

Tourism is a sector of the world economy that contributes as one of the largest contributors to the country's growth. This strategic sector is developing significantly and cannot be stopped by the progress of the times. Tourism is a macro and dynamic industry (Wahyuningtyas et al., 2019) that has the fastest growth rate in the world (Goliath-Ludic and Yekela, 2021). This sector is a field that can change the environment and socio-culture (Dayananda and Leelavathi, 2016) as well as become the wheel of economic growth (Garcia et al., 2015; Idris et al., 2021). Tourism contributes 9.9% of total employment and 10.4% of GDP worldwide (WTTC, 2017). While Asia-Pacific is the largest region for tourism and travel sector jobs in 2020. This sector accounts for 55% (151 million) of all global Travel and Tourism jobs (WTTC, 2021). Meanwhile, the number of foreign tourist arrivals in Indonesia continues to increase (BPS, 2018, 2019) which is 12.58% from 2017 (14.04 million) to 2018 (15.81 million). This potential sector can be a source of creating a healthy investment climate (Thompson, 2011), a source of job creation (Kim et al., 2016; Martin et al., 2008), a source of income (Nurhajati, 2018), a source of income generation (Du et al., 2016), and sources of state economic contributors (Idris et al., 2021).

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Tourism is often associated with beauty and pleasure. But behind that tourism is an economic activity that is very vulnerable to natural disasters. This disaster is from a hydrometerological, geological, and biological perspective. Natural disasters can include hurricanes, earthquakes, volcanic eruptions, floods, and droughts (Delita, 2017; Oloruntoba et al., 2018; Orhan, 2016). As happened in 2007 the growth of world tourism activities decreased by 3.9% after the occurrence of natural disasters and terrorism (Rindrasih et al., 2015). The contribution of the tourism sector to GDP in Asia-Pacific decreased by 53.7%, compared to the global decline of 49.1% due to the Covid-19 pandemic disaster (WTTC, 2021). Meanwhile, in Indonesia, the Lombok tourism area suffered a loss of IDR 12.15 trillion due to the earthquake (Gumelar, 2018), the number of tourists who became victims was 4,636, tourists decreased by 100,000, and the tourism sector suffered a loss of IDR 1.4 trillion (Wahyuningtyas et al., 2019). Losses in tourist areas due to the disaster also threaten the people living around Semeru Volcano.

Mount Semeru (8°06′05″LS, 112°55′E) is the highest volcano in Java (3,676 m). Semeru Volcano is one of the composite volcanoes that remains active on Earth. This mountain belongs to the massive Semeru-Tengger volcano (Solikhin et al., 2012). The area of 900 km2 around Semeru Volcano includes Jonggring-Seloko, Jambangan and Ajek-Ajek, Bromo-Tengger caldera, Mahameru-Semeru Conical Complex, and Mount Kepolo (Thouret et al., 2007). This volcano is one of the most effective lava generators on Earth. The main economic activities around Semeru Volcano which include Lumajang Regency and Malang Regency are agriculture, forestry production, and plantations.

The activities of the Semeru Volcano threaten various economic, educational, political, social and other sectors. The threat of this volcanic disaster is no exception in the tourism sector. Tourism around Semeru Volcano is one of the main economic sectors of the surrounding community. Semeru Volcano is included in the strategic tourism area of TNBTS (Bromo National Park, Tengger, Semeru). TNBTS targets in 2019 are areas with achievements of the International Geo-Ecoculture Park (Purnomo et al., 2018). The ecosystem types of this area are sub-montane, montana, and sub-alphin with large trees that are hundreds of years old (Geological Agency, 2014). Tourist attractions include meadows, lakes, pine forests, bamboo forests, campgrounds, temples, waterfalls, beaches, and baths. The majority of attractions in this area are waterfall tours including Kapas Biru Waterfall, Coban Sewu, Coban Srengenge, Coban Pelangi, Goa Tetes, Coban Trisula, Mist Rainbow, Kedung Jumali, Coban Sriti, and others. In addition, there is a Tourism Village Institute (LADESTA) in Gubugklakah Village which manages the tourism potential in the vicinity and is the main entrance to TNBTS. LADESTA there are 49,251 visitors from local tourists and 3,848 visitors from foreign tourists (Purnomo et al., 2018).

There are many related studies, but limited to the integration of tourism management between village government and local community participation (Purnomo et al., 2020; Wahyuningtyas et al., 2019, 2020), gaps and low volcano mitigation policies (Pen, 2017), planning and tourism development strategies (Jannah and Idajati, 2018), as well as identification of the potential, benefits, and carrying capacity of coastal areas (Rini et al., 2015). Meanwhile, research related to mapping has been carried out by several researchers such as mapping of volcanic erosion and gradation (Thouret et al., 2014), zoning of disaster risk areas and land use (Endarwati et al., 2017), development of applications based on Google Map or GIS which is for tourists (Anamis et al., 2017; Arifin, 2017), vulnerability mapping (Hizbaron et al., 2018), and mapping of lava flows and volcanic hazard analysis (Thouret et al., 2007). The limited integration of disaster mapping and tourist sites is a gap in increasing the role of tourism in disaster-prone areas. Based on this explanation, it is necessary to organize, manage, and regulate tourism destination managers to increase the role of tourism (Mamycheva et al., 2017; Van and Vanneste, 2015). Tourism management in the Semeru Volcano disaster-prone area can be used as a reference in development guidelines, disaster mitigation, and recovery in tourist areas. Thus, losses in tourist areas caused by the Semeru Volcano disaster can be minimized. In addition, tourism can still be projected to be the main economic sector of the community. Thus, the purpose of this study is to produce a mapping of disaster-prone areas and the distribution of tourist attractions around Semeru Volcano.

## MATERIALS AND METHODS

The research method used is the GIS (Geographic Information System) technique to create a Map of Eruption-Prone Areas of Eruption and Tourism Zoning Map of the Semeru Volcano Region. This mapping uses Microsoft Excel 2010 and ArcGIS 10.4 applications. The research data uses the Indonesian Earth Map, population data from Lumajang and Malang Regencies, TNBTS tourist attraction data, DEMNAS images, Administrative Maps of Lumajang and Malang Districts, as well as other supporting data. The analysis technique uses buffering and data overlay. The buffering technique in disaster-prone areas uses a distance of 5 km and 8 km from the point of eruption.

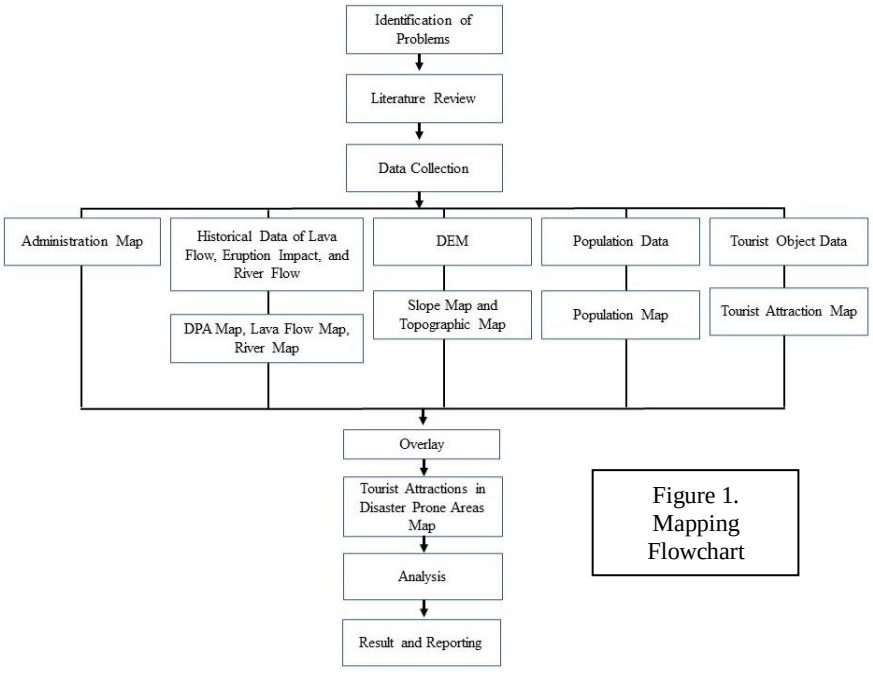


Figure 1. Mapping Flowchart

Furthermore, the buffering technique for zoning tourist objects uses a distance of 1 km from the location of the tourist attraction. The determination and classification of disaster-prone areas is divided into three, namely disaster-prone areas I, disaster-prone areas II, and disaster-prone areas III. The stages of mapping and analysis are problem identification, literature study, data collection, digitizing and inputting data, overlaying, map analysis, and results. The mapping flow chart is below.

## RESULT AND DISCUSSION

The results and discussion section consists of four discussions, namely 1) the condition of the Semeru Volcano, 2) the types of Hazard of the Semeru Volcano, 3) the mapping of the Semeru Volcano disaster-prone area, and 4) the mapping of tourism objects in the disaster-prone area. The in-depth description is below.

### a. Semeru Volcano Condition

Mahameru Peak is the highest peak on the island of Java (3,676 m). The lava dome of the Semeru volcano is named Jonggring Seloko (3,744 m). The slopes of the Semeru Volcano stretch to the east to the plains of Lumajang and Pasuruan. While to the west, the slopes of this mountain stretch up to the plains of Malang and Turen. Furthermore, to the north the slope is limited by the Jambangan Mountains which consists of Ranu Kumbolo, Mount Kepolo, and Mount Ayek-ayek. To the south, the development of the foothills of the Semeru Volcano is blocked by the Southern Mountains (Tertiary-aged mountains). The irregular condition of the peak of the Semeru Volcano is caused by the frequent displacement of the center of activity from northwest to southeast. The current center of activity is the Jonggring Seloko Crater emerging in the south southeast of Mahameru, which is separated by a narrow saddle. The cauliflower-shaped eruption column is constantly erupted through its crater. Generally the eruption smoke pillar reaches a height of between 300 m - 500 m above the crater. These eruption clouds are usually blown away by the wind. Sometimes the color of the eruption cloud ranges from white or gray, it can also be blackish, this depends on the ash content in it. At night, fragments of smoldering rock are often seen at the bottom of the eruption column. When the activity increases, it appears that the type of volcanic eruption is interspersed by the Stromboli type, so it can be classified that the eruption of Mount Semeru is of mixed type (Hasib et al., 2013). Semeru volcano is a strato type with a volcanic-strombolian type of eruption (Ayu et al., 2013). Ash clouds can reach a height of 4000 m above the summit, while smoldering volcanic material is thrown up to 1000 m above the crater and then falls back around the crater, and slides along the slope as far as 1500 m from the crater rim. Large eruptions of Mount Semeru are often followed by hot clouds of eruptions. During periods of activity or when activity declines, lava flows flow out of the crater to form lava tongues. The steep slopes of Mount Semeru caused some of the tip of the lava to slide and avalanches of incandescent lava to occur. Where this is sometimes accompanied by hot clouds avalanche. The increase in the activity of the Semeru Volcano is usually short-lived, while the eruption phase lasts from a few days to several months. Periods of activity are interspersed with periods of rest.

### b. The Danger of the Semeru Volcano Disaster

Volcanic disasters erupt when an area whose land use, settlements, infrastructure, and others are affected by volcanic eruption materials. These materials include ash rain, toxic gases, hot clouds, lava flows, thrown stones (incandescent), and lava (floods). Based on the type of hazard, there are two kinds of hazards resulting from volcanic activity or eruptions that threaten the slopes and foothills of Mount Semeru. This type is a primary hazard and a secondary hazard (Bronto et al., 1996). Primary hazards (the result of volcanic eruptions) mostly threaten the peak and surrounding areas, while secondary hazards or rain lahars threaten the lower slopes to the foot area. Rainy lahars can occur months or years after the last eruption. Where in the last eruption, the origin of the loose material is not yet solid. Generally, lahars cause damage far down in residential areas, therefore many villages and crops were destroyed. Primary hazards (hazards that have an immediate impact) are hazards as a direct result of volcanic eruptions such as: lava fragments, lapilli, hot clouds, lava flows, ejected materials in the form of volcanic bombs, sand, and volcanic ash. During the period of activity, lava flows out of the crater through the low rim and forms lava tongues on the slopes. Its length is up to hundreds of meters with a volume of up to millions of m3. The tip of this lava tongue is easily broken into pieces, resulting in hot clouds of avalanches.

This type of hot cloud can reach a distance of 10 km from the summit at a speed of about 40-70 km/hour. However, if the volume of the lava that slides is large, the speed can reach lk 100 km/hour. Hot clouds eruption generally follow the river valley that comes from around the peak. The temperature of this hot cloud is estimated to be around $1000^0$C at the eruption hole and about 400oC at the end of the stream. Ejected materials such as incandescent rock (volcanic bombs), lapilli, sand, ash, and lava fragments are generally thrown perpendicular to the top in the form of cauliflower or mushrooms. At the time of the peak of the eruption, incandescent rock (volcanic bombs) can be ejected up to approximately 8 km from the eruption hole. Bombs still burning can cause injuries and fires in homes with thatched roofs. Heavy rain of ash and sand can cause roofs to collapse, especially during the forest season and crop damage. Ash rain is also dangerous for humans because it can cause respiratory problems. Secondary hazard is a hazard in the form of rain lava (secondary lahar). The danger of rain lava (secondary lava) is an indirect hazard from volcanic eruptions. This rain lava occurs at the time of the eruption or after, which at that time there was heavy rain around the peak and its surroundings for quite a long time. In the area of Mount Semeru, lava flows are also called besuk. If it rains around the slopes of a volcano that is full of loose material, the river will carry the material from the eruption into lava. Volcanic ash causes the specific gravity of the flow to be about 2 or more. Because of this high density, lava can carry large chunks of several meters3 as if floating in it. This kind of lahar destroys anything in its path of flow. When the lava flows, it is easy to change the direction of the flow, resulting in deviation or overflow. If not long after the eruption it rained, the lava was hot because the rainwater mixed with hot cloud deposits.

### c. Mapping of Semeru Volcano Disaster-Prone Areas

The mapping of the Semeru Volcano disaster is a complex mapping. This mapping requires some data analysis. The

data needed in this mapping are hydrological flow, lava flow, population, slope, and the distance to the center of the eruption. Each data is analyzed one by one to be used as reference material in the formulation of policies of the Central Government, Regional Government, the community, and other related parties. This mapping analysis was also carried out to measure vulnerability in the areas of Mount Merapi (Donovan et al., 2012) and Mount Kelud (Hizbaron et al., 2018). Through this mapping, it can be seen the areas affected by lava flows and lahars.

Hydrological flow is a river path that leads to the lowest place as its estuary. The direction of river flow (hydrology) from Puncak Mahameru (peak of Mount Semeru) is dominant towards the east, southeast, south, and west (Figure 3). This condition causes the flow of lava and lava from Mount Semeru to flow following the condition of its hydrological path when it erupted (Arianto, 2015). Moreover, the hydrological flow will control the erosion and gradation of Semeru Volcano (Thouret et al., 2014). This hydrological path is estimated as modeled on the mapping of the National Disaster Management Agency (BNPB) in Indonesia. This volcanic eruption-prone area has a mountainous topography in the north. This area includes Mount Kepolo, Mount Ayek-ayek, and Ranu Kumbolo. Furthermore, the slopes of the Semeru Volcano stretch to the south and east. The southern and eastern regions are areas that belong to Lumajang Regency. While the western part, the slopes of the Semeru Volcano stretches to Malang Regency. Thus the flow of lava and lahar adjusts the hydrological path, namely to the east, south, southeast, and west.

The slope of a slope is one of the indicators in measuring the level of volcanic disaster threat. The slope value is a parameter in determining the flow of lava and lahars. The higher the slope (steep) it can reduce the height of the lava flow. On the other hand, the lower the slope of the land will expand the affected area and increase the intensity of the high lava flow. Determination of the slope of this slope using the USLE criteria (Ramdan, 2020) namely 1-2% (flat), 2-7% (slightly sloping), 7-12% (sloping), 12-18% (slightly steep), 18-24 % (steep), and >24% (very steep). The flow of lava and lava from the eruption of Semeru Volcano also follows the direction of the slope. The slope is more dominant south and southeast than north. The slope of the Semeru Volcano area can be seen on the Slope Map (Figure 1). The northern part is more dominated by mountains and hills. Where the flow of lava and lava originates in the crater of the summit of Mount Semeru. Furthermore, it flows to the dominant rivers to the south, namely Lumajang Regency and Malang Regency. The mouth of this river is the Indian Ocean. The morphology and altitude of the Semeru Volcano area can be seen on the topographic map (Figure 4). The USLE classification table in determining the slope of the Semeru Volcano area is as follows.

Table 1. Slope by USLE in the Semeru Volcano Area (Source: Research results)

| No | Class (%) | Classification | Location of the slope of the Semeru Volcano |
|---|---|---|---|
| 1 | 1 - 2 | Flat | Mostly in the eastern and southeastern areas |
| 2 | 2 - 7 | Slightly sloping | Mostly in the east, west, south, and southeast |
| 3 | 7 - 12 | Sloping | Mostly in the east, west, south, and southeast |
| 4 | 12 - 18 | Slightly steep | Mostly in the northern and southern regions |
| 5 | 18 - 24 | Steep | Mostly in the northern area |
| 6 | > 24 | Very Steep | Mostly in the northern area |

Table 2. Population Data in Largest Affected Areas (Source: Processed from BPS Subdistrict Ampelgading, Poncokusumo, Tirto Yudo, Wajak, Pasrujambe, Candipuro, Pronojiwo, Pasirian, Candipuro, Tempeh, Sumbersuko, and Tempursari, 2020)

| Classification | Total Villages | Total population (people) | Total Areas ($km^2$) | Population density (people/$km^2$) |
|---|---|---|---|---|
| Disaster-Prone Area III | 3 villages in Malang Regency and 8 villages in Lumajang Regency | 67,083 | 98.38 | 920.8 |
| Disaster-Prone Area II | 6 villages in Malang Regency and 7 villages in Lumajang Regency | 91,726 | 205.9 $km^2$ | 826.48 |
| Disaster-Prone Area I | 8 villages in Malang Regency and 25 villages in Lumajang Regency | 211,954 | 287.87 $km^2$ | 2,938.08 |

The Semeru Volcano disaster-prone area against mass flows (lava and lahar) may experience expansion. This also has the potential to cause cold lava flooding. It can even potentially experience hot cloud drift. It is predicted that it will hit most of the areas adjacent to rivers that originate at Mahameru Peak. This disaster-prone area covers various sides, namely 1) in the west including Kali Manjing and Kali Kembar (river route enters Ampel Gading District, Malang), 2) in the southeast includes Kali Besuk Boan and Besuk Semut (this river route enters Pronojiwo District, Lumajang), Kali Liprak (this river route enters Candipuro District to Pasiran District, Lumajang), 3) the east includes Besuk Tengah and Besuk Tompe (this river route enters Pasrujambe District, Lumajang), and then 4) the south includes Besuk Kembar, Besuk Bang, and Kali Lengkong (this river line is in Pronojiwo District, Lumajang), Kali Glidik (this river line is in Pronojiwo District to Tempursari District, Lumajang). From the expansion and deviation of hot clouds from Semeru Volcano, it is possible that it can hit villages and sub-districts around the river. The prediction of the expansion of disaster-prone areas depends on the size of the volcanic eruption. Identifying the distance of the area from the source of a volcanic eruption is a very important activity. This identification is to be able to assess areas that have the potential to be affected by material throwing from volcanic activity. Identify this distance using a buffering technique. This buffering technique uses 5 km and 8 km distances from BNPB data (Arianto, 2015; Bronto et al., 1996).

There are 8 villages included in the 5 km buffering area, namely Ngadas, Pasrujambe, Supiturang, Oro-Oro Ombo, Tamansari, Pronojiwo, Sumber Urip, and Sidomulyo. While in the 8 km buffering area, there are 5 namely Sumberputih, Tamansatriyan, Mulyosari, Argoyuwono, and Sumbermujur. However, the extent of the affected area and the magnitude of the loss to this area can be seen from the magnitude of the eruption of Mount Semeru. Lava flow is one of the disasters caused by volcanic activity. This phenomenon can threaten and disrupt the activities of people living in volcanic areas. The impacts caused by this disaster range from loss of property, human casualties, environmental damage, and psychological impacts (Endarwati et al., 2017). The flow of lava and lava which is a hydrological route has

an impact on the villages around the mountain. Likewise with the area around the Semeru Volcano. The digitization of areas affected by the eruption of Mount Semeru is based on administrative boundaries (Arianto, 2015).

These administrative boundaries are in the form of Regency/City boundaries, District boundaries, and Village boundaries. Digitizing the villages affected by the eruption will provide a reference for the community and government in making policies. In addition, it can be used by various agencies to review and overcome the impact of the eruption of Mount Semeru. The historical traces of the Semeru Volcano's lava flow impacted several villages in Malang Regency and Lumajang Regency. The list of villages is grouped by zone of disaster vulnerability level (Arianto, 2015). There are a number of affected areas, namely 106 villages. This village is located in the zoning of the Semeru Volcano disaster-prone area. However, with the number of villages, there are 57 villages that are predicted to be affected and suffer heavy losses. The number of villages is divided into 17 villages in Malang Regency and 40 villages in Lumajang Regency. These villages belong to several sub-districts, namely Ampelgading, Poncokusumo, Tirto Yudo, Wajak, Pasrujambe, Candipuro, Pronojiwo, Pasirian, Candipuro, Tempeh, Sumbersuko, and Tempursari.

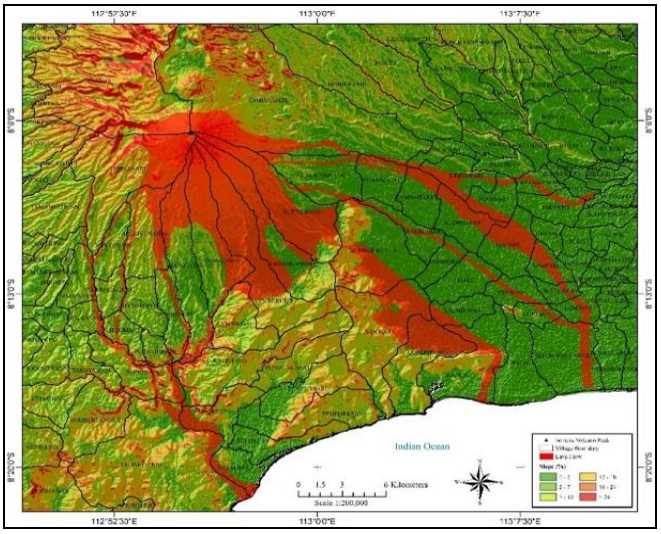


Figure 2. Slope Map in Lava Flow Area (Source: Research results)

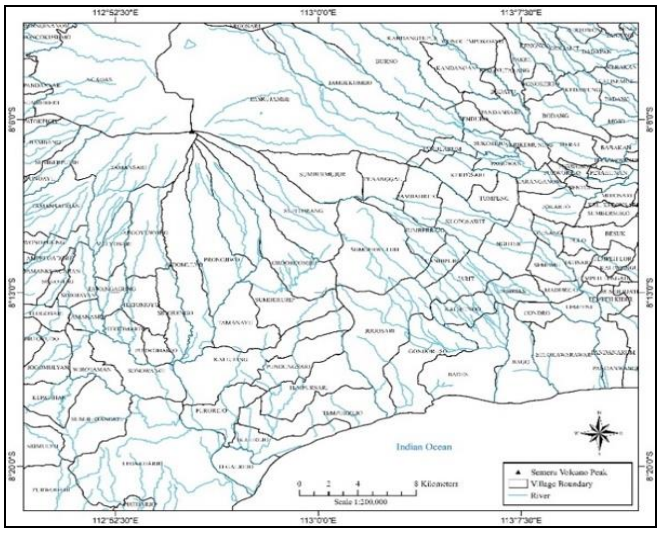


Figure 3. River Map in Lava Flow Area (Source: Research results)

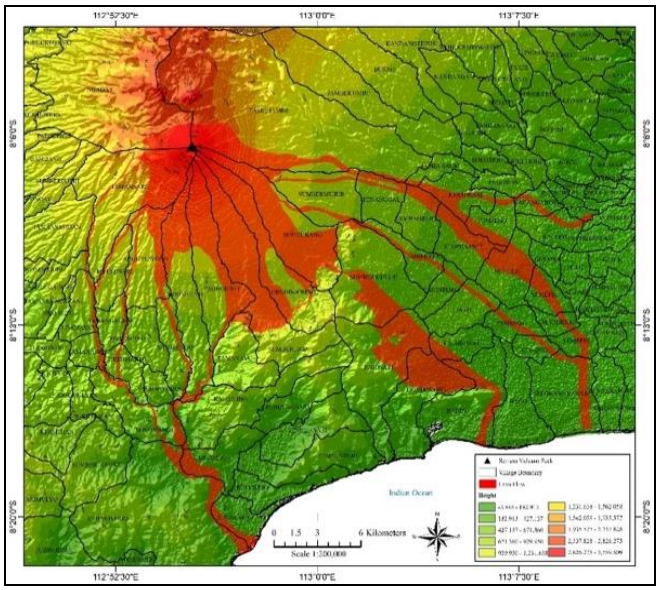


Figure 4. Topographical Map of the Lava Flow Area

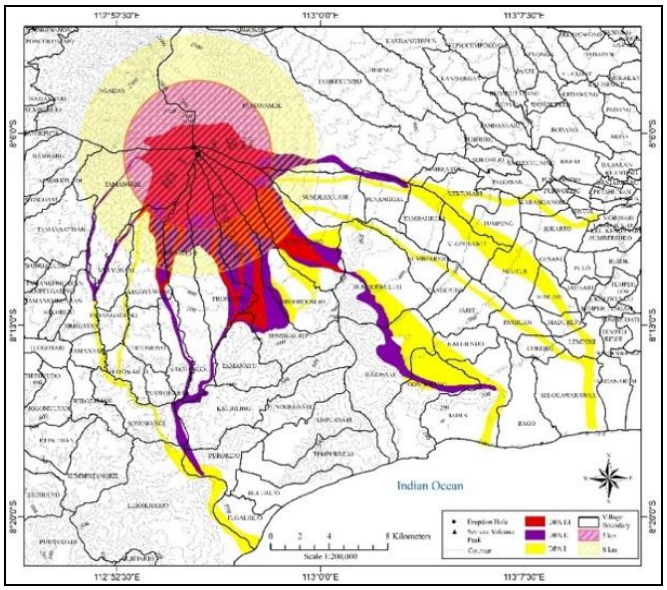


Figure 5. Eruption Disaster Prone Area Map (Source: Research results)

A map of disaster-prone areas (Figure 5) is made to be used as a reference in making government, community, or other related parties' policies. In addition, it can be used as an action plan in reducing the risk of volcanic disasters. This area is divided into three areas. Disaster-Prone Area III (high status area), Disaster-Prone Area II (medium status area), and Disaster-Prone Area I (low status area). Disaster-Prone Area III covers the threat area of 3 villages in Malang Regency and 8 villages in Lumajang Regency with a total area of 98.38 km$^2$. Disaster Prone Area II covers the threat area of 6 villages in Malang Regency and 7 villages in Lumajang Regency with a total area of 205.9 km$^2$. The division of this area can be seen on the Disaster Area Map (Figure 5). Mapping with this zoning method was also carried out in the area of Mount Merapi (Asriningrum, 2004). The villages affected by major losses based on their vulnerability zones (Figure 5) are as follows: Disaster-Prone Area III consists of 11 villages covering Malang Regency (Argoyuwono Village, Tamansari, Ngadas)

and Lumajang Regency (Pasrujambe Village, Sumbermujur, Oro Oro Ombo, Pronojiwo, Sidomulyo, Sumberurip, Supiturang, Tamanayu). Furthermore, Disaster-Prone Area II consists of 13 villages covering Malang Regency (Mulyoasri Village, Purwoharjo, Sidorenggo, Simojayan, Ampelgading, Tamansatriyan) and Lumajang Regency (Bades Village, Gondoruso, Jugosari, Penanggal, Sumberwuluh, Purorejo, Kaliuling). Disaster-Prone Area I consists of 33 villages covering Malang Regency (Bambang Village, Sumberputih, Lebakharjo, Sonowangi, Tamanasri, Tawangagung, Tirtomatro, Tirtomoyo) and Lumajang Regency (Bago, Condro, Kalibendo, Madurejo, Nguter, Pasirian, Selok Anyar, Selok Awar Awar, Sememu, Candipuro, Jarit, Kloposawit, Sumberrejo, Addrejo, Tumpeng, Penanggal, Jambearum, Karanganom, Kertosari, Pagowan, Jokarto, Lempeni, Mojosari, Sentul, Tegalrejo).

The study of population size in formulating disaster policies is an important topic. Through this study will be able to identify areas that have a high population density. The higher the number of people living in volcanic areas and the closer they are to the center of the eruption, the higher the risk of being affected by a volcanic disaster. This population study is processed based on population data at the Central Statistics Agency (BPS) in Indonesia in 2020 and the processing of residential areas in ArcGIS. The total population in the Disaster-Prone Area III is 67,083 people with a population density of 920.8 people/km$^2$. The total population in the Disaster-Prone Area II is 91,726 people with a population density of 826.48 people/km$^2$. Meanwhile, the total population in Disaster Prone Area I is 211,954 people with a population density of 2,938.08 people/km$^2$. The map of the population can be seen in Figure 6.

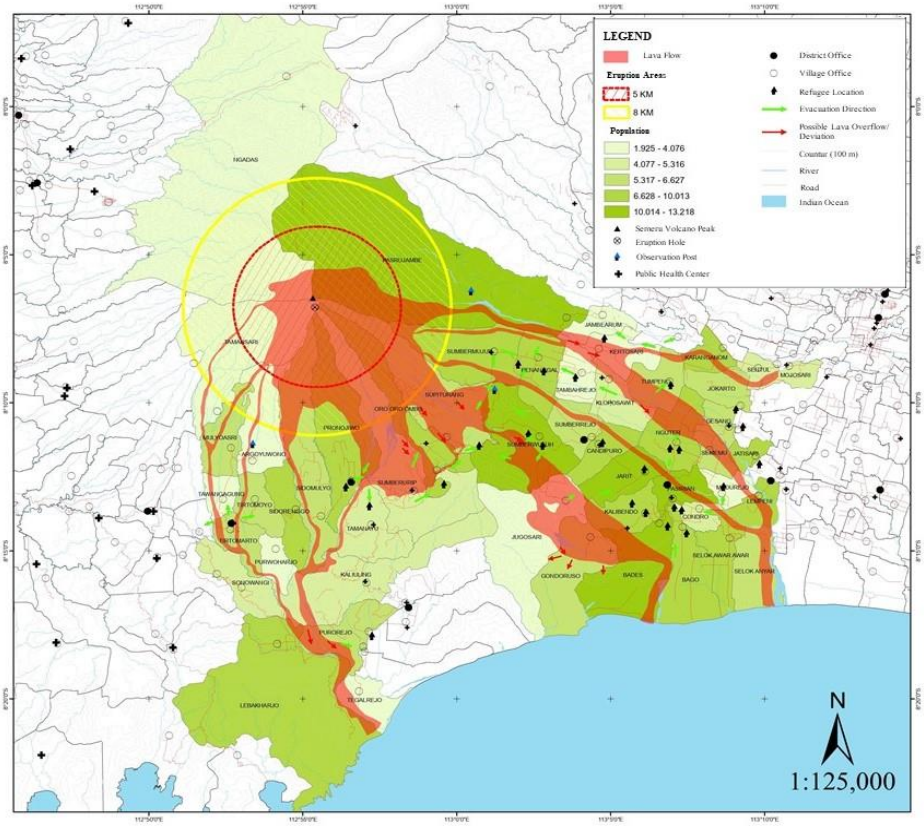


Figure 6. Population Map in the Lava Flow Area (Source: Research results)

### c. Mapping of Semeru Volcano Tourism Objects

The activities of the Semeru Volcano threaten various economic, educational, political, social and other sectors. The threat of this volcanic disaster is no exception in the tourism sector. Semeru Volcano is included in the strategic tourism area of TNBTS (Bromo Tengger Semeru National Park). TNBTS targets in 2019 are areas with achievements of the International Geo-Ecoculture Park (Purnomo et al., 2018). The ecosystem types of this area are sub-montane, montana, and sub-alphin with large trees that are hundreds of years old (Geological Agency, 2014). Volcanic activity cannot be prevented in any way. However, the threat from volcanic activity needs to be followed up to minimize its impact. As a series of efforts made by village governments and local communities in Lombok (Wahyuningtyas, 2019, 2020), companies in Chile (Tironi and Manríquez, 2019), and companies in Turkey in responding to disasters that occurred there (Orhan, 2016). Attractions around Semeru Volcano are divided into several classifications. Tourist attractions include meadows, lakes, pine forests, bamboo forests, campgrounds, temples, waterfalls, beaches, and baths. Grassland tourism consists of 3 objects which include Panggonan Cilik, Oro-Oro Ombo, and Cemoro Kandang Meadow. There are 3 lake tours which include Ranu Kumbolo, Ranu Pani, and Ranu Regulo. Pine forest tourism consists of 2 which include the Semeru Pine Forest and Siti Sundari. Bamboo forest tourism consists of 1 object which includes the Lumajang Bamboo Forest. The camp tour consists of 2 which includes the Kalimati and the Songo Tawon. Temple tourism consists of 2 objects which include Jawar and Samudro. Waterfall tourism consists of 16 objects which include Kapas Biru Waterfall, Coban Sewu, Coban Srengenge, Coban Pelangi, Goa Tetes, Coban Trisula, Kabut Pelangi, Kedung Jumali, Coban Sriti, Coban Telaga Warna, Coban Gintong, Tiga Bidadari, Coban Sonowangi, Kembar, Manggisan, and Randuagung. Beach tourism consists of 4 objects which include Dampar, Watu Gedhek, Tpi, and Licin. The bathing tour consists of 1 object which includes the Sememu Natural Bath.

Mapping of tourist attractions in disaster-prone areas of Mount Semeru can be used as a reference for the Central Government, Regional Governments, practitioners, the community, and various other parties. This mapping can also help in efforts to increase community preparedness in tourist areas. Community preparedness is expected to avoid property losses, loss of life, and changes in people's lives in the future (Sutton and Tierney, 2006). This mapping uses buffering of 1 km from the location of the tourist attraction. The use of buffering is to determine the distance of tourist objects from areas prone to volcanic eruptions and affected by lava flows. On the overlay of the eruption point zone using buffering distances

of 5 km and 8 km. Next, overlay the lava flow using the guidelines from the Disaster Hazard Map from BNPB. The results of the mapping of disaster-prone areas and the identification of the location of these attractions can be seen on the Map of Tourist Attractions in the Semeru Volcano Eruption Disaster-Prone Area (Figure 7). Based on the mapping of this tourist attraction, there are 23 objects that are in dire need of repair and disaster education. This education is to provide knowledge about pre-disaster, mitigation, and recovery activities. So that the impact of disasters can be minimized and the tourism sector can be restored quickly after volcanic activity occurs. Meanwhile, 11 tourist objects that are classified as safe areas must still be equipped with disaster knowledge from both the government and local knowledge. This is very important because it is a prevention effort when a volcanic eruption enlarges and lava flows expand.

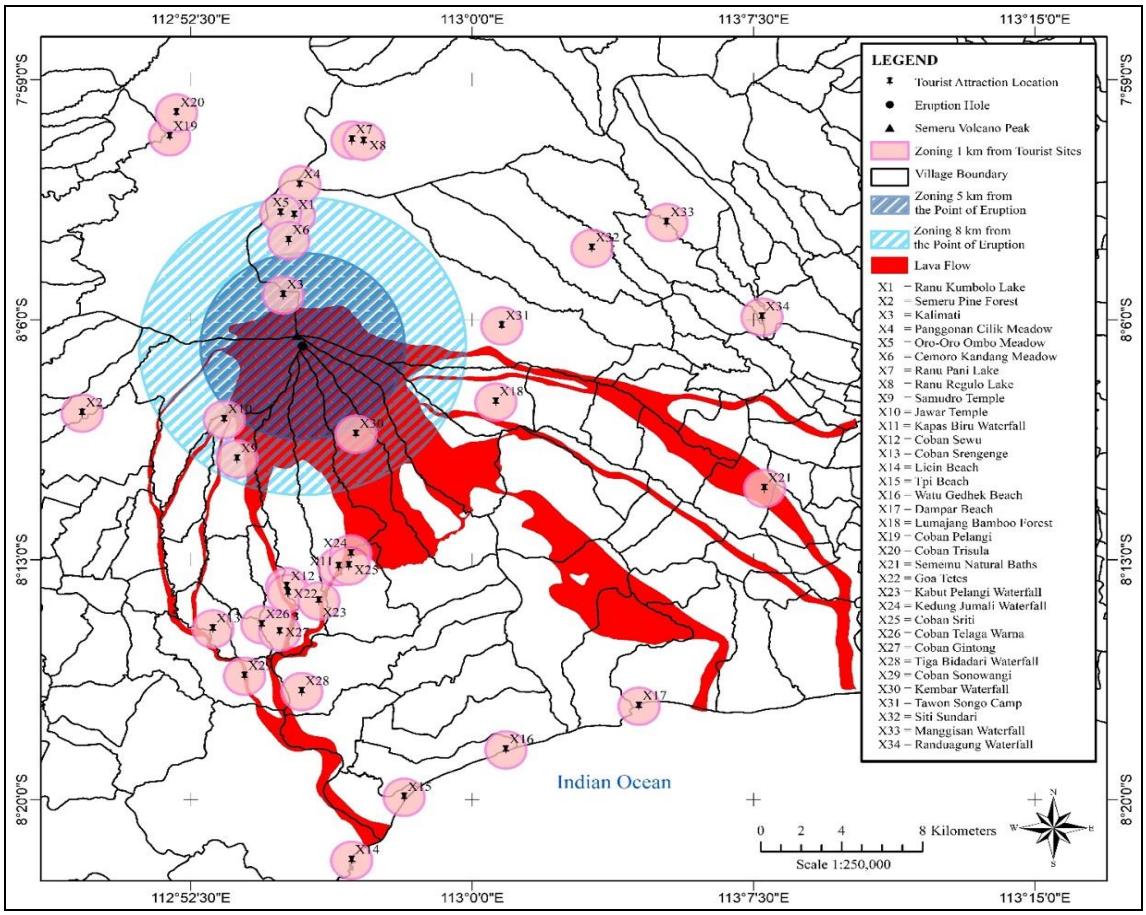


Figure 7. Map of Tourism Objects in the Semeru Volcano Disaster-Prone Area (Source: Research results)

There are 4 tourist objects affected by the 5 km zoning. These tourist objects are threatened by volcanic material and lava at a distance of 5 km from the center of the eruption. These attractions include the Kalimati Campground, Cemoro Kandang, Jawar Temple and Kembar Waterfalls. While in the 8 km zoning there are 4 attractions. This tourist attraction means that it will be affected by volcanic material and lava at a distance of 8 km from the center of the eruption. These attractions include Samudro Temple, Ranu Kumbolo Lake, Panggonan Cilik Meadow, and Oro-oro Ombo Grassland. In addition to zoning using distance buffering from the eruption, there are other tourist objects identified as disaster-prone using lava flow digitization. Attractions affected by the lava flow consist of 15 objects. These attractions include Tawon Songo Campground, Sememu Natural Baths, Lumajang Bamboo Forest, Tiga Bidadari Waterfall, Coban Sonowangi, Coban Srengenge, Coban Telaga Warna, Coban Gintong, Kabut Pelangi Waterfall, Goa Tetes, Coban Sewu, Coban Sriti, Kedung Jumali Waterfall, Licin Beach, and Kapas Biru Waterfall. Meanwhile, tourist objects that are still classified as safe based on buffering techniques for volcanic eruptions and lava flows consist of 11 objects. These objects include Watu Gedhek Beach, Tpi Beach, Dampar Beach, Semeru Pine Forest, Siti Sundari Pine Forest, Randuagung Waterfall, Manggisan Waterfall, Coban Trisula, Coban Pelangi, Ranu Pani Lake, and Ranu Regulo Lake. The majority of tourist attractions in the Semeru Volcano area are threatened by volcanic activity. Communities living around tourism require in-depth disaster mitigation supplies to be aware of disaster risks. This is considering that tourism potential is very important for improving their economy. There are previous research studies that assess that there are gaps and low mitigation policies for Semeru Volcano. Communities tend to use local wisdom in disaster mitigation because the anticipation, policies, and funding from the local government are not good (Pen, 2017). Local governments need to adopt preparedness carried out by various outside regions. A strengthening study by the leadership was also carried out on companies in Turkey. Leaders should increase employee knowledge about pre-disaster actions, disaster mitigation, and how to overcome them to reduce greater risks in Adapazari, Turkey (Orhan, 2016). Moreover, disaster leadership in Chile integrates local community knowledge with political knowledge as an important element for efficient disaster management (Tironi and Manríquez, 2019).

## CONCLUSION

The mapping of the Semeru Volcano disaster-prone area (Bromo Tengger Semeru National Park) is important. This can be used as a reference in the management of tourism around the Semeru area. Based on the results of the study, it is known that the direction of river flow (hydrology) from the Mahameru Peak (the peak of Mount Semeru) is dominant to the east, southeast, south, and west. The flow of lava and lava from the eruption of Semeru Volcano also follows the direction of the slope. The slope is more dominant south and southeast than the north. The northern part is more dominated by mountains and hills. Where the flow of lava and lava originates in the crater of the summit of Mount Semeru.

Disaster-Prone Areas are divided into three areas. Disaster-Prone Area III covers the threat area of 3 villages in Malang Regency and 8 Lumajang Regency with a total area of 98.38km2, a population of 67,083 people, and a population density of 920.8 people/km2. Disaster-Prone Area II covers the threat area of 6 villages in Malang Regency and 7 Lumajang Regency with a total area of 205.9 km2, a population of 91,726 people, and a population density of 826.48 people/km2. Disaster-Prone Area I covers the threat area of 8 villages in Malang Regency and 25 Lumajang Regency with a total area of 287.87km2, a population of 211,954 people, and a population density of 2,938.08 people/km2. The results of the mapping show that there are 57 villages that are predicted to be affected and suffer heavy losses. The number of villages is divided into 17 villages in Malang Regency and 40 villages in Lumajang Regency. These villages belong to several sub-districts, namely Ampelgading, Poncokusumo, Tirto Yudo, Wajak, Pasrujambe, Candipuro, Pronojiwo, Pasirian, Candipuro, Tempursari, Tempeh, Sumbersuko, and Tempursari. In addition, these disaster-prone areas are areas that have a lot of tourism potential.

The majority of tourist attractions are affected by eruption zones and are affected by lava flows. The number of these tours is 23 objects. While the tourist objects that are classified as safe amounted to 11 objects. All tourist attractions around Semeru Volcano require provision of pre-disaster knowledge, disaster mitigation, and restoration of tourist areas. With this knowledge, tourism will become the main economic sector of the community and can recover quickly after volcanic activity. There are 4 tourist objects affected by the 5 km zoning. While in the 8 km zoning there are 4 attractions. In addition to zoning using distance buffering from the eruption, there are other tourist objects identified as disaster-prone using lava flow digitization. Attractions affected by the lava flow consist of 15 objects. Meanwhile, tourist objects that are still classified as safe based on buffering techniques for volcanic eruptions and lava flows consist of 11 objects. The majority of this tourist area is a type of waterfall tourism. The waterfall tourist area has a high risk because of its location in the lava flow and is included in the volcanic eruption zone.

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# DEVELOPING A COMPETITIVE MODEL FOR HEALTH AND WELL-BEING TOURISM DESTINATIONS IN THAILAND: CONFIRMATORY FACTOR ANALYSIS APPROACH

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**Abstract:** This study assesses the consistency of the structural components of a model for developing a competitive health and well-being destination as viewed by health and well-being tourism entrepreneurs in an emerging Thai market. The sample consisted of 216 health and well-being tourism entrepreneurs recruited by purposive sampling. A questionnaire formatted using a five-point Likert scale was used. The questionnaire's Index of Item-Objective Congruence (IOC) varied from 0.60 to 1.00, and its reliability ranged from 0.711 to 0.938. Statistical analysis, frequencies, percentages, means, standard deviations, exploratory factor analysis and confirmatory factor analysis were utilised. The findings revealed the following seven model components: 1) health and well-being tourism resources and attractions, 2) infrastructure and facilities, 3) service design and development, 4) policy, planning and destination management, 5) knowledge management and learning organisation, 6) destination management and 7) innovative capacity. Governors, entrepreneurs, destination managers and stakeholders can use the discovered variables to evaluate a competitive health and well-being destination's expected performance, strengths, weaknesses and development opportunities. Further, this research should enable continuing support through the critical variable factors.

**Key words:** competitive model, health destination, well-being destination, health tourism, confirmatory factor analysis

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## INTRODUCTION

The COVID-19 pandemic has severely reduced tourism's worldwide value. The United Nations World Tourism Organization (UNWTO) evaluated COVID-19's impact on the tourism industry and found that the pandemic has costed approximately USD 1.3 trillion in income, resulting in 74% decrease in international tourist visits from 2019 to 2020 (UNWTO, 2021). Clearly, the COVID-19 outbreak has affected tourism, with many people avoiding travel because of the perceived associated health risks (Gursoy and Chi, 2020; Chua et al., 2020). However, once the most critical phase of the COVID-19 pandemic passes, Thailand is expected to welcome tourists again. Health and wellness tourism will become a hot new trend, and entrepreneurs and stakeholders must prepare for a new era of tourism during which tourists place a higher premium on health and safety (National News Bureau of Thailand, 2020).

Health tourism refers to the combination of travel to tourist destinations with medical and health services, sports facilities, fitness centres and other health-promoting activities. Additionally, health tourism might be divided into two types: therapeutic tourism, which focuses on health rehabilitation; and health-promoting tourism, which focuses on illness prevention (Mueller and Kaufmann, 2001; Goodrich and Goodrich, 1987; Sheldon and Bushell, 2009). Thailand is a tourism destination known for its exceptional, beautiful and diverse natural and artificial destinations, traditions, culture and knowledge that are unique to each location. Thailand extensively uses its natural resources to preserve and restore health in various ways. The country's tourism industry also boasts experience and skills in service, traditional Thai massage, natural herbal spa services, various lodging structures and accessible transport infrastructure. Thailand takes excellent care of visitors and tourists, fully embodying its unique attitude of polite service. These qualities have positioned Thailand as Asia's health and wellness tourism leader and a worldwide health tourism destination. For example, Thailand ranked 17$^{th}$ out of 46 global destinations ranked within the 2020-2021 Medical Tourism Index report on the Medical Tourism Association. Additionally, Thailand was ranked fifth in the medical tourism industry dimensions, and the global ranked 15$^{th}$ in quality of facilities and services dimensions (Medical Tourism Association, 2020).

To take advantage of Thailand's strength in this area, the Ministry of Public Health's Department of Health Service Support developed a strategic plan to promote Thailand as an international health centre capable of competing with other wellness tourism destination countries globally. Furthermore, leveraging the strength of the nation's health care system to attract visitors seeking treatment can increase revenue and employment in local communities and across Thailand (Department of Health Service Support, Ministry of Public Health, 2016). Numerous countries adopted this approach to increase the competitiveness of their tourism destinations, which relies on the ability to develop attractive products and services in health and wellness tourism that incentivise more tourists to spend time and money in the area and create satisfaction and deliver impressive tourist experiences. Successfully competing for market share requires creating key performance metrics. A number of studies, such as research on the development and enhancement of Taiwan's health tourism destinations (Lee and Li, 2019), the establishment of a competitiveness index for Iran's health tourism hotspots

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(Mosammam et al., 2019), a model of the variables influencing Nigerian medical tourism abroad (Eze et al., 2021), components of South Korea's medical tourism destinations' competitiveness (Junio et al., 2016), Singapore's competitive medical tourism destinations (Ganguli and Ebrahim, 2017), shaping the appeal of the health tourism attractions on the Spanish island of Gran Canaria (Medina-Muñoz and Medina-Muñoz, 2014), determinants affecting the deterioration of Russia's competitiveness as a medical tourism destination (Novikova et al., 2013), Serbia's worldwide tourist potential as a medical tourism destination (Snezana et al., 2013), the competitiveness factors affecting health tourism in an Alpine case study (Schalber and Peters, 2012), guidelines for the Egyptian medical tourism group's success and development (Helmy and Travers, 2009), and guidelines for gaining a competitive edge in the English-speaking Caribbean's medical tourism industry (Chambers and McIntosh, 2008) provide recent examples of such metrics.

A review of the research literature on developing models to enhance the competitiveness of health and well-being tourism destinations in the Thai context found a number of studies on enhancing the spatial and regional competitiveness of health and well-being tourism destinations. These studies include recommendations for increasing the competitiveness of Phuket's health tourism industry (Aksornpairoj, 2020), health tourism development in Nakhon Si Thammarat Province (Julatha, 2019), Nakhon Si Thammarat Province's health tourism growth to become the upper south's centre of health tourism (Akarawong et al., 2020), assessment of the suitability of hot springs in Krabi's Khlong Thom District for development as a role model of hot spring health tourism (Rattanadilok na Phuket and Weerakit, 2019) and recommendations for establishing health tourism management in hot springs across Thailand's northern area (Hongsub and Pookaiyaudom, 2015). Despite the number of studies found in the literature review, which are subsequently discussed, gaps were still found in the research. Consequently, the need exists for further study into methods to improve the competitiveness of Thailand's health and well-being tourist destinations on national and holistic levels.

This research aims to bridge this gap and examine, using empirical data, the components that affect the development of the competitiveness of health and well-being tourism destinations and the conformity of the structure of these components as perceived by health and well-being tourism entrepreneurs in Thailand. Government agencies, entrepreneurs, destination managers and stakeholders in health and well-being tourism destinations can benefit from these research findings, which provide a guide to improve competitiveness by identifying the strengths, weaknesses and opportunities for the development and enhancement of specific destinations and an investment strategy that considers the feasible opportunities.

**Research Hypothesis**

This study develops the hypothesis that the confirmatory factor model for developing a competitive health and well-being destination in Thailand is congruent and consistent with the empirical data.

**Methods**

The researcher gathered data from a literature review of research publications and academic articles on the development of competitiveness of health and well-being destinations. The research selection process selected articles published in English and Thai within five years. First, the following selection criteria were determined from the full-text document: content related to enhancing the competitiveness of health and well-being tourism destinations, research method quality met the criteria, no risk of bias, data contained complete results, appropriate research methodology, and appropriate human research ethical protection for personal data received in samples, by contributors, or from research participants.

The findings of the literature review indicated that the components and indicators for the development of competitiveness of health and well-being tourism destinations could be synthesised and used to develop a conceptual framework for preliminary research, as illustrated in Table 1 and Figure 1.

Table 1. Constructs and Indicators (Source: Author's data analysis 2021)

| Constructs | Code | Indicators | Sources |
|---|---|---|---|
| Health and Well-being Tourism Resources and Attractions | RES1 | Unique and memorable identities | Armenski et al. (2018); Asmelash and Kumar (2019); Chen (2020); Chen et al. (2016); Težak Damijanić (2019); Erbaş and Perçin (2015); Goffi (2013); Hanafiah and Zulkifly (2019); Liu et al. (2019); Lo et al. (2017); Mi et al. (2019); Pan et al. (2019); Reitsamer and Sperdin (2016); Romão et al. (2017); Suphachaimongkol et al. (2019); Szromek and Naramski (2019); Tapak et al. (2019); Yan et al. (2017) |
| | RES2 | Tourism activities that can create a learning experience and a lasting impression | |
| | RES3 | Tourism activities that engage with the local people, such as producing wellness and herbal products to sell to the tourists | |
| Infrastructure and Facilities | INF1 | A transport network conveniently connecting the tourist's residence to the destination | Armenski et al. (2018); Augustin et al. (2017); Dodescu and Cohut (2016); Ege and Uslu (2018); Salinas Fernández et al. (2020); Gajić et al. (2018); Gaman (2015); Hanafiah and Zulkifly (2019); Li et al. (2016); Portolan (2019); Reisinger et al. (2019); Reitsamer and Sperdin (2016); Roy et al. (2018); Šajinović (2017); Tapak et al. (2019); Wang et al. (2020) |
| | INF2 | Infrastructure for providing information to tourists | |
| | INF3 | Wellness promotion services for activities, such as yoga, exercise and aerobics | |
| | INF4 | Tourist facilities design that serves all types of clients | |
| Service Design and Development | SER1 | Delivery of services to promote wellness through knowledge and expertise | Andrades and Dimanche (2019); Chen et al. (2016); Erbaş and Perçin (2015); Gajić (2018); Garau and Pavan (2018); Junio et al. (2016); Kelly et al. (2015); Szromek and Naramski (2019); Tapak et al. (2019); Yan et al. (2017) |
| | SER2 | Wellness promotion using natural methods such as herbal baths, oil massage, hydrotherapy and others | |
| | SER3 | Making clients feel relaxed when using wellness promotion services, such as décor that is in harmony with nature, appropriate soothing music and others | |

| | | | |
|---|---|---|---|
| | SER4 | Service process that tracks problems or complaints within a short period | |
| | SER5 | Continuous training to improve employees' or practitioners' service quality | |
| | SER6 | Collaboration of employees or workers as a team in response to client needs or complaints | |
| Policy, Planning and Destination Management | POL1 | Focusing on consistent economic development that mostly contributes to local community and environment | Añaña et al. (2018); Andrades and Dimanche (2019); Erbaş and Perçin (2015); Asmelash and Kumar (2019); Hanafiah and Zulkifly (2019); Kurek et al. (2020); Reitsamer and Sperdin (2016); Suphachaimongkol et al. (2019) |
| | POL2 | Laws, policies and measures supported by government agencies | |
| | POL3 | Ability to assess risks to tourists using services/visiting | |
| | POL4 | Concept presentation/delivering value to tourists | |
| | POL5 | Brand development, destination experience, wellness tourism | |
| | POL6 | Global standards recognised and accepted by tourists | |
| Knowledge Management and Learning Organisation | KM1 | Knowledge transfer and consulting for business partners | Andrades and Dimanche (2019); Armenski et al. (2018); Kelly et al. (2015); Suphachaimongkol et al. (2019); |
| | KM2 | Assembling and storing knowledge to provide wellness tourism services to tourists, nursing homes, researchers / students and new entrepreneurs interested in starting a business | |
| | KM3 | Linking and applying knowledge to create new knowledge or new services | |
| | KM4 | Having the necessary basic knowledge for e-commerce businesses and using IT to gain competitive advantages | |
| | KM5 | Having the knowledge and adaptability to respond promptly to the context of change | |
| | KM6 | Active learning to enhance the organisation's knowledge and skills | |
| | KM7 | The ability to learn with people in diverse communities and cultures | |
| Destination Management | DM1 | Management of wellness promotion products | Añaña et al. (2018); Camisón et al. (2016); Hanafiah and Zulkifly (2019); Liou et al. (2019); Mi et al. (2019); Roy et al. (2018); Semenova et al. (2018); Suphachaimongkol et al. (2019); Szromek and Naramski (2019); Tapak et al. (2019); Meera and Vinodan (2015) |
| | DM2 | Management of processes and quality of services/products | |
| | DM3 | Human resource management and development | |
| | DM4 | Financial and cost management | |
| | DM5 | Marketing management | |
| | DM6 | Management to understand client needs | |
| | DM7 | Crisis Management | |
| | DM8 | Maintaining wellness tourism resources/environmental sustainability and reducing waste in the organisation | |
| | DM9 | Strategic management for wellness tourism | |
| Innovation Capacity | INN1 | Application of electronic tourism systems and other relevant service innovations | Bilbao-Terol et al. (2017); Dodescu and Cohut (2016); Reisinger et al. (2019); Salinas Fernández et al. (2020); Gajić et al. (2018); Hanafiah and Zulkifly (2019); Romão et al. (2017) |
| | INN2 | Human capital for new services, such as personnel with knowledge and expertise in wellness tourism, creativity and passion for developing new products or services and others | |
| | INN3 | Open to service innovation | |
| | INN4 | Bringing local resources, knowledge and a unique local identity to create strength of sale and add value to tourism products and services | |
| | INN5 | Continuous development of new work processes | |
| | INN6 | Always prepared; proposes new options instead of using the same old methods to quickly solve problems | |

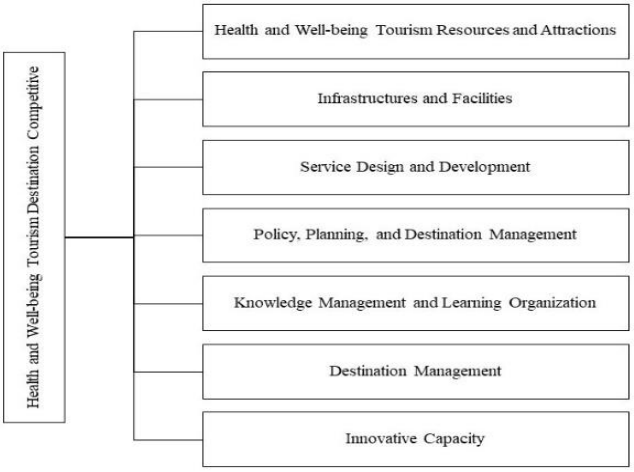


Figure 1. Proposed Health and Well-being Tourism Destination Competitive Model

**Population and Sampling**

The population is the group of health tourism business operators collected during the data collection period. The Soper (2020) method for calculating the ratio of the sample unit to the number of parameters was used to randomly determine the sample size. The sample size calculation uses the structural equation model (SEM) based on the number of observable and latent variables for the effect size of the research, probability and required statistical power, as detailed as follows: Anticipated effect size = 0.3

Desired statistical power level = 0.8
Number of latent variables = 7
Number of observed variables = 41
Probability level = 0.05

The calculation results indicate a recommended minimum of 180 samples. A non-probability sampling method was used with a specific sampling technique.

**Survey Instrument**

The researcher used the survey research method. The tool used for data collection was a questionnaire that was divided into the following three parts:

Part 1 General information about the firms, four questions.

Part 2 General information about the respondents, five questions.

Part 3 Opinions about the importance of the following factors to enhance the competitiveness of health and well-being tourism destinations: 1) health and well-being tourism resources and attractions, three questions; 2) infrastructure and facilities, four questions; 3) service design and development, six questions; 4) policy, planning and destination management, six questions; 5) knowledge management and learning organisation, seven questions; 6) destination management, nine questions and 7) innovative capacity, six questions. Responses were provided using a five-level estimation Likert scale: not necessary, quite important, significant, very important and most important.

**Content Validity**

The researcher utilised the Item-Objective Congruence (IOC) index calculation technique by distributing the questionnaire to qualified individuals to ensure that the content was correct and the language expression was suitable. The five specialists represented the project evaluation, hospitality management, wellness tourism, spa business management and hotel and tourism management disciplines. As displayed in Table 2, no question had a conformance index score less than 0.50 (Rovinelli and Hambleton 1977), and the consistency index ranged between 0.60 and 1.00.

**Reliability Test**

The researcher pre-tested the questionnaire's reliability using a group similar to the sample group of 30 questionnaires, the Cronbach's alpha coefficient and a statistical package software. A confidence level of at least 0.7 demonstrated that the questionnaire was sufficiently trustworthy to infer acceptable confidence in all of the variables investigated (Hair et al., 2010). The Cronbach's alpha coefficients from 0.711 to 0.938 indicated that all questions met the requirements, as shown in Table 2.

Table 2. Validity and Reliability Coefficient of Research Instrument (Pre-Test) (Source: Author's data analysis 2021)

| Construct | No. of Items | IOC | Corrected Item-total Correlation | Cronbach's Alpha |
|---|---|---|---|---|
| Health and Well-being Tourism Resources and Attractions | 3 | 0.60–1.00 | 0.708–0.800 | 0.711 |
| Infrastructure and Facilities | 4 | 0.60–1.00 | 0.749–0.921 | 0.802 |
| Service Design and Development | 6 | 0.80–1.00 | 0.511–0.950 | 0.888 |
| Policy, Planning and Destination Management | 6 | 0.60–1.00 | 0.691–0.975 | 0.925 |
| Knowledge Management and Learning Organisation | 7 | 0.80–1.00 | 0.523–0.925 | 0.909 |
| Destination Management | 9 | 0.60–1.00 | 0.590–0.926 | 0.899 |
| Innovative Capacity | 6 | 0.60–1.00 | 0.717–0.978 | 0.938 |

**Data Collection**

The researcher administered both paper and online questionnaires by synchronising the survey data to Google Drive. A QR code and link were developed to facilitate the submission of an online questionnaire and the production of paper questionnaires. Three hundred questionnaires were also distributed to a group of Thai businesses engaged in health and well-being tourism from 1 November 2020, to 30 December 2020. Also included in each questionnaire was a reference letter, a call for collaboration to demonstrate the value of answering, data used to benefit others and ensuring the confidentiality of the answers received. In addition, to ensure the facility of the responses received, the researcher included a pre-addressed, stamped envelope to enable prompt return through the post. Participation in the study was optional and non-binding, and respondents could opt out by checking the box indicating their refusal to respond to the questionnaire.

If a sample agreed to participate in the study after having been informed of the rules for safeguarding individual rights, he or she simply ticked the consent box and proceeded to the next stage. In total, 235 questionnaires were received, 19 of which were incomplete, for 216 completed questionnaires—larger than the number of independent variables plus 50 (Harris, 2001)—indicating that the sample appropriately represents the population. The actual response rate was 78.33%, higher than the allowed 20.00% for enterprise survey research through the post (Aaker et al., 2000). Additionally, research participants were primarily entrepreneurs or business owners, representing a good cross-section of the relevant population (Baruch and Holtom, 2008). An independent sample t-test was used to evaluate the data for non-response bias by comparing the completed initial and subsequent questionnaire responses. At the 0.05 significance level, the results indicated no statistically significant differences between the two groups' sample populations (Armstrong and Overton, 1977). The questionnaire response population was typical of the larger relevant population in this study.

**Data Analysis**

The researcher analysed both general information about the firms, such as their age, estimated annual revenue, establishment size (total number of employees) and the primary, types of services offered in the health and well-being tourism industry and respondents' data, such as gender, age, education level, current position and work experience in the health and well-being tourism industry. Then, using frequency, mean, percentage and standard deviation, exploratory and confirmatory factor analyses were performed to ensure the coherence of the structure-correlation model developed with empirical data.

## RESULTS AND DISCUSSION

### Demographic Information

The sample group consisted of 216 firms. Classifying the data collected from the questionnaires by firm age revealed that half of the firms had been in existence for between five and ten years. Additionally, most earned more than one million baht per year or 50.0%. Overall, the total number of employees is less than 50, accounting for 82.4% of total employment. Additionally, most health tourism companies provide activities and services, such as spas, Thai massages, fitness training, yoga, meditation, culinary classes and healthy food, accounting for 70.8% of total income.

The questionnaires were sent to a sample group of 216 persons. When categorised by gender, 66.7% were female. The majority, or 29.2%, were between the ages of 26 and 45. Those with a bachelor's degree accounted for 66.7% of all graduates. Furthermore, 66.7% were entrepreneurs or business owners. Additionally, the largest group of respondents, or 45.8% of the total, worked in the health tourism industry for six to ten years.

Moreover, according to an analysis of opinions on the importance of components in developing the competitiveness of health and well-being tourism destinations in seven dimensions, the destination management factor was identified as having the highest priority ($\bar{x}$ = 4.57, SD = 0.344), followed by service design and development ($\bar{x}$ = 4.55, SD = 0.431), innovative capacity ($\bar{x}$ = 4.57, SD = 0.344), health and well-being tourism resources and attractions ($\bar{x}$ = 4.22, SD = 0.637), policy, planning and destination management ($\bar{x}$ = 4.20, SD = 0.485), knowledge management and learning organisation ($\bar{x}$ = 4.14, SD = 0.562) and infrastructure and facilities ($\bar{x}$ = 4.13, S.D. = 0.694). The standard deviation of all variables is less than 1.25, suggesting that respondents demonstrated more consistent than divergent perspectives of the seven components of the competitiveness enhancement of health and well-being tourism destinations, as observed in Table 3.

Table 3. Respondent Perceptions of Competitive Health and Well-being Destination Dimensions (Source: Author's data analysis 2021)

| Ranking | Competitive h ealth and well-being destination dimensions | Mean | S.D. |
|---|---|---|---|
| 1 | Destination management | 4.57 | 0.344 |
| 2 | Service design and development | 4.55 | 0.435 |
| 3 | Innovative capacity | 4.35 | 0.552 |
| 4 | Health and well-being tourism resources and attractions | 4.22 | 0.637 |
| 5 | Policy, planning and destination management | 4.20 | 0.485 |
| 6 | Knowledge management and learning organisation | 4.14 | 0.562 |
| 7 | Infrastructure and facilities | 4.13 | 0.694 |
| Average mean score | | 4.31 | - |

Table 4. Correlation Matrix of CFA Model Factors** p < 0.01 (Source: Author's data analysis 2021)

| | RES | INF | SER | POL | KM | DM | INN |
|---|---|---|---|---|---|---|---|
| RES | 1 | | | | | | |
| INF | 0.794** | 1 | | | | | |
| SER | 0.560** | 0.660** | 1 | | | | |
| POL | 0.608** | 0.696** | 0.804** | 1 | | | |
| KM | 0.543** | 0.613** | 0.795** | 0.828** | 1 | | |
| DM | 0.397** | 0.497** | 0.680** | 0.584** | 0.725** | 1 | |
| INN | 0.397** | 0.482** | 0.611** | 0.545** | 0.663** | 0.861** | 1 |

### Exploratory Factor Analysis

The Kaiser-Meyer-Olkin (KMO) sampling measure assay result was 0.937. This value, which is close to 1, indicates the suitability of the data used by the factor analysis technique. Additionally, Bartlett's test of sphericity revealed that the variables were substantially correlated (Chi-square = 6920.207, df = 820, p-value < 0.01), suggesting the variables' correlation matrix was relative and, thus, acceptable for component analysis. The variables' relationships were then categorised using a factor analysis approach, and the number of components was reduced using principal component factor analysis with varimax rotation. This research employs criteria to determine the number of factors requiring an eigenvalue greater than 1 and a factor loading greater than 0.5. The analytical findings are classified into the following seven distinct factor categories: 1) health and well-being tourism resources and attractions, 2) infrastructure and facilities, 3) service design and development, 4) policy, planning and destination management, 5) knowledge management and learning organisation, 6) destination management and 7) innovative capacity. Additionally, the reliability analysis determined that Cronbach's alpha coefficient was significantly higher than 0.7, indicating that the questionnaire was sufficiently reliable (Hair et al., 2010). Each variable met the specified criteria with values ranging from 0.768 to 0.948.

### Correlation Matrix

Pearson's product moment correlation coefficient, which has a potential range of −1 to 1, was carried out before the confirmatory factor analysis (CFA) to analyse the correlation between the component variables of the competitiveness development of health and well-being tourism destinations. The results are provided in Table 4. Table 4 indicates that all variables were positively correlated ($p < 0.01$), with values between 0.190 and 0.861. When considering the suitability of multicollinearity, a correlation coefficient higher than 0.7 between one pair of variables might influence multicollinearity (Hair et al., 2010; Meyers et al., 2013). Therefore, independent testing was performed on these variables using KMO and Barlett's test of sphericity to determine the suitability of the variables. The KMO obtained was 0.761, which is greater than 0.5. Additionally, Barlett's test of sphericity, which was statistically significant ($\chi 2 = 737.849$, df = 21, Sig = 0.000), showed that these synthetic variants had no multicollinearity problems. Therefore, the sample is appropriate for further CFA (Hair et al., 2010).

### Confirmatory Factor Analysis

The analysis model from the conformity test of the SEM for developing a competitive health and well-being destination based on the hypotheses and empirical data found that it was consistent with the empirical data given the harmony of the overall model fit. The statistical assessment of the model's degree of harmony with the empirical data found that the $\chi 2/df$ was 1.007, which passes the specified criterion of being less than 5. Furthermore, consideration of the group indices

defined at a level greater than or equal to 0.90 found that all indices—TLI = 0.991 and CFI = 0.993—met the specified criterion. Regarding the group indices defined at a level of less than 0.08, all indices, such as RMR = 0.030, RMSEA = 0.021, GFI = 0.860 and AGFI = 0.791, were found to pass this criterion. Therefore, the research hypothesis that states the confirmatory factor model for developing a competitive health and well-being destination in Thailand is accepted as being congruent and consistent with the empirical data, as shown in Table 5. The results of the CFA are provided in Figure 2.

Table 5. Indicators of Fit for Measurement Model / Comparison of Measurement Model Fitness Indices Notes: CFI = comparative fit index; IFI = incremental fit index; TLI = Tucker Lewis index; RMSEA = root mean square error of approximation; CMIN/DF = Chi-square/degrees of freedom

| Measure | Level of Acceptance | First Measurement Model | Final Measurement Model | Result |
|---|---|---|---|---|
| CFI | CFI > 0.90 (Hu and Bentler, 1999) | 0.807 | 0.993 | Accept |
| IFI | IFI > 0.90 (Byrne, 2001) | 0.809 | 0.994 | Accept |
| TLI | TLI > 0.90 (Byrne, 2001) | 0.791 | 0.991 | Accept |
| RMSEA | RMSEA < 0.08 (Hair et al., 2006) | 0.101 | 0.021 | Accept |
| CMIN/DF | $X^2$/df < 5.00 (Loo and Thorpe, 2000) | 2.718 | 1.077 | Accept |

When the construct validity for a measurement model variables is considered, for it to be found reliable, it should have a composite reliability of 0.70 or higher, a reliability that includes convergent validity based on average variance extracted (AVE) of 0.50 or higher and discriminant validity based on maximum shared value (MSV) (Hair et al., 2010). The confidence and reliability of the measurement model used in this study were determined to meet the requirements, as shown in Table 6.

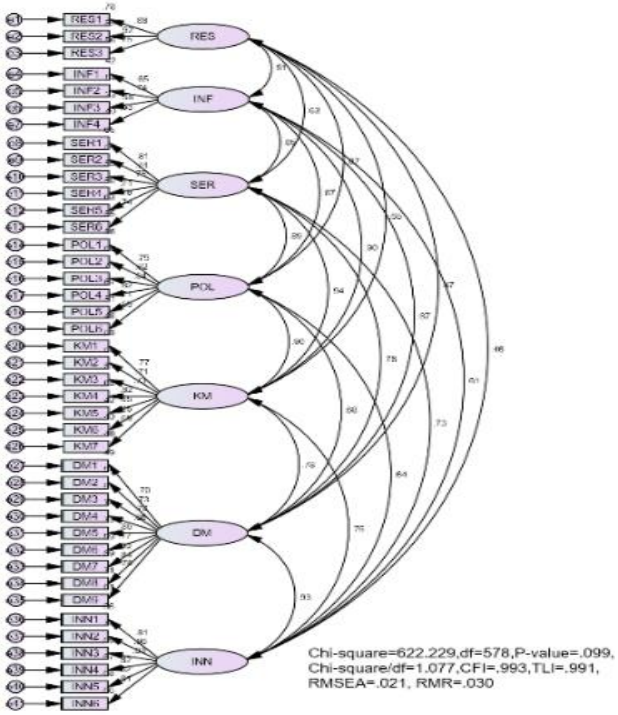


Figure 2. Measurement model
(Source: Author's data analysis 2021)

Table 6. Construct Validity of First-order CFA Results (Source: Author's data analysis 2021)

| Construct | Items | Factor Loading | Construct Reliability (CR) | Average Variance Extracted (AVE) | Maximum Shared Variance (MSV) | Average Shared Variance (ASV) |
|---|---|---|---|---|---|---|
| RES | RES1- RES3 | 0.747-0.924 | 0.948 | 0.730 | 0.689 | 0.277 |
| INF | INF1- INF4 | 0.578-0.735 | 0.861 | 0.523 | 0.445 | 0.167 |
| SER | SER1-SER6 | 0.708-0.806 | 0.948 | 0.573 | 0.530 | 0.121 |
| POL | POL1-POL6 | 0.695-0.843 | 0.945 | 0.601 | 0.445 | 0.111 |
| KM | KM1-KM7 | 0.652-0.824 | 0.946 | 0.515 | 0.469 | 0.098 |
| DM | DM1-DM9 | 0.703-0.858 | 0.979 | 0.634 | 0.618 | 0.087 |
| INN | INN1-INN6 | 0.809-0.860 | 0.969 | 0.682 | 0.648 | 0.134 |

## CONCLUSION

CFA reveals that the competitiveness development component of health and well-being tourist destinations is composed of the following seven components comprising 41 indicators.

1. Health and well-being tourism resources and attractions are comprised of three indicators: i) unique and memorable identities, ii) health and well-being tourism activities that can create a learning experience and lasting impression and iii) health and well-being tourism activities that involve engagement with local people, such as producing wellness and herbal products for sale to tourists.

2. Infrastructure and facilities are comprised of four indicators: i) transport network that conveniently connects a tourist's residence to the destination, ii) infrastructure for providing information to tourists, iii) health and well-being tourism promotion services, such as yoga, exercise and aerobics and iv) design of tourist facilities that accommodate all types of clients.

3. Service design and development are comprised of six indicators: i) delivery of services to promote health and well-being tourism with knowledge and expertise, ii) promotion of health and well-being tourism using natural methods, such as herbal baths, oil massages and hydrotherapy, iii) making clients feel relaxed when using health and well-being tourism promotion services through methods that are in harmony with nature, such as décor and appropriate soothing music, iv) service processes designed to track and resolve problems or complaints within a short period, v) continuous training to improve the quality of service provided by employees or practitioners and vi) collaboration among employees or workers in response to client needs or complaints.

4. Policy, planning and destination management are comprised of six indicators: i) focus on consistent economic development that positively contributes to the local community and environment, ii) laws, policies and measures

supported by government agencies, iii) ability to assess risks to tourists using services/visiting, iv) concept presentation or delivery of value to tourists, v) brand development, destination experience, health and well-being tourism and vi) global standards that tourists recognise and accept.

5. Knowledge management and learning organisation are comprised of seven indicators: i) knowledge transfer and consulting with business partners, ii) assembling and storing knowledge to provide wellness tourism services to tourists, nursing homes, researchers/students and new entrepreneurs and who are interested in starting a business, iii) linking and applying knowledge to create new knowledge or new services, iv) having the necessary basic knowledge for e-commerce businesses and using IT to gain competitive advantages, v) having knowledge and adaptability to respond promptly to the context of change, vi) active learning to enhance the knowledge and skills of the organisation and vii) the ability to learn with people in diverse communities and cultures.

6. Destination management is comprised of nine indicators: i) management of health and well-being tourism promotion products, ii) management of processes and quality of services or products, iii) human resource management and development, iv) financial and cost management, v) marketing management, vi) management to understand client needs, vii) crisis management, viii) maintaining health and well-being tourism resources, environmental sustainability and reducing the amount of waste in the organisation and ix) strategic management for health and well-being tourism.

7. Innovation capacity is comprised of six indicators: i) application of electronic tourism systems and other relevant service innovations, ii) human capital for new services, such as personnel with knowledge and expertise in health and well-being tourism, creativity and passion for developing new products or services, iii) open to service innovation, iv) bringing local resources, knowledge and unique local identity to create strength of sale and add value to health and well-being tourism products and services, v) continuous development of new work processes and vi) always prepared; proposes new options instead of using the same old methods to solve problems quickly.

As previously detailed, the seven components of health and well-being tourist destinations' competitiveness enhancement consist of 41 indicators. The samples indicate that the destination management, service design and development, innovation capacity, health and well-being tourism attraction and resources, policy, planning and destination development, knowledge management and learning organisations are the most critical factors affecting the development of the competitiveness of health and well-being tourism destinations. Additionally, the samples' perspectives on the components of the competitiveness advancement of health and well-being tourist destinations in all seven critical dimensions were compatible with the empirical data, with minimal variations and a similar direction.

## DISCUSSIONS AND RECOMMENDATIONS

### Discussion

The research revealed seven components of competitiveness development of health and well-being tourist destinations and that these components are compatible with the empirical evidence. Each component is discussed as follows.

1. Health and well-being tourism resources and attractions include distinctive and memorable identities and tourism activities that can provide learning experiences and lasting impressions and involve interactions with indigenous people, such as the production of wellness and herbal products for tourists. This finding is consistent with previous studies that demonstrated that the resource is distinct, diversified and specialised in health tourism (Mi et al., 2019; Pan et al., 2019). A key to success is the organisation of varied tourist events to improve health, entertain and educate visitors about the community's culture and way of life (Liu et al., 2019). Additionally, arranging events that give tourists a sense of community helps local communities earn more money (Reitsamer and Brunner-Sperdin, 2016). These key indications of success assist in developing health tourism resources and attractions.

2. Infrastructure and facilities include the transportation network that connects tourists' accommodation to their tourism destinations, infrastructure used to provide information to tourists, wellness promotion services and activities, such as yoga, exercise and aerobics and the design of tourist facilities that cater to various clientele. This conclusion is consistent with previous studies that demonstrated the availability of infrastructure and transportation coupled with a diverse range of trip destinations and ease of access (Gaman, 2015; Reitsamer and Brunner-Sperdin, 2016; Šajinović, 2017) and the arrangement of information centres for tourists (Roy et al., 2017; Dodescu and Cohut, 2016; Salinas Fernández et al., 2020; Portolan, 2019). Providing health promotion services in addition to traditional health and mental health care is also consistent with previous findings (Demir and Dundar, 2018; Gaman, 2015). Moreover, the design of beautiful and stable architectural structures that are capable of accommodating the needs of all types of tourists is consistent with other research (Gajić et al., 2018; Gaman, 2015; Li et al., 2016). These elements are all critical indicators of the structure and facilities required for the successful development of health tourism destinations.

3. Service design and development include delivering wellness services with knowledge and expertise, using natural methods to promote wellness, such as herbal baths, oil massage and hydrotherapy, creating a relaxing environment for clients to use wellness promotion services through such things as décor that is in harmony with nature and appropriate soothing music and designing service processes through tracking. These findings corroborate previous studies that demonstrated the importance of workers' competence and attention to service quality (Andrades and Dimanche, 2019; Gajić et al., 2018), healing and restoration using ancient wisdom and natural remedies (Kelly et al., 2015), creating a comfortable environment via dialogue and using edifying music to provide a calm atmosphere to visitors utilising the service (Erbaş and Perçin, 2015; Junio et al., 2016; Reitsamer and Brunner-Sperdin, 2016; Yan et al., 2017) and promptly responding to travellers' needs, concerns and demands (Chen et al., 2016; Naidoo et al., 2011). Previous studies also stressed the need to concentrate efforts on establishing personnel training programmes to improve service efficiency

(Naidoo et al., 2011) and collaboration between health promotion professionals in various disciplines to provide visitors with high-quality rehabilitation and healing services (Kelly et al., 2015). Each factor is essential when designing and developing health tourism services.

4. Policy, planning and destination management includes a focus on consistent economic development that primarily contributes to the local community and environment, laws, policies and measures supported by government agencies, the ability to assess risks to tourists using services/visiting, concept presentation/delivering value to tourists, brand development, destination experience, wellness tourism and adherence to global standards that tourists recognise and accept. These findings are consistent with previous research that focused on building the economic system of the local community and enhancing its quality of life (Suphachaimongkol et al., 2019) and studies that looked at legislation, rules and policies supporting health tourism by government agencies (Roy et al., 2018). The capacity to evaluate tourists or service recipients (Andrades and Dimanche, 2019) delivers impressive and valuable wellness services (Erbaş and Perçin, 2015; Szromek and Naramski, 2019). Another key element of success is developing a brand image, personality and appeal consistent with the destination's identity (Armenski et al., 2018; Chen et al., 2016; Hanafiah and Zulkifly, 2019). Additionally, the wellness destination must be capable of accepting foreign tourists, conducting international business and adhering to internationally recognised standards for health tourism services (Añaña et al., 2018; Augustin and Liaw, 2017; Dodescu and Cohut, 2016; Demir and Dundar, 2018; Salinas Fernández et al., 2020; Junio et al., 2016; Portolan, 2019; Reisinger et al., 2019). All of these are key markers of health tourism destination policy, planning and development.

5. Knowledge management and learning organisations include knowledge transfer and consulting for business partners, assembling and storing knowledge to provide wellness tourism services to tourists, nursing homes, researchers or students and new entrepreneurs interested in starting a business, connecting and applying knowledge to create new knowledge or new services and possessing the necessary, basic knowledge for e-commerce businesses. These outcomes corroborate prior studies that indicate the importance of transferring knowledge and providing business advice to business partners (Suphachaimongkol et al., 2019), accumulating and disseminating information to the community and business partners to improve health tourism services that represent rehabilitative expertise and indigenous wisdom (Suphachaimongkol et al., 2019), and integrating and implementing health tourism knowledge to generate new information and innovative health tourism goods and services (Andrades and Dimanche, 2019; Armenski et al., 2018; Suphachaimongkol et al., 2019). Furthermore, this information supports prior research on the capacity to apply existing information or knowledge proficiently and effectively, including business operations through electronic commerce channels powered by IT systems, to gain a competitive edge and respond quickly to changes (Andrades and Dimanche, 2019; Armenski et al., 2018). A commitment to lifetime learning and skill development to sustain an organisational and learning culture was found to be critical (Armenski et al., 2018; Bilbao-Terol et al., 2017), as was learning alongside diverse groups of people, communities, cultures and experts in indigenous wisdom-based health restoration (Asmelash and Kumar, 2019; Kelly et al., 2015; Suphachaimongkol et al., 2019). In fact, all indicators are critical for health tourism destination knowledge management and a learning organisation.

6. Destination management encompasses the management of wellness promotion products, processes and the quality of services/products, finances and costs, client needs, market, the maintenance of wellness tourism resources/environmental sustainability and crises; the management and development of human resources and the reduction of waste. This result is consistent with previous studies that demonstrated that the creation and invention of diverse, exceptional and high-quality health tourism goods are vital (Andrades and Dimanche, 2019; Armenski et al., 2018; Mi et al., 2019) and that business process management with expertise and timely service quality management must satisfy tourists (Chen, 2020; Krstic et al., 2016). Other research that focused on human resource management and development (Andrades and Dimanche, 2019; Salinas Fernández et al., 2020; Hanafiah and Zulkifly, 2019; Krstic et al., 2016; Reisinger et al., 2019; Reitsamer and Brunner-Sperdin, 2016), Financial Resource Management (Añaña et al., 2018; Camisón et al., 2016; Hanafiah and Zulkifly, 2019; Liou et al., 2019; Suphachaimongkol et al., 2019) and Travel Destination Marketing Management (Camisón et al., 2016; Erbaş and Perçin, 2015; Hanafiah and Zulkifly, 2019; Semenova et al., 2018) are all congruent with this study's findings. The importance of recognising tourists' requirements (Andrades and Dimanche, 2019; Szromek and Naramski, 2019), crises management (Crouch, 2010) and planning and policy development for the management of environmentally sustainable tourism destinations (Armenski et al., 2018; Asmelash and Kumar, 2019; Augustin and Liaw, 2017; Dodescu and Cohut, 2016; Salinas Fernández et al., 2020; Horng et al., 2018; Kelly et al., 2015; Krstic et al., 2016; Portolan, 2019; Reisinger et al., 2019; Romão et al., 2017) are oother results that are consistent with this research. Additionally, strategic management for health tourism is required (Liou et al., 2019; Suphachaimongkol et al., 2019). These markers are critical to the management of tourism destinations.

7. Innovative capacity includes the use of electronic tourism systems, other pertinent service innovations and human capital for new services, such as individuals with knowledge and skills in wellness tourism and creativity and enthusiasm for producing new goods or services. Openness to service innovation, bringing local resources, knowledge and a distinct local identity to strengthen sales and add value to tourism products and services, continuous development of new work processes and always being prepared to propose new solutions rather than relying on tried-and-true methods to resolve problems quickly are all critical elements of success. These findings corroborate prior studies that discovered that technological readiness is a critical instrument for driving business and developing service improvements (Bilbao-Terol et al., 2017; Horng et al., 2018; Krstic et al., 2016; Demir and Dundar, 2018), along with human resource preparedness for new service development (Reisinger et al., 2019; Romão et al., 2017; Roy et al., 2018). Navigating geographic indicators of natural and cultural resources in indigenous communities to identify sales points and develop them into new products

(Armenski et al., 2018; Kurek et al., 2020; Reitsamer and Brunner-Sperdin, 2016; Roy et al., 2018), gaining exposure to service innovation and the ability for knowledge absorption (Dodescu and Cohut, 2016; Hanafiah and Zulkifly, 2019; Romão et al., 2017) and improving work techniques to provide continuity of health promotion services involving collaboration with appropriate interdisciplinary specialists (Armenski et al., 2018; Kelly et al., 2015) are other important findings that are congruent with this study. Moreover, critical indicators of innovative capacity include constantly preparing for and discovering new ways to deliver services that differentiate themselves from competitors and increase efficiency in the development of new health tourism services that add value to tourists (Liou et al., 2019; Šajinović, 2017).

**Application of the Present Findings**

This study identifies the essential components and indicators for research results to be developed and the information to increase the competitiveness of tourist health and well-being destinations. This study also provides detailed information on these components and indicators. Finally, recommendations for government agencies, health and well-being tourism institutions in Thailand and operators of health and well-being destinations, communities, societies and public transport services are provided. Clearly, many diverse and important factors need to be considered to develop a globally competitive tourism destination for holistic health and well-being. These factors include the effective application to similar health and well-being tourism resource and attraction projects infrastructure, design and development of services, policies, planning and management of destinations, knowledge management and learning organisations, destination management and innovative capacity. Furthermore, the generated indicators can be used to develop decision support schemes as administrative tools and for comparisons and formulations of strategies to improve the competitiveness of health and well-being tourist destinations, giving cluster operators, the public and private sectors and stakeholders a sustainable competitive advantage.

**Future Research**

This research develops a conceptual framework based on a systematic review of the most relevant past research literature from foreign countries. Therefore, in-depth information on developing the competitiveness of health and wellness tourism destinations suitable for the Thai context might be lacking. Therefore, researchers can extend this research in subsequent studies by undertaking mixed-method research involving both qualitative and quantitative analyses to expand and increase the depth of the data through in-depth interviews, focus groups and other appropriate methods.

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# POPULARIZATION OF OBJECTS OF THE CULTURAL AND HISTORICAL HERITAGE OF THE REPUBLIC OF KAZAKHSTAN AS A FACTOR FOR THE DEVELOPMENT OF ETHNOCULTURAL TOURISM OF THE COUNTRY

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**Abstract:** This article is devoted to the research of world cultural heritage sites in the territory of Kazakhstan, their influence on tourist flows, and the formation of new routes in the direction of ethnocultural tourism. In the article, the authors analyze the phenomenon of ethnocultural tourism development as a way of knowing the historical, cultural, and natural heritage of the country. In the course of research activities, a survey was conducted, priority objects for the development of ethno-cultural tourism in the Southern region of the Republic of Kazakhstan were identified. The result of the study was the development of a technological map of the route "Turkestan - echo of centuries", which will significantly affect the popularization of UNESCO's cultural and natural heritage, as well as the quality of excursion services along this route, which will undoubtedly have a positive impact on the formation of tourist flows of domestic and inbound tourism in Kazakhstan, and will also allow to prepare new directions within the framework of ethno-cultural tourism.

**Key words:** tourism, ethnocultural tourism, world cultural heritage, cultural and historical heritage, culture

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## INTRODUCTION

Currently, the process of globalization has an influence on almost all areas of common society. Without bias, this process contributes to the creation and development of tourist connections between different countries, when a vital part of the tourist flow has pronounced cultural motives of tourist activity (Butuzov, 2019). Recently, there has been a significant amount of interest in the values-based orientations of society, its distinctive characteristics, exoticism and identity, i.e. what significantly distinguishes the culture of one people from another or qualitative changes taking place in their historical development. Culture can contribute to a healthier society, facilitates civic involvement and gives tourists a reason to visit (Morar et al., 2020). Cultural tourism is one of the fastest growing and attracting tourism types in the world (Maaiah and Wouhoush 2020). The concept of ethnocultural tourism is becoming more and more popular. The development of new routes, the creation of technological maps of excursions, allows us to systematically develop this type of tourism in the country. It is justified that ethnocultural tourism, as a collection of tourism practices that demonstrate the most diverse sections of human existence in culture, plays one of the defining roles in the diversity of intercultural communication, familiarity with regional cultures and cognition of traditional ways, values and folk beliefs (Dashkova, 2021). Cultural tourism relies on culture, the natural environment, tends to use the original mechanisms of traditional forms (Adhika and Putra, 2020), forming a unique cultural landscape of the territory. The heart of ethnocultural tourism is the cultural heritage itself, namely, the spiritual, cultural, economic, and social capital of

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irreplaceable value. Heritage feeds modern science, education, and culture. Along with natural resources, this is the main basis for national self-respect and recognition by the world community. Therefore, ethnocultural tourism is certainly based on all the diversity of the country's heritage, while particular attention is paid to the world's natural and cultural heritage, as the highest level of recognition of the significance of objects that have a unique, outstanding value, not limited by one state. Today, the protection of heritage at both the global and national levels demands specific attention. The international conventions, recommendations, resolutions and other documents on heritage issues that existed at the time of the formation of the concept of world natural and cultural heritage surely testified to the significance that the safety of unique objects represented in the eyes of the peoples of the world, regardless of which nation they belong to.

According to statistics posted on the official UNESCO (United Nations Educational, Scientific and Cultural Organization) website: https://www.unwto.org/, as of 2021, there are 1,154 objects on the World Heritage List, of which 3 are delisted, 52 are in danger, 40 are transboundary, 897 cultural, 218 natural, 39 mixed in 167 member countries of the UNESCO Convention on the Protection of the World Cultural and Natural Heritage. Five following attractions of Kazakhstan are included in this list: Mausoleum of Khoja Ahmed Yasawi, Petroglyphs within the Archaeological Landscape of Tamgaly, Saryarka – Steppe and Lakes of Northern Kazakhstan, Silk Roads: the Routes Network of Chang'an-Tianshan Corridor, Western Tien-Shan. Each attraction corresponds to the characteristics of the world's cultural, natural, historical heritage, and tourist routes developed for the purpose of their popularization are directed at their preservation and propagation among the broad masses of the population. The development of inbound tourism for the Republic of Kazakhstan is a very urgent topic, as the tourism industry in Kazakhstan at the state level is recognized as one of the priority areas of the economy (Ayetov and Uruzbayeva, 2018). The specific strategic location of Kazakhstan favors the revival of tourism on the Silk Road. Within the adopted Concept for the Development of the Tourism Industry until 2020, the cluster of Southern Kazakhstan will be positioned as the "The Heart of Great Silk Road". Many ethnic groups, including Kazakh people have formed and have their ethno-cultural peculiarities (Kaimuldinova and Abdimanapov, 2014), which can become the basis of ethno-cultural tourism of the Republic of Kazakhstan. The key tourist products that will be developed in this cluster hold cultural tourism and tour, while the level of preservation of the intangible cultural population of the country also remains considerably high, which can guarantee the authenticity of the tourist environment.

## MATERIALS AND METHODS

"Ethnocultural tourism" is a comparably new term that joins several concepts. In the globalization era, when the boundaries between ethnic groups become thin, and the value of authenticity is increasing more and more, the popularity of ethnocultural tourism is growing day by day, so today there are many interpretations of this term. The purpose of ethnocultural tourism gives the masses access to the traditions, customs, culture of a certain ethnic group. Also, it is a way to preserve what can be completely lost today. This is especially right for attractions that have an outstanding, unprecedented value for the whole world since they save the features of the cultural and historical development of the country for all the world. Thus, the phenomenon of "World Heritage" knows no bounds, it is an international concept that unites all the global monuments of the cultural and natural heritage, whose value goes far beyond the borders of one country. The main goal of this phenomenon is the safety and popularization of cultural and natural heritage objects in the conditions of progressive globalization. Now, the "ethnocultural tourism" term can be classified as a special direction of tourism that allows tourists to "immerse themselves" in the culture, traditions, customs of a certain nation living on the historical territory within one or several states. These terms are formed and have a number of unique peculiarities and there is no doubt, these types of tourism are based on science – ethnography (Belkov, 2014) which makes it possible to prepare a theoretical framework for the development of tourism (Cheboksarov and Cheboksarova, 1985). Thus, the works of experts, ethnographers, researchers have had a significant influence on the development of tourism and become the theoretical and methodological basis of this direction of tourism. Having a scientific basis, ethnographic tourism is actively developing in multiple countries and allows influencing the preservation of historical and cultural heritage monuments, as well as slow down the negative aspects of globalization processes that affect all areas of human life.

An ethnic group or ethnicity is a grouping of people who identify with each other based on shared attributes that distinguish them from other groups such as a common set of traditions, ancestry, language, history, society, culture, nation, religion, or social treatment within their residing area (People and Bailey, 2010). The "product" of the ethnic group's life is undoubtedly various monuments that represent both objects of tangible and intangible culture, they become the "basis" for planning new routes that completely show and popularize the heritage of the people, both at the regional and international level. The cultural, natural, historical tangible, and intangible heritage of the people is a resource that requires not only careful treatment but also measures to preserve it. In national science, the tangible cultural heritage has long been perceived almost as a synonym for the term "monument". In our view, the tangible (as well as spiritual) cultural heritage is a complicated sociocultural system that follows synergetic laws, actively interacts with the environment, and conveys certain information that changes in time and space. Therefore, culture, in the context of ethnographic tourism, is viewed as the foundation for the development of this direction of tourism, where the approach to historical and cultural heritage is combined with the modern, sustainable development of a particular region, state, or even a corner of the world. The cultural and natural heritage of the nation is the memory of the past life of the peoples, their historical development, the contemporary state, and prospects for popularization (Vedenin, 1995).

For the development of excursion and tourist activities, especially historical and cultural orientation, the research of the cultural heritage of a particular region is extremely important (Gubarenko et al., 2020). The problem of heritage is very relevant due to its essential role in preserving cultural diversity and, consequently, the sustainable development of modern

society. Heritage issues are of interdisciplinary nature. At the same time, cultural heritage is viewed as an important factor of interethnic harmony, since the Republic of Kazakhstan is a multiethnic state (Karatabanov et al., 2020).

In the course of the research, the method of sociological survey was applied — the method of sociological research, which includes collecting and obtaining primary empirical data about certain theories, knowledge, and social facts that make up the research subject, through oral or written interaction between the researcher (interviewer) and a given set of respondents (interviewees, respondents) (Zerchaninova, 2006). This method was applied to identify the most popular heritage objects among the general population, entities of the tourism industry, and future specialists, students, and undergraduates of the Kazakh Academy of Sports and Tourism (KazAST). During the research, in several stages the authors have developed and prepared a training and tourist-excursion route "Turkestan - the Echo of Centuries" for students of the Faculty of Tourism (KazAST), which was systematically introduced into the professional activities of travel agencies as a new tourist offer. The method of the experiment, based on a direct test run of a route and being a source of experience and empirical data (Pickett, 2011), was formed in 2017 with the assistance of more than 70 students and 15 teachers of the Department of Tourism and Service of KazAST. Significant changes were made in May 2021, then the route was tested (Yemelyanov, 2001) taking into account the modern features of the development of the South Kazakhstan Region. The method of drawing up a technological map of a tourist and excursion route currently allows preparing information about the route as holistically and systematically as possible, taking into account the peculiarities of the excursion methodology (Lyuterovich and Yagofarov, 2016). So, all these methods were necessary to build a new tourist-excursion, educational and training route "Turkestan - the Echo of Centuries", which allows to actively popularize the UNESCO World Cultural Heritage among students of the Tourism educational program, as it is part of the educational process and is already being actively introduced as a tourist offer for domestic and inbound tourism of South Kazakhstan.

The methodology of this scientific and practical research can be presented in the form of the main stages (Figure 1).

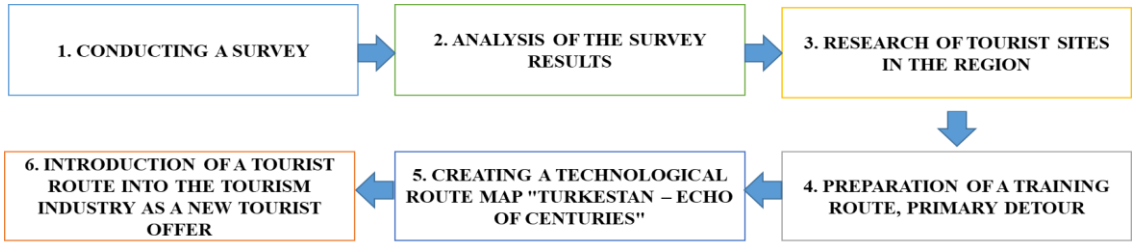


Figure 1. Research stages (Source: compiled by the author)

The main six stages of scientific research are: 1. Study of the potential of ethnographic tourism through conducting a survey; 2. Formation of ideas about the demand and popularity of cultural heritage objects of the country through the analysis of the survey results; 3. Objects of a specific region (South Kazakhstan) were studied; 4. A primary training route was drawn up in the region and a primary detour of the route was conducted; 5. A unique technological map of the route "Turkestan – echo of centuries" was created, along which the final detour was conducted; 6. The introduction of this route into the professional activities of subjects of education and tourism. Thus, the finished tourist product can be used both as a training route and as a tourist offer

## RESULTS AND DISCUSSION

The objects of the global historical, cultural and natural heritage of the countries participating in the UNESCO Convention are, first of all, a huge resource of world tourism in these countries, since the modern tourist strives to see something unique, something that can not be found anywhere else, something that distinguishes one country from another during the general globalization. The Republic of Kazakhstan is a large territory, in the vastness of which there is a big number of historical and cultural monuments that are precious not only for our country but also for the whole world. The natural resources of the republic are, first of all, unique natural monuments, specially protected natural territories, state national parks, nature reserves, bio-reserves, etc. All this is a unique heritage of our nation and the whole world, and therefore the preservation of this wealth for future generations, popularization in the world community, etc. becomes more and more significant. Kazakhstan joined the World Heritage Convention on April 29, 1994. Just then the process of inclusion into the list of objects has begun in our country, and from that moment it became possible to actively preserve and popularize objects that are valuable not only for one country but for the whole world.

A major factor in promoting the World Heritage Sites of the Republic of Kazakhstan is a step-by-step process of developing new tourist proposals taking into account the demands of society, which should include both identifying priority objects, testing them in the process of practical training of students of the Tourism educational program, and subsequent implementation as a new tourist product. To implement this approach, the authors of the research, specialists of the tourism industry and tourism education, developed the following algorithm of actions:

1. Conduct a sociological survey among interested and potentially interested respondents. The authors have conducted a survey among students of the Tourism Faculty of KazAST, employers, entities of the tourism industry in order to identify a priority UNESCO object for which a tourist and excursion route will be developed.
2. Develop a training tourist and excursion route for students of the Tourism educational program in order to test and form professional competencies in the field of tourism activities.

3. Prepare a reference technological map of a tourist and excursion route, taking into account the specifics of the route, objects of tourist interest, methodological recommendations and explanations.
4. Introduce the route into the activity of tourist companies as a new tourist offer.

Thus, the route developed within the framework of this algorithm allows preparing a tourist-excursion and training route to UNESCO sites in the territory of Kazakhstan, which will be an active means of promoting the country's tourist brand and improving the quality of practice-oriented tourist education.

The survey was conducted in April 2020; the respondents were more than 100 students from the KazAST studying under the Tourism educational program (EP) and representatives of the tourism industry. A number of questions were developed for them to determine promising trends in the development of a tourist and excursion route (Figure 2). The answer to the first question "What is the main type of your activity?" allowed identifying students and professionals of the tourism industry. So, out of 100% of respondents, 77% were students of the Tourism EP, 8% were students of another EP, 11% were professionals of the tourism industry, 2% were professionals of another field of activity, 2% were other.

The second question was "Which of the UNESCO World Heritage Sites in the Republic of Kazakhstan do you consider the most promising for the development of domestic and inbound tourism?" The majority of respondents answered "Mausoleum of Khoja Ahmed Yasawi" - 37%; 26% - "Silk Roads: the Routes Network of Chang'an-Tianshan Corridor"; 19% - "Petroglyphs within the Archaeological Landscape of Tamgaly"; 10% - "Western Tian Shan"; 8% - "Saryarka – Steppe and Lakes of Northern Kazakhstan."

The answers to the third question "What type of tourism do you consider the most promising in the Republic of Kazakhstan?" allowed us to determine the direction of the tourist and excursion route. A larger number of respondents - 40% - chose ethnographic tourism as the most promising; 32% - educational tourism; 12 % - sports tourism; 8% - business tourism and 8% - ecological tourism.

The fourth question "Which travel schedule for long distances (2 or more days) is preferable for you?" allowed us to determine that, in general, the main travelling movements in the daytime, and the night in a hotel are the most preferable and comfortable for the respondents. This approach will require the presence of not only the main attractions on the route, but also a sufficient number of additional objects to maintain the interest of the tourist and excursion group.

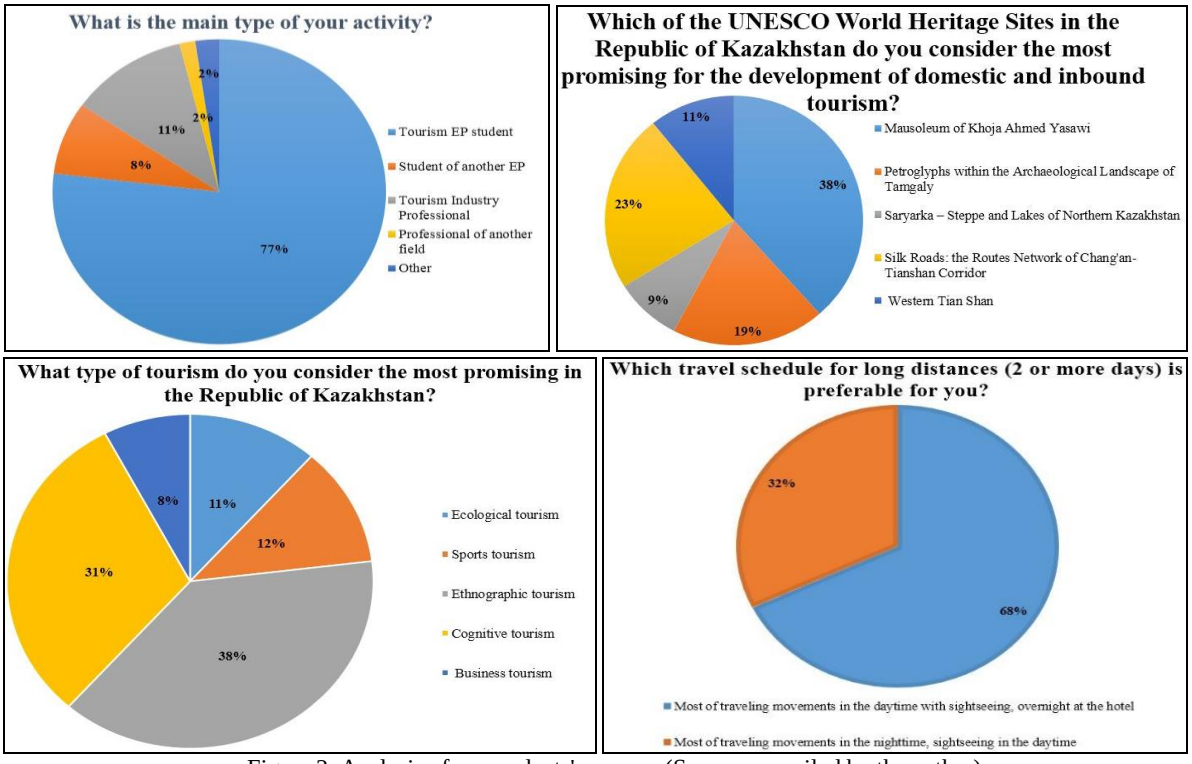


Figure 2. Analysis of respondents' answers (Source: compiled by the author)

Thus, in general, the conducted survey allowed designing a training, tourist-excursion route for the training of specialists in the Tourism educational program and tourist-excursion groups. The method of preparing such a route differs from the usual one, in that when developing it is necessary to take into account the extended time frame and the specifics of working in a group that has preliminary training. When analyzing the respondents' answers, the authors chose the direction of ethnocultural tourism with a visit to the main site (Mausoleum of Khoja Ahmed Yasawi, the Hilvet semi-underground mosque, the Visitor Center of Turkestan, Uly Dala Eli Innovation Center) and additional objects (the Mausoleums of Karakhan, Aisha Bibi and Babaji Khatun, the Al-Farabi Museum, the Otrar Museum, the Otrar settlement, Arystan-Bab Mausoleum, the modern city of Turkestan, the Mausoleum of Khoja Ahmed), selected taking into account the direction of the route: "the city of Almaty – the city of Taraz – the city of Shymkent – the city of Otrar – the city of Turkestan – Almaty". The total length of the route is about 1768 km of the bus and 10 km of the walking route.

The main segments of the route with distance in kilometers:

1) Almaty 43°16′39″N 76°53′45″E – Taraz 42° 53' 45.9168" N 71° 23' 54.3480" E (Mausoleums of Karakhan, Aisha Bibi and Babaji Khatun) - 491 km (about 6 hours in the picturesque area of Almaty and Zhambyl Region);

2) Taraz 42° 53' 45.9168" N 71° 23' 54.3480" E–Otrar 42°46′36″N 68°22′08″E (Shaulder) (Al-Farabi Museum, the Otrar Museum, Visitor Centre of the Oasis of Otrar) – 314 km (about 4 hours in Zhambyl and Turkestan Region, passing through the UNESCO Aksu-Zhabagly Nature Reserve and Sayram-Ugam National Park);

3) Otrar (Shaulder village) 42°46′36″N 68°22′08″E –Turkestan 43°17′51.75″N 68°16′15.80″E (Arystan-Bab Mausoleum, city of Turkestan, Mausoleum of Khoja Ahmed Yasawi (a UNESCO Site), the Hilvet semi-underground mosque, Visitor Center (of Turkestan, Uly Dala Eli Information Center) is 75 km (about 1 hour 20 minutes on the road);

4) Turkestan 43°17′51.75″N 68°16′15.80″E – Domalak Ana Mausoleum 42°52′30″N 69°40′11″E, 162 km (about 2 hours on the way);

5) Domalak Ana Mausoleum 42°52′30″N 69°40′11″E –Almaty 43°16′39″N 76°53′45″E (possible stop in Shymkent, Taraz) – 721 km (about 9 hours of travel).

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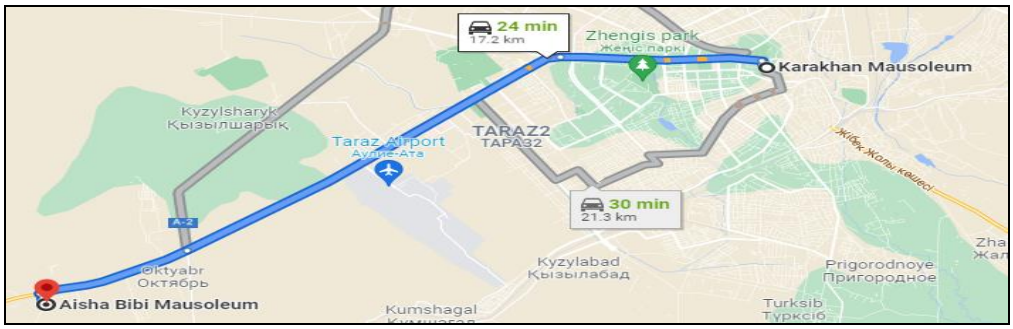


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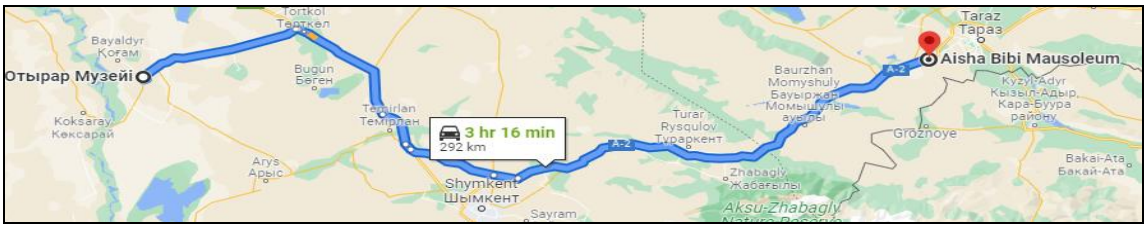


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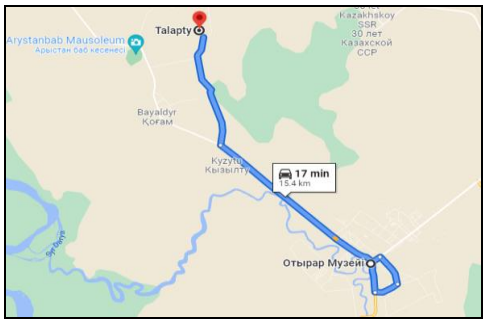


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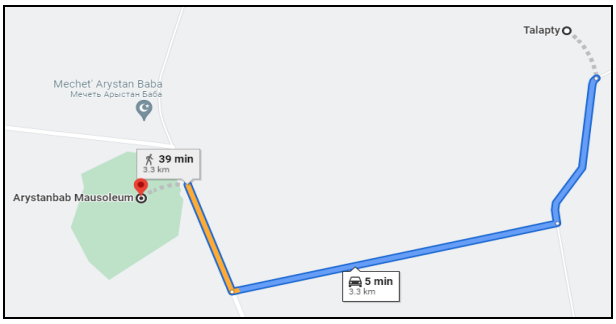


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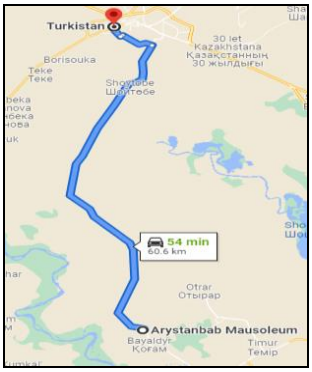


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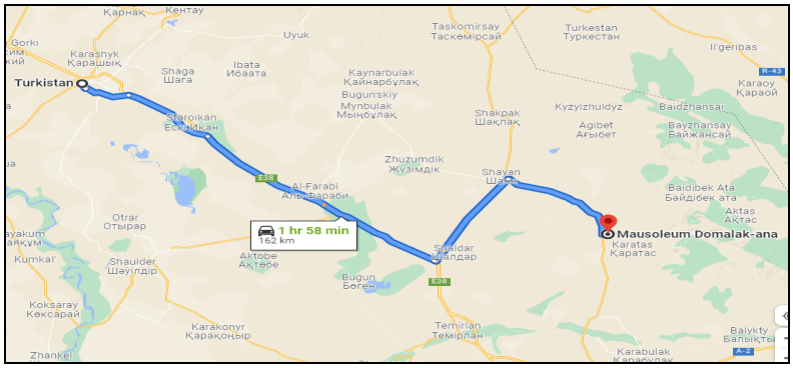


Figure 3. Route map of Almaty - the Mausoleums of Karakhan (Taraz) (1) - the Mausoleum of Aisha Bibi and Babaji Khatun (Taraz) (2) - Otrar Oasis Museum (Shaulder village) (3) - Otrar Information Center (Talapty village) – excavations of the Otrar Oasis (Talapty village) (4) – Arystan-Bab Mausoleum (5) – Turkestan (6) – Domalak ana Mausoleum (7) - (source Google Map).

The time excluding excursions is about 22 hours, depending on weather conditions, the time can be adjusted. For the most correct calculation of the time spent on the route, excursion program, hygiene stops, as well as for the implementation of a professional approach to the development of tourist and excursion routes, the authors compiled a technological map of the excursion route "Turkestan - the Echo of Centuries".

The technological map of the tourist and excursion route consists of mandatory positions, filling in which the practitioner transmits not only the route of the group but also improves the quality of tourist and excursion services through methodological instructions. Such a map consists of the following:

1. the excursion route – with an indication of all the road stretches;
2. stops that are provided on the route with or without getting off the bus;
3. places of interest, with access to a walking tour or passing through, without getting off the bus (travel information);
4. the time spent on a particular stretch of the route, an excursion program, or other;
5. the name of the subtopics and the list of the main issues that allow the guide to make his excursion story and organize sightseeing in a quality manner;
6. organizational instructions necessary for the coordination of the activities of the tourist and excursion group;
7. methodological guidelines for the professional performance of the guide's work.

This technological map, designed in the course of empirical research in the educational and professional environment of tourism, allows not only to prepare a unique route but also makes it possible to develop various options for tourist travel, including or excluding additional elements. The scheme of the technological map is presented in Figure 3. This route was laid in 2017, and recorded, in 2018-2020, detailed work was carried out on drawing up a technological map of the route, currently, the KazAST Research Institute of Tourism is actively developing an educational and methodological manual for the work of guides on this route "Almaty – Turkestan – Almaty". In May 2021, a check of the route was conducted for training purposes, in August 2021 there was a final check. This route allows students to form the professional skills of a tour guide and a tourism manager, and tourists have a special chance to see unique objects under the protection of the Republic of Kazakhstan and UNESCO, as well as to examine the ethnocultural features of the country. So, the technological map of the excursion route: "Turkestan - the Echo of Centuries" has been created. Travel area: Southern Kazakhstan: Almaty, Zhambyl and Turkestan Regions. For all categories of tourists. Excursion type: educational, bus and walking. Seasonality: year-round

Duration: 1) Almaty – Taraz: 501 km, time: 7 h.

The excursion time at the Mausoleum of Karakhan and the Mausoleums of Aisha Bibi and Babaji Khatun: 1 hour

2) Taraz – Shaulder village: 304 km, time: 3 h. 40 min.

The excursion time at the Al-Farabi Museum is 45 minutes

The excursion time at the Otrar State Archaeological Museum-Reserve is 45 minutes

3) Shaulder village - Talapty village: 12 km, time: 15 minutes

The excursion time at the Otrar Oasis Information Center is 45 minutes

The excursion time at the Otrar Oasis site, the excavations of the Otrar settlement is 1 hour

4) Talapty village - Arystan-Bab: 5 km, time: 7 minutes

The excursion time at the Arystan-Bab Mausoleum Memorial Site: 40 minutes

6) Arystan-Bab Mausoleum – Turkestan: 62 km, time: 1 hour

The excursion time at the Evening City of Turkestan, caravansarai is 2 hours

The excursion time at the Mausoleum of Khoja Ahmed Yasawi is 1 hour and 20 minutes

The excursion time at the Hilvet semi-underground mosque is 30 minutes

The excursion time at the Excavations of the Ancient Bazaar is 30 minutes

The excursion time at the Visitor Center of Turkestan is 30 minutes

The excursion time at the Center of the Great Steppe Country is 45 minutes

7) Turkestan - Domalak Ana Mausoleum: 163 km, time: 2 hours

The excursion time at the Domalak ana Mausoleum is 45 minutes

8) Domalak Ana Mausoleum – Almaty: 721 km, time: 8 hours 40 minutes

Route duration: 1) Bus – 1,768 km, round trip. 2) Walking – about 10 km round trip

Route: International highway "Almaty- the city of Tashkent" – Aisha Bibi village (with getting off) – Shymkent – Temirlan village –Tortkol (turn to Shilik) – Shaulder –Talap village – Arystan-Bab Memorial Site –Turkestan – Domalak Ana Mausoleum – Almaty; Road: A-2, E38, R-58 (P-58)

The route "Turkestan - the Echo of Centuries" was built and formed in May 2017, the final check of the route taking into account new data was on May-August 2021. The departure time is calculated taking into account the characteristics of the group, vehicles, and weather conditions. On average, the route takes 2-3 days, overnight stays are carried out within the time frame. The first half of the route from Almaty to Turkestan in the evening involves a mandatory overnight stay in Turkestan, the second half of the route is designed for the second day, arrival in Almaty on the third day (overnight in the bus). This study was conducted taking into account the experience of the World Tourism Organization (UNWTO), which is a specialized agency of the United Nations for tourism (Madysheva et al., 2021).

When visiting shrines, it is essential to show tolerance, wear proper clothing covering the body, women should have a headscarf. Koran readings and prayers are frequently held at the main cultural and historical sites, which tourists can also witness. Also, guides need to have proper preparation for the excursion, to know the main subtopics (S/t), and to know the ethnocultural peculiarities of Kazakhstan at various historical stages. A special characteristic of this route is its educational and training orientation, which reveals the principles of practice-oriented tourist education (Gubarenko,

2021) and can be applied not only for tourists but also for educational goals when training specialists in the tourism field, guides who are able to work at UNESCO World Heritage Sites, in accordance with WFTGA technologies. The route was developed with the active cooperation of national trainers who have successfully completed training at the courses of the World Federation of Tourist Guide Associations (WFTGA). The development of the technological map of the excursion "Turkestan - the Echo of Centuries" is a significant element in the creation of priority directions for the improvement of domestic and inbound tourism in the territory of modern Kazakhstan of an ethnocultural orientation.

Table 1 – The technological map (technological description) of the excursion route: "Turkestan - the Echo of Centuries"

| **Excursion route** | **Stops** | **Places of interest** | **time** | **The name of the sub-topics (S/t) and the list of main places** | **Organizational instructions** | **Methodical instructions** |
|---|---|---|---|---|---|---|
| From Almaty to Taraz | Passing through | Information about Almaty, its thousand-year history, the city places of interest, its role in the formation and functioning of the Great Silk Road (GSR). | 7 h. | 1. S/t: The history of Almaty.<br>2. S/t: The physiographic characteristics and the history of the Almaty Region.<br>3. S/t: The physiographic characteristics and the history of the Zhambyl Region. | When showing sites of natural and historical heritage, slow down the movement of the bus. Use pointing words and gestures.<br>Pay special attention to the methods of activating attention, the distribution of activity and time for rest on a long route. | Display technique is "movement along the object". Special attention to the prerequisites for the emergence and functioning of the Great Silk Road, its influence on the formation of urban agglomerations, settlements, and centers of culture. Traditions, culture, monetary relations on the Kazakhstan segment of the GSR, the history of Almaty, its thousand-year history, development, and current state, as well as the role in the formation of a modern state. Leaving the city and entering the Almaty Region, tell about the peculiarities of the physical and geographical location, the flora and fauna of the region, the peculiarities of historical development, culture. Identify the main objects of the route along the way: the Monument of Nauryzbai Batyr, Anrakay Battle Stele, Uzynagash, Ungertas and also villages, explaining their features, population, important dates and events: Kaskelen, Shamalgan, Talgap, Samsy, Targap, Beriktas, etc. When entering the Zhambyl Region, give a historical reference and the physiographic characteristics of the region, its features, and specifics, identifying the main objects and focusing on the golden age of the GSR. |
| The Mausoleum of Karakhan | Stop with getting off for a guided tour | The Mausoleum of Karakhan | 30 min. | 4. S/t: the Mausoleum of Karakhan | Arrive at the stop, announce the departure time to tourists. Build a group in front of the object in accordance with the features of the display time. | The Mausoleum of Karakhan (Aulie-ata Mausoleum) (Kaz. Karakhan kesenesi) is an architectural monument of the XI century in the Kazakh city of Taraz. Built over the grave of one of the representatives of the Karakhanid dynasty (Nurgaliev, 1991), the mausoleum originally had a centric composition and was covered with a dome. The entrance to the early mausoleum was located under a gentle pointed arch, which is highlighted by clinched masonry and outlined with bricks laid flat. The arch was supported by 3/4 columns lined with paired bricks. In a similar way, a deep entrance was made, located behind an arched niche. The portal part was outlined with brick with slightly protruding U-shaped arches. |
| The Mausoleums of Aisha Bibi and Babaji Khatun | Stop with getting off for a guided tour | The Mausoleums of Aisha Bibi and Babaji Khatun | 30 min. | 5. S/t: The Mausoleums of Aisha Bibi and Babaji Khatun | Arrive at the stop, announce the departure time to tourists. Build a group in front of the object in accordance with the features of the display time. | Aisha-Bibi is a mausoleum of the Karakhanid era, built in the XI-XII centuries, located in the village of Aisha-Bibi of the Zhambyl District of the Zhambyl Region, 18 km from Taraz. It is an architectural monument of national significance. Special attention should be paid to the historical aspect of the development of the Karakhanid era and the legend of Karakhan, as well as the architectural features of these objects, while emphasizing the exclusivity of the site. Explain the reasons why the object was not included in the UNESCO World Heritage List, with a pointing gesture to demonstrate tiles XI-XII (server portal) comparing them with the "new model" (Oshanov, 2014). |
| Taraz - Shaulder village | passing through | Information about the Turkestan Region, UNESCO sites Aksu-Zhabagly Nature Reserve and Say-ram-Ugam National Park | 3 h. 40 min. | 6. S/t: Natural Heritage of Kazakhstan - international recognition | The guide's story is carried out by sightseeing of objects in the course of the bus movement | Display technique is "movement along the object". Special attention should be paid to the history of the region's development, its physical and geographical characteristics, unique features of flora and fauna, as well as the UNESCO natural heritage sites Aksu-Zhabagly Nature Reserve and Sayram-Ugam National Park along which the route runs. It is necessary to provide reliable and comprehensive data on the specifics of these objects and their role in global biogenesis. |

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| Al-Farabi Museum | Stop with getting off for a guided tour in the museum | "Spirituality - Abu Nasr Al-Farabi Museum" State Municipal Management Organization (SMMO) | 45 min. | 7. S/t: Scientists of the great steppe | Arrive at the stop, form groups of tourists with a maximum of 20 people. The tour is carried out by the museum's specialists in Russian, Kazakh and English by the previous appointment. | The museum was opened in the homeland of the great scientist Abu Nasr Al-Farabi. There are about 6 thousand exhibits related to the life and work of the philosopher, mathematician, music theorist Nasr Al-Farabi. About a thousand exhibits are exclusive. Special attention should be paid not only to demonstration models, unique printed materials, material and other sources, but also to historical facts in the biography of the great scientist. Abu Nasr Muhammad ibn Muhammad al-Farabi, a common abbreviation of the name - Al-Farabi (in the Latinized form -Alpharabius; 870 or 872, Farab or Faryab, Khorasan (now Afghanistan) - between December 14, 950 and January 12, 951, Damascus, (modern Syria) - philosopher, mathematician, music theorist, scientist of the East. One of the largest representatives of medieval Eastern philosophy (Reisman, 2005). |
| Otrar State Archaeological Museum-Reserve | Stop with getting off for a guided tour | Otrar State Archaeological Museum-Reserve | 45 min. | 8. S/t: Ancient cities on the route of the GSR | Arrive at the stop, announce the departure time to tourists. Give theoretical information about the museum, its exhibits and museum objects. | In the village of Shaulder, which is located in the immediate vicinity of the Otrar settlement and the Arystan-Bab Mausoleum, there is the Otrar Museum, which widely presents ceramic dishes, candlesticks, household items, household utensils, clothing, tools. An impressive diorama "The Siege of Otrar". The museum in the village of Shaulder keeps archaeological finds from the settlement of Otrar and tells about the life of the city in the IX-XVIII centuries. |
| Shaulder - Talapty village | Passing through | Surrounding landscape | 15 min. | 8. S/t: Ancient cities on the route of the GSR | Give travel information, mark the panorama, pay attention to the landscape | Travel information on the route. |
| Otrar Visitor Center | Stop with getting off for a guided tour | Otrar Visitor Center | 45 min. | 8. S/t: Ancient cities on the route of the GSR<br>7. S/t: Scientists of the great steppe | Arrive at the stop in front of the entrance to the Visitor Center, tell the tourists about the arrival time. The tour is conducted by specialists of the center | The Otrar Visitor Center is a modern and comfortable place where tourists can not only visit exhibition halls, get acquainted with exhibits, etc., but also relax after a long trip. The Visitor Center has a coffee area, a recreation area, a place for meetings and working groups, an interactive zone where it is possible to watch a film about the Otrar Oasis in comfortable conditions. On the second floor, tourists can visit several temporary exhibitions and explore the exhibits found at the excavation site in the ancient settlement of Otrar. |
| Otrar Oasis | Stop with getting off | Otrar Settlement | 1 h. | 8. S/t: Ancient cities on the route of the GSR<br>9. S/t: Otrar Oasis | Arrive at the stop, announce the departure time to tourists. Use a descriptive movement to show the panorama. Use the event reconstruction technique. | Give a historical reference about Otrar, as one of the oldest cities in Central Asia. In Arabic sources, the city is called Farab. The first settlements on the site of the city appeared in the VIII century. The city began developing rapidly, as it was located on one of the main branches of the Silk Road. By the XII century, it has already been a large trade center of crafts and art, where there were palaces, caravansarais, and city blocks. One of the biggest attractions of the city was the Mausoleum of Arystan-Bab, built by Timur.<br>Use the event reconstruction technique, showing the objects of the city, wells, walls, houses, as well as what has already been restored, for example, the central gate, moat, baths, etc. |
| Talap village - Arystan-Bab | passing through | Surrounding landscape | 7 min. | 8. S/t: Ancient cities on the route of the GSR | Give travel information, mark the panorama, pay attention to the landscape | Travel information on the route. |
| Arystan-Bab Mausoleum Memorial Site | Stop with getting off | Arystan-Bab Mausoleum | 40 min. | 10. Islam in the territory of the GSR<br>11. Architecture of GSR objects | Arrive at the stop, announce the departure time to tourists. Determine the places for ablution, the dress code, and help tourists with maximum tolerance. | Give information about the personality of Arystan-Bab, a spiritual teacher, Sufi of Otrar, Sayram, Turkestan (Yassy). Legends call him the teacher and spiritual mentor of Khoja Ahmed Yasawi. Arystan-Bab, dying, gave him an amanat from a persimmon bone. Tell a legend. The mausoleum is a historical and cultural monument of architecture for tourists, a place of worship for the Muslim community, spiritual food for the people, the national cultural treasure of the country, the basis of spiritual traditions, national value. The mausoleum of Arystan-Bab has been restored for many centuries. It is assumed that he lived in the XI-XII centuries. (It is possible to perform namaz). |
| Arystan-Bab - Turkestan | Passing through | Surrounding landscape | 1 h. | 8. S/t: Ancient cities on the route of the GSR<br>10. Islam in the territory of the GSR | Give travel information, mark the panorama, pay attention to the landscape | Travel information on the route. |
| Evening Turkestan | Stop for excursions and over | Turkestan in the evening time. Keruen Sarai | 2 h. | 8. S/t: Ancient cities on the route of the GSR | Arrive and check in at the hotel, prepare tourists for a walk around the evening city. | The largest multifunctional tourist complex in Central Asia Keruen Sarai was opened in Turkestan, which is located in the immediate vicinity of the Mausoleum of K. A. Yasawi. The site is located on an area of 20.5 hectares. The complex includes a street of merchants and artisans of the Silk Road, a "flying theater", an amphitheater for horse shows, an oriental bazaar, shopping malls |

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| | night stays | | | | | and boutiques, hotels and restaurants, a SPA and fitness center, a cinema, a family entertainment center. At the same time, all the structures are connected by a water channel, on which Boat Parade - a theatrical show on the water - will be arranged. |
| Mausoleum of Khoja Ahmed Yasawi | Guided tour at the site | UNESCO World Heritage Site Mausoleum of Khoja Ahmed Yasawi | 1 h. 20 min. | 10. Islam in the territory of the GSR<br>12. UNESCO World Heritage Site<br>13. Turkestan - the gate of the Turks | Arrive at the stop, announce the departure time to tourists. Determine the places for ablution, the dress code, and help tourists with maximum tolerance. A panoramic show, the placement of the group, an excursion in the complex itself and related objects. After the excursion program, give the tourists the opportunity to freely walk around the site, after indicating the time and place of gathering. | Give clear information about the historical period, the story should complement the display, the fortress wall, the mausoleum, architectural structures, the general infrastructure and the history of Turkestan. Provide detailed information about the architecture and appearance, prepare tourists and enter the mausoleum. At the same time, with a pointing gesture, direct the attention of tourists to the interior decoration, the layout of the building, and the objects located in it. Emphasizing the importance of the mausoleum for the World Cultural Heritage. The Mausoleum of Khoja Ahmed Yasawi in Turkestan (until the XVI century, the city of Yassi) in Southern Kazakhstan is a unique monument of the past of the Kazakh people. In the XV-X centuries, Turkestan was the place of residence for the Kazakh khans. The Mausoleum is on the grave of the poet and preacher Khoja Ahmed Yasawi, located in Turkestan in the Turkestan Region of Kazakhstan. It is the central object on the territory of the historical and Hazrat Sultan, cultural museum-reserve. The Hazrat Sultan Memorial Site, in addition to the Mausoleum of Khoja Ahmed Yasawi itself, includes many other structures built next to it in different years, namely a medieval bath (monsha), a cell (hilvet) where Yasawi lived after he turned 63 years old, the Mausoleum of Tamerlan's great-granddaughter and the daughter of astronomer Ulugbek Rabia - Sultan Begim, the Mausoleum of the Kazakh Khan Yesim, shildehana and other ancient monuments, among which the underground house for meditation of Kumshik-ata has been miraculously preserved. In general, the entire complex of objects is sometimes referred to as a "historical and cultural reservation". The Mausoleum of Khoja Ahmed Yasawi consists of eight rooms of various types, which are grouped around the central, largest in the complex hall for tai kazan (Kaz. Kazandyk): a mausoleum, a mosque, large and small palace halls (Kaz. aksaray), a library (Kaz. kitapkhana) and an economic complex, which includes a well (Kaz. kudykkhana), a dining room (Kaz. ashana), residential and other premises. Relics and legends are of great interest. |
| The Hilvet semi-underground mosque | Guided tour at the site | Semi-underground mosque of K. A.Yasawi | 30 min. | 10. Islam in the territory of the GSR<br>13. Turkestan - the gate of the Turks | Prepare tourists to visit the place of worship with maximum tolerance and compliance with the necessary standards. After the tour, give the opportunity to buy souvenirs. | The Hilvet semi-underground mosque is one of the medieval religious architectural structures of the XII century, located 120 km south of the Mausoleum of Khoja Ahmed Yassawi in Turkestan. The word "Hilvet" in Arabic means "haluatun" — to be alone, to worship the Creator alone. According to some sources, at the age of 63, Khoja Ahmed Yassawi built the Hilvet mosque and spent the rest of his life here, where he wrote Diwani Hikmet, Mirat-ul-Kulub, Pakyrnama and his other works (Kalybay, 2011) |
| Excavations of the ancient bazaar | Panoramic display | Archaeological site | 30 min. | 13. Turkestan - the gate of the Turks<br>8. S/t: Ancient cities on the route of the GSR | Carry out a panoramic view of the excavation site, to descend to the covered, demonstration part. | Written and cartographic sources related to the history of Turkestan of the XVII-XIX centuries mention the great Turkestan bazaar, which for several centuries was the center of active social, political, financial, economic and even cultural life of the city. Recently, our scientists have found this famous Turkestan bazaar. The uniqueness of the archaeological material lies in the fact that for the first time in Kazakhstan, a late medieval oriental bazaar was discovered in a large area with a well-preserved layout. This is the largest archaeological expedition, during which the territory of ancient Turkestan is explored on an area of over 30 hectares, organized within the scientific project "Restoration of historical objects of the Kultobe settlement", implemented with the financial support of the Eurasian Group (ERG). To date, the scientists of the Kazakh Research Institute of Culture have managed to discover many interesting archaeological sites of residential, public and religious purposes, leading their history from the II century BC to the XIX century AD. |
| Turkestan Visitor Center | Visit to the center with an excursion program | Turkestan Visitor Center | 30 min. | 13. Turkestan - the gate of the Turks<br>8. S/t: Ancient cities on the route of the GSR | Conduct an excursion in the Visitor Center, provide tourists with the opportunity to get demonstration and information materials about the city and its attractions. | Visitor Center is a unique object built in the spiritual and cultural center of Turkestan. Tourists coming to the ancient city, first of all visit this center. There you can find full information about the city, about the location of recreation areas, parks and buildings, indicating how to get to these places. There is also an exhibition hall with a large-scale model of the city, a small exhibition, a cinema hall, souvenir shops. |

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| The Uly Dala Eli Center | Visit to the center with an excursion program | The Country of the Great Steppe Center | 45 min. | 13. Turkestan - the gate of the Turks<br>8. S/t: Ancient cities on the route of the GSR | The tour takes place in a modern center, where tourists will have the opportunity to learn the historical and cultural heritage of the country in an interactive form, as well as have a good time and relax | The building is a 2-storey construction. On the first floor, there are exhibition sites Metallurgy of the Great Steppe, Culture of Horsemanship of the Great Steppe, Pearls of the Great Steppe, Kazakhstan – the Cradle of the Turkic World and administrative offices. On the second floor, there are exhibition sites Kazakh Khanate, Urban Culture of the Great Steppe, the First President of the Republic of Kazakhstan – Elbasy, Kazakhstan - the Birthplace of Apples and Tulips, Kazakhstan of the Future. The underground floor provides storage of exhibition equipment with associated facilities, an interactive hall, a computer room, a conference room and technical rooms. An interesting design solution is ceramic granite floors under black marble with onyx inlaid granite in the form of branched roots of the Baiterek Tree art object. There is wall bas-relief in the form of a rock stone. Special attention should be paid to the installed glass bridge with a length of 12 m in the Hall of the Elbasy over the map of Kazakhstan. The heart of the Center is the Turkic Hall, where a projection sphere with a height of 14 meters and a radius of up to 11 meters has been created to immerse the visitor in historical stories in 3D format. |
| Turkestan - Domalak Ana Mausoleum | Passing through | The surrounding landscape and cultural heritage | 2 h. | 14. S/t: culture of the great steppe | Prepare tourists for the visit of an upcoming object, give information about the early beliefs and proto-religions of the country. | Travel information, data on shamanism, Tengriism, and other proto-religions in the territory of modern Kazakhstan |
| Domalak Ana Mausoleum | Excursion with getting off | Domalak Ana Mausoleum | 45 min. | 10. Islam in the territory of the GSR<br>14. S/t: culture of the great steppe | Arrive at the bus stop, prepare tourists for visiting the local shrine, give information about the site. | Domalak Ana Mausoleum is an architectural monument of the XI century. The monument is located in the South Kazakhstan Region, on the southern slope of Karatau, in the valley of the Balabogen River. It was built over the grave of Nurila Ali Sylankyzy, commonly known as Domalak Ana. Currently, she is known as the Holy Mother. Women from all over Kazakhstan visit this mausoleum to ask the Holy Mother for the innermost. The surrounding area is a shady garden where you can relax before a long road. |
| Domalak Ana Mausoleum – Almaty | passing through | Surrounding landscape | 8 h. 40 min. | 8. S/t: Ancient cities on the route of the GSR | Give travel information, show the panorama, pay attention to the landscape and determine the places of stops, announce the departure time to tourists. | Travel information on the route. Give general information and answer the tourists' questions. |

Note: The route has "main" objects, which are the purpose of the excursion route: the Otrar Oasis, the Mausoleum of Arystan-Bab, the Mausoleum of Khoja Ahmed Yasawi, and also, additional objects indicated in this route fully reveal the subtopics, and can be supplemented and coordinated in time.

Currently, tourists from all over the world are increasingly interested in cultural heritage objects, and the ethnocultural features of the regions. Their authenticity is a significant resource for promoting tourism in Kazakhstan throughout the world. The understanding of the importance of preserving cultural heritage sites should be expressed even during the training process when the student is actively involved in the professional process through practice-oriented technologies, which in the future will surely have a qualitative impact on the tourism specialist, his competence, and empathy for the national and global cultural, historical and natural heritage.

## CONCLUSIONS

The development of tourism in any country directly depends on its cultural and natural heritage. At present, Kazakhstan faces the duty of preserving the past and present, through the establishment of a special structure for the preservation of not only World Historical and Cultural Heritage Sites, but also objects that have not yet been included in this list. This research work is one of the elements of large-scale research in the field of the development of Kazakhstan's ethnocultural tourism. The results obtained in the course of the research will become an extensive background for the development of ethnocultural tourism:

1. In the result of the conducted survey, it was concluded that there is a high demand for ethnocultural tourism in Kazakhstan, both among industry specialists and students studying under the Tourism educational program with the definition of the most popular objects for the present time.
2. The educational and training, tourist and excursion route "Turkestan - the Echo of Centuries" has been developed, which is actively applied in the training of specialists, guides, tourism managers at the Kazakh Academy of Sports and Tourism, as well as by the subjects of the tourism industry of Kazakhstan.

3. A unique technological map of the training, tourist and excursion route "Turkestan - the Echo of Centuries" has been created; it fully reflects the current state of the route, including all the required information and methodological recommendations for present and future guides.
4. The final check of the route was carried out in May and August 2021 to accurately calculate all the elements of the route.

**Acknowledgments**

Kazakhstan has a powerful cultural potential for the development of the tourism industry, which can and should become an influential branch of its economy. Tourism promotes the popularization of historical and cultural monuments, strengthens the high authority of the republic, both in the country and abroad. The model of Kazakhstan's ethnocultural tourism, based on the application of the advantages of cultural heritage for tourism development, should be aimed at reviving forgotten traditions and types of art, building new centers of tourist interest, organizing specific types of routes. Tourist and excursion work can apply the full potential of the cultural heritage of sovereign Kazakhstan, and the creation of routes that will completely include places of unique value for the whole world, and will be used not only to develop a tourist offer but also to train future specialists in the tourism industry, will improve the quality of services provided, tourist offers and contribute to the further development of domestic and inbound tourism in Kazakhstan.

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# TOURIST GUIDES, COVID 19 AND SURVIVAL MECHANISMS IN SOUTH AFRICA

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**Abstract:** The main aim of this research was to investigate the survival mechanisms employed by tourist guides in the context of the Covid 19 Pandemic. A mixed method research design was adopted, using in-depth interviews with key tourism informants and surveys administered to tourist guides in Gauteng. A total of five key informant interviews and two hundred surveys were collected at the end of the data collection period. Key findings indicate that many tourist guides were unable to access the aforementioned fund and had to implement their own short and long-term survival mechanisms. In many cases, various cost cutting measures were implemented and the utilization of personal savings and loans. Other guides temporarily engaged in different employment to secure an income. This study presents policy and systemic recommendations, which, if accepted and implemented, could assist the reignition of the tourist guide profession post-pandemic and ensure they form part of the tourism sector recovery trajectory. Additionally, further research on tourist guides in South Africa needs to be conducted, to fully understand the various aspects of this profession in the country.

**Key words:** tourism crises, tourist guide, COVID-19, destination resilience and recovery, TRF

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## INTRODUCTION

The COVID-19 induced pandemic had an immediate and long-lasting effect on the tourism sector worldwide, affecting all stakeholders within the tourism value chain (Jones and Comfort, 2020). With the onset of the global lockdown in March 2020, the tourism sectors of all destinations globally were brought to a standstill to restrict the spread of the COVID-19 virus. Before the pandemic, many countries had adopted the tourism sector to leverage the associated socio-economic growth and development impacts within destinations (Siakwah et al., 2019). This had been especially true for countries located in the global south, where, although many sectors were still developing, reliance on tourism as an economic contributor was significant, as it served as a method of sustaining the livelihoods of stakeholders (Venkatesh and Gouda, 2016), such as those of tourist guides. Resultantly, the impact of the pandemic on the tourism sector from its inception until present has been well documented (Gössling et al., 2020; Brouder et al., 2020; Seyfi et al., 2020; Rogerson and Rogerson, 2020; Bama and Nyikana, 2021). It is evident that the recovery of the industry, both globally and at national levels, is dependent on the safe and free flow of tourists into and within destinations. At this juncture, it is prudent to consider important enabling factors which would allow for such. There has been a significant amount of debate on the utility of vaccinations being used in conjunction with other safety measures for the safe reopening of the sector, with this being used as one of the primary strategies in reigniting cross-border travel (see Helble et al., 2021; Wang et al., 2021; Su et al., 2021). Not only has this been linked to uninhibited travel across national and international borders (Davidson, 2021; Sharun et al., 2021), but it has also been linked to reassuring tourists of health and safety measures taken, especially given the high level of interaction between tourists and stakeholders. This is an important consideration, as tourists' motivations to travel have changed, as have their needs when travelling (Kaewkitipong et al., 2021). As countries advanced in their vaccination roll-out programmes, travel in certain regions of the world resumed, thus paving the way towards recovery. However, not all countries embarked on mass vaccination programmes at the same time. In fact, countries located in the global south did not have access to vaccine stock until the rollout in other countries was well underway. Thus, the initial steps towards recovery were skewed, with this trajectory being continued until present, having a direct impact on all tourism stakeholders.

The arrival of the COVID-19 virus in South Africa shone a spotlight on the tourism sector through the movement of people (Sigala, 2020), as the first confirmed case is thought to have originated from people entering the country after having initially contracted the virus elsewhere (Jones and Comfort, 2020). However, in addition to this, the spotlight on tourism stakeholders, such as tourist guides, ability to survive an unprecedented crisis was a cause for concern (Nyawo, 2020). The early response of the South African government to combat the spread of the disease, in the form of the nationwide lockdown, had (and continues to have) dire socio-economic impacts (Phillips, 2020; Dube, 2020). Although the hard lockdown in South Africa was lifted midway through 2020, the country continued to face the second COVID-19 wave

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towards the end of December 2020 and into the beginning of January 2021, which led to the adjusted COVID-19 alert level 3 lockdown being effected on the 28 December 2020 and with further adjustments introduced on 11 January 2021 by the President of the Republic of South Africa, Cyril Ramaphosa (BusinessTech, 2021). This cycle repeated itself mid-2021 when the country was placed under an adjusted alert level 3 with the arrival of the third wave of infections. Throughout this period, South Africa was placed on the red list for travel, thus preventing international tourists from visiting and significantly reducing the demand for tourism services like tourist guiding. Unfortunately, but predictably, the number of infections in the country is on the rise again, with indications that the country is on the precipice of the fourth wave of infections. Worsening this situation is the discovery of a new variant at present in the country, which has led to many countries placing South Africa on the red list for travel again (Smith, 2021a). This has had severe consequences for the tourism sector and many service providers, who were counting on the December international and domestic tourism trade as significant steps towards recovery and towards inspiring consumer confidence again. As the number of infections continues to rise in the country currently, it poses the possibility of regressive restrictions that would further inhibit the industry, potentially restricting domestic tourism as well. Tourism stakeholders' hopes for the survival and recovery of South Africa's tourism sector have been dampened, with hospitality associations voicing their extreme concern about the situation (Daniel, 2021). Current prospects for the complete reopening of the sector remain low, with many businesses, several of which are small to medium sized, already struggling to stay afloat, despite the government sponsored support packages (Smith, 2021a). Coupled with the high rate of unemployment in the country is an impact that the country can ill afford.

It is against this background that the current study is conceptualized. An aspect of the tourism industry that has suffered enormously is tour guides. Tour guides, who form an integral part of the tourism value chain (Chen et al., 2018; Nyahunzvi and Njerekai, 2013), will not begin to recover until the tourism sector, both domestic and international, reopens. Even upon reopening the sector in a post COVID era, the livelihood of tour guides will remain dependent on the willingness of people to engage in tourism activities and utilise their services. Such willingness may not be immediate, with the choice to travel being carefully considered against personal safety (Brouder, 2020; Sigala, 2020). Furthermore, as the global and national lockdowns have resulted in many people losing their incomes, the number of people financially able to engage in tourism activities could decrease significantly. A tour guide's role is essential within the tourism sector, involving travelling with tourists from their place of arrival to all places they would like to visit in South Africa. Furthermore, tourist guides play a key role in securing repeat visits from tourists and in maintaining a favorable destination image (National Department of Tourism [NDT], 2020; Nyawo, 2020). Despite being integral stakeholders within the tourism sector, there is relatively little known about who tourist guides are within the South African context. What is known points to the extreme vulnerability of tourist guides to the crisis, especially one as prolonged and unprecedented as the current one. Thus, the current study seeks to examine the impact of the COVID-19 induced crisis on tourist guides and the types of survival mechanisms that tourist guides have employed since the start of this crisis. Tourist guides' perceptions of the utility of government support measures are also examined. This study was carried out using a case study of registered tourist guides in the Gauteng region of South Africa.

## LITERATURE REVIEW

### The tourism sector and tourism crises

Prior to March 2020, the tourism sector enjoyed consecutive years of growth, surpassing that of other major industries. The sector was relied upon by many countries to boost socio-economic growth, especially by countries located in the global south (Sigala, 2020). Key strategic economic development from the tourism sector was linked heavily to the creation of employment for locals, having a knock-on social effect of improving their livelihoods and contributing to the alleviation of poverty (Siakwah et al., 2019). The tourism sector has also earned the title of a resilient sector, given its track record of recovery from previous crises that afflicted the sector. For example, the tourism sector was one of the first to begin to recover following the global recession that started in 2008. The sector also recovered from the damaging effects on the perceptions of safety and security following the 9/11 terrorist attacks in the United States of America and the slew of earthquakes and tsunamis that ravaged South Asian countries over the past two decades. Moreover, the sector has also recovered in the face of previous crises triggered by infectious diseases such as the Zika virus, MERS, and Ebola (Hall et al., 2020; Henderson, 2020; Ritchie and Jiang, 2019). Thus, the reputation of the sector as being a resilient one is well earned.

Although the sector has bounced back from previous crises admirably, there has been debate around when and how the sector could begin to recover from the current crisis (Sucheran, 2021). The goalpost is constantly shifting given the constantly changing situation, as well as the uneven global progress with the management of the crisis. The prolonged nature of the crisis is also a major difference between this and other crises that the tourism sector has weathered, thus casting uncertainty on a quick recovery (Iastremska and Kononova, 2021). The management of this crisis has shone a spotlight on crisis management in the sector, as well as resilience building. The latter is an extremely important aspect that can no longer be overlooked. The resilience of the sector determines how effectively tourism stakeholders can adapt to change to ensure their survival and how quickly they are able to bounce back (Jones and Comfort, 2020). Thus, it is imperative that the rebuilding of the tourism sector is modeled around the concept of resilience to reduce the vulnerability of tourism stakeholders in times of crisis (Cahyanto and Pennington-Gray, 2017).

### COVID-19 and the South African tourism sector

Within the South African context, it was reported that the tourism industry was responsible for approximately 6.9% of the national gross domestic product (GDP) in 2019 and approximately 8.9% of the total employment in the country. However, with the onset of the COVID-19 induced pandemic, the tourism sector was plunged into crisis resulting in

massive degrowth. In 2020, the sector's contribution to the national GDP reduced to 3.7% and the total employment to 6.5% (World Travel and Tourism Council [WTTC], 2021). Additionally, it has been noted that due to global and national lockdown restrictions, the number of international and domestic tourist arrivals in the country has also significantly declined, thus reducing the demand for tourism services (Rogerson and Rogerson, 2021). The drastic reduction in these statistics provides an idea of the severe impact that the current crisis has had on all tourism stakeholders. Many tourism service providers in South Africa are small business owners, most of whom are without the capacity to survive acute shocks. Thus, from the beginning of this crisis until present, there has been mass job loss within the sector, with more forecasted should demand not increase soon (NDT, 2020).

Initially, tourism demand completely halted as a result of tourists' inability to travel. National and international borders were closed in an effort to prevent the spread of the virus (Bama and Nyikana, 2021). However, as these restrictions were lifted, other factors such as tourists changing needs and travel preferences, vaccination and quarantine requirements, and sundry travel bans began to dictate demand (Rogerson and Rogerson, 2021; Kim et al., 2021). It is established that tourists' needs and motivations play a significant role in their travel decisions. The COVID-19 virus changed tourists' needs, in many cases requiring stringent health and safety protocols to be instituted. Additionally, as the narrative around the existence of the virus progressed, adaptation and survival mechanisms incorporated the use of non-pharmaceutical measures such as social distancing, limiting the number of people in an area or space at once, contact tracing, the wearing of face masks, and the provision of sanitizer stations. The development of vaccines was a turning point, which allowed regional and international borders to slowly reopen and enabled tourists to travel on condition of vaccination status. The use of a vaccination passport and travel bubbles became a popular strategy towards the recovery of the sector (Sharun et al., 2021). However, as previously mentioned, given the uneven distribution of vaccines, not all destinations were able to embark on sector recovery, with the result that the global tourism industry was (and still is) characterised by destinations that are fully functional and those that are not. To add to this complex situation, the occurrence of virus strain mutations has resulted in a country like South Africa being placed on the red list for travel, banning and dissuading tourists from visiting (Daniel, 2021). This has led to severe set back within the industry and for tourism stakeholders, who are unable to survive in crisis mode for a prolonged period. Apart from this acute consequence, there has also been longer term damage that South Africa as a destination has suffered, from being labeled unsafe due to new, severe strains of the virus originating here. This type of sensationalist and incorrect reporting damages perceptions of the country, thereby demotivating tourists who travel to the area (NDT, 2021). In a country like South Africa, where international tourists from overseas source markets are key to adequate tourism demand (NDT, 2018) and hence the survival of small businesses, the significant reduction in tourist arrivals has taken its toll on small businesses and entrepreneurs in the country.

**Tourist guides and the South African context**

An example of a tourism stakeholder that had been detrimentally impacted by the reduction in tourist arrivals and the lockdown restrictions is tourist guides. Tourist guides play an important role in the tourism value chain (Chowdhary and Prakash, 2010), contributing to a destination's image by acting as hosts and chaperons for tourists (Chen et al., 2018; Nyahunzvi and Njerekai, 2013). Tourist guides share knowledge about places and space with tourists, guiding them in cultural sensitivity and towards authentic experiences within a destination (Huang et al., 2010; Feldman and Skinner, 2018). In many instances, tourist guides work within areas that they originate from, thus providing an insider perspective for tourists. Additionally, tourist guides act as an intermediary between locals and tourists, ensuring that locals are not downtrodden by tourists, which could consequently lead to the development of hostility towards them. Overall, tourist guides play an important role within the industry, which can scarcely be replaced and are often referred to as co-creators of experiences (Weiler and Black, 2015; Hu, 2007). However, despite this important role, there is only a limited amount of scholarship on tourist guides within the South African context.

The limited research that does exist is mostly focused on the analysis of the development of tourist guiding (Davids, 2008); conditions of employment for tourist guides in the South African tourism industry (see De Beer, 2011); the contradictions and contestation in policy for the training of tourist guides (see Gavron, 2002); status of employment of tourist guides in South Africa (see McIntyre, 2007); tourism and development issues in South Africa (see Rogerson and Visser, 2004); tourism, small firm development and empowerment (see Rogerson, 2004). While the existing recent research is not related to the current topic of the research, it does serve to contextualize certain prominent issues in this study, such as tourist guide legislation and instructional design for guiding tourists (see Smal, 1997); and status of tourist guide employment (see McIntyre, 2007). As previously discussed, the focus of this paper is on the impacts that tourist guides have borne since the onset of this pandemic and how these impacts have affected the survival of these stakeholders.

Tourist guides in South Africa commonly operate on a freelance basis, contracting to tour operators. It has been noted that despite missing out on the security of employment, freelance guides earn more than those employed on a full-time basis. In both cases, the quality of guiding provided is important for the quality of the tourism experience (Nyawo, 2020) and can be linked to repeat visits or referrals to visit (Weiler and Ham, 2001b). The chance of repeat callback for freelance guides and the employment security of those permanently employed is related to the ability of the tourist guides to communicate clearly, coupled with their knowledge and experience (Chilembwe and Mweiwa, 2014). Freelance tourist guides constantly need to secure jobs to ensure the upkeep of their livelihoods. Thus, tourist guides work closely with tour operation businesses to ensure repeat work (De Beer et al., 2014). This arrangement also benefits tour operators who do not have a permanently employed guide within their operations. However, the lack of formal or contractual obligation places tourist guides in a precarious and vulnerable position, whereby they stand to lose to

guiding opportunities when tour operator businesses are afflicted or when the industry deals with crisis (De Beer, 2011). The latter has, unfortunately, become a reality since March 2020.

Similar to many countries globally, financial and fiscal measures had been the immediate response of the government in assisting the tourism industry. In an effort to try and assist with immediate survival, the South African government made provision for a relief fund dedicated for use by tourist guides – the Tourist Guide Relief Fund. This was amongst other support mechanisms that were underscored by the government and made available to various stakeholders in the sector (NDT, 2021). Given the sudden onset of this crisis and its unprecedented nature, the goal of these support measures and programmes was to bridge the short-term survival of all stakeholders within the sector, to ensure that when tourism demand is reinstated, the supply capacity is also present. However, the accessibility of these support measures became problematic, with stakeholders reporting that administrative requirements prevented them from accessing the funds (see Plasket, 2021; Girma, 2021; Masihlelo, 2020). Another hurdle reported by stakeholders was the conditions of access – a matter that was ultimately taken under the advisement of the legal system (Smith, 2021b). According to the NDT's 2020/2021 annual report, the Tourism Relief Fund supported in excess of 4000 tourism and hospitality businesses (NDT, 2021). However, the details of this support have been flagged as problematic, with claims of corruption and misappropriation of funds (NDT, 2021). It is against this background that the current paper is set, with the primary aim to determine the survival mechanisms that tourist guides have adopted since the beginning of this pandemic. Additionally, given the lack of information on who tourist guides in South Africa are, this paper also provides a brief insight into the demographic profile of tourist guides who participated in this study. The demographic information also served a dual purpose in that it also contextualized the findings related to the primary aim of the paper.

**Background to study area**

This study was carried out with tourist guides located in the Gauteng province in South Africa. The rationale for this was centered on the popularity of the province as a domestic and international tourist destination, as well as the high concentration of tourist guides in the province. The South African tourism performance reports show that in 2019, the province was the most visited province by international tourists in South Africa, accounting for 3.5 million of the 10.2 million international visitors and accounting for R24.9 billion of the R81.2 billion total spent by international visitors (South African Tourism, 2019). While the overall visitor numbers in the country have dwindled by 71% (Stats SA, 2021) as a result of the COVID-19 pandemic, due to the lockdown and travel restrictions, the province still presented a good study area, in that it is home to a combination of influential role players in the overall tourism industry and is amongst the provinces with the largest affiliation of tourist guides in the country (Ramphele, 2020).

**METHODOLOGY**

The current study employed a mixed method methodology, utilizing quantitative surveys to record the views and perceptions of tourist guides located in Gauteng province of South Africa, whilst qualitative in-depth interviews were held with key stakeholders in the tourism sector. The utilization of mixed methods is a common occurrence in tourism related research (Nunkoo, 2018; Iaquinto, 2018), as it provides the opportunity for in-depth interrogation of a topic, as well as provides a means for triangulation of the data collected (Levine, 2014; Creswell and Creswell, 2018). Data collection for this study was undertaken in two phases. Phase one was centered on conducting interviews with key tourism stakeholders with knowledge of the impact that COVID-19 has inflicted on the industry and tourist guides, as well as with stakeholders from tourist guiding organizations. Interview schedules consisting of open-ended questions were utilized to guide the interviews, with questions centered around the impact of the pandemic on the tourism sector and tourist guides, policy imperatives, and operational matters related to tourist guides and support mechanisms available to these stakeholders.

Key stakeholders interviewed were purposively chosen, owing to their knowledge of the impact that the current crisis has had on the tourism sector and tourist guides. Included in these respondents were representatives from the NDT (director of tourist guiding), the National Federation of Tourist Guides and Affiliates (NFTGA) (media liaison), the Gauteng Department of Economic Development (director of tourist guiding), CATHSSETA (education and training quality assurance specialist) and the Cradle of Humankind World Heritage Site (marketing director). Each of these key informants contributed meaningfully to this research. For example, stakeholders from the NDT and the Gauteng Department of Economic Development provided important information on the impacts of COVID-19 on the sector, as well as policy and support mechanisms available to tourist guides, both from a national and provincial perspective. Given that this study focused on tourist guides in the Gauteng province of South Africa, it was essential to gain the views of stakeholders with nuanced knowledge of the situation in the specific region. Additionally, the informant from the NFTGA and the Cradle of Humankind World Heritage Site provided information on key operational issues that tourist guides face, as well as issues that affect the profession of tourist guiding within the South African context. The informant from CATHSSETA was important in providing information on the skills and training that tourist guides are required to possess. Due to COVID-19 induced lockdown regulations at play during data collection, interviews were held online using teleconferencing software.

The information gained from the interviews was used in the construction of surveys, which were administered to tourist guides as phase two of the data collection. Similar to the interviews, surveys were administered through the use of an online survey link. The surveys consisted of a series of closed ended questions and Likert scale questions. The closed ended questions were aimed at collecting demographic data about the respondents, and the Likert scale questions were used to gauge tourist guides' perceptions on the impact that the current crisis has had on them, as well as on the utility of support mechanisms and programmes. Also, the survey included a screening question to ensure that the

responses were from tour guides located in Gauteng. Data collection took place from February to June 2021. At the end of the data collection process, a total of five in-depth key informant interviews were conducted, and two-hundred surveys were completed. The Statistical Package for Social Sciences (SPSS) was used to analyse the quantitative data, generating descriptive statistics. The interviews were transcribed verbatim, and content analysis was subsequently carried out. This type of analysis was done to identify key themes that emanated from the data (Neuendorf, 2017). The data from both the surveys and interviews were triangulated, which aided in the verification of the findings (Nunkoo, 2018).

## RESULTS AND DISCUSSION

### Demographic profile of tourist guides surveyed

The important role that tourist guides occupy in the tourism sector has been noted, yet research on who these tourist guides are within the South African context is lacking. Demographic information reveals key information about tourist guides, which can be used to support these important tourism stakeholders strategically. Given the current COVID-19 induced context, such information has become critical in identifying the type of support required by tourist guides. As previously discussed, the COVID-19 induced pandemic and state of disaster in South Africa enabled the rollout of lockdown levels dependent on the number of COVID-19 infections in the country. The impact of the levels has taken its toll on the tourism sector, with tourism businesses having to either remained closed or open only partially in response.

The other major consequence of the various lockdowns has been the restrictions on the movement of people within the country, as well as into the country. Both domestic and international tourists in the country are served by tourist guides, and the absence of tourists is detrimental to their livelihoods. Thus, the current study undertook to determine the demographic profile of the tour guides who were surveyed in an effort to better understand the needs of tourist guides under the current circumstances. A total of 200 tourist guides from the Gauteng province were surveyed as part of this research. A summary of the demographic profile of these guides is presented in Table 1 below.

Table 1. Demographic profile of respondents

| Category | % (n = 200) |
|---|---|
| **Gender** | |
| Male | 59.5 |
| Female | 38.0 |
| I prefer not to disclose my gender | 2.5 |
| **Age** | |
| 23 - 35 | 39.0 |
| 36 - 45 | 25.5 |
| 46 - 64 | 26.5 |
| 65 + | 9.0 |
| **Residential regions of tourist guides in Gauteng province** | |
| Johannesburg Metropolitan | 33.0 |
| Tshwane Metropolitan | 20.5 |
| Ekurhuleni Metropolitan | 16.5 |
| Sedibeng District Municipality | 14.0 |
| West Rand District Municipality | 16.0 |
| **Educational qualification of tourist guides** | |
| Undergraduate degree/diploma | 42.0 |
| Senior Certificate | 35.0 |
| Postgraduate degree | 11.0 |
| No formal qualification | 10.0 |
| Other (please specify) | 1.5 |
| **Career experience of tourist guides** | |
| 1-3 years | 11.5 |
| 3-5 years | 24.0 |
| 5-10 years | 38.5 |
| More than 10 years | 26.0 |

Table 2. Tourist guide classifications

| Category | % (n = 200) |
|---|---|
| **Classification of work of tourist guides** | |
| Freelancer / self-employed | 67.5 |
| Casual – part time employed | 13.5 |
| Full time employed | 19.0 |
| **Qualification level of tourist guiding** | |
| NQF 2 | 32.0 |
| NQF 4 | 67.0 |
| Other (please specify) | 1.0 |
| **Category levels of tourist guiding** | |
| Site guide | 32.6% |
| Provincial guide | 39.1% |
| National guide | 28.3% |
| **Classification of tourist guiding** | |
| Culture | 57.6% |
| Nature | 27.8% |
| Adventure | 12.5% |
| Other | 2.1% |

In terms of gender, 59.5% of tourist guides surveyed were male, 38% were female, and 2.5% opted not to disclose. More than a third (39%) of tourist guides were between the ages of 23 to 35 years of age, 26.5% between 46 to 64 years of age, 25.5% between the age of 36 to 45 years. A small portion (9%) of respondents were over the age of 65 years. A third of the tourist guides (33%) reside in Johannesburg Metropolitan, 20.5% in Tshwane Metropolitan, 16.5% in Ekurhuleni Metropolitan, 16% in the West Rand District Municipality, and 14% in the Sedibeng District Municipality. A large portion (42%) of tourist guides surveyed were in possession of an undergraduate degree. The highest educational qualification of 35% of guides was a senior certificate, followed by 11% qualified with a post-graduate degree and 10% without any formal qualification. A small portion of tourist guides (1.5%) indicated otherwise. Over a third of respondents (38.5%) have between 5 and 10 years of career experience as a tourist guide, followed by 26% of tourist guides having more than 10 years of experience. Collectively, 35.5% of tourist guides have between 1 to 5 years of career experience, indicating their relative newness in the profession. This could also be indicative of the different types of support that tourist guides may require, especially in the face of crisis within the sector, but also in terms of continuous professional development and training for the longevity of their careers. The majority of tourist guides (67.5%) who participated in this study were self-employed or worked on a freelance basis, with only 19% of guides holding full-time employment, as indicated in Table 2 above. Additionally, 13.5% of tourist guides were employed on a part time or casual basis. Within the South African context,

people who are self-employed have significant financial commitments apart from business operations, including paying for private healthcare plans (medical aid) and investing in policies for their future and retirement. Those who are employed on a full-time basis often have access to these benefits as part of their remuneration packages, thus providing some insulation during strenuous times (Nyawo, 2020). For tourist guides who are self-employed or employed on a part time or casual basis, these are the first costs that are reduced when cash flow is strained. This was unsurprisingly mentioned by a key stakeholder interviewed, who reiterated the financial vulnerability of tourist guides. This vulnerability is worsened in the case of casually employed guides, whose limited employment reduced to nil with the shrinkage of demand for their services, ultimately stemming from the COVID-19 induced pandemic.

*"Most guides don't have a retirement annuity, they don't have a pension plan, they're very much day to day income earners. So, if they don't work for a month, the next month they don't have anything to go with [to buy] the bread or pap as basics. They don't have a backup and that means that most of the guides at the moment are going through a very tough spot" – Key informant 1.*

All tourist guides surveyed were qualified with either an NQF 2 (32%) or an NQF 4 (67%). This is in line with the national requirements set forth by the NDT (NDT, 2021). Tourist guides surveyed were either provincial guides (39.1%), site guides (32.6%), or national guides (28.3%), with the majority (57.5) being classified as cultural guides, 27.8% as nature guides, and 12.5% as adventure guides.

**COVID-19 and the impact on tourist guides: bookings, cash flow, and support programmes**

The classifications above are aligned with the classification of popular tourist offerings in South Africa, with cultural, nature based and adventure tourism being popular (Leonard and Langton, 2016; Tseane-Gumbi and Ani, 2019). The bookings that tourist guides experienced after the onset of the COVID-19 induced pandemic drastically reduced compared to the pre-pandemic era, as shown in Table 3 below. Approximately 69.3% of tourist guides' collective bookings were cancelled with a partial or full refund. Similarly, approximately 63.6% of bookings were cancelled with no refund. There was a significant percentage of bookings (55.6%) that were deferred to a later date. This was promising, indicating that tourists' confidence in travel and tourism activities was not completely diminished, thus maintaining a level of demand for tourist guides. However, it is important to note that this data was collected in the first half of 2021. The country has since experienced fluctuations in the lockdown levels, as well as in the reopening and closure of the tourism sector (see Smith, 2021a; Daniel, 2021). Most recently, the December tourism peak season in the country, which was critical to igniting demand once again, has been put on hold due to increasing infection numbers, a new strain of the virus, and consequent international travel bans (see Smith, 2021b). Ultimately, this has an effect on tourist willingness to constantly reschedule or defer bookings, with many opting for refunds given the uncertainty within the industry. The negative impact that this situation has had on tourist guides is further demonstrated in Table 3 below, which details the effect that this crisis has on their working conditions.

Table 3. Effects on bookings (in%) (n=200)

| V# | Effects on bookings | Applied to no booking | Applied to 1-25% of bookings | Applied to 26 - 50% of bookings | Applied to 51-75% of bookings | Applied to 76 - 100% of bookings |
|---|---|---|---|---|---|---|
| V1 | Existing bookings were cancelled with either full or partial refund | 30.7% | 10.4% | 6.8% | 7.8% | 44.3% |
| V2 | Existing bookings were cancelled with no refund | 36.4% | 19.0% | 14.9% | 6.2% | 23.6% |
| V3 | Existing bookings were deferred to be taken up at a later date | 44.4% | 28.1% | 10.7% | 5.6% | 11.2% |

Table 4. Effects on working conditions (in%) (n=200)

| V# | Effects on working conditions | Declined completely | Declined significantly | Declined a little | Did not change | Increased |
|---|---|---|---|---|---|---|
| V1 | New bookings | 61.6% | 25.8% | 9.1% | 3.0% | 0.5% |
| V2 | My working hours | 56.3% | 34.0% | 5.6% | 3.6% | 0.5% |
| V3 | My income generation opportunities | 57.3% | 36.2% | 5.0% | 1.5% | 0.0% |

New bookings, working hours, and income generation opportunities for tourist guides surveyed had almost completely declined since the onset of this pandemic. The sharp decline in new bookings is reflective of the closures within the tourism sector, with many businesses not being able to operate or receive a full complement of guests under the various lockdown restrictions. This decline is also reflective of tourists' uncertainty with regard to engaging in tourism activities. This uncertainty is not only linked to health and safety concerns but also to financial concerns and whether or not they stand to lose out if travel plans are halted again. This concern stems from the fact that many people have been financially impacted since the onset of the pandemic (Bama and Nyikana, 2021). As shown in Table 4, most concerning is that 98.5% of tourist guides surveyed indicated that their income generating activities declined, with just 1.5% indicating that there was no change. The decline in income generating opportunities is directly linked to the survival of tourist guides and their resilience capacity. The extent to which tourist guides' income was disrupted is illustrated in Table 5, which indicates that 94.5% of tourist guides income was severely or completely disrupted. These results, when considered with the fact that the majority of these tourist guides are self-employed or freelance guides, does not bode well for their survival during the current crisis (Nyawo, 2020). The likelihood of survival also diminishes as the crisis becomes more prolonged and the

mechanisms that tourist guides used to support themselves become exhausted. The prolonged nature of the pandemic and its consequence for tourist guides was noted by a key informant interviewed.

*"I thought that this year January I will be back at about 15% recovery, and this year February I'm still at 0% recovery. So I'm already 15% behind my estimate in year one, and I was expecting to be at about 60% in September 2021. I don't think I'm going to be at 60% in September 2021. In September 2021 I might be at 15% if I'm lucky, so I was expecting full recovery by September 2022 that now shifts to 2023 and I can't wait until September 2023 to start earning money. It's just not possible and most guides are worse off than that." - Key informant 1.*

Table 5. Effects cash flow (in%) (n=200)

| Effects cash flow | % (n = 200) |
|---|---|
| Was completely disrupted | 66.0 |
| Was severely disrupted | 28.5 |
| Was a little disrupted | 5.0 |
| Did not change | 0.5 |

Table 6. Tourist guides benefitting from financial support programmes (in%) (n=200)

| V# | Programme | No | Yes | Don't know |
|---|---|---|---|---|
| V1 | Tourism Relief Fund | 48.3% | 48.3% | 3.3% |
| V2 | IDC Support Funding | 88.8% | 3.4% | 7.8% |
| V3 | Tax relief | 84.0% | 5.0% | 10.9% |
| V4 | TERS | 81.5% | 13.4% | 5.0% |
| V5 | SMME support intervention | 89.1% | 5.9% | 5.0% |
| V6 | Social Relief and Economic Support Package | 87.4% | 4.2% | 8.4% |
| V7 | COVID 19 Loan Guarantee Scheme | 87.4% | 4.2% | 8.4% |
| V8 | South African Future Trust | 94.1% | 0% | 5.9% |

A key informant interviewed reinforced the consequences of disrupted cash flow for tourist guides and provided an insight into the impact of canceled bookings. This highlights the dependence of their livelihood on month-to-month income (De Beer, 2011), as well as on the sound functioning of the tourism sector as a whole.

*"On the financial side of things, I think tourist guides suffered the most the moment COVID hit. As you know, they might have just finished the tourism peak season (December/January) and into lockdown (March last year). The reality that they all had to face was the lack of income, as many tour bookings were cancelled" – Key informant 2.*

In an attempt to try and supplement tourist guides' lost income, there were a variety of financial support programmes underwritten by the government, available (in theory) to tourist guides. Some of these programmes included the Tourism Relief Fund, with an amount of this fund dedicated to tourist guides specifically, IDC Support funding, tax relief, SMME support, TERS, and others. It is evident from Table 6 below that apart from the Tourism Relief Fund (V1), tourist guides largely did not benefit from the financial support programmes as intended. Although aimed at providing short term relief for tourist guides (NDT, 2021), most of these programmes did not assist tourist guides in times of crisis, nor did these programmes contribute towards building resilience. These sentiments are further elaborated in Table 7 below, where tourist guides' perceptions of the government support programmes are detailed. Significantly, there is a high percentage of respondents (47%) who disagree that the government programmes met the needs and priorities of tourist guides (V1). Similarly, 51% of respondents disagreed that the government support and programmes were adequate and helpful in supporting and securing the future of tourist guides during the COVID-19 pandemic. Furthermore, just under half of all respondents indicated that the programmes were not accessible to tourist guides (V3) and that these programmes and support measures were not reaching the intended recipients (V5). The overall perception conveyed in Table 7 is generally one of dissatisfaction and apathy, indicated by the high proportions of tourist guides who disagreed or remained neutral on the statements posed. This is especially concerning, having implications for the future of the tourist guiding profession. The resources needed by tourist guides to survive the current crisis supersedes what is available and accessible. If unable to survive until the long-term reopening of the sector, not only does it have a major negative impact on the livelihood of tourist guides, but it also has a major impact on the supply of this particular service in the tourist sector. As a key informant discussed, tourist guides need to undergo training and must possess certain skills to practice. This is not a job that anyone can do – it takes knowledge, diversity of skills, and dedication to the job.

Table 7. Tourist guides perception of the COVID-19 government tourism SMMEs support programmes and relief measures for tourist guides (in%) (n=200)

| V# | Tourist guides perception of the COVID-19 government tourism SMMEs support programmes and relief measures for tourist guides | Disagree | Neutral | Agree | Don't know |
|---|---|---|---|---|---|
| V1 | I am satisfied that government business support programmes meet the needs, interests, and priorities of tourist guides | 47% | 27% | 20% | 6% |
| V2 | I am satisfied that tourism business support programmes offered by government authorities were adequate and helpful in supporting and securing the future of tourist guides during the COVID-19 pandemic | 51% | 24% | 16% | 9% |
| V3 | I am satisfied that government tourism business support programmes offered by government authorities are accessible to all SMMEs and tourist guides | 46.3% | 25.6% | 15.6% | 12.6% |
| V4 | I am satisfied with the tourism business support programmes offered by government authorities | 47.5% | 26% | 16% | 10.5% |
| V5 | I am confident that the business support programmes offered by government authorities are reaching the intended recipients | 44% | 23% | 14% | 19% |
| V6 | Government has provided leadership and made the right decisions in assisting SMMEs and tourist guides to survive the impact of COVID-19 | 45.5% | 21% | 20.5% | 13% |

***Survival mechanisms employed by tourist guides during COVID-19***

To try and temper some of the extreme negative consequences of the disruptions to careers and livelihoods, tourist guides had indicated some of the ways that they tried to adapt, as well as some of the strategies that they put in place to try and stay afloat. Table 8 below details some of the short-term mitigation and survival actions taken by the tourist guides surveyed. Across all variables, there was a significant portion of tourist guides who did not take any of these actions. Of those who did, amending their cancellations and refunds policy (V1), supplementing income with other skills, knowledge, or alternate employment (V4 and V5), selling personal possessions or securing financial loans to keep their businesses afloat (V8 and V9) and drawing on government financial relief (V5) seemed to be short term measures that were relatively successful, although detrimental in the long term. Key informants interviewed elaborated on this, stating

*"Quite a few guides took up any job they could find in any sector just to be able to have some income. I don't think it was a matter of preference or anything, it was just a need to earn a living and put food on the table, and whatever job they could secure to bring in that additional income they were doing that" – Key informant 2.*

*"My wife and I had corporate careers before, so we've cashed in retirement annuity so as to pay for bond and safari car, and which is why we can actually dedicate time to tourist guide association work because we're living off our retirement annuity. But most guides don't have a retirement annuity, they don't have a pension plan, they're very much day to day income earners" – Key informant 1.*

*"Many indicated that when tourists guiding fell away due to restrictions took odds and ends to earn some income. One of the guides just took on a job like a handyman. He just advertised himself as being able to do all sorts of other things. Another went to help in the family engineering business although he's not an engineer. Also, some of the ladies that I spoke to who are tourist guides, went into the catering business" – Key informant 4.*

Although the South African government offered support programmes for stakeholders in the tourism sector (see NDT, 2021), with a relief fund set up specifically for tourist guides, the impact of these programmes seems to be minimal, with only 37.4% of tourist guides surveyed having accessed these funds with varying levels of success. On this specific measure, many tourist guides indicated that they were unable to access the funding support due to administrative requirements which they were unable to meet, which a key informant also explained:

*I applied for the TRF because we had the paperwork required for application. But when I look at the way a lot of guides operate, I realised most of them wouldn't have tax clearance certificates, 6 months bank statements signed and stamped, and other paperwork required to complete the application" – Key informant 1.*

Furthermore, the conditions of access barred some from applying for the funds at all (see Plasket, 2021; Girma, 2021; Masihlelo, 2020). For those that were able to access the funds, although providing a small amount of relief, it was not adequate to support these guides' livelihoods throughout an extremely volatile crisis.

Table 8. Short term mitigation and survival actions (in%) (n=200)

| V# | Short term mitigation and survival actions | Did not take action | Took action, not at all successful | Took action with varied levels of success |
|---|---|---|---|---|
| V1 | (I/the company I work for) amended cancellations and refunds policy to allow deferment of tour bookings instead of cancellations | 44.1% | 16.4% | 35.9% |
| V2 | (I/the company I work for) introduced advance pre-payment policy structure for tourist guiding bookings to acquire much needed income and cash flow to sustain operations | 52.1% | 17.0% | 27.8% |
| V3 | (I/the company I work for) generated income from providing virtual tours using my/their digital skills (IT and communication and social media) | 66.8% | 10.7% | 21.4% |
| V4 | I generated supplementary income by using my other entrepreneurial skills and knowledge (sales and marketing, financial, customer service) to provide other business and individual service | 19.0% | 23.5% | 46% |
| V5 | I took a temporary job as an interim measure to augment the lost income | 34.5% | 18.0% | 36% |
| V6 | (I/the company I work for) secured government financial relief support to supplement income lost | 40.0% | 14.4% | 37.4% |
| V7 | I used the supplementary income generated from my other productive activities to support and secure the future of my tourist guiding operation | 49.2% | 15.9% | 26.6% |
| V8 | I sold personal assets acquired through my career as a tourist guide to generate the financial resources needed to support and secure the future of my tourist guiding operation | 50.5% | 10.5% | 35.5% |
| V9 | (I/the company I work for) borrowed money (from bank, family, and friends) and re-invested funds in tourist guide operations to ensure survival | 49.0% | 10.5% | 36.5% |

In addition to the short term, more immediate mitigation and survival mechanisms that were actioned by tourist guides, there was also a host of medium to long term actions taken aimed at mitigation and resilience building. Of these measures, the improvement of digital skills and knowledge to build capabilities for tourist guiding services seemed to be the strategy with a high level of success amongst respondents (see V2 in Table 8). The other strategy that was adopted by most respondents and that yielded the most success was cost cutting measures within households, with a view to direct any extra financial capacity towards the future of the tourist guide's career or business (V6).

Cost cutting measures seemed to be the first strategy that many tourist guides adopted for both short and medium to long term goals. Linked to this, some tourist guides indicated that they either temporarily closed down operations (V8) or, if they were business owners, that they had to retrench some of their employees as a cost cutting measure (V10). Ultimately, most of these measures and strategies are aimed at either saving money or trying to generate income from alternative methods to try and make up for the steep shortfall from the lack of opportunity to practice tourist guiding. It is interesting to note that only 34.4% of respondents were successful to varying extents in benefitting from government non-financial business support and that only 39.1% joined industry associations as a support structure and to try and build resilience for their businesses/careers. A key stakeholder interviewed provided an insight into the tourist guides' membership to industry organisations. Although a good source of support, continuous development, and networking opportunities, many tourist guides have had to cancel or opt for nonrenewal of their annual membership fees, owing to the significant reduction in their cash flow. The lack of employment and tourist guiding opportunities, coupled with their cost cutting survival measures did not leave room for the payment of membership fees to a tourist guiding organisation, especially when not being given the opportunity to engage in guiding.

*"…. we also have other tourist guides that did phone and say, look, my registration has expired I am not going to come to register now simply because I am going to waste my registration time and money. So we're going to monitor the industry and see how things change and improve and based on that, we're going to come back to register when the tourists start coming back to the country" – Key informant 5.*

*"I think obviously the number of tour guides re-registered this year is probably a record low because many of them I'm sure are simply out of a job to put it bluntly" – Key informant 5.*

Table 9. Medium to long term mitigation actions (in%) (n=200)

| V# | Medium term mitigation action and resilience building actions | Did not take action | Took action, not at all successful | Took action with varied levels of success |
|---|---|---|---|---|
| V1 | (I/the company I work for) benefitted from government non-financial business support programme aimed at building capabilities for survival and resilience for tourist guiding services | 47.7% | 17.9% | 34.4% |
| V2 | I used this period to improve my digital skills and knowledge as a measure to build capabilities for survival and resilience for my tourist guiding services | 22.5% | 12.0% | 65.5% |
| V3 | I used this period to launch and expand digital media presence as a mechanism to improve my relationship with customers and leverage increased future bookings for my tourist guiding services | 36.5% | 18.5% | 45% |
| V4 | (I/the company I work for) started offering lower prices as a measure to increase demand for tourist guide services | 47.0% | 19.2% | 33.8% |
| V5 | (I/the company I work for) offered alternative products to increase demand for tourist guide services | 52.6% | 13.8% | 33.8% |
| V6 | I restricted spending on non-essential household expenditures and redirected savings towards supporting and securing the future of my tourist guiding operation | 14.2% | 7.6% | 78.2% |
| V7 | I joined industry association/s as a support structure to build capabilities for survival and resilience for my tourist guiding operation | 46.7% | 14.2% | 39.1% |
| V8 | (I/the company I work for) temporarily closed the operations | 31.5% | 11.7% | 56.8% |
| V9 | (I/the company I worked for) permanently closed the operation | 62.2% | 9.2% | 28.5% |
| V10 | (I/the company I work for) laid off some employees to remain financially viable | 40.6% | 8.6% | 50.5% |

These concerns were echoed by a key informant interviewed, who alluded to the vulnerability of freelance tourist guides due to the absence of a formal salary. Additionally, even those guides who earn a fixed income have taken up alternative employment to secure themselves financially.

*"I know one guy that's now got a catering company. He's Italian well Italian/South African but he does the Italian market and the German market, but he can cook. So he started making nice little delicacies and selling them through one of those I mean little shops, you know, the ones that get into centres that sell little cookies and stuff. And then he expanded and now sells lasagnas and cannelloni's ready to freeze, and they're really good I mean two main portions, the kind that you would buy at Pick n' Pay or Spar but homemade and cheaper and all natural ingredients. So that's what he's doing to survive the pandemic' - Key informant 1.*

*"There is a lady who is now offering Spanish classes, [and] she's become a teacher. She's not a qualified teacher, but she's teaching people to speak the language, so that they can communicate in the language. We also know somebody that's doing Italian, we know people that have now turned their homes into, sort of like, bed and breakfast type establishments but not for guests but for people that no longer can afford a home, so if you can't afford the rent, come and stay with me and we split the rent that kind of thing"– Key informant 3*

*"There are guides now doing deliveries for Amazon and Takealot with their own vehicles. Other guides with heavy duty licenses now driving trucks and others doing call centre work" – Key informant 1.*

Concerns around the finances are unfortunately not unique to tourist guides in the current time and has been noted to be a

common concern among tourists and tourism stakeholders since the onset of the pandemic. This is owed to widespread job losses, retrenchments, reduction in salaries and working hours (Bama and Nyikana, 2021; Nyawo, 2020; Chirisa et al., 2020).

## CONCLUSION AND RECOMMENDATIONS

Reflecting on the foregoing discussion, it is evident that tourist guides were heavily impacted from the onset of the pandemic and the institution of national lockdown levels in the country. Tourist guides are arguably among the most significantly impacted role-players in the tourism sector, having already been a precarious and somewhat unsecured financial position pre-pandemic. The absence of employment security and financial insulation translated to service providers, who, although integral to the smooth functioning of the destination, were vulnerable to crises such as this.

Consequently, it has emerged that many tourist guides do not have a lot of capacity to weather prolonged crises such as this, with many of the guides who participated in this study living on a month-to-month basis. This speaks to the resilience of tourist guides – an important consideration in crisis management (Jones and Comfort, 2020). The government support programmes made available during this period were aimed at assisting tourism stakeholders, and specifically tourist guides through the provision of that Tourist Guide Relief Fund (NDT, 2021). Unfortunately, the rollout and uptake of the funds and other support programmes did not pan out as expected, leaving many tourist guides in a similarly vulnerable position. Significantly, given the shortcomings with the support (see Plasket, 2021; Girma, 2021; Masihlelo, 2020), many tourist guides tried to implement their own survival plans by cashing in their personal assets, taking out loans or refinancing existing ones, reducing lifestyle costs, and finding other employment to supplement their income. These plans were all aimed at the immediate survival of their careers but unfortunately eroded at their ability to withstand any more of this crisis or any other that may occur soon. Other longer-term measures instituted by tourist guides included the modification of their service policies, allowing for future booking and deferment of existing bookings, providing an array of digital tourist guiding services to try and supplement their traditional in-person tour guiding activities. Additionally, given the massive move to the online space since the beginning of this pandemic (Chirisa et al., 2020), many guides are trying to improve their online presence to try and connect with tourists, to ultimately ensure the future of their careers.

Despite these impressive efforts, the strain of the stop-start nature that the risk adjusted lockdown levels have resulted in has become overwhelming. The fluidity of the situation has resulted in shifting goalposts, testing even the most resilient and insulated stakeholders in the sector (Iastremska and Kononova, 2021; Sucheran, 2021). It is also difficult to determine at present whether these short- and longer-term measures will prove to be effective or adequate to carry tourist guides until the certain reopening of the sector, as this also remains an unknown. Given the important role that tourist guides play in the sector, it is essential that their progress and survival throughout the remainder of the current crisis is monitored, as well as the opportunities available for them to resume duty upon reopening. As previously mentioned, there is relatively little known about tourist guides within the South African context, with this lack of insight proving to be a hurdle in formulating effective plans and strategies to assist tourist guides currently. This study focused on the current COVID-19 crisis that has afflicted the tourism sector in South Africa and all tourism stakeholders. Tourist guides perform an integral role in the tourism industry, as vital role players in welcoming and interacting with tourists, providing information about a destination and its history (Collins, 2000; Ooi, 2002; Chowdhary and Prakash, 2010). Despite this crucial role, a limited amount of research has been conducted specifically on tourist guides in the South African tourism sector. The research that has been done focuses on the development and training of tourist guides and the employment conditions that tourist guides work within (see Davids, 2008; Gavron, 2002; McIntyre, 2007, Rogerson, 2004; Rogerson and Visser, 2004).

Thus, the contribution of the present study is two-fold, contributing to the theoretical discourse on tourist guides within the South African context, as well as within a tourism crisis context. More specifically, the current study investigated some of the common survival mechanisms that tourist guides utilize in times of crisis. Additionally, the contribution of this study is practical, as the unique and contemporary findings of this study can be used to inform the Gauteng provincial department's plans and strategies related to tourist guides. Furthermore, given the lack mentioned above of research on tourist guides in South Africa and the various issues that they face, this study can serve as a baseline for future studies, especially in respect of investigating the impacts of the support measures offered to and utilised by tourist guides in the long term. Such studies may provide insight into how the measures instituted, and programmes offered contributed to the ability of tourist guides to survive in times of crisis and towards increasing their overall capacity towards resilience. Although these are issues that the current study has touched on, there is scope for further research given that the pandemic is still ongoing, thus the full impact can be assessed post-crisis. This baseline for further research is especially important considering the various crises that can afflict the sector. Preparing for crisis within the sector is an integral aspect of crisis management and resilience building, which should form part of the research agenda going forward.

The findings of this study revealed the need for further research on tourist guides and the issues they contend with in the South African context. As this is an ongoing crisis that is constantly changing, ongoing monitoring and evaluation of the situation is imperative. Additionally, the results point to preliminary areas for policy and organisational improvement related to the government support mechanisms available to tourist guides, as well as the administrative requirements for the mechanisms. Moreover, future research on tourist guides within the current and eventual post COVID-19 context is required to quantify the number of tourist guides that have survived the COVID-19 pandemic, including an analysis of the type of support the tourist guides require to adapt and innovate their offerings is necessary.

Other recommendations from this study include that a proactive risk management plan at an organisational (i.e., tourist guide) and industry level must be developed as a resilience measure to minimise the impact of future tourism crises in the sector. A focus on building resilience into the overall tourism sector and businesses need to be a priority, as

support measures are often finite and can become an unsustainable or unfeasible practice. Additionally, as evidenced from the current situation, the support measures and programmes offered can be problematic when not available to all affected, or when there is a lack of communication and understanding about them. Hence, building resilience should be an integral aspect of recovery going forward and planning for future crises.

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# TOURISM DEVELOPMENT THROUGH COMMUNITIES' SUPPORT: RURAL COMMUNITIES' PERSPECTIVE

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**Abstract:** Rural tourist destinations are a growing segment of global tourism. The rural communities in these destinations play a major role in delivering tourist services, attractions, and accommodation. Any tourism development, therefore, requires host community support if it is to attain long term success. The proposed study aims to investigate tourism development through communities' support in the context of rural communities' perspectives. The Social Exchange Theory was employed to develop the conceptual framework for this study. A total of 266 residents from sampled households at rural communities in a developing country were surveyed. The study employed the Partial Least-Squares Structural Equation Modelling (PLS-SEM) analysis. The findings of this study revealed that the community's participation in the decision-making of tourism matters has a significant influence on residents' support for tourism development. Tourism stakeholders as well as rural host communities will benefit from these findings which will outline how community's participation in tourism decision-making influence them to be supportive for tourism development. This study analyses the direct effect of host communities' perceived positive and negative impacts of tourism, participation in tourism decision making towards support for tourism development, and perceived positive impacts towards community participation. A quantitative survey method was carried out to collect data for testing the significance of the proposed relationships in the conceptual framework of the study. The study recruited rural host communities at the Dhangmari village located in the district of Khulna in Bangladesh. Host communities' perceived positive and negative impacts of tourism can influence them to support for tourism development in rural communities. Notably, community participation in tourism decision-making process has a greater role to enhance host communities' support towards tourism development in rural communities as it assists to alleviate their confusion and conflict on such a development, particularly, in developing countries. This study further explored an indirect effect of community participation in tourism decision making between host communities' positive impacts of tourism and support for tourism development. Thus, local authorities should provide more opportunities for host communities to be involved both in tourism operations and decision-making process

**Key words:** rural tourists' destination, rural community participation; tourism impacts, community participation, tourism development, developing country

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## INTRODUCTION

Host communities' support is crucial in developing and sustaining tourism at rural communities (Hasani et al., 2016; Eslami et al., 2018). They played an important role by providing tourist services, attractions, and accommodations. This contributes to improving standard of living of rural people at host communities through economic development and social regeneration (Haven-Tang and Jones, 2012; Ruiz-Molina et al., 2010; Campon-Cerro et al., 2017). Community support refers as the cheerful intention and willingness of individuals towards tourism development who reside within the vicinity of the tourism destination (Spencer and Nsiah, 2013; Wondirad and Ewnetu, 2019). Thus, tourism operators and its associated stakeholders should pay more attention in finding the functional and inspiring ways to be attained and enhanced host communities' support for the meaningful development of tourism at rural communities. It is evident that host communities' perceived positive and negative impacts of tourism development significantly contribute to their support for such a development (Chuang, 2013; Brida et al., 2011; Muresan et al., 2016; Rasoolimanesh et al., 2017; Gursoy et al.,

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2019). Previous studies in tourism literature on rural community support have witnessed that rural host communities' positive perceptions of tourism impacts encourage them in supporting tourism development (Muresan et al., 2016; Nunkoo and So, 2016; Rasoolimanesh et al., 2015; Afthanorhan et al., 2017). However, their negative perceptions discourage the community to be supportive into such development at their community (Latkova and Vogt, 2012; Muresan et al., 2016; Rasoolimanesh et al., 2015; Afthanorhan et al., 2017). In addition, studies also explored that community participation in tourism decision making influence to support for tourism development (Choi and Murray, 2010; Pavlic et al., 2015), especially for developing responsible tourism behaviour (Cheng et al., 2019). While, exclusion of community participation discourage them to support for such development at the rural community (Kachniewska, 2015; Rasoolimanesh et al., 2017).

Most studies on rural community support have explored link between host communities' perceptions of tourism impacts and their support for tourism development in different context (Jaafar et al., 2017; Muresan et al., 2016; Afthanorhan et al., 2017; Nunkoo and So, 2016; Sherrymina et al., 2021) while, with the inclusion of rural community participation, studies have been investigated in the context of developed or non-developing countries (Choi and Murray, 2010; Lee, 2013). Few works explored on community participation for rural community support in developing countries, these studies focused on world heritage sites (Rasoolimanesh et al., 2015; Rasoolimanesh et al., 2017). Furthermore, the mediation role of community participation has been investigated on the relationship between sustainable tourism development attitude and environmentally responsible tourism behaviour (Cheng et al., 2019). The mediating effect of community participation may better explain the relationship between rural communities' perceived positive impact of tourism and support for tourism development which can contribute to improve host communities' weak support for tourism development at rural communities in developing nations (Choi and Murray, 2010; Lekaota, 2015; Sakib et al., 2017). However, this is till to date, remains unexplored in the literature, by covering this gap, the current study might provide a superior contribution of this area of studies. Therefore, this study analyses the direct effect of host communities' perceived positive and negative impacts of tourism, participation in tourism decision making towards support for tourism development, and perceived positive impacts towards community participation. A mediation role of community participation between host communities' positive perception of tourism impacts and their support for tourism development is also estimated in this study. The following section reviews the extant and relevant literature, follow by conceptual framework and hypotheses development. Next, the paper discusses methodological aspect in detail followed by the findings and discussions with theoretical and practical implications. Finally, limitations and suggestions for future research directions are outlined.

**Research Context**

Since 2016, Bangladesh has made remarkable progresses in term of economic growth and reduction in poverty (World Bank, 2021). In fact, Bangladesh has been among the fastest growing economies in the world over the past decade and on track to graduate from the United Nation's Least Developed Countries (LDC) by 2024 (Gay, 2017). The International Monetary Fund (IMF) estimated Bangladesh economy will grow at a staggering 7.5% by 2022 but expecting a slight decline to 7.2% by 2026 (International Monetary Fund, 2021). With a population of 168 million, which makes it the eighth largest in the world, Bangladesh is also reeling from the effects of coronavirus disease 2019 (COVID-19).

Having said that above, COVID-19 pandemic has impacted Bangladesh GDP growth and poverty greatly. The pandemic also had created long term negative economic implications as a result of reduced in labor participants (particularly female), losses in learning opportunities (education sector in Bangladesh being halted as the results of prolonged lockdown and tightening of public movement restrictions nationwide), as well as continuous heightening of its financial sector vulnerabilities. Tourism sector in Bangladesh, like in any country globally, stifled of tourists/ visitors travels since the pandemic was declared on 11$^{th}$ March 2020 (Rahman et al., 2021). With the growing evidence in the tourism literature demonstrating the importance of restarting and reverberation of tourism sector had on economic growth and reduction on poverty (e.g. Boonyasana and Chinnakum, 2021; Sharma et al., 2021), we argue that the shift from focusing primarily on mainstream international travelers/ tourists receipts to community participations in rural tourism products and offerings can further improve Bangladesh's overall tourism situation. In this regard, this study is timely because it offers a new level of knowledge in an area that is lacking in tourism studies and development. The results help to clear out misconceptions, identify roadblocks and influence practices not only in tourism development, but also on how to provide the needed climate for rural tourism in Bangladesh to flourish.

**Literature Review**

**1. Perceived Positive Impacts of Tourism**

Rural host communities' positive perceptions of tourism impacts warrant them to be involved in exchange processes to support tourism development in their communities. They perceive the impacts of tourism from economic, socio-cultural, and environmental point of view (Campon-Cerro et al., 2017; Eslami et al., 2018). Various studies had examined rural host communities' perceptions and attitudes towards tourism development ( Eshliki and Kaboudi, 2012; Nunkoo and So, 2016; Moghavvemi et al., 2017; Martin et al., 2018; Gursoy et al., 2019). Economic gains from tourism development stimulate their positive perceptions on the impact of tourism (Rasoolimanesh et al., 2015; Gursoy et al., 2019). Literature also acknowledges the fact that members of rural communities appreciate the widespread benefits received from tourism development (Jakpar et al., 2011; McGehee and Andereck, 2004; Stylidis, 2018), such as- the acceleration of small and medium businesses (Abdollahzadeh and Sharifzadeh, 2014) which positively changes their lives, helps to develop agriculture, and improves the rate of employment (Brida et al., 2011). These contributions further influence them to be supportive of tourism development in their community. Tourism development at rural settings contributes to positive socio-

cultural impacts in the communities (Lee, 2013; Gursoy et al., 2019). It develops networks between host communities and visitors, provides improved opportunities for shopping, and develops recreational areas (McGehee and Andereck, 2004). These outcomes in terms of socio-cultural impacts of tourism benefits help to obtain continued support from rural communities for tourism development (Nunkoo and So, 2016; Afthanorhan et al., 2017; Stylidis, 2018).

Rural communities also pay close attention to the environmental impacts of tourism development on their community. It contributes to the restoration of historical buildings, conservation of natural resources (Maksimovic et al., 2015; Park et al., 2015; Campon-Cerro et al., 2017), and improvement of roads and public services (Chuang, 2013). Past studies acknowledged the fact that the provision of better facilities and developed infrastructure help rural communities to perceive the impact of tourism development positively (Martin et al., 2018), and in turn, support tourism development at their local community (Gursoy et al., 2019; Stylidis, 2018). Therefore, it can be said that the more the economic, socio-cultural and environmental benefits of tourism that rural communities perceive, the more likely that they will support tourism development at their community (Muresan et al., 2016; Rasoolimanesh et al., 2015; Campon-Cerro et al., 2017; Martin et al., 2018).

**2. Perceived Negative Impacts of Tourism**

The detrimental impacts of tourism in rural communities can also be viewed through economic, socio-cultural and environmental aspects (Jakpar et al., 2011; Martin et al., 2018). In terms of economic loses for tourism development, previous studies witnessed that tourism in rural communities increases the prices of goods and services in the community (Nunkoo and So, 2016), increases the rate of inflation, and property taxes (Muresan et al., 2016). Rural communities also perceive the jobs offered by tourism development as low-paying (Latkova and Vogt, 2012). This fact indicates that the members of rural communities are engaged in support services. These negative economic consequences of tourism development may undesirably impact the rural communities' perception and support for tourism initiatives in their communities (Rasoolimanesh et al., 2017). The socio-cultural impacts of tourism also affect the rural communities' perceptions towards tourism development. Past studies have advocated that tourism development increases crime and overcrowding which in turn create burden for rural communities. It also responsible for traffic congestions (Latkova and Vogt, 2012; Martin et al., 2018), and changes traditional culture in local rural communities (Chuang, 2013). Therefore, it instigates friction between tourists and the host community (Jakpar et al., 2011; McGehee and Andereck, 2004; Wang and Yotsumoto, 2019), which discourages host communities to be supportive for tourism development at their community (Nunkoo and So, 2016; Gursoy et al., 2019). Furthermore, people of the host communities perceive the environmental effect of tourism initiatives as most damaging for the rural community (Muresan et al., 2016; Martin et al., 2018). It destroys the local ecosystem, causes of water pollution (Fuentes Garcia et al., 2014), and damages the natural environment of the community (Rasoolimanesh et al., 2015). Consequently, host communities got worried about the effect of tourism development at rural communities, they think that such development may spoil the natural beauty of rural environment, which in turn further fuels their negative perceptions on tourism. Previous studies also explored that rural communities' negative socio-cultural and environmental perceptions stemming from tourist activities instigate their lack of support towards tourism development (Muresan et al., 2016; Rasoolimanesh et al., 2015; Rasoolimanesh et al., 2017; Afthanorhan et al., 2017; Martin et al., 2018).

**3. Social Exchange Theory**

Social Exchange Theory (SET) was used as ground of the concept of this study. The notion of this theory is that an individual or a group's decision enters into an exchange process by comparing the benefits and costs incurred from the exchange (Homans, 1961). Likewise, *"SET can accommodate explanation of both positive and negative perception, and can examine relationships at the individual or collective level"* (Ap, 1992 , p.667). It has subsequently been employed in the previous tourism research on rural host communities' perceptions and attitudes (Abdollahzadeh and Sharifzadeh, 2014; Latkova and Vogt, 2012; Rasoolimanesh et al., 2015; Rasoolimanesh et al., 2017; Eslami et al., 2018; Gursoy et al., 2019; Stylidis, 2016, 2018) on their support for tourism development (Sharpley, 2014), and participation in tourism decision making (Choi and Murray, 2010; Rasoolimanesh et al., 2017; Afthanorhan et al., 2017; Campon-Cerro et al., 2017). More specifically, host communities support for tourism development at their locality when they perceive that the benefits of such development outweigh the costs (Burns and Fridman, 2011). Community participation in tourism decision making encourage them to be supportive for tourism development (Choi and Murray, 2010; Cheng et al., 2019; Mahmoda Akter et al., 2020). However, rural communities' exclusion or non-participation in the planning process may result in negative support towards tourism development at their communities (Kachniewska, 2015). This widespread concept of SET underpins the adoption of this theory as the foundation of this study.

**4. Community Participation and Support for Tourism Development**

Host communities' support for tourism development in rural communities is contingent upon their genuine involvement in tourism decision-making process (Choi and Murray, 2010; Mak et al., 2017). It indicates that the provided prospect for community participation in tourism decision-making process warrant the community's interest such as- assurance of employment for the community people, protection of cultural identity and natural environment of the rural community (Mubanga and Umar, 2016). Several studies in tourism literature also acknowledged that rural communities' participation in tourism decision-making process encourage them in supporting tourism development at their community (Choi and Murray, 2010; Lee, 2013; Cheng et al., 2019; Mak et al., 2017). In addition, host communities' perceived impacts of tourism development, especially positive impacts, hold a link with their participation in the decision-making process and/or tourism-related services (Dadvar-Khani, 2012). Tourism's communal benefits helps to convince rural host communities that tourism

development cannot provide benefits to every member of the community (Lekaota, 2015), and they consider that the participation in tourism project as equivalent to economic involvement (Rasoolimanesh et al., 2017). Therefore, rural host communities desire to participate in tourism management to contribute in improving more positive impacts of tourism development for the community (Jaafar et al., 2017). Previous studies also explored that host communities' positive perceptions encourage them to be participated in tourism decision-making process (Jaafar et al., 2017; Rasoolimanesh et al., 2015).

In terms of offering rural host communities' participation in tourism decision-making process, there are none or negligible participation is existence in the developing world (Latkova and Vogt, 2012). The exclusion of host communities' opinion in the planning stages, poorly planned and managed tourism development is designated that negatively affect towards rural communities. This undesirable effect fails to meet host communities' expectations and leads to misunderstanding of how the tourism development should be in their communities (Jaafar et al., 2017; Kachniewska, 2015). It is also evident that often tourists and rural host communities are involved in conflict in developing countries (Lekaota, 2015; Wang and Yotsumoto, 2019). As suggested by Lekaota (2015), this can be soften by providing host communities in the decision-making process. Therefore, tourism policy makers and associated stakeholders should engage host community and address their views in policy making to garner their support for tourism development (Cheng et al., 2019). We also anticipate that the indirect effect of community participation between perceived positive impacts and their support for tourism development may strengthen the communities' support for such development (Choi and Murray, 2010; Wondirad and Ewnetu, 2019).

## 5. Conceptual Framework and Hypotheses

The proposed conceptual framework of this study (Figure 1) is comprised of three exogenous constructs that directly and indirectly affect host communities' support for tourism development. From the economic, socio-cultural, and environmental points of view, host communities' perceptions on the positive and negative impacts of tourism together with the rural communities' participation in tourism decision-making are considered exogenous constructs of this study. However, the "community participation in tourism decision-making" construct also serves as a mediator which mediates the relationship between perceived positive impact of tourism and communities' support for tourism development.

Many rural communities enjoy positive impacts from tourism development. Previous studies suggested that tourism development in rural communities creates business opportunities and attracts investment for the host community (Abdollahzadeh and Sharifzadeh, 2014), improves their standards of living (Chuang, 2013), and creates environmental awareness (McAreavey and McDonagh, 2011; Park et al., 2015) among the host community. A significant number of studies claimed that the positive impact of tourism influences rural communities in supporting tourism development happening in their community (Afthanorhan et al., 2017; Campon-Cerro et al., 2017; Gursoy et al., 2019; Stylidis, 2018; Muresan et al., 2016; Rasoolimanesh et al., 2015). Therefore, the study proposes the following hypothesis:

**H1:** Host communities' positive perception of tourism impacts has a direct relationship with support for tourism development in rural communities.

Earlier studies on tourism in rural communities have found that tourism increases the prices of local commodities and services (Brida et al., 2011; Nunkoo and So, 2016), imposes higher taxes on local properties (Muresan et al. (2016), creates crime and overcrowding (Latkova and Vogt, 2012), and degrades the local natural environment (Rasoolimanesh et al., 2015); thus causing the members of the host community to view the developments negatively. Several studies acknowledged that rural host communities' negative perception towards tourism influences them in being non-supportive of tourism development in their local community (Afthanorhan et al., 2017; Gursoy et al., 2019; Muresan et al., 2016; Rasoolimanesh et al., 2015; Rasoolimanesh et al., 2017). Refer to the following hypothesis:

**H2:** Host communities' negative perception towards tourism impacts has a direct relationship with support for tourism development in rural communities.

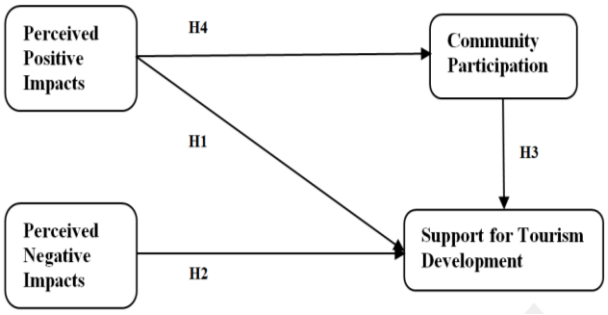


Figure 1. Conceptual Framework

Past studies have also suggested that host communities' involvement in the tourism decision-making process influences them in supporting tourism development in rural communities (Choi and Murray, 2010; Pavlic et al., 2015; Cheng et al., 2019). In other words, the community's participation in tourism decision-making positively affects their perception on the impact of tourism development (Lee, 2013). In this regard, past literature claimed that host communities' positive perception leads them to participate in tourism decision-making (Jaafar et al., 2017; Rasoolimanesh et al., 2015). Refer to the following hypotheses:

**H3:** Community participation in tourism decision-making has a direct relationship with support for tourism development.

**H4:** Host communities' positive perception on tourism impacts has a direct relationship with community participation in tourism decision-making.

**H5:** Community participation in tourism decision-making mediates the relationship between host communities' positive perception on tourism impacts and support for tourism development in rural communities.

## MATERIALS AND METHODS

A quantitative survey method was carried out to collect data for testing the significance of the proposed relationships in the conceptual framework of the study. In total, the questionnaire used 30 items in the survey those were adopted from the instruments employed in previous rural communities' tourism studies, and 6 basic demographic questions such as- age, gender, marital status, etc. were included. In particular, items that measure host communities' perceived positive impacts of tourism and perceived negative impacts of tourism were adopted from the study of McGehee and Andereck (2004), and Latkova and Vogt (2012) respectively. Whereas, items on community participation in tourism decision-making were adopted from the work of Rasoolimanesh et al. (2017), and support for tourism development from Nunkoo and So (2016). These items were measured using five-point Likert rating scale where 1 = *strongly disagree*, and 5 = *strongly agree*.

### Sampling Technique and Procedure

The study recruited rural host communities at the Dhangmari village located in the district of Khulna in Bangladesh, as gauging host communities' perceptions to obtain their support for tourism development was the main focus of the study. The study was used systematic random sampling method as this method offers each target respondent an equal opportunity to be randomly selected (Lim and Ting, 2012), thus, questionnaires were distributed. In total, the survey was received 273 completed responses, and 266 responses were utilized for data analysis as usable responses, and other seven were removed due to large proportion of incomplete responses. In performing Partial Least Squares-based Structural Equation Modelling (PLS-SEM) as analytical tool, the used sample size met the minimum sample size recommended by various scholars (Hoyle, 1995; Tabachnick and Fidell, 2007). The recommended minimum sample size of 50 is suitable to perform PLS-SEM, as there are five arrows pointing to a latent construct (Marcoulides and Saunders, 2006). However, recommended sample size between 200 to 300 indicates good sampling for any standard statistical analysis including SEM (Tabachnick and Fidell, 2007). Thus, the current study meets the sample size of standard recommendations. Participation was voluntary, and informed consent was obtained from all respondents before their participation in the study.

### Data Analysis Technique and Procedure

The current study employed PLS-SEM to test the causal relationships between the constructs of the proposed conceptual model (Figure-1). This analytical technique has been increasingly applied in the field of marketing research and other business units (Henseler et al., 2009). It is especially suited to test the extent of the relationships between the predictor variables and the criterion variables (Hair et al., 2017). In analyzing the proposed conceptual model, this study was undertaken the following steps: Firstly, the study was performed Common Method Variance (CMV) using Harman's single factor test for testing the common method bias (Podsakoff et al., 1986), and computed the Variance Inflation Factor (VIF) for testing the collinearity of indicators (Hair et al., 2017). Secondly, based on the suggested threshold values, the study was assessed the factor leading, composite reliability, average variance extracted, and Fornell and Larcker's (1981) criterion in reflective constructs, and used redundancy analysis to establish the convergent and discriminant validity in the measurement model (Bagozzi and Yi, 1988; Fornell and Larcker, 1981; Hair et al., 2017; Hair et al., 2011). Lastly, bootstrapping and blindfolding procedures were performed to test the significance and effect size of the path relationships, variance explained by, and predictive relevance of the structural model (Hair et al., 2017).

## RESULTS AND DISCUSSION

### Findings. Participant's Structure

Residents at host community were obtained as sample of this study (Table 1). Majority of respondents' age group ranging from 21-30 years were 29.7%, and ages between 31-40 years were 28.9%, followed by those between the ages 41-50 years (14.7%), 51-60 years (12.8%), while age group above the ages of 60 years and less than 20 years were accounted as 13.9% in total. Regarding gender, a substantial number of respondents were men (74.1%). In terms of marital status, most of the respondents were married (76.3%), followed by single (22.9), and other (0.8%). Agriculture was the biggest sector as the professional attachment of the respondents (41%), followed by housewife (19.2%), business (16.9%), student (11.3%), and service (8.6%), while unemployed were the least (3%). In terms of monthly income, most of the respondents had a monthly income of Tk. 5000 or less (60.5%), while Tk. 25000 or above were least (0.4%). However, monthly income ranging from Tk. 5000-10000 were 30.8%, followed by 15000-20000 (4.1%), 10000-15000 (3%), and 20000-25000 (1.1%). Finally, in terms of respondents' duration of living at the community, a common number of residents have been living at the community since more 20 years (83.8%), while others ranging from 1-20 years were accounted as 16.2% in total.

### Manipulation Checks

Manipulation check is essential to proceed further analysis of a research study. Thus, the current study performed Common Method Variance (CMV) using Harman's (1976) single factor test for testing the common method bias (Podsakoff et al., 1986). In executing this test, first entered all study constructs into one principal component factor analysis, and therefore the elimination method of a principal component of one fixed factor was followed without applied rotation (Podsakoff et al., 2003; Podsakoff et al., 2012). The test results present that less than 40.7% (i.e., 22.362%) explained by a single factor of the variance. Also, an un-rotated factor analysis of all study items yielded of these eight factors in total explaining 68.6% of the variance. Therefore, the issue of the common method variance did not viewed as a major concern of this research study (Podsakoff et al., 1986). Furthermore, the study was tested multi-collinearity of the formative indicators in the measurement model and latent constructs in the structural model using Variance Inflated Factor

(VIF), the suggested threshold value of 5.0 was utilized (Hair et al., 2011). Hence, it indicates that the collinearity is not an issue to estimate the path model for the analysis of Partial Least Squares-based Structural Equation Modeling (PLS-SEM).

Table 1. Demographic results

| **Characteristics** | **N=266** | **%** | **Characteristics** | **N=266** | **(%)** |
|---|---|---|---|---|---|
| **Participant's Age Group:** | | | **Gender:** | | |
| 18-20 years | 11 | 4.1 | Male | 197 | 74.1 |
| 21-30 years | 79 | 29.7 | Female | 69 | 25.9 |
| 31-40 years | 77 | 28.9 | **Profession:** | | |
| 41-50 years | 39 | 14.7 | Agriculture | 109 | 41.0 |
| 51-60 years | 34 | 12.8 | Housewife | 51 | 19.2 |
| Above 60 years | 26 | 9.8 | Service | 23 | 8.6 |
| **Marital Status:** | | | Business | 45 | 16.9 |
| Single | 61 | 22.9 | Student | 30 | 11.3 |
| Married | 203 | 76.3 | Unemployed | 8 | 3.0 |
| Other | 2 | 0.8 | - | - | - |
| **Income:** | | | **Duration of Living:** | | |
| Tk. Below 5,000 | 161 | 60.5 | 1-5 years | 9 | 3.4 |
| 5,000-10,000 | 82 | 30.8 | 6-10 years | 11 | 4.1 |
| 10,000-15,000 | 8 | 3.0 | 11-15 years | 10 | 3.8 |
| 15,000-20,000 | 11 | 4.1 | 16-20 years | 13 | 4.9 |
| 20,000-25,000 | 3 | 1.1 | More than 20 years | 223 | 83.8 |
| Above Tk. 25,000 | 1 | 0.4 | - | - | - |

Note: Characteristics = characteristics of respondents' profile, N= number of respondents, %= valid percentage

Table 4. Square root of the AVE and correlation of coefficient

| Fornell and Larcker Criterion | | |
|---|---|---|
| | CP | SUP |
| CP | **0.732** | |
| SUP | 0.663 | **0.841** |

**Note: Bold** diagonal values represent the square root of the AVE, and the off-diagonal value represent the correlation coefficient

Table 2. Reflective model

| Constructs | Items | Loadings | CR | AVE | Convergent Validity |
|---|---|---|---|---|---|
| | CP-2 | 0.796 | | | |
| | CP-4 | 0.522 | | | |
| Support for Tourism Development | SUP-1 | 0.929 | 0.934 | 0.707 | Yes |
| | SUP-2 | 0.636 | | | |
| | SUP-3 | 0.810 | | | |
| | SUP-4 | 0.864 | | | |
| | SUP-5 | 0.914 | | | |
| | SUP-6 | 0.856 | | | |

Note: CR= composite reliability, AVE= average variance extracted, CP-3 was removed due to low factor loading

Table 3. Formative model
(Note: > 1.96**, VIF= variance inflation factor)

| Construct | Items | Convergent Validity | Weight | VIF | t-value weights | sig | |
|---|---|---|---|---|---|---|---|
| Perceived Positive Impact | PPI_10 | 0.768 | -0.019 | 2.497 | 10.93 | 0.000 | ** |
| | PPI_11 | | -0.031 | 1.049 | 0.227 | 0.410 | |
| | PPI_2 | | -0.047 | 1.782 | 6.503 | 0.000 | ** |
| | PPI_3 | | -0.084 | 2.764 | 8.795 | 0.000 | ** |
| | PPI_4 | | 0.116 | 2.530 | 15.353 | 0.000 | ** |
| | PPI_5 | | 0.209 | 4.762 | 10.495 | 0.000 | ** |
| | PPI_6 | | 0.911 | 2.346 | 83.682 | 0.000 | ** |
| | PPI_7 | | -0.243 | 3.737 | 8.37 | 0.000 | ** |
| | PPI_8 | | 0.031 | 1.055 | 0.359 | 0.360 | |
| | PPI_9 | | 0.172 | 2.918 | 8.958 | 0.000 | ** |
| | PPI_1 | | 0.008 | 2.318 | 8.96 | 0.000 | ** |
| Perceived Negative Impact | PNI_1 | 0.713 | -0.291 | 1.430 | 3.728 | 0.000 | ** |
| | PNI_2 | | -0.066 | 1.243 | 1.087 | 0.139 | |
| | PNI_3 | | 0.62 | 1.171 | 7.776 | 0.000 | ** |
| | PNI_4 | | -0.03 | 1.579 | 0.358 | 0.360 | |
| | PNI_5 | | 0.498 | 1.246 | 6.614 | 0.000 | ** |
| | PNI_6 | | 0.071 | 1.090 | 1.265 | 0.103 | |
| | PNI_7 | | 0.044 | 1.400 | 0.616 | 0.269 | |

**Measurement Model**

In the measurement model, this study performed both the reflective and formative models. Factor loading, Composite Reliability (CR) and Average Variance Extracted (AVE) were examined to establish the convergent validity (Fornell and Larcker, 1981). More specifically, Table 2 illustrates that loading values of all items in the model exceed the suggested threshold value of 0.5 (Hair et al., 2011; Wong, 2013). Likewise, composite reliability of the study constructs exceeds the standard critical level of recommended value of 0.708 (Hair et al., 2017). Lastly, the study found the greater values of the AVE of the study constructs from the suggested value of 0.5 which is adequate for convergent validity (Bagozzi and Yi, 1988; Fornell and Larcker, 1981). Therefore, the study met all the three requisites of convergent validity of the reflective model.

Next, three steps were followed to perform the formative measurement model. Firstly, convergent validity was evaluated using redundancy analysis, and used a global single item (i.e. tourism improves community's understanding about its benefits to the community for the construct PPI, and tourism activities increase the cost of living for the construct PNI) (Chin, 1998). Clearly, a standardised values of the constructs used in the formative model were greater than the recommended threshold value of 0.70 (see Table 3) (Hair et al., 2017). Then, the level of collinearity of the indicators of the research constructs were tested by examining VIF with the threshold value of five. Thus, results indicate that collinearity is not an issue of this study. Finally, significance and relevance of the indicators were measured by examining outer weights. Although, results show some of the indicators are non-significant, hence, researchers contained the indicators based on its content validity (Hair et al., 2017). Thus, the model was met all the conditions.

Furthermore, discriminant validity of this study was assessed by performing the criterion suggested by Fornell and Larcker (1981). This indicates that the square roots of the AVEs are greater than the correlation values for each research constructs pairing (refer Table 4). Thus, the study acceptably met the discriminant validity.

**Structural Model**

The bootstrapping procedure was employed to test the path relationships in the structural model. In SmartPLS, bootstrapping procedure is an analytical technique to estimate the precision estimates and significance of the path relationships between the study constructs (Hair et al., 2017). This was performed through generating t-values in the structural model of the study (Hair et al., 2014). In this case, a total of 5000 subsamples were taken from the original sample to determine the path relationships (refer Table 5 for the results). Based on the beta values, standard values, and t-values with a confidence interval of path relationships, results show that PPI, and PNI do not have significantly positive impacts on SUP. Thus, the results did not support the hypothesis H1, and H2.

However, CP on SUP, and PPI on CP have a significant positive impact, and PPI on SUP exert an indirect impact through CP. Thus, the study supported the hypotheses H3, H4, and H5. The study was further performed the blindfolding procedure to test the predictive relevance of the structural model (Hair et al., 2017).

Specifically, co-efficient of determination ($R^2$) was used to assess the proportion of variance in the dependent variable which is predicted from the independent variables under the study. The structural model was also used the Stone and Geisser's ($Q^2$) criterion to assess the cross-validated predictive relevance of this study. The suggested level of predictive accuracy with $R^2$ values of 0.26, 0.13, and 0.02 as substantial, moderate, and weak respectively, while, the $Q^2$ value larger than 0 (zero) that indicate the predictive relevance of the exogenous constructs on a specific endogenous construct of the study (Hair et al., 2017). The $R^2$ and $Q^2$ values for SUP were 0.450 and 0.296, and for CP were 0.089 and 0.032, respectively. The results suggested that 45.0% of the variance in SUP is explained by PPI, PNI, and CP, while 8.9% of variance in CP is explained by PPI. Likewise, results also show the predictive relevance in the model, as $Q^2$ values for SUP (i.e., 0.296), and CP (i.e., 0.032) are greater than the suggested value of 0 (zero).

Finally, the effect size ($f^2$) was tested using VIF- variance inflated factor that specifies to what extent the relative impact of a particular independent variable on a dependent variable is substantial (Chin, 2010). VIF value less than 3.30 considers as acceptable (Diamantopoulos and Siguaw, 2006). As suggested, results depict that CP had the strongest effect on SUP ($f^2$= 0.634), followed by PPI on CP ($f^2$= 0.097). Others are also shown in the table.

Table 5. Results of the Structural Model

| Direct Effect | Beta | S.E. | t-value | p-value | Decision | $f^2$ | $R^2$ | VIF | $Q^2$ |
|---|---|---|---|---|---|---|---|---|---|
| H1: PPI -> SUP | 0.102 | 0.068 | 1.609 | 0.054 | Not Supported | 0.017 | 0.450 | 1.097 | 0.296 |
| H2: PNI -> SUP | -0.029 | 0.067 | 0.437 | 0.331 | Not Supported | 0.001 | | 1.032 | |
| H3: CP -> SUP | 0.628 | 0.040 | 15.113** | 0.000 | Supported | 0.634 | | 1.130 | |
| H4: PPI -> CP | 0.298 | 0.080 | 4.637** | 0.000 | Supported | 0.097 | 0.089 | 1.000 | 0.032 |
| **Post-hoc (Mediation)** | **Beta** | **S.E.** | **t-value** | **p-value** | **Decision** | | | | |
| H5: PPI -> CP -> SUP | 0.187 | 0.044 | 4.289** | 0.000 | Supported | | | | |

**p< 0.01, *p< 0.05, S. E= standard error. Note: PPI= perceived positive impact of tourism, PNI= perceived negative impact of tourism, CP= community participation in tourism decision-making, and SUP= support for tourism development.

## DISCUSSION

The purpose of this research paper was to address the significance of host communities' support for tourism development in rural communities in the context of a developing country. Host communities' perceived positive and negative impacts of tourism can influence them to support for tourism development in rural communities (Afthanorhan et al., 2017; Campon-Cerro et al., 2017; Gursoy et al., 2019; Stylidis, 2018; Chuang, 2013; Brida et al., 2011; Muresan et al., 2016; Rasoolimanesh et al., 2017). Notably, community participation in tourism decision-making process have a greater role to enhance host communities' support towards tourism development in rural communities as it assists to alleviate their confusion and conflict on such a development, particularly, in developing countries (Jaafar et al., 2017; Kachniewska, 2015; Lekaota, 2015; Cheng et al., 2019). The current study wisely identified a must needed issue that have prospect to obtain as well as to enhance host communities' support towards tourism development in the rural community which is still unexplored- i.e. the effect of host communities' perceived impact of tourism, and community participation towards support for tourism development in the said rural community. Thus, this study revealed varied findings through the estimation of the relationships between the study constructs in PLS-SEM. These findings have some invaluable theoretical as well as practical implications in tourism literature on rural communities' support for tourism development.

### Theoretical Implications

Numerous studies have explored host communities' support for tourism development in rural communities in the different context (Afthanorhan et al., 2017; Campon-Cerro et al., 2017; Gursoy et al., 2019; Stylidis, 2018; Jaafar et al., 2017; Muresan et al., 2016; Nunkoo and So, 2016). The current study adds a mixed insight (i.e., new and extensions to the extant tourism literature on rural communities) by exploring the effects of various constructs towards host communities' support for tourism development. In particular, the findings suggested that rural host communities' positive and negative perceptions of tourism impacts do not have significant direct effects on their positive and negative support respectively towards tourism development in rural communities. However, community participation in tourism decision-making has a significant direct effect on support for tourism development, and host communities' positive perceptions of tourism impacts has a significant direct effect on community participation in tourism decision making. The study also revealed that community participation in tourism decision making has a significant indirect effect (mediating effect) on the relationship between host communities' positive perceptions of tourism impacts and support for tourism development. Thus, the three remarkable observations behind these findings are explicated in the following, which, so far, limited in the literature.

First, many of the previous studies have estimated a direct relationship between host communities' perceived positive impacts of tourism and support for tourism development (Afthanorhan et al., 2017; Campon-Cerro et al., 2017; Gursoy et al., 2019; Stylidis, 2018; Muresan et al., 2016; Rasoolimanesh et al., 2015), and, perceived negative impacts of tourism and negatively support for tourism development (Afthanorhan et al., 2017; Gursoy et al., 2019; Muresan et al., 2016; Rasoolimanesh et al., 2015; Rasoolimanesh et al., 2017) that were found a direct and positive association. Surprisingly, this study found an inconsistent result those were rarely found in previous studies. In the case of former, it may have happened as major benefits of tourism may be enjoyed by a particular influential group of host communities

who are able to maintain a strong relationship with the related stakeholders, it is usually occurred in rural communities (Chuang, 2013; Afthanorhan et al., 2017; Campon-Cerro et al., 2017), whereas in latter, host communities may be considered a relative benefits and costs of tourism development in their perceptions.

Second, in terms of support for tourism development, members of the host community usually prefer their involvement in the tourism decision-making process to overwhelm the uncertain results of community interests from such development. They are more inclined to ensure the employability of host people, contribute to protect cultural identity and local environment by their participation in decision making as they believe that poorly planned and managed tourism development did not able to meet these issues (Jaafar et al., 2017; Mubanga and Umar, 2016; Cheng et al., 2019). On the other side, host communities with more positive perceptions of tourism were desire to participate in tourism decision-making process, through this, they were willing to contribute in ensuring more positive impacts of tourism development (Jaafar et al., 2017). Indeed, this study observed these issues among host communities.

Third, community participation in tourism decision making play a mediating role between host communities' perceived positive impacts of tourism and support for tourism development. This finding adds as a superior contribution to the literature in these areas of studies and filled this study's research gap regarding tourism at the villages in rural communities in developing countries. This indicates that rural communities' support can be obtained through engaging them in the decision-making process of tourism projects rather than only providing some benefits to the community. However, this result is inconsistent with the result of rural lenggong, a previously done comparative study of urban versus rural destinations as world heritage sites (Rasoolimanesh et al., 2017). Therefore, the findings of this paper and their corresponding rationales contribute to theoretical expansion in the area. Host communities' perceived positive and negative impacts of tourism, community participation in tourism decision making, and support for tourism development.

**Practical implications**

In most of the cases, host communities' perceived positive impacts of tourism positively affect, and perceived negative impacts of tourism negatively affect towards support for tourism development (Latkova and Vogt, 2012; Muresan et al., 2016; Nunkoo and So, 2016; Rasoolimanesh et al., 2015; Afthanorhan et al., 2017; Campon-Cerro et al., 2017; Gursoy et al., 2019; Stylidis, 2018). Nevertheless, the findings of the present study show that these results are inconsistent with the formers. Given that host communities' support for tourism development is not influenced directly by their perceived positive impacts of tourism, it can only be influenced indirectly by the community participation in tourism decision making. The study also indicates that host communities' support for tourism development is directly influenced by community participation, and their participation in tourism decision making is directly influenced by host communities' perceived positive impacts of tourism. This study has also highlighted importance of host communities' perceived positive and negative impacts of tourism towards the support for such development.

In generic, local tourism promoters should improve the positive impacts of tourism, however, in particular, ensuring fair distribution of tourism benefits (e.g. employment opportunities) towards general people of the community, and stopping the influence of a specific group of host communities may help to increase host communities' positive perception of tourism development. This initiative may also reduce host communities' negative perception, thus, support for tourism. This study further explored an indirect effect of community participation in tourism decision making between host communities' positive impacts of tourism and support for tourism development.

Thus, local authorities should provide more opportunities for host communities to be involved both in tourism operations and decision-making process. This process may help to build more confidence among the communities that tourism activities will not harm for the community rather it will provide communal benefits. In addition, managers can utilize community participation as a reference group, in improving host communities' positive perceptions of tourism impacts and well as obtaining and enhancing support for tourism development among the community.

## CONCLUSION

**Limitations and future research directions**

In spite of its contributions, this paper has two key limitations that can be offered as recommendations for future research. First, the current study focused on only a single village as a study site on rural community in Bangladesh that may consider inadequate to establish the generalisability of the results. The level of host communities' support for tourism development may varied in different communities. Thus, this limitation can be overcome by surveying similar villages as rural community from the other parts in Bangladesh. Given the importance of community participation in tourism decision making in developing countries, and the test of its effect on host communities' support for tourism development, with some modifications this study's model can be examined in future research. Second, this study was sampled only households of the host community to test their support for tourism developmet.

However, staffs and managers involved in tourism operations and management at the same community is considered as the important stakeholders and their opinions can be contributed greatly on how to obtain and enhance host communities' support for such development. In order to overcome this limitation, along with host communities, staffs and managers should be surveyed in the future study. To do so, it would be also interesting to conduct a comparative study between them on how to enhance communities' support for tourism development. In addition, a moderating effect of community participation can be tested in future research between the relations of host communities' perceived negative impacts of tourism and its influence to their level of support for tourism tourism development. This attempt may contribute as a valuable outcome in the literature on rural communities' support for tourism development.

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# THE IMPACT OF THE CORONAVIRUS PANDEMIC ON THE TERRITORIAL CHARACTERISTICS OF HUNGARIAN SMES (SPECIAL REGARDS TO TOURISM)

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**Abstract:** The study highlights the economic importance and role of the European and Hungarian SMEs (micro, small and medium-sized enterprises) in reducing territorial inequalities, and in contributing to regional development and gives an overview of their basic features and characteristics. In the preparation of this paper, we have relied on specialist literature and the data available on the website of Hungarian Central Statistical Office. During the 2008 crisis, real estate, real estate renting, computer and business and business support services, trade, construction and manufacturing, and automotive were the big losers. The economic sectors most exposed to the effects of the 2020 health crisis were the so-called IRS sector. The districts most affected by the health crisis were the Hungarian districts most visited by domestic and foreign tourists, namely Lake Balaton, Bük-Sárvár, Sopron-Fertő, Győr-Pannonhalma, Mátra-Bükk, Debrecen and its region.

**Key words:** SME, crisis, vulnerable regions, Hungary, coronavirus, tourism

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## INTRODUCTION

Promoting SMEs in the EU (European Union) has been a priority since the mid-1980s. Official Community documents as well as recommendations and the policies in individual Member States emphasise that SMEs need special attention and help to overcome the competitive disadvantages vis-à-vis large companies. SMEs adapt more easily to changes, make better use of flexible working, change activities more quickly, provide more personalised and differentiated services to their customers, are more risk-taking, innovative and open to new skills and competences than large companies. They play a prominent role in employment and can also be more effective in job creation than their larger competitors, and are significant in closing the productivity gap between regions and areas (Floyd and McManus, 2005; Páger et al., 2019, Laut et al., 2021). It can therefore be concluded that "small enterprises are a key source of innovation, growth and job creation" (OECD, 2014). To understand the situation of European SMEs, including domestic enterprises, it is necessary to clarify the definition of SMEs. According to the European Commission's recommendation, the population of SMEs comprises three categories of enterprises, namely micro, small and medium-sized enterprises. The official European definition of SMEs considers three different factors (Table 1) the level of employment, the level of net turnover and the balance sheet total of the company (European Commission, 2021).

Table 1. Definition of SMEs (Source: Commission of the European Communities, 2003)

| Company category | Staff headcount (persons) | Net turnover (million EUR) | Balance sheet total (million EUR) |
|---|---|---|---|
| Micro enterprise | 0 – 9 | 0 – 2 | 0 – 2 |
| Small enterprise | 10 – 49 | 2 – 10 | 2 – 10 |
| Medium enterprise | 50 – 249 | 10 – 50 | 10 – 43 |

## MATERIALS AND METHODS

In the preparation of this paper, we have relied on a variety of sources of information. Firstly, we have reviewed the specialist literature regarding to small and medium-sized enterprises, effects of COVID-19 pandamic on spatial processes

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of Hungary and crisis management strategies of Hungarian government. Secondly, we have analysed the data available on the website of Hungarian Central Statistical Office to small and medium-sized enterprises and changes in the IRS sector

## RESULTS AND DISCUSSION

### Position of SMEs in the European Union and Hungary

In 2020, based on the average of the 27 EU Member States, SMEs in the non-financial sector accounted for 99.8% of all businesses, employed nearly two-thirds of the workforce and contributed just over half of gross value added. These proportions have changed little or not at all since the early 2000s. (Table 2) Within all enterprise size categories, micro-enterprises are the most represented (93.3%), but their value-added output is only 18.7%, but their contribution to employment is significant, providing employment for almost 30% of the employed. The basic structural characteristics of SMEs in Hungary have changed only slightly in most sectors (Table 3). As in most European countries, their operations are characterised by high labour and low capital intensity, and their share in employment is higher than in net sales or income generation (Kovács et al., 2017). The number of people employed in Hungarian SMEs is slightly above the EU average, but their gross value added is below the EU average. On the other hand, the average productivity of SMEs - gross value added per employee (19,800 EUR in 2020) - is well below the EU average of 40,000 (European Commission, 2021). The following section briefly describes the most serious effects on SMEs of each of the crises - the financial and capital market crisis of 2008 and the current pandemic (hereafter referred to as the health crisis). Since the so-called crisis sectors, which affect a large number of SMEs, are geographically concentrated, it is also important to examine which regions are vulnerable for SMEs, in order to map the catching-up potential of each region. To this end, we will take stock of how the health crisis has shaped the scope of vulnerable regions.

Table 2. Key indicators for European enterprises in the non-financial sector, 2020 (by headcount category) (Source: Own editing based on Eurostat estimates)

| Characteristics | Micro | Small | Medium | **Total SMEs** | Large enterprise | Total enterprises |
|---|---|---|---|---|---|---|
| | enterprise | | | | | |
| Number of enterprises | 21 044 884 | 1 282 211 | 199 362 | 22 526 457 | 40 843 | 22 567 300 |
| Share in total (%) | 93,3 | 5,7 | 0,9 | 99,8 | 0,2 | 100,0 |
| Gross value added (million Euro) | 1 179 476 | 1 071 196 | 1 087 613 | 3 338 286 | 2 956 544 | 6 294 829 |
| Share in total (%) | 18,7 | 17,0 | 17,3 | 53,0 | 47,0 | 100,0 |
| Number of persons employed | 36 988 539 | 25 313 006 | 20 130 548 | 82 432 093 | 44 358 284 | 126 790 377 |
| Share in total (%) | 29,2 | 20,0 | 15,9 | 65,0 | 35,0 | 100,0 |

Table 3. Key indicators for enterprises in Hungary, 2020 (by headcount category) *(*Source: Own editing based on HCSO preliminary data for 2020)

| Enterprise size | Enterprise | | | Number of persons employed | | | Gross value added | | |
|---|---|---|---|---|---|---|---|---|---|
| | number | Index 2020/2019 | Share in total (%) | number | Index 2020/2019 | Share in total (%) | Billion HUF | Index 2020/2019 | Share in total (%) |
| Micro-enterprise | 814,418 | 101.6 | 95.7 | 1,252,570 | 99.1 | 39.2 | 6,500,987 | 106.4 | 24.5 |
| Small-enterprise | 30,447 | 94.9 | 3.6 | 576,746 | 94.7 | 18.0 | 4,322,232 | 97.9 | 16.3 |
| Medium-enterprise | 4,875 | 94.1 | 0.6 | 486,870 | 95.2 | 15.2 | 4,787,950 | 102.1 | 18.1 |
| **Total SMEs** | *849,740* | 101.3 | 99.9 | *2,316,186* | 97.1 | 72.4 | *15,611,169* | 102.6 | 58.9 |
| Large enterprise | *1, 007* | 96.5 | 0.1 | *882,708* | 96.8 | 27.6 | *10,884,101* | 99.6 | 41.1 |
| *Total enterprises* | *850,747* | 101.3 | 100.0 | *3,198,894* | 97.1 | 100.0 | *26,495,270* | 101.4 | 100.0 |

### The impact of crisis on SMEs

SMEs are severely affected by the global crises because (the 2008 financial and capital market crisis and the 2020 health crisis) they are particularly vulnerable for a number of reasons: their small size means that they cannot further reduce their employment and activities; their financing structure and capitalisation are weak; and their credit rating is low or non-existent. They are highly dependent on external financing, which is limited. SMEs in global value chains are even more vulnerable, as they often bear the burden of large firms (*OECD*, 2009). A good example is the financial and capital market crisis of 2008, which caused global gross domestic product (GDP) growth to slow from 5.4% in 2007 to 2.9% per year, turning into a recession of 0.5% in 2009. In developed countries, GDP fell by 3.4% on average during 2009. The volume of world trade fell by 10.8% in 2009, the sharpest fall since World War II. The low point for global economic performance was reached in the second quarter of 2009, but from then on, the stimulus effect of the crisis measures began to be felt, with the second half of the year showing signs of recovery. In 2010, global economic growth reached 5.1%, but the rate of recovery was lower in developed countries (3%) than in developing countries (7.4%) (Matolcsy, 2012).

In terms of the capital market, the fall in demand had the strongest impact on the performance of SMEs in 2008. The situation was aggravated by longer payment terms and an increase in late payments, which was the second largest source of working capital problems besides the fall in demand. The contraction of external sources of finance has also increased these problems, which has particularly affected SMEs that have a high proportion of their loans in working capital financing (Szabó and Morvai, 2010). In terms of the sectoral distribution of Hungarian enterprises during the financial and capital market crisis, data from the HCSO (Hungarian Central Statistical Office) show that most enterprises were operating in the aggregate sector of real estate activities, real estate renting, computer services and services auxiliary to financial and business activities. This was followed by trade, then construction and manufacturing. These were the most populous

sectors, accounting for nearly three quarters of all enterprises. SMEs in these sectors were the hardest hit by the fall in international and domestic orders. An example is the domestic automotive industry, as it is a highly export-oriented sector; the difficulties in selling goods in Western Europe were almost immediately reflected in the order books of Hungarian companies.

The decline in the domestic automotive centres – West Transdanubia (Győr) and Central Transdanubia (Esztergom) – was more pronounced. The difficulties were compounded by the fact that of the 75 000 people employed in the sector (in 2008), no more than 15 000 worked in final product manufacturing, the majority in component production. In addition, few of the companies in this sector have diversified production, most of them being suppliers to and dependent on orders from a single large manufacturer (Neumann and Boda, 2010, p. 5). The crisis management strategies of countries are largely determined by the size of their available reserves. Some countries have introduced crisis management packages that combine, in varying proportions, demand stimulus, credit enhancement - including bank recapitalisation - and labour market measures. These interventions also addressed the financing problems of SMEs in most countries. In Hungary, measures have focused on access to finance, launching loan and guarantee programmes, expanding existing schemes, introducing investment support measures, and encouraging private and venture capital investment (OECD, 2009). Since the summer of 2010, new directives have been issued under the Action Plans (June 2010 Action Plan I. The Action Plan consisted of two parts: firstly, it explained the architecture of the new economic system (tax system) and secondly, it set out the mutual responsibility. Action Plan II focused on three areas: a fair distribution of the public burden, job creation and cutting pointless red tape and bad rules) to improve the situation of SMEs.

The origin of the coronavirus pandemic declared by the World Health Organization on 11 March 2020 was different from that of previous crises (Kincses and Tóth, 2020). It has challenged and continues to challenge society and the economy, including the domestic SME sector, in an unprecedented way. As a result of the restrictive measures introduced from March 2020 and the resulting fall in demand, domestic GDP fell by 13.6% in the second quarter of 2020 compared to the same period of the previous year. The pandemic has dampened the performance of most sectors (Nyikos et al., 2021), and its globalisation has created disruptions in global production and distribution chains and labour markets. External trade in services has declined much more than trade in goods, with the last time the surplus was lower than in 2020 in 2013. Tourism and transport services turnover fell the most, the latter mainly due to a decline in air transport services (HCSO, 2020).

In 2020, the annual economic contraction was lower in Hungary (-5.0%) than the EU average (-6.2%). The measures in the Action Plan for Economic Recovery and Restart (The Economic Recovery Action Plan was announced by the Hungarian Government at the beginning of February 2021 in three phases, aiming to support the recovery of the economy, including the domestic SME sector, through various economic stimulus and demand stimulating instruments) are aimed at businesses to help counter the devastating effects of the crisis, which is particularly crucial for SMEs to survive and avoid bankruptcy. GDP volume in the third quarter of 2020 was 11.4% higher than in the previous quarter, and in the fourth quarter it expanded by 1.1% compared to the third quarter. Among industry and services, information and communication contributed the most to growth, and trade also grew significantly. Maintaining or even enhancing growth is an important function of the modern state. Since growth at the national level is derived from the development of regions, research has gradually shifted from the national economy to smaller geographical units, regions, agglomerations and cities, where externalities can be better captured, in order to understand the origins of growth (Szerb et al., 2019; Aktymbayeva, 2020).

Table 4. Employment in the IRS sector and gross value added generated by identified vulnerable districts, 2020 (Source*:* Own editing based on HCSO data)

| District | Share of employed in IRS sectors | Share of gross value added generated in IRS sectors | Group* |
|---|---|---|---|
| Balatonfüred District | 26,46 | 19,38 | 3 |
| Bélapátfalva District | 20,26 | 17,42 | 3 |
| Budapest 5th District | 22,50 | 10,02 | 3 |
| Budapest 7th District | 22,49 | 14,19 | 3 |
| Fonyód District | 17,16 | 12,14 | 3 |
| Gárdony District | 19,17 | 11,38 | 3 |
| Gyula District | 15,39 | 11,33 | 3 |
| Keszthely District | 25,05 | 19,53 | 3 |
| Kőszeg District | 22,39 | 16,34 | 3 |
| Siklós District | 18,57 | 13,85 | 3 |
| Siófok District | 22,51 | 19,49 | 3 |
| Sümeg District | 15,29 | 15,53 | 3 |
| Szécsény District | 15,21 | 10,00 | 3 |
| Zalaszentgrót District | 15,89 | 11,84 | 3 |
| Balatonalmádi District | 15,04 | 13,22 | 2 |
| Körmend District | 14,79 | 15,36 | 2 |
| Pétervására District | 13,03 | 13,24 | 2 |
| Budapest 6th District | 20,63 | 5,85 | 1 |
| Hajdúszoboszló District | 16,10 | 8,71 | 1 |
| Sopron District | 19,14 | 7,77 | 1 |
| Szentendre District | 15,79 | 9,96 | 1 |
| Szentgotthárd District | 18,04 | 5,21 | 1 |
| Tapolca District | 16,71 | 9,38 | 1 |

* 1: The share of people employed in the IRS sectors is higher than 15 percent and the share of gross value added is lower than 10 percent.
2: The share of people employed in IRS sectors is less than 15 percent and the share of gross value added is greater than 10 percent.
3: The share of people employed in IRS sectors is higher than 15 percent and the share of gross value added is higher than 10 percent.
** Based on the Government Decree 429/2020 (IX. 14) on the definition of tourist areas.

In turn, enterprises, through their role in employment and their contribution to the economy, play a major role not only at the national level, but also in the rise of individual regions, and, moreover, in the management of crises. This is why it is important to identify *vulnerable sectors and regions*. "The impact of globalisation and increased trade liberalisation on European regions", DG Regio's final report of 2008 (DG Regio, 2008: 33) identifies as vulnerable regions those regions where employment and/or gross value added is concentrated in one (or a few) vulnerable sectors. In the present study, vulnerable regions are considered by analogy with fragile regions. The economic sectors most exposed to the

effects of the health crisis,which started in 2020, were accommodation and food services (Czirfusz, 2021), and arts, entertainment, leisure (live performances, museums, etc.) and other services (hairdressing, beauty treatment, tattooing, personal services, etc.) (hereafter referred to as the IRS sector), which are involved in personal interaction.

In these sectors, the gross value added of SMEs decreased by 40.2% and in the administrative and support service sector by 15.6% (for more details, see Balás et al., 2020; Boros and Kovalcsik, 2021). Within the group of SMEs in Hungary, the IRS sector accounted for 4.69% of gross value added in 2019 and employed 11% of the workforce. Thus, we considered as vulnerable those districts where the share of SMEs in gross value added exceeded 10% and their share of employees exceeded 15% in the IRS sector. Based on our calculations, we identified 17 vulnerable districts in terms of gross value added and 20 vulnerable districts in terms of employment. (Table 4) There is some overlap between the two groups.
The Figure 1 shows the share of gross value added and employment in the IRS sector by district.

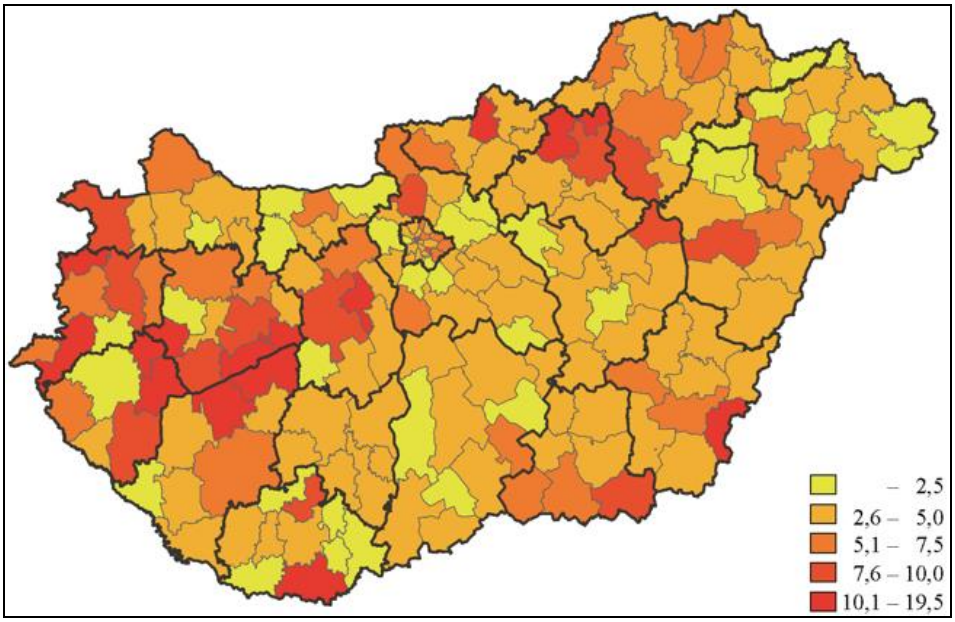


Figure 1. Share of enterprises in the IRS sector in the gross value added of SMEs at district level, 2020
(Source*:* Own editing based on HCSO data)

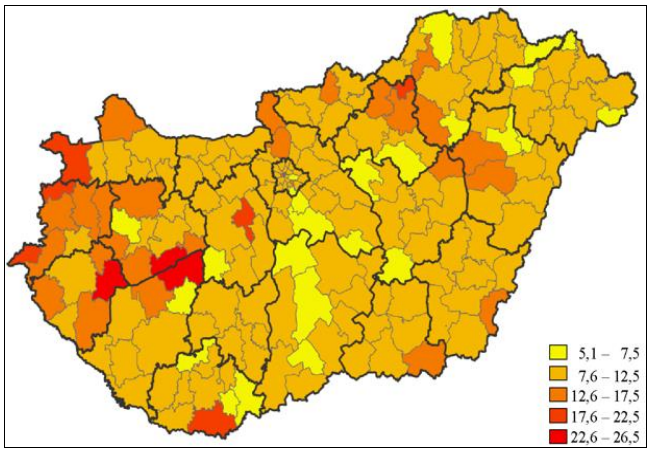


Figure 2 Share of enterprises in the IRS sector
in the total number of employed SMEs by district, 2020
(Source: Own editing based on HCSO data)

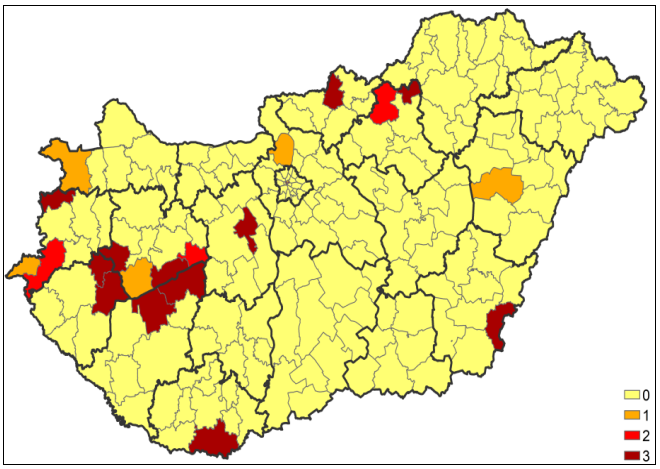


Figure 3. Vulnerable areas (districts) for SMEs, 2020
(Source: Own editing based on HCSO data)

The district-level map (Figure 2) clearly shows that SMEs in the tourism area account for the largest share of the gross value added generated. The map highlights the tourism region of Lake Balaton, Bük-Sárvár, Sopron-Fertő, Győr-Pannonhalma, Mátra-Bükk (Drotár and Kozma, 2021a; 2021b), Debrecen and its region (Monyók et al., 2020).

At the district level, SMEs in the IRS sector account for a larger share of employment in the tourism regions of Balaton, Bük-Sárvár and Sopron-Fertő. The districts impacted by tourism were the most vulnerable due to the pandemic (Figure 3).

## CONCLUSION

In the European Union, micro, small and medium-sized enterprises (SMEs) are of paramount importance in closing the productivity gap between regions and areas and in tackling crises, through their contribution to the economy, their role in employment and job creation. The drivers attributed to SMEs that also affect regional development are innovation, social

capital and institutional change. Micro, small and medium-sized enterprises account for almost 99.9% of enterprises in both the European Union and in the home country; the most typical form of enterprise is the micro-enterprise. As in most European countries, the management of SMEs in Hungary is characterised by high labour and low capital intensity. In addition to the most typical indicators of SMEs, our study has also explored the most important characteristics of each crisis for domestic SMEs. For both the financial and capital market crisis and the health crisis, the significant fall in demand was accompanied by a significant fall in employment, although different sectors were also affected due to the different causes of each crisis. During the 2008 crisis, real estate, real estate renting, computer and business and business support services, trade, construction and manufacturing, and automotive were the big losers.

The economic sectors most exposed to the effects of the 2020 health crisis were the so-called IRS sector. The latter was considered as a vulnerable sector in our study and we found that micro, small and medium-sized enterprises in vulnerable sectors and regions are the most exposed to the risk factors of globalisation and technological development, the effects of the crisis. The districts most affected by the health crisis were the Hungarian districts most visited by domestic and foreign tourists, namely Lake Balaton, Bük-Sárvár, Sopron-Fertő, Győr-Pannonhalma, Mátra-Bükk, Debrecen and its region.

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# THE POTENTIAL OF TOURIST AND RECREATIONAL CLUSTERS IN EUROPEAN SPACE

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**Abstract:** Assessment of the potential of tourist and recreational clusters and objects of tourist activity remains relevant and still underdeveloped direction in tourism. The article aims to consider the peculiarities of the formation of the regional protentional of tourist and recreational clusters of the member state of the European Union. The methodological paradigm of the formation of potential of tourist and recreational clusters and a technique of its estimation based on systematics of tools and components, which essentially expand a network of the tourist and recreational industry, are substantiated. Methods of hierarchical classification were used. Results and interpretation of the study consists of the components of the competitiveness index for determining the regional level of potential of tourist and recreation clusters in countries in the areas of travel and tourism are presented. Indicators of competitiveness of the regional potential of tourist and recreational clusters are determined. The indicator of the integrated level of efficiency of the formation of regional protentional of tourist and recreational clusters offered. The number of tourists and recreational clusters on the EU member states has been determined. The share of regional potential of tourism and recreation clusters in terms of their total contribution to national income is calculated, as well as the average growth of national income from the projected value of regional potential of tourists and recreation clusters in EU member states.

**Key words:** tourist and recreational potential, competitiveness, travel and tourism, national income, tourist and recreational resources

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## INTRODUCTION

The main problems of assessing the potential of tourist and recreational clusters are a significant range of component characteristics that retain their subject diversity and different physical nature, as well as the tendency to further expansion and complexity. Unfortunately, the set of objects for assessing the potential of tourist and recreational clusters has not been identified in recreational tourism, as recreation and tourism are currently considered as independent activities. It ignores important and mass areas of recreation and health of the population, such as mass unorganized (amateur) recreation, household recreation, country and garden activities. At the same time, a holistic and integrated view of the potential of tourist and recreational clusters corresponds to modern trends in the formation of regional intersectoral complexes, covering all types and forms of recreation and health. In the formation of this potential mainly methods of hierarchical classifications are used, with common component-resource and functional systematics, which in the world economy forms a hierarchical multilevel "management pyramid" with a flexible network of tourist and recreational clusters. At the same time, the network organization of such clusters extends to social benefits in accordance with the latest forms of a holistic

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hierarchy of tourist and recreational activities, which sufficiently takes into account the issue of inventory of objects of the tourist industry. Tourist and recreational activities integrate the natural and geographical environment, systematized by its health potential, with the types and directions of economic entities. The defining features of the socio-natural activities of economic entities are also their direct connection with the landscape of the Earth, with the environment, the population, as well as their focus on environmental protection, rehabilitation and landscaping. According to such socio-economic functions, economic entities form the sphere of socio-natural landscape at the level of the national economy, forming sectors of socio-natural economic activities, and at the regional level – intersectoral socio-natural complexes. Such scientists as Benedict and McMahon, 2006; Bergman and Feser, 1999; Butler, 2006; Ceballos-Lascurain, 1996; Cunha, 2005; Trusova et al. (2020a) have been engaged in the economic analysis of the development of tourist and recreational activities and the mechanism of the formation of the competitive potential of the tourist industry. Attention was paid to the study of the nature of the potential of recreational and tourist clusters by Frederick et al. (2013); Goeldner and Ritchie, 2009; Hall and Page, 1990; Hardin, 1968; Leiper, 1979. The priority of our study is to substantiate the methodological paradigm of forming the potential of tourist and recreational clusters and methods of its evaluation based on systematics of tools and components that significantly expand the network of tourism and recreation industry in the European space.

## MATERIALS AND METHODS

The tourism industry, in modern conditions, is of particular strategic importance for the development of EU member states and their regions, which have great potential and have all the prerequisites for the development of tourism and recreation, which can effectively catalyze the rapid transformation of states to cultural heritage and economic stability (Trusova et al., 2020b). When forming the potential of tourist and recreational clusters in the regions, the tools of socio-economic and organizational nature are important. In the field of travel and tourism, an index of competitiveness is formed by a set of indicators, which are grouped into 14 components and combined into four sub-indices, which characterize the favorable environment of public policy for the development of regional potential of tourist and recreational clusters (Figure 1).

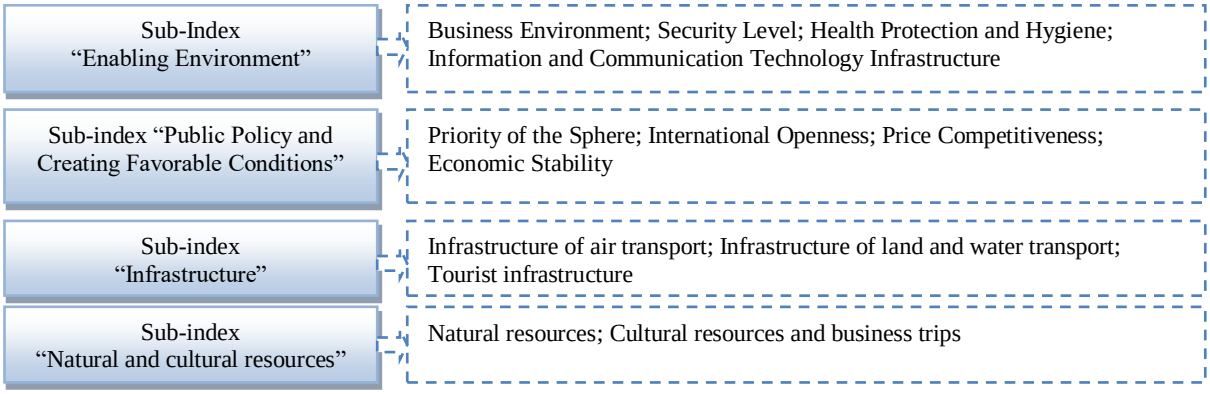


Figure 1. Components of the competitiveness index to determine the regional level of potential of tourist and recreational clusters in countries in the areas of travel and tourism (Source: Authors)

The authors consider it expedient to determine the competitiveness of the regional potential of tourist and recreational clusters on a set of indicators (Figure 2). Identify the problem of tourism development, provide conditions for full functioning of tourism entities, increase investment, create a competitive tourism product, which will meet the needs of domestic and international (inbound) tourism. We should note that the regional potential of tourist and recreational clusters is formed at the junction of three separate subsystems – nature, population, production and provision of services. They contain components – natural tourist and recreational resources; vacationers (formal temporary social group), tourists and labor resources (maintenance of recreational and tourist system); tourist logistical, energy and information means (Machiavelli, 2001; Trusova et al., 2020c). According to the method of assessing the level of efficiency of the formation of the potential of tourist and recreational clusters, it is necessary to identify indicators that determine its value (Figure 3). In order to comprehensively assess the regional potential of tourist and recreational clusters, an integrated level of its formation efficiency is proposed, which is presented by formula (1) (Selin, 1999):

$$EP = a_1 \times C_m + a_2 \times P_{npa} + a_3 \times Z_m + a_4 \times I_m, \quad (1)$$

where $EP$ – integrated level of efficiency of the formation of regional potential of tourist and recreational clusters; the level of the potential of historical and cultural sites in the region; $P_{npa}$ – the level of the potential of natural protected areas; $Z_m$ – the level of the potential of natural conditions; $I_m$ – the level of the potential of the tourist and recreational infrastructure of the region; $a_1 - a_4$ – coefficient of weight of potentials. The level of the potential of historical and cultural sites in the region is calculated by formula (2) (Selin, 1999): $C_m = \frac{M_i \times (1+B)}{H}$, (2)

where $C_m$ – the level of the potential of historical and cultural sites in the region; $M_i$– the number of accommodation facilities in the administrative center; $B$ – localization coefficient (determines the concentration of tourist and recreational facilities and their distance from administrative centers); $H$– the number of objects located in the region.

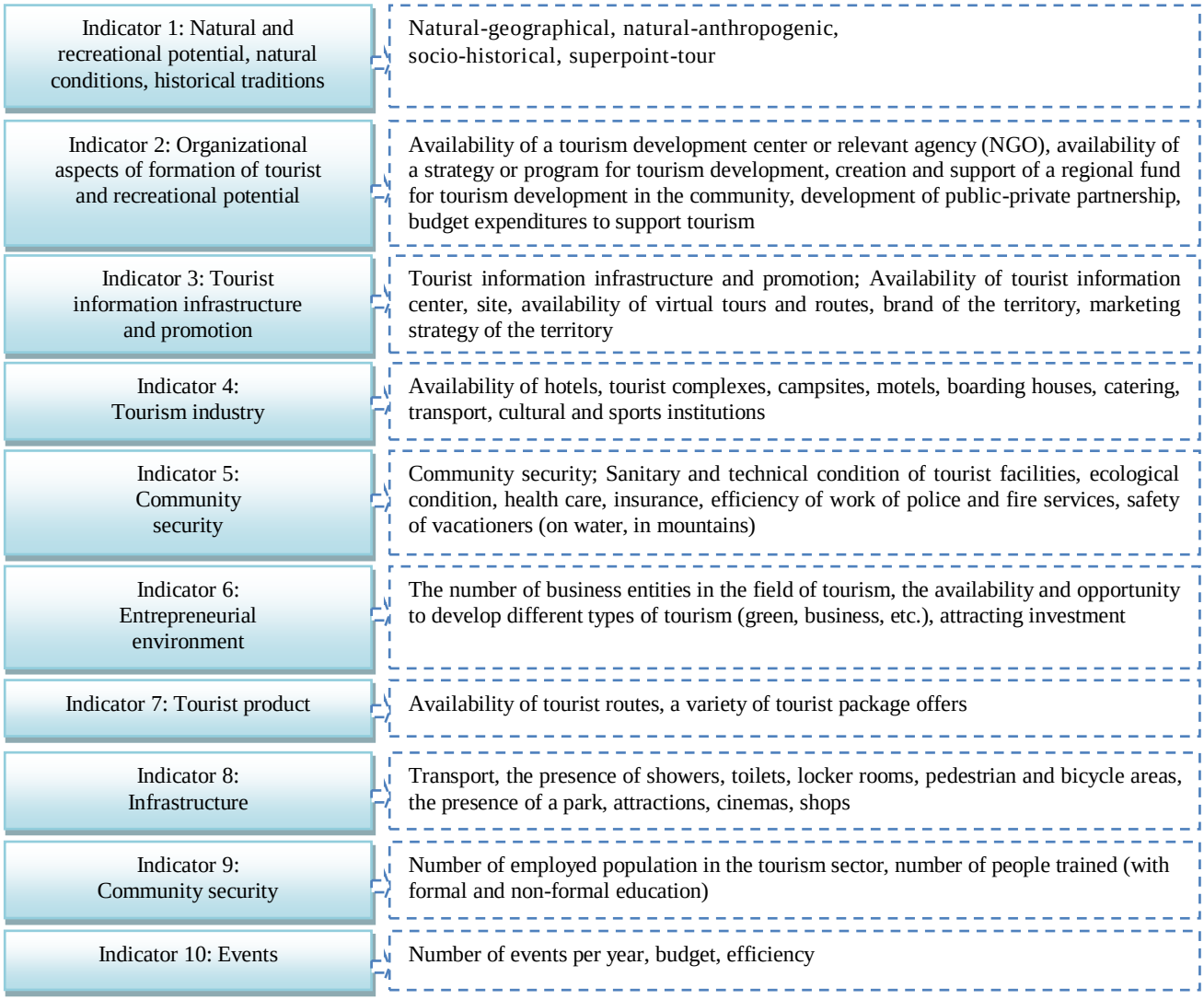


Figure 2. Indicators of competitiveness of the regional potential of tourist and recreational clusters (Source: Authors)

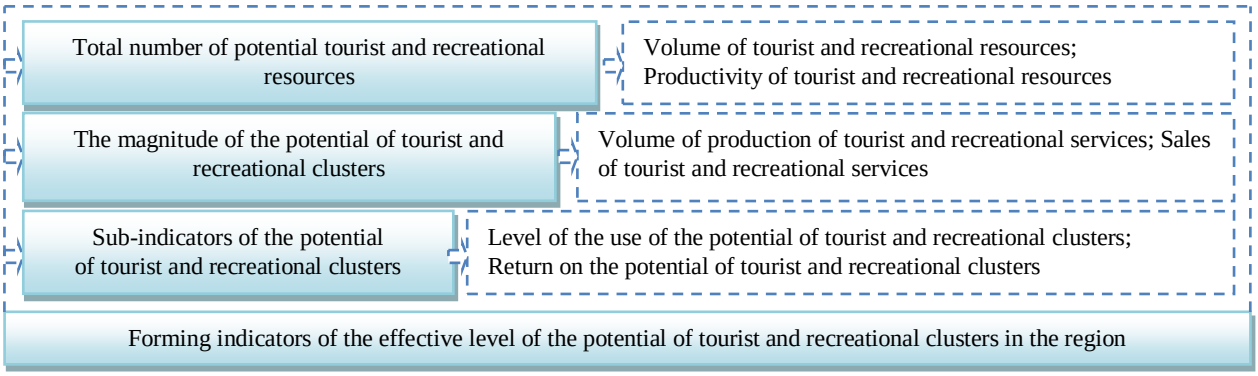


Figure 3. Forming indicators of the effective level of the potential of tourist and recreational clusters in the region (Source: Authors)

The more historical and cultural heritage sites are concentrated in the territory, the higher the level of the development of tourist and recreational infrastructure in the region. The level of localization of historical and cultural heritage sites in the region (calculated by direct calculation) is determined by the correlation with the density of their distribution. For evaluation, it is recommended to graduate the objects of historical and cultural heritage, which takes into account their location with other objects of tourism and recreation: up to 5 km – 5 points; from 5 to 20 km – 4 points; from 20 to 50 km – 3 points; from 50 to 200 km – 2 points; over 200 km – 1 point (Nordin, 2003). There are several ways to determine the localization factor. In the first stage, the distance to the administrative center is determined and the number of historical and cultural heritage sites in the region is calculated. Next, each object is awarded a score of the appropriate gradation. At the last stage, the average value is determined from the total number of points, which is divided by the maximum score. To determine the level of localization, a graphical structure of the location of historical and cultural objects with the definition of distances between them and their accumulation is

proposed. The minimum distance to the administrative centers with developed tourist and recreational infrastructure, and from them, is estimated in 4-5 points (Figure 4). Two-way arrows show access routes (both to and from the object), one-way arrows indicate the specified route only by visiting the previous object. Thus, formula (2) is adjusted and the integrated level of the potential of historical and cultural objects is determined by formula (3) (Cunha, 2005):

where $C_1$ – architectural monuments; $C_2$ – historical monuments; $C_3$ – archeological monuments; $a$ – weighting factor (limits from 1 to 5 based on the priority of the resource).

$$C_m = C_1 \times a + C_2 \times a + C_3 \times a, \quad (3)$$

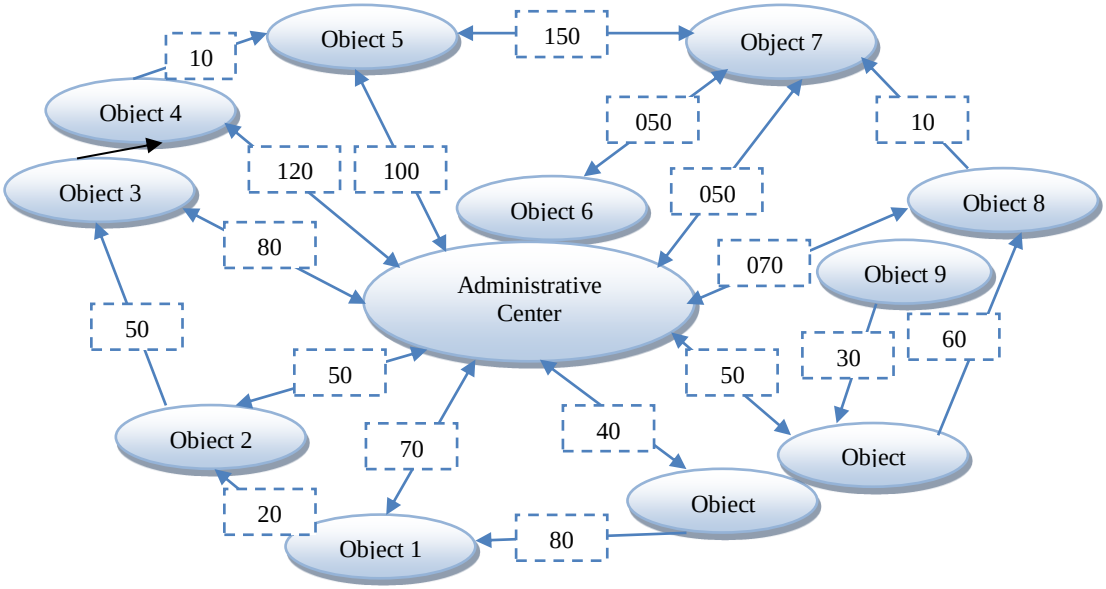


Figure 4. Schedule of cultural and historical sites of the region (Source: Authors)

Depending on the integrated indicator ($C_m$) the relative historical and cultural sub-indicator ($C_s$), is calculated, which reflects the potential of historical and cultural objects of the region in relation to the territory of the state as a whole and is calculated by formula (4) (Cunha, 2005):

$$C_s = \frac{C}{C_{max}}, \quad (4)$$

where $C$ – the level of the potential of historical and cultural objects of the region under study; $C_{max}$ – the maximum level of the potential of historical and cultural sites in the country.

For the formation of the potential of tourist and recreational clusters, an important component is the presence of the potential of natural protected areas, which is assessed by formula (5) (Cunha, 2005):

$$P_{npa} = a \times Y + a \times L + a \times L_n + a \times L_m + a \times M_n + a \times M_t, \quad (5)$$

where $P_{npa}$ – the level of natural protected areas of the territory potential; $Y$ – National Park; $L$ – landscape park; $L_n$ – landscape park of national importance; $L_m$ – landscape park of local significance; $M_n$ – natural monuments of national importance; $M_t$ – natural monuments of local significance; $a$ – weight ($1 \leq a \leq 2$).

The remoteness of nature reserves requires a reduction in the risks of visiting them in cases of injuries, disease exacerbations, and accidents. Therefore, we consider it necessary to add to the potential indicator a point estimate of the distance to the nearest administrative center, namely: from 10 km – 5 points; from 10 to 30 km – 4 points; from 30 km to 100 km – 2 point; over 100 km – 0 points (Cunha, 2005). Accordingly, formula (5) is adjusted and will have the form (Cunha, 2005)

$$P_{npa} = a_1 \times Y \times r_1 + a_2 \times L \times r_2 + a_3 \times L_n \times r_3 + a_4 \times L_m \times r_4 + a_5 \times M_n \times r_5 + a_6 \times M_t \times r_6, \quad (6)$$

where $r$– is the correction factor for the distance to the nearest settlement (by road), which is calculated by formula (7) (Cunha, 2005):

$$r = \frac{r_i}{r_{max}}, \quad (7)$$

To determine ($r$)a direct calculation determines the number of protected areas in the region, and then a gradation point is assigned to each object. The data are summed and their average value is determined, which is divided by the maximum score (5). Depending on the integrated indicator ($P_{npa}$) the level of the potential of nature reserves in the territory ($P_{npa}^r$), is calculated, which reflects the potential of the region to the general territory of the state as a whole and is calculated by formula (8) (Cunha, 2005):

$$P_{npa}^r = \frac{P_i}{P_{max}}, \quad (8)$$

where $P_{max}$ – the maximum level of the potential of nature reserves in the state. An important component of the study of the potential of tourist and recreational clusters in addition to the presence of historical and cultural sites and protected areas, the level of the potential of the natural conditions of the territory ($Z_m$) is essential. This is an integral indicator, which is the total value of all evaluation parameters and is calculated by formula (9) (Cunha, 2005):

where $R$ – relief; $K_y$ – climatic conditions; $B_k$ – water component; $L_e$ – landscape aesthetic potential; $M$ – natural health locations; $P_z$ – the level of pollution of the territory.

$$Z_m = R + K_y + B_k + L_e + M + P_z, \quad (9)$$

Depending on the value of the integrated indicator ($Z_m$) the relative indicator of the potential of natural conditions is calculated, which reflects the potential of the region to the whole territory of the country and is calculated by formula (10) (Cunha, 2005):

$$P_{Z_m} = \frac{Z_m}{Z_{m(max)}}, \quad (10)$$

where $Z_{m(max)}$ – the maximum potential of natural conditions in the state.

Assessment of natural conditions of the region is carried out on a 4-point scale (Bondar et al., 2021) (Table 1).

Table 1. Variable scale for assessing the natural conditions of the region (Leiper, 1979)

| The nature of natural conditions | Type of natural conditions | Point |
|---|---|---|
| Relief | plains | 0 |
| | hilly | 1 |
| | medium-humped | 2 |
| | strong-humped | 3 |
| The nature of the water surface and their location | Hydrographic network is absent or there are rare streams and small lakes at a considerable distance from the administrative center (more than 10 km) | 0 |
| | Small rivers adjacent to the administrative centers; the length of the coastal strip is small (2-10 km) | 1 |
| | Large and medium-sized lakes and rivers adjacent to the administrative centers (1-2 km) | 2 |
| | Coast of the sea or estuary. Long length of the coastal strip (10-50 km) | 3 |
| Forest and park areas. Placement and structure | There are no park and forest zones | 0 |
| | There are small park areas or forest plantations | 1 |
| | The presence of park or forest areas in the range from 0.5 to 1 km | 2 |
| | Accommodation in a park or a forest | 3 |
| Availability of natural health sites (mineral springs, salt and mud lakes, geysers) | There are no natural locations | 0 |
| | Up to 1 natural location | 1 |
| | From 1 to 2 types of natural locations | 2 |
| | From 2 types of natural locations | 3 |
| Level of the territory pollution (water, air, radiation background) | Pollution within the norms | 0 |
| | Average rates of the territory pollution | 1 |
| | High rates of the territory pollution | 2 |

An equally important component of the potential of tourist and recreational clusters is the availability of infrastructure ($I_m$), the potential of which is based on the analysis of sanatorium and hotel systems (Leiper, 1979).

where $I_m$ – the level of the potential of tourist and recreational infrastructure; $G_1$ – $I_m = G_1 + G_2$, (11)

sanatorium and health-improving organizations; $G_2$ – hotels and similar accommodation.

Assessing the potential of tourist and recreational infrastructure also requires the introduction of a distance indicator ($r$) to the nearest administrative center (Leiper, 1979). The evaluation is carried out according to the following points (i.e., the presence of a settlement with hospitals, shops and developed infrastructure of services is estimated): up to 10 km – 5 points; from 10 to 30 km – 4 points; from 30 to 100 km – 2 points; over 100 km – 0 points. Accordingly, formula (11) will look like (Sevenant and Antrop, 2009; Tichaawa et al., 2018): $I_m = G_1 \times r_1 + G_2 \times r_2$, (12)

where $r$– correction factor of the distance to the nearest administrative center (or settlement with developed infrastructure with roads). In addition, transport accessibility ($t_{ac}$), is essential, which can also be assessed using the adjustment factor: in the presence of roads – 4 points; in the presence of inland water transport – 2 points; if there is a railway – 3 points; in the presence of the airport – 1 point; if there is a main road – 5 points (Sevenant and Antrop, 2009). Accordingly, formula (12) will look like (Sevenant and Antrop, 2009; Khasawneh et al., 2018):

where $t_{ac}$ – is the adjustment factor of the transport network, $I_m = G_1 \times r_1 \times t_{ac} + G_2 \times r_2 \times t_{ac}$, (13)

which is calculated by formula (14) (Sevenant and Antrop, 2009):

To calculate the adjustment factor ($t_{ac}$) we can directly determine the number of tourist and recreational infrastructure $t_{ac} = \frac{t_{ac_1}}{t_{ac_{max}}}$, (14)

in the region, each of which is assigned a point; all points are summed up and the average score in the region is determined, which is divided by the maximum score (5). Depending on the value of the integrated indicator ($I_m$) the level of the potential of the tourist and recreational infrastructure ($P_{I_m}$) is calculated. The relative capacity of the tourist and recreational infrastructure reflects the potential of the region in relation to the entire territory of the state and is calculated by formula (15) (Sevenant and Antrop, 2009) $PI_m = \frac{I_m}{I_{m_{max}}}$, (15)

where $P_{I_m}$ – the level of the potential of tourist infrastructure;$I_m$ – the potential of tourist and recreational infrastructure of the region; $I_{m_{max}}$ – the maximum potential of tourist and recreational infrastructure in the country. The impact of components on the regional potential of tourist and recreational clusters is not of equal importance, so there is a need to take into account the significant coefficients that are in the range $0.1 \leq a \leq 0.4$. The general assessment of the components allows systematizing them for the formation of an integrated level of regional potential of tourist and recreational clusters in the *i*-th administrative center, which looks like (Sevenant and Antrop, 2009; Andrieieva and Polianychko, 2013; Haldorai et al., 2021; Zheng et al., 2021; Strapchuk, 2021):

$$EP_{i1} = a_1 \times C_{mi1} + a_2 \times P_{npai1} + a_3 \times Z_{mi1} + +a_4 \times I_{mi1} \quad (16)$$

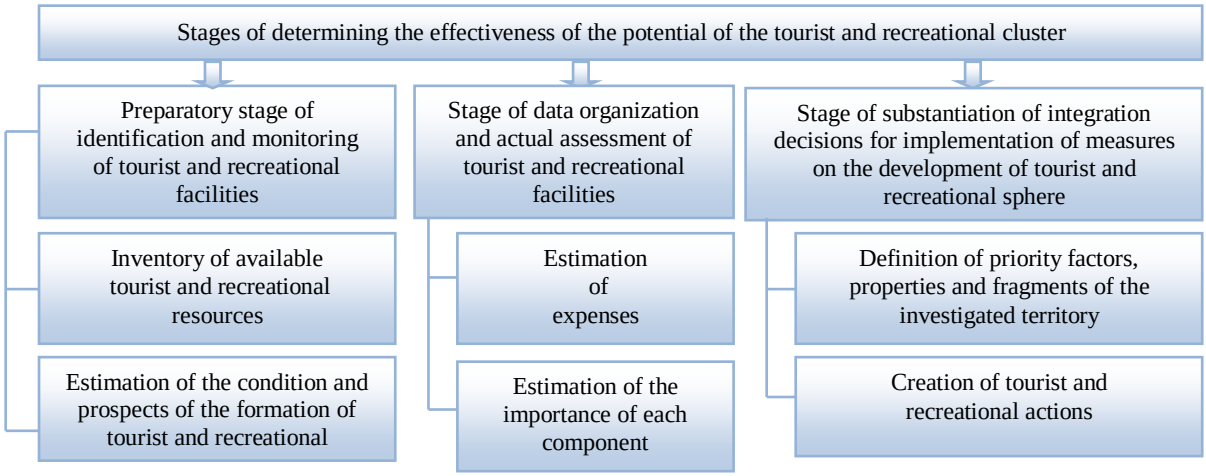


Figure 5. Stages of the assessment of the integrated level of efficiency of the formation of regional potential of tourist and recreational clusters (Source: Authors)

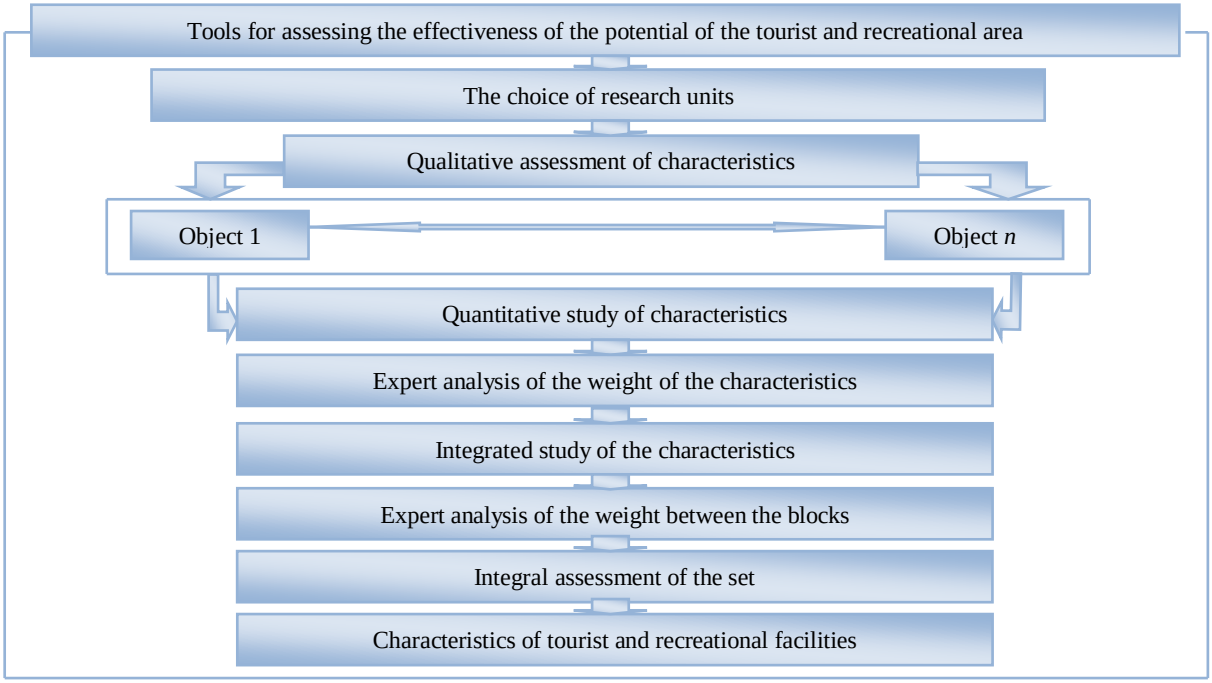


Figure 6. Algorithm for determining the tools for the effectiveness of the formation of the regional potential of tourist and recreational clusters (Source: Authors)

Summarizing the above methodology, we propose to determine the integrated level of efficiency of the formation of the regional potential of tourist and recreational clusters in three stages. At the first (preparatory) stage identification and monitoring of objects is carried out, at the second – data for estimation of objects are organized, at the third – integration decisions for realization of measures for the development of tourist and recreational sphere are substantiated (Figure 5). Comprehensive assessment of the tools for the effectiveness of the formation of the regional potential of tourist and recreational clusters is based on the relationship and interaction of methodological techniques that allow formalizing this process and building an algorithm for its definition (Figure 6).

The attractiveness of the regional potential of tourist and recreational clusters according to a comprehensive expert assessment of the attractiveness of objects in integrated interaction requires the separation of criteria for their evaluation in the field of tourism services and related industries, united by horizontal links. This synergy stimulates the efficiency of regions and individual enterprises, allows to form the effect of innovation, strengthen the intra- and interregional division of labor in the local tourist and recreational system, strengthening individual specialization of members of the regional cluster, due to a range of services focused on the tourism market (Kropinova and Mitrofanova, 2009; Wardana et al., 2018). The activities of the cluster members are focused on the preservation, renovation and use of cultural and historical heritage sites, construction, reconstruction, operation of recreational and tourist industry facilities, facilities for sanatorium treatment, medical rehabilitation and recreation of citizens, as well as for the extraction and use of natural medical resources (Dovbenko, 2007; Shashero, 2011; Casamatta et al., 2021; Baiun, 2021; Ortega-Abente and Ruiz-Flores, 2021).

Thus, the cluster approach is the optimal tool for ensuring the spatial development of European regions. Focus on creating competitive advantages of cluster members, promotes the development and implementation of innovative

projects in the tourism industry. The main principle of the enterprises included in the cluster is to create an advantage of the cluster through cooperation at the local level in order to compete at the interregional level (Table 2).

In our opinion, the most acceptable approach to understanding the life cycle of a cluster due to changes in its qualitative states (low differentiated, competitive, growth and decline) (Danylyshyn et al., 1999), unfolds three directions of cluster systems – progress, is ogress, regress. Each of these areas is clearly correlated with the level of systemic complexity of tourist and recreational infrastructure in the European spatial field of regional clusters: progress reflects the transition of clusters to a new, higher level of systemic and organizational complexity; regress – to a lower level; is ogress – development of properties and qualities in the current level (Danilchuk et al., 2003).

Table 2. The system of interests of the members of the regional tourist and recreational cluster (Source: Authors)

| Members of the regional tourist and recreational cluster | Interests of the member of the regional cluster |
|---|---|
| Authorities of the region | - growth of tax revenues to the budget system;<br>- the emergence of new forms of interaction with business;<br>- the emergence of favorable conditions for further diversification of economic growth in the region;<br>- socio-political significance of the tourist and recreational cluster as an effective form of social obligations to the population;<br>- a real opportunity for effective management of socio-economic processes in the tourist and recreational sphere of the region |
| Entrepreneurial sector of the region | - the emergence of new economic entities in the business sector of the region;<br>-growth of competitive positions and business activities of the business sector of the region;<br>- increasing the social responsibility of the business sector of the region in the field of tourism |
| The "third" sector of the region | growth of satisfied demand for the needs of social marketing in the tourist sector of the region. |
| Household sector of the region | The growth of satisfied demand for tourist services, both by the population in the region and by the population outside it |
| All members of the tourist and recreational cluster of the region | - ensuring a synergistic effect by creating a tourist and recreational cluster;<br>- ensuring the effect of scale from reducing costs in the field of tourism and recreation;<br>- stimulating the creation and effective implementation of innovations;<br>- attracting foreign investment;<br>- growth of socio-economic efficiency of tourist and recreational business;<br>- increasing the efficiency of foreign economic activity of tourist and recreational entities |

It is advisable to supplement the understanding of qualitative changes that occur in clusters with the help of approaches proposed by the categorical-system methodology (Danylyshyn et al., 1999), which is based on the concept of active quality, which determines the development of "object and determines its life cycle". In order to know the object of research within the framework of this methodology, it is important to select the essential components in the object and transform them into "active quality" and "development" of a specific subject area, as well as build qualitative models based on them. A qualitative aspect of this methodology is that it allows characterizing the object as a holistic system that exists in these circumstances, in a given environment, with all its properties and predictable changes. Its qualitative certainty is a stable set of characteristics that create the object of its existence, development, and forms its relationship with other objects and the environment. Development in this context is a variable of the qualities of the object. Categorical quality models allow describing, finding out and predicting the peculiarities of the existence and development of the object under study. Thus, in the "Ordering to goals" model ($OGG$) the system object consists of three components, each of which corresponds to a separate category (Danylyshyn et al., 1999; Bayighomog and Arasli, 2021; Akbar et al., 2020):

- object that is directly studied as a whole – Object – Quality ($OQ$);
- object components (elements) – Gratitude ($Uq$);
- the mechanism of unification of parts into a single whole, which corresponds to "Integrative Quality" ($IQ$), which regulates not only the nature of connections $Uq$ with $OQ$, but also interaction $OQ$ with the external environment.

In the model $OGG$ each of the above components of the system is the bearer of a specific goal, which gives it the direction and trajectory of development, determines its life cycle. Interpretation of the tourist and recreational cluster on the basis of a quality model $OGG$ looks like this. A cluster is an integral object ($OQ$) and by its nature has a systemic organization. The cluster has a goal that determines the direction of its development, it consists of members (companies, firms, organizations, institutions), which are its structural elements ($Uq$). All elements of the cluster have personal goals that give them direction. For a cluster, the goals of its individual members are "Sub-goals".

An important characteristic of cluster formation as a system object is the principle, the mechanism of combining parts into a goal: enterprises and firms – in a cluster. This aspect is embodied in the "Super-Goal" of cluster formation. If the nature of "Goal" and "Sub-Goals" ($OQ$ and $Uq$) is acceptable, then the nature of "Super-Goal" ($IQ$ ) is hardly obvious to an observer who is at a certain level of the system. In general, it indicates the presence of new qualities in $OQ$ that indicate that the object is a new level of complexity and makes it possible the transition of $OQ$ to a new stage of development. As a result, it is included in the new environment (Dashchuk, 2012). Three of these aspects of the tourist and recreational cluster of enterprises are reflected in the relevant categories (Table 3).

The life cycle of the object, (tourist-recreational cluster) represents the stages of its active action, as a process that realizes a specific goal and is accompanied by the development of its active quality. Accordingly, the directions of the

development of the object are closely related to the two triads of categories described above: $OQ - Uq - IQ$ and Goal – Sub-Goal – Super-Goal (Table 4). Thus, progressive development is a change of the system object upwards. In this case, there is a change$IQ$, which is reflected in the transformation of the nature of the interaction between the components, which are due to the appearance of new emergent properties in the object, increasing the level of system complexity. This provides it with a transition to a new environment that corresponds to its new, more advanced system of organization. The driving force behind progressive development is the "Super-Goal" of the object. That is, the acquisition of a new$IQ$ one leads to the deployment in the system of special interactions associated with the appearance of emergent properties in it. The transition of the object to a new, more complex environment is accompanied by the emergence of a new "Super-Goal".

Table 3. Tourist and recreational cluster by categories of its active quality (Dashchuk, 2012)

| The real object | Quality category | Goal category | Characteristics |
|---|---|---|---|
| Cluster of enterprises | Object – Quality (OQ) | Goal | Display the qualitative definition of the object |
| Enterprises – members of a cluster formation | Sub quality (Uq) | Sub-Goal | Display the qualitative certainty of a component of an object that differs from the qualitative certainty of an integral object |
| Principles of combining enterprises into a cluster organism as a single object | Integrated quality (IQ) | Super-Goal | Display of emergence (system qualities) of the object and the mechanism of interaction of parts in the whole object |

Table 4. Correspondence of quality categories, goals and vectors of the development (Dashchuk, 2012)

| Quality categories | Goal categories | Branches of the development |
|---|---|---|
| Object – Quality, (OQ) | Goal | Isogress |
| Subquality, (Uq) | Sub-Goals | Regress |
| Integrated quality, (IQ) | Super-Goals | Progress |

In general, the considered model $OGG$ enables systematic use of tools for forming the regional potential of tourist and recreational clusters in the European space. Systematicity determines the innovativeness of the potential and allows obtaining new, non-trivial results in such a subject area as the tourist and recreational industry. By diagnosing the state of existing regional tourist and recreational clusters in the EU and assessing segments of the European tourism market, it is possible to develop measures to improve technological and product innovations that meet the realities of the new methodological paradigm for shaping components and tools to enhance competitiveness and image. The main factors in the use of cluster analysis in market segmentation, in our opinion, is that this analysis is an effective way to classify objects by their characteristics and has proven itself in all spheres of social activity. In a competitive European space, the use of cluster analysis allows to operate with a set of constant factors, according to which, forecasting is based on the method of extrapolation of market trends and indicators. The accuracy and reliability of the forecast depends on the multifactorial and sample size over time. The use of cluster analysis of factors that shape the regional potential of tourist and recreational clusters allows calculating its predicted level of quality in the competitive space of states as a whole.

To do this, it is proposed to calculate the forecast efficiency of the regional potential of tourist and recreational clusters using the growth rate of the final product. The following components were chosen as the main forecasting indicators (Dashchuk, 2012):

$$P_y = \lambda + a_l p_l + a_k p_k, \quad (16)$$

where, $P_y$ – the growth rate of the final product (national income), in million USD; $y$ – rates of dynamics of visits to tourist sites and reactions in the country, %; $a_l$ – parameter of the degree of labor intensity; $p_l$ – growth of labor productivity; $a_k$ – parameter of the degree of capital intensity; $p_k$ – increase in return on assets.

When setting the problem, it is necessary to consider the features of the competitive environment in the market of tourist and recreational services and its impact on the competitiveness of economic entities in the tourism industry.

## RESULTS AND DISCUSSION

### Specifics of the Tourist and Recreational Cluster Development

Given the general trend of the economic development of EU member states through the creation of tourist and recreational clusters, it is safe to say that the cluster approach in the tourism industry today is becoming increasingly important and widespread, especially in such countries as Spain, Romania and Cyprus. At present, there are 68 tourist and recreational clusters in the EU member states (Figure 7).

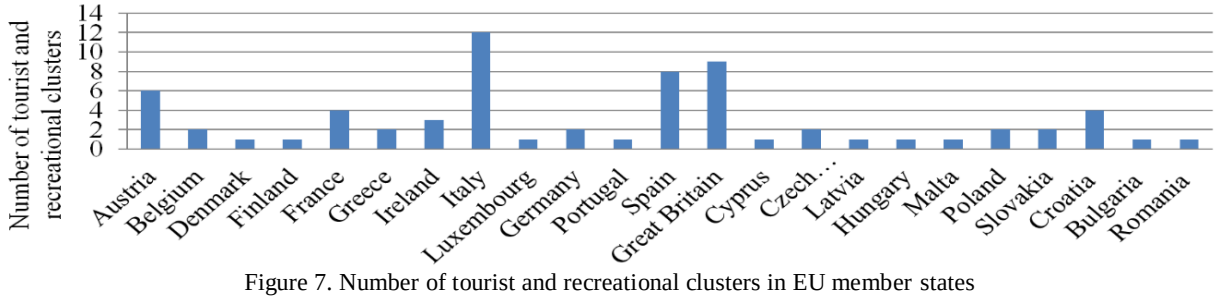


Figure 7. Number of tourist and recreational clusters in EU member states
(UNWTO Tourism Dashboard, 2021; Tourism Satellite Account: Recommended Methodological Framework, 2008; Country Analysis the World Travel & Tourism Council (*WTTC*), 2018; Tourist streams, 2020)

Cluster analysis and audit (ESCA) identified more competitive tourist and recreational clusters in Europe (Table 5). It should be noted that the Western European region is a "testing ground" for testing new ideas in public economic policy, which is based on a cluster approach. Working groups of existing tourist and recreational clusters have been established on the following issues: marketing and branding; tourism product development; issues of personnel policy and improving the quality of labor resources; development of tourist and recreational infrastructure; legislative and regulatory environment (Pankratova, 2021). Within the framework of the development of the tourist and recreational cluster, its main principles are defined: uniqueness; diversification; cultural values; sustainability of the development; integration of the idea of tourism development into the community (state, economy, local community); quality of service; voluntary participation of each member in a functioning cluster (Kliuchenko, 2016; Li et al., 2021). The development of tourist and recreational clusters covers almost all countries of the European Union, both economically developed and Eastern and Central European countries (Lindqvist et al., 2013). From the standpoint of the presence or absence of the relationship between the general Competitiveness Index of EU member states in the field of travel and tourism and sub-indices for the formation of effective regional potential of tourist and recreational clusters, a correlation analysis was performed. Thus, the lines of the general index of competitiveness of countries in the field of travel and tourism by sub-indices of infrastructure and natural and cultural resources have the most similar character. The results of correlation calculations also confirm the presence of a direct relationship between these components.

Table 5. Tourist and recreational clusters of EU member states that have passed the ESCA certification in the field of sports, recreation and tourism (UNWTO Tourism Dashboard, 2021; Tourism Satellite Account: Recommended Methodological Framework, 2008; Country Analysis the World Travel & Tourism Council (*WTTC*), 2018; Tourist streams, 2020)

| The name of the cluster | States |
|---|---|
| AQUIO THERMES | France |
| Cosmetic Valley | |
| Fliere Equine (HIPPOLIA) | |
| Imaginove | |
| Nova CHILD | |
| Pole de Compétitivité Parfums Arômes Senteurs Seveurs | |
| SPORALTEC | |
| Agro-tourist cluster «Lepoglava» | Croatia |
| Air 66 | Ireland |
| Fuchsia Brands | |
| Original Kerry | |
| INDESCAT | Spain |
| Inno Sport NL | Netherlands |
| Innovative Health and Tourism Cluster | Poland |
| Cluster «Liptov» | Slovakia |
| Cluster «Orava» | |
| Tourism and Experience Management Competence Cluster | Finland |

Infrastructure and its components (correlation coefficient is equal to 0.930235137) and natural and cultural resources (correlation coefficient is equal to 0.891655781) have the greatest impact on the Competitiveness Index of countries in the field of travel and tourism for EU countries (Kuśen, 2010). As for the favorable environment – its impact on the development of the tourist and recreational industry is almost absent (the correlation coefficient is equal to 0.411007181). Public policy and its components in the development of the European tourist and recreational space do not affect the competitiveness of EU member states in the field of travel and tourism (the correlation coefficient is equal to 0.147844926). The result of using hierarchical clustering is a "clustering tree" or dendrogram, i.e. a graph without cycles, built on the proximity matrix. The dendrogram allowed depicting the relationships between objects from a given set. For analysis, 12 components of the Competitiveness Index of EU member states in the field of travel and tourism were selected (90 components). The "full connections" method was chosen as the clustering algorithm, which takes into account that the inclusion of a new object in the cluster occurs only if the distance between the objects is not less than a given level (Table 6).

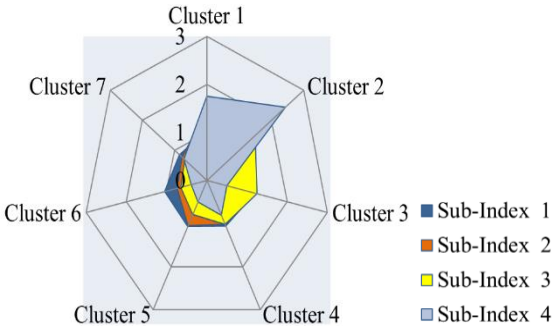


Figure 8. Average values of the features of the regional potential of tourist and recreational clusters of EU member states obtained by the Ward method (Source: Authors)

Table 6. Composition of regional tourist and recreational clusters of EU member states according to the Ward method (UNWTO Tourism Dashboard, 2021)

| Cluster number | Number of objects in the cluster | The composition of the cluster |
|---|---|---|
| Cluster 1 | 3 | Great Britain, the Netherlands, France |
| Cluster 2 | 3 | Spain, Italy, Germany |
| Cluster 3 | 2 | Ireland, Luxembourg |
| Cluster 4 | 6 | Austria, Greece, Denmark, Portugal, Finland, Sweden |
| Cluster 5 | 2 | Cyprus, Malta |
| Cluster 3 | 3 | Estonia, Latvia, Lithuania |
| Cluster 7 | 9 | Belgium, Bulgaria, Poland, Romania, Slovakia, Slovenia, Hungary, Croatia, Czech Republic |

In order to characterize each of the selected tourist and recreational clusters and to identify the commonality of EU member states within each of them, the process of grouping in clusters using the Ward method and the K-mean method was used, which allowed to determine different levels of competitiveness in travel and tourism and development potential. Figure 8 shows the composition of tourist and recreational clusters of EU member states grouped by the Ward method. Figure 10 presents the hierarchy of tourist and recreational clusters of EU member states according to the degree of the development of the potential of this industry. The average value is equal to 1.034305, which exceeds only the first two and the second regional potential of tourist and recreational clusters. In general, the difference between clusters 1-2 and 6-7 is

insignificant, which indicates a significant degree of similarity in the characteristics of the tourism industry between the countries located in these clusters. The average values of the regional potential of each cluster according to sub-indices allow studying in more detail the level of the development of tourist and recreational infrastructure, availability of resources, favorable conditions of the environment of economic entities of tourism and recreation (Figure 8).

Thus, we can conclude that the level of favorable environment of the regional potential of tourist and recreational clusters of EU member states has the same position. A similar trend is observed in the level of the development of public policy and the creation of favorable conditions in the field of travel and tourism, with the exception of a small priority in the countries of the 1st cluster (UK, Netherlands, France). According to the level of the development of tourist and recreational infrastructure, the countries of clusters 1-3 have an advantage; they are the most developed EU countries: Great Britain, the Netherlands, France, Spain, Italy, Ireland, and Luxembourg. For a more in-depth study, we present the characteristics of each of the selected regional potential of tourist and recreational clusters.

Cluster 1: Great Britain, the Netherlands, France – the countries with the highest level of the development of the tourism industry in Europe. Figure 9 shows the Euclidean distances for the countries of this cluster by the degree of similarity (Figure 9).

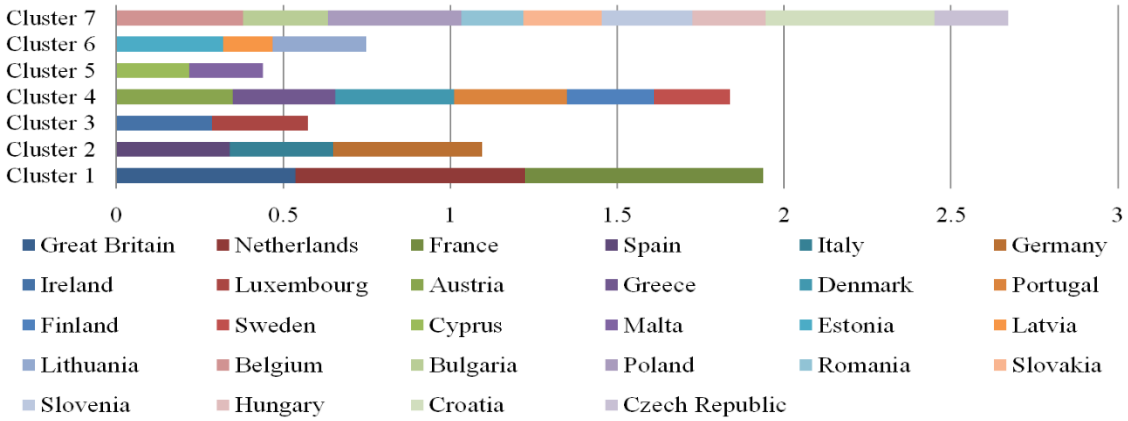


Figure 9. Euclidean distances of regional objects from the center of the potential of tourist and recreational clusters of EU member states (Source: Authors)

The 90 components of regional objects from the center of potential of the tourist and recreational cluster 1 are studied according to their maximum similarity, and according to which there are the greatest differences. The closest to the cluster member countries 1 are such components as: 1.1.8. – Time required to open a business (days); 3.1.5. – Density of the network of airports (airports per million of population); 1.1.9. – The cost of starting a business, % of gross national income per capita; 2.1.2. – Government expenditures for tourism and recreation development (% in the budget); 3.3.1. – Number of hotel rooms per 100 inhabitants. The smallest similarity between the components of the member countries of this cluster in terms of: 3.1.2. – Domestic passenger-mileage (mln.); 4.2.3. – Number of sports stadiums with a capacity of more than 20000 seats; 2.3.3. – Purchasing power parity (USD); 3.1.3. – International passenger-mileage (mln.); 2.4.10. – Impact of industrial fishing on the marine shelf ecosystem (tons / sq. km).

Cluster 2: Spain, Italy, Germany – countries with a very high level of the development of the tourism industry in Europe. The closest to the cluster member countries are such components as: 2.4.10. – Impact of industrial fishing on the marine shelf ecosystem (tons / sq. km); 3.1.5. – Density of the network of airports (airports per million of population); 3.1.4. – Number of departures (domestic and international) per 1000 of population; 1.4.5. – The practice of hiring and firing employees; 1.2.5. – The rate of homicides per 100000 of population. The smallest similarity between the components of the cluster countries is typical for the indicators: 4.2.5. – Digital demand for cultural and entertainment tourism (estimation based on the analysis of online inquiries about cultural and entertainment institutions of the country according to the established keyword list) (0-100 better); 4.2.1. – Number of cultural objects of the world heritage; 3.1.3. – International passenger-mileage (mln.); 4.2.3. – Number of sports stadiums with a capacity of more than 20000 seats; 3.1.2. – Domestic passenger-mileage (mln.).

Cluster 3: Ireland, Luxembourg – countries with a medium level of the development of the regional potential of the tourist and recreational industry of the European space. The closest to the countries of the cluster are such components as: 3.1.2. – Domestic passenger-mileage (mln.); 4.1.1. – Number of natural world heritage sites; 4.2.2. – Presence of intangible cultural heritage (oral traditions and forms of expression, performing arts, customs, rituals, etc.) (Number of practices and expressions); 4.2.1. – Number of world heritage sites; 2.4.10. – Impact of industrial fishing on the marine shelf ecosystem (tons / sq. km). The slightest similarity between the components of the cluster countries is characteristic of the indicators: 1.1.4. – The effectiveness of the regulatory framework for appealing against government actions or legislation; 1.1.11. – The degree of influence of taxation on investment; 2.2.2. – Openness of the country for bilateral air services agreements (0-38 better); 1.1.6. – The cost of the procedures required for the construction of a warehouse (% of the cost of construction); 3.1.4. – Number of departures (domestic and international) per 1000 of population.

Cluster 4: Austria, Greece, Denmark, Portugal, Finland, Sweden – countries with a medium level of the development of the regional potential of the tourist and recreational industry of the European space. The closest to the cluster

countries are such components as: 1.1.9. – The cost of starting a business,% of gross national income per capita; 2.4.10. – Impact of industrial fishing on the marine shelf ecosystem (tons / sq. km); 3.1.3. – International passenger-mileage (mln.); 4.2.2. – Presence of intangible cultural heritage (oral traditions and forms of expression, performing arts, customs, rituals, etc.), (number of practices and expressions); 3.2.5. – Density of railways (km on 100 sq. m of land). The smallest similarity between the components of the cluster countries is characteristic of the indicators: 2.4.2. – The level of compliance with environmental legislation; 1.5.6. – Subscribers of broadband mobile communication, per 100 residents; 3.3.1. – Number of hotel rooms per 100 inhabitants; 4.1.4. – Digital demand for nature tourism (estimation based on the analysis of online inquiries about natural objects of the country according to the established list of keywords) (0-100 better); 3.1.5. – Density of the network of airports (airports per million of population).

Cluster 5: Cyprus, Malta – countries with a medium level of the development of the regional potential of the tourist and recreational industry of the European space. The closest to the countries of the cluster are such components as: 4.2.2. – The presence of intangible cultural heritage (oral traditions and forms of expression, performing arts, customs, rituals, etc.) (number of practices and expressions); 3.2.5. – Density of railways (km on 100 sq. m of land); 4.2.3. – Number of sports stadiums with a capacity of more than 20000 seats; 3.1.2. – Domestic passenger-mileage (mln.); 1.2.5. – The rate of homicides per 100000 of population. The smallest similarity between the components of the cluster countries is characteristic of the indicators: 2.4.2. – The level of compliance with environmental legislation; 1.5.6. – Subscribers of broadband mobile communication, per 100 residents; 3.3.1. – Number of hotel rooms per 100 inhabitants; 4.1.4. – Digital demand for natural tourism (estimation based on the analysis of online inquiries about natural objects of the country according to the established list of keywords) (0-100 better); 3.1.5. – Density of the network of airports (airports per million of population).

Cluster 6: Estonia Latvia, Lithuania – countries with a medium level of the development of the regional potential of the tourist and recreational industry of the European space. The closest to the countries of the cluster are such components as: 3.1.2. – Domestic passenger-mileage (mln.); 4.2.3. – Number of sports stadiums with a capacity of more than 20000 seats; 4.1.4. Digital demand for nature tourism (estimation based on the analysis of online inquiries about natural objects of the country according to the established list of keywords) (0-100 better); 3.1.3. – International passenger-mileage (mln.); 4.1.1. Number of natural world heritage sites. The smallest similarity between the components of the cluster countries is characteristic of the indicators: 1.3.4. – Number of beds per 10000 of population; 2.3.1. – Taxes and fees at airports (0-100 better); 3.1.5. – Density of the network of airports (airports per million of population); 1.3.5. – Prevalence of HIV (% of the population aged 15-49 years); 1.2.5. – The rate of homicides per 100000 of population.

Cluster 7: Belgium, Bulgaria, Poland, Romania, Slovakia, Slovenia, Hungary, Croatia, the Czech Republic – countries with a medium level of the development of the regional potential of the tourist and recreational industry of the European space. The closest to the countries of the cluster are such components as: 3.1.2. – Domestic passenger-mileage (mln.); 2.4.10. – Impact of industrial fishing on the marine shelf ecosystem (tons / sq. km); 3.1.3. – International passenger-mileage (mln.); 3.1.4. – Number of departures (domestic and international) per 1000 of population; 4.2.3. – The number of sports stadiums with a capacity of more than 20000 seats. The smallest similarity between the components of the cluster countries is characteristic of the indicators: 1.1.9. – The cost of starting a business,% of gross national income per capita; 1.1.8. – Time required to open a business (days); 2.4.4. – Concentration of solid particles in the air (mg / cubic meter); 4.2.2. – Presence of intangible cultural heritage (oral traditions and forms of expression, performing arts, customs, rituals, etc.), (number of practices and expressions); 3.2.5. – Density of railways (km on 100 sq. m of land). Thus, the segmentation of the European tourist and recreational area has identified seven groups of countries (clusters) that have certain similarities in the development of the tourism industry, and, accordingly, have certain requirements for the formation of tourism policy.

**Calculating of the Forecast of Tourist and Recreational Clusters Regional Potential**

To calculate the forecast efficiency of the development of the regional potential of tourist and recreational clusters, the growth rate of the national income of each of the EU member states, which is influenced by the tourist and recreational components, was used. To do this, we used formula (16) for the growth rate of the final product. Figure 8 shows the forecast regional potential of tourist and recreational clusters in terms of the growth rate of national income from travel tourism product in EU member states. Thus, in 2021-2023, Malta and Luxembourg will receive the largest national income from tourism and recreation; significant growth is forecast in Finland, Slovenia, Portugal, Latvia, Cyprus, Spain, Ireland, Estonia and the United Kingdom; the lowest income – in such countries as Poland and Greece. In total, in 2021-2023, the regional potential of tourist and recreational clusters in the EU member states will increase the revenue side of the budget by almost 5919.1 billion USD. Thus, Figure 9 traces an even distribution of the regional potential between tourist and recreational clusters (the shares of each cluster are in the range from 9% to 20%).

However, the largest share of income (20% or 1176 million USD) will be received by the countries of the 7th cluster (Belgium, Bulgaria, Poland, Romania, Slovakia, Slovenia, Hungary, Croatia, the Czech Republic), the smallest – 9% or 521 million USD) – countries of the 2nd cluster (Spain, Italy, Germany). This uniformity confirms the objectivity of the segmentation of the European tourist and recreational space and the optimal number of isolated clusters (7).

The study of the growth of national income from the distribution of the regional potential of the tourist and recreational industry on average for each of the clusters confirms the existence of territorial differences between the countries of the tourist space. Thus, the leaders in terms of income in 2021-2023 are the countries of the 5th cluster (Cyprus, Malta); countries of the 3rd and 6th clusters will receive approximately 250 million USD of revenue from the tourist and recreational industry. In the EU member states (clusters 1, 2, 4 and 7) the average growth of national income from the tourist and recreational industry will average 170 million USD.

## CONCLUSIONS

Thus, the potential of the tourist and recreational industry is undergoing significant transformations under the influence of globalization. These transformations, together with the features common to the world economy (production and consumption of tourist services, management, dissemination of information and technology, the functioning of markets) are carried out on a global scale in Europe; the interconnections and interdependence of the enterprises of the tourist and recreational industry of the countries of the world strengthen and become more complicated; the volume and variety of cross-border movement of goods and services of the industry increases; widespread use of new information technologies have their own specific features. Under the influence of global trends, companies in the tourist and recreational industry are increasingly focusing on international standards of activity; new organizational forms of providing tourist services in the form of transnational corporations (TNCs) and international network associations are being created; international information and communication systems are being formed. Indicators of the regional potential of tourist and recreational clusters in the European space form a global growing internationalization, which is manifested in the deepening of the international division of labor, development and intensification of exports of tourism services, as well as economic cooperation.

The established practice of the tourist and recreational industry provides effective directions for the development of the potential of tourist and recreational services at the interregional level. First, it is a set of situational actions to address some of the most critical problems, taking into account certain legal provisions of current legislation in the field of tourism, the basic requirements of foreign economic activity in the field of services. In this case, the main mechanism for the development of the regional potential of tourist and recreational clusters in the European Union is market self-regulation, and the regulator is the rate of return on invested capital. Secondly, there is a need for regional policy (in the form of normative strategies of medium and short-term programs and the implementation of relevant institutional regulators and tools for building the capacity of tourist and recreational clusters), the mechanism of export of tourism services in EU member states, interregional cooperation on mutually beneficial terms, the movement of tourist flows and the joint tourist product, as well as for public-private partnership in the field of infrastructure creation and promotion of the tourist product on international markets. The formation of the potential of tourist and recreational clusters, marketing and branding of the territory allows complementing the processes of creation and development of regional tourist complexes in cooperation with specialized enterprises in the field of tourism and recreation.

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# SPATIAL ASSESSMENT OF BUILT-UP AND RECREATION EXPANSION USING GEO-INFORMATIC TECHNIQUE IN KOH CHANG ISLAND, THAILAND

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**Abstract:** Land-use change for examining the expansion of built-up and recreation, required effective techniques of spatial assessment, especially in areas with limited space such as Koh Chang island in Thailand which needed to be emphasized. The research objectives were to study land-use patterns in Koh Chang area in Trat province from 2000-2020, and study land-use change, especially the expansion of buildings and recreation area during that period, using geo-informatic technique. The study found that most of Koh Chang is forest land, up to 80% of the island, but the trend is declining. On the other hand, the area that has increased in number is built-up and recreation, which has increased from 7.22 $km^2$ to 18.28 $km^2$ and up to 253.19% in the past 20 years. The efficiency of geo-informatic technology can extract useful information, especially spatial data on land-use change. Therefore, it is known from which areas built-up and recreation areas are transformed in order to bring such information into a spatial database system for supporting decision-making in directing, monitoring and controlling areas for further expansion of tourism business in order not to create an impact on the environment.

**Key words:** Spatial assessment, Built-up and Recreation Expansion, Geo-informatic, Koh Chang Island, Tourism

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## INTRODUCTION

Tourism is a major economic activity in the tropical region, especially in developing countries in Southeast Asia that rely on tourism revenues to drive the national economy (Gilani et al., 2015; Osman et al., 2016). Tourism activities in various forms, whether in the form of trade, service business, as well as the expansion of local infrastructure, have clearly affected the change in land-use patterns, expansion of buildings, especially in business districts, construction of buildings, residences, hotels, resorts and roads for easier and more convenient access to tourist areas has recently accommodated tourists (Dimobe et al., 2017; Gaughan et al., 2009). As a result, natural resources problems gradually deteriorated due to the expansion of such buildings and infrastructure (Indarto and Hakim, 2021). Therefore, the study of land-use patterns is necessary to create a spatial database for the management of land-use planning in urban areas where tourism business is expanding.

Koh Chang, Thailand's third largest island, is an island under the administrative region of Trat Province in the eastern part of the Gulf of Thailand with an area of approximately 219.20 $km^2$. The study area is located between 11 degrees latitude 55 minutes to 12 degrees 10 minutes, longitude 102 degrees 10 minutes to 102 degrees 30 minutes (Figure 1). Koh Chang has an important geomorphological feature of the igneous mountain range of the Permo-Triassic volcanic rock era (Englong et al., 2019). Locals call it “Elephant Island” or Koh Chang in Thai (Srinonil et al., 2020). The abundance of natural resources, especially the tropical rainforests and beautiful coastline, has resulted in Koh Chang's enormous tourism potential (Nitivattananon and Srinonil, 2019). Evidence appears since 1982 that tourists traveled to Than Mayom beach, a beach on the east coast of Koh Chang with Than Mayom Waterfall nearby and an important local community, Salak Phet village. During that time, roads were developed to connect Salak Phet village to Bang Bao community as a road along the east coast to the north. During the years 1984-2002, the government has promoted tourism in a more concrete way by issuing a policy to set the national strategy guidelines, issued the 7th National Economic and Social Development Plan (1996), resulting in the construction of hotels and resorts along the narrow coastal plain from Hat Sai Khao beach down to Klong Prao, Kai Bae, and ending at Bang Bao community.

As the area is on the west coast of Koh Chang with tourism potential and a variety of tourism activities, including white sands with soft and fine sand at Hat Sai Khao beach and Khlong Phrao beach, ideal for beach activities and sunset views or trekking in the central part of the island, and snorkeling activities to see corals and marine life on small islands around Koh Chang. With the identity of the recreation area of Koh Chang and in 1996 onwards, a ferry pier was built between Koh Chang and the mainland of Trat, allowing tourists to take their personal cars to travel easily. Koh Chang has obviously changed the land-use from the past, that is, there has been an expansion of buildings to accommodate

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tourists occurring on every beach in the form of hotels, resorts, and various types of services that are fully equipped. Koh Chang has changed more owners from locals to people from other areas. The problems that follow are similar to many other tourist destinations such as Pattaya (Emparanza et al., 2020), Phuket (Nguyen et al., 2021), Koh Samui (Chatkaewnapanon, 2011), etc. As can be seen from the economic development in the coastal areas of the eleven coastal provinces and metropolises in China with coastal reclamation in order to build a large port and support the urbanization and industrialization, causing the environment to deteriorate (Li et al., 2020).

Integrating experiential and institutional perspectives on ecotourism programs should be considered in order to support the expansion of the built-up and recreation expansion in a marine national park. Experiential activities, vessel quantity control, community ecosystem, and financial attributes all aim to engage local communities in tourism, as well as to maintain their communities in harmony with the ecotourism model (Lin et al., 2020). As tourism develops to a certain extent, it clearly affects both physical, social and cultural changes. Such changes are attributed to the readiness of the environment to accommodate, the readiness of local communities to cope with the changing conditions of tourism, entrepreneurial awareness, and environmental tourists, thus resulting in land-use patterns are changing rapidly.

For this reason, geo-informatics technology is needed to be applied in this research to monitor land-use change patterns, especially buildings and recreation areas to understand the pattern and direction of change in such area to find ways to manage land-use as system of regulation, as well as to prevent the expansion of buildings and recreation areas beyond their capacity to affect natural resources and coastal areas in order to maintain sustainable marine tourism in the future. This research aims to study land-use patterns in Koh Chang area, Trat province from 2000-2020 and to study changes in land-use, especially the expansion of buildings and recreation areas during that period using the geo-informatic technique for decision-making in determining the direction of spatial management to support the expansion of sustainable tourism in the future.


Figure 1. Location of Koh Chang Island, Thailand
(Source: collected and processed by authors)

Table 1. Satellite Image Data and Land-use data over the Koh Chang Island for Analysis

| Database | Acquisition date | Format | Sources |
|---|---|---|---|
| Landsat 5 TM Satellite Image Path 128 Row 52 | 11 November 2000 | Image File | https://earthexplorer.usgs.gov/ |
| Landsat 7 ETM+ Satellite Image Path 128 Row 52 | 15 January 2011 | Image File | https://earthexplorer.usgs.gov/ |
| Landsat 8 OLI/TIRS Satellite Image Path128 Row 52 | 12 November 2020 | Image File | https://earthexplorer.usgs.gov/ |
| Land-use in Trat Province 2000 | 2000 | Shape file | Land Development Department (LDD), Thailand |
| Land-use in Trat Province 2011 | 2011 | Shape file | Land Development Department (LDD), Thailand |
| Land-use in Trat Province 2020 | 2020 | Shape file | Land Development Department (LDD), Thailand |

## MATERIALS AND METHODS

The study of land-use patterns and land-use change was systematically gathered data, analyzed data and presented research results as follows:

1. Collect spatial data and attribute data from relevant agencies and grant permission to publish as shown Table 1.

2. Input satellite image data including Landsat-5 (TM system), Landsat-7 (ETM+ system), and Landsat-8 (OLI/TIRS system) in each period, using Erdas Imagine Version 8.5 satellite image data program mixed satellite photo-band, by selecting band 5 (short-wavelength infrared), 4 (near-infrared), and 3 (red) for Landsat TM and ETM+ systems (Abuzar et al., 2020). The Landsat OLI/TIRS system uses band 6 (short-wavelength infrared), 5 (near-infrared), and 4 (red) (Barsi et al., 2014; Li et al., 2014).

3. Interpret satellite image data to classify land-use of 2000, 2011 and 2020 using the satellite image processing program and set the satellite image scale on the image screen to 1:50,000. The key factors in interpretation include shape, arrangement, color, location and surrounding environment. Interpret land-use patterns by Supervised classification (Everitt et al., 2010; Parida and Kumar, 2020). The results from the interpretation of the land-use model are presented as Overall Accuracy and Kappa coefficient coefficient (KHAT) to assess the accuracy of the various data classifications that appear on the satellite image data, by determining

the sampling point in the study area based on data from Land Development Department (LDD), Thailand validation comparison with data obtained from classification. The classification criteria are as follows (Jensen and Kiefer, 2007; Poursanidis et al., 2015):

< 0 means unacceptable classification data;
0.01 – 0.40 means fair classification data;
0.41 – 0.60 means moderate classification data;
0.61 – 0.80 means good classification data;
0.81 – 1.00 means very good classification data.

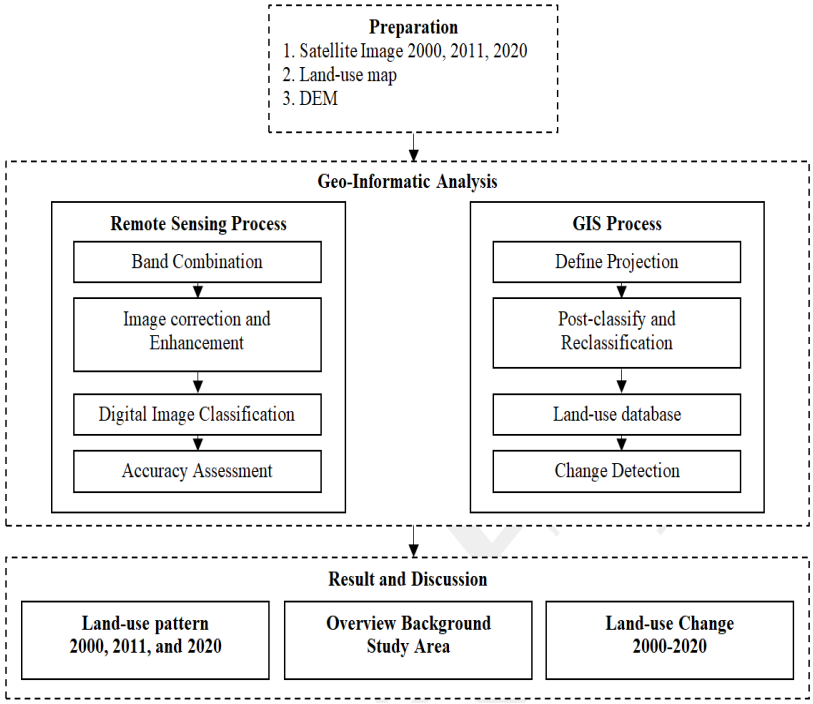

Figure 2. Flowchart of Methodology

4. Use the land-use model data obtained to create a database in the Geographic Information System and check spatial data for errors using a Geographic Information System program, displaying the data to check the land-use change for each time period as the equation 1 (Jia et al., 2014):

$$\Delta = [(A2 - A1) / A1 \times 100] / (T2 - T1) \quad (1)$$

where Δ is the proportion of the change in land-use pattern (percent)

A1 is the type of land-use at the first time (T1).

A2 is the type of land-use at the second time (T2).

The results are shown as the proportion of land-use of each species on the map. It shows the land-use change pattern from 2000 to 2020, along with a comparative table of land-use change detection from the Tabulate area analysis in ArcMap 10.3.

5. Randomly check data from real areas to verify the accuracy of the data obtained from the satellite image data interpretation, i.e., characteristics of land-use, factors and impacts of land-use change, expository inquiries from local people, etc.

6. Use the land-use area model information obtained to create a geographic information database and validate Spatial Data and Attribute Data errors using ArcMap 10.3 geographic information system program to track land-use change and store it as a spatial database for agencies to solve problems and plan appropriate land-use.

## RESULTS AND DISCUSSION

The area of Koh Chang is currently designated as a natural resource conservation area, along with being pushed into a coastal tourist city. The geo-informatic technique has therefore been applied in the study of land-use patterns (Yamashkin et al., 2021; Waiyasusri and Wetchayont, 2020). The satellite image processing by Supervised classification method for each time period in 2000, 2011 and 2020 showed overall accuracy results from the interpretation of the land-use model as shown in Table 2 as follows: 92.60 %, 77.80 % and 88.00 %, respectively. Criteria for classification of land-use data are in good to very good. Kappa coefficient (KHAT) is a coincidence of 2 sets of data from interpretation of land-use patterns with KHAT values as follows: 0.91, 0.72 and 0.85, respectively, which are also good to very good criteria, and the land-use patterns for each period are shown in Figure 3A-3C as shown Table 2. Based on the interpretations of Landsat satellite imagery for all three periods (2000, 2011, and 2020), the results showed that most of Koh Chang was covered by forest, with an area of 176.75 $km^2$ (80.63 %), 176.06 $km^2$ (80. 23 %), and 170.95 $km^2$ (77.99 %), respectively. The forest area that appears in the central part of Koh Chang is Deciduous forest and Mangrove forest covering the east and south of the island, following by Cultivated land area 23.61 $km^2$ (10.77 %), 24.43 $km^2$ (11.15 %), and 19.47 $km^2$ (8.88 %), respectively. Cultivated land covers the surrounding islands of the northern, eastern and southern parts of Koh Chang, mainly Mixed orchard, Coconut, Para rubber, Durian, and Agalloch. The Built-up and Recreation area, a key land-use found to have increased over the 20 years of the study, was 7.22 $km^2$ (3.29%), 7.33 $km^2$ (3.34%), and 18.28. $km^2$ (8.34 %), respectively. It appears densely in the narrow plains surrounding Koh Chang, including the west, north and east of Koh Chang (Figure 3A-3C). The Waterbodies and Other land areas have been relatively stable throughout the past period.

Table 2. Land-use pattern 2000, 2011, and 2020 in Koh Chang Island derived from supervised classification showing Overall accuracy and Kappa coefficient (Source: collected and processed by authors)

| | 2000 | | 2011 | | 2020 | |
|---|---|---|---|---|---|---|
| **Land-use pattern** | **$km^2$** | **%** | **$km^2$** | **%** | **$km^2$** | **%** |
| Forest | 176.75 | 80.63 | 176.06 | 80.32 | 170.95 | 77.99 |
| Cultivated land | 23.61 | 10.77 | 24.43 | 11.15 | 19.47 | 8.88 |
| Built-up and Recreation area | 7.22 | 3.29 | 7.33 | 3.34 | 18.28 | 8.34 |
| Waterbodies | 9.46 | 4.32 | 8.54 | 3.90 | 9.32 | 4.25 |
| Other land | 2.16 | 0.99 | 2.84 | 1.30 | 1.18 | 0.54 |
| Total | 219.20 | 100.00 | 219.20 | 100.00 | 219.20 | 100.00 |
| Overall Accuracy (%) | 92.60 | | 77.80 | | 88.00 | |
| Kappa coefficient (*KHAT*) | 0.91 | | 0.72 | | 0.85 | |

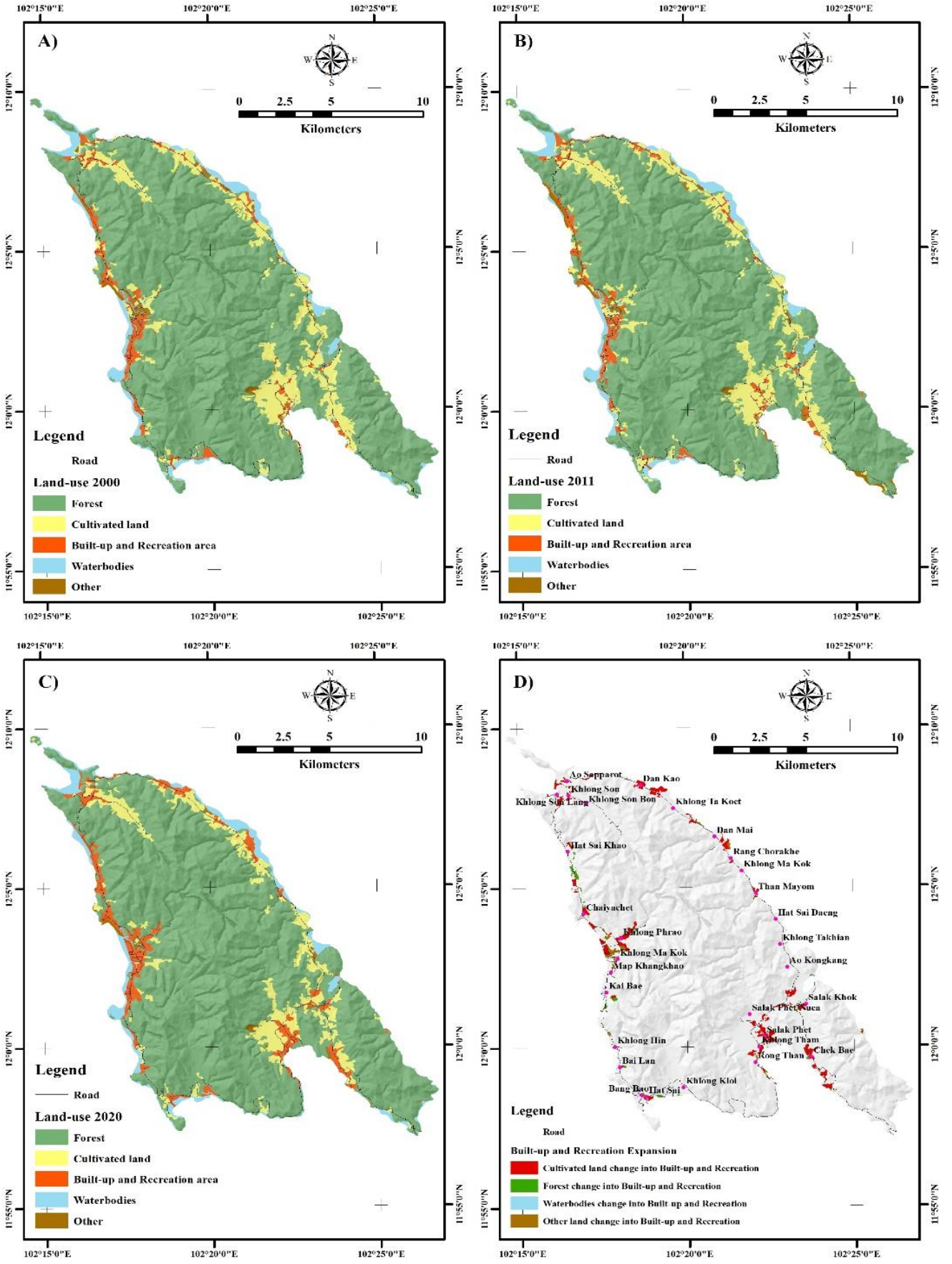


Figure 3. Land-use pattern map in 2000 (A), 2011 (B), and 2020 (C) and Land-use pattern map in 2000-2020 showing Built-up and recreation expansion (D) (Source: collected and processed by authors)

Geo-informatic technique is an effective analysis of land-use change patterns from 2000-2020 along with a comparison table of land-use change detection from Tabulate area analysis, showing spatial data to show the clarity of the transition of

the area over time. The results showed that the west, north, and southeast coast of Koh Chang found an expansion of built-up and recreation areas along that coastline (Figure 3D). The results of the study from Table 3 showing the Transition Matrix of land-use changes pattern showed that the area of Koh Chang in the current year 2020, the area with the expansion of the Built-up and Recreation area in 2000 used to be a forest area 7.76 $km^2$; Cultivated land change into Built-up and Recreation area 4.04 $km^2$; and Other land change into Built-up and Recreation area 0.66 $km^2$. It can be seen that Koh Chang has an expansion of Built-up and Recreation area with an increasing trend of 253.19%.

Table 3. Transition Matrix of land-use changes in the Koh Chang Island, 2000–2020 ($km^2$) (Source: collected and processed by authors)

| | | 2020 | | | | |
|---|---|---|---|---|---|---|
| 2000 | **Land-use** | **Cultivated land** | **Forest** | **Built-up and Recreation area** | **Waterbodies** | **Other land** |
| | **Cultivated land** | 16.07 | 3.19 | 4.04 | 0.04 | 0.26 |
| | **Forest** | 2.36 | 166.60 | 7.76 | 0.02 | 0.01 |
| | **Built-up and Recreation area** | 0.59 | 0.69 | 5.84 | 0.08 | 0.02 |
| | **Waterbodies** | 0.14 | 0.28 | 0.00 | 8.93 | 0.13 |
| | **Other land** | 0.30 | 0.19 | 0.66 | 0.24 | 0.77 |

Built-up and recreation expansion clearly occurred on the west coast of Koh Chang since Hat Sai Khao village, Chaiyachet village, Khlong Phrao village, Khlong Ma Kok village, Map Khangkhao, and Kai Bae village have expanded their hotels and resorts across the coast due to the white sandy beach with soft and fine sand at Hat Sai Khao beach and Khlong Phrao beach, west of Koh Chang, suitable for beach and sunset activities and development as a tourist attraction to attract both domestic and foreign tourists. The expansion has caused the western coastal area to be crowded with buildings. Some areas extend to the Khlong Phrao stream, which causes the waterway to be blocked and encroached. This affects the drainage system of water masses from the central mountains of the island into the sea. If the Inter-tropical Convergence Zone crosses over Koh Chang during August-September, it will cause long periods of immersion rain and catastrophic flash floods, which cause sedimentary debris flowing from the mountains to flood the area.

On the other hand, the northern coast of Koh Chang has been replaced by residential buildings, government offices and small resorts. This is because the coastal terrain is not as beautiful as the rocky beaches and lane beaches of the west coast. In addition, some of them are commuter docks and fishing ports. On the southeastern coast of Koh Chang, some of the cultivated areas have been transformed into built-up and recreation areas due to partially cultivated areas in Salak Khok, Salak Phet, Khlong Tham, Rong Than, and Chek Bae communities to support eco-tourism to learn about community lifestyles and conserve coastal resources, especially the mangrove and tropical rainforests of Koh Chang.

The goal of ecotourism is to understand the culture and history of tourist attractions and the way of life of the community, not to alter the abundance of local ecosystems, and to create economic benefits for local communities to get involved in (Crow et al., 2020; Li et al., 2020). Therefore, the areas that should be classified as strict land use requirements in the marine national parks are the east coast (Khlong Phrao village, Khlong Ma Kok village, and Map Khangkhao village) and the west coast of Koh Chang (Salak Khok, Salak Phet, and Khlong Tham village).

The study of land-use changes from 2000-2020 was found to be most susceptible to change, and therefore strategic management for conservation direction orientations along with the development of ecotourism should be undertaken by engaging those communities in action (Palomo et al., 2014). In addition, tourists can also participate in boating activities to see the fishermen's community living together with the forest in a simple atmosphere by "Salak Khok Folk Conservation and Tour Club", which is a gathering of Salak Khok people to conduct ecotourism in conjunction with conservation, and prevent threats from outside venture capitalists conduct business without consideration for natural resources and the environment, including raising awareness of the value of available natural resources, preserving indigenous fisheries lifestyles so that tourism is not a source of income that destroys traditional lifestyles, as the saying goes: “Without tourism, life is alive. With no mangrove forest, no life survives.” Another activity that the community does together is Egg Crab Bank, by raising the wild blue crabs that had their eggs outside the shell, after hatching then release the baby crabs back to nature to increase the blue crab population. As a result, the expansion of the built-up and recreation area in the southeast of the island will take the form of eco-tourism development.

## CONCLUSION

Applying geo-informatic technique in tourism can effectively solve the problem of interaction between nature and socio-economic, especially remote sensing. It is a technique that can track changes in the area by using satellites at different times in image processing, allowing useful information to be extracted and analyzed in GIS for solving land-use planning problems. Such spatial data can be used to support decision-making on the monitoring and control of changes in land-use patterns in those areas, along with being a spatial database for effective interaction between local villagers and relevant government agencies in order to manage effective land-use in a concrete manner with clear spatial goals for better future actions in accordance with the principles of the United Nations Sustainable Development Goals (SDGs) and maintain tourist attractions to remain and to be sustainable in the future.

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# EXTENDED THEORY OF PLANNED BEHAVIOR TO EXPLAIN ENVIRONEMNTALLY RESPONSIBLE BEHAVIOR IN CONTEXT OF NATURE-BASED TOURISM

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**Abstract:** Promoting environmentally responsible behavior is important in preventing and reducing the environmental problem. This work focused on particular environmentally responsible behavior (avoiding and reducing littering). The present study extended the Theory of Planned Behavior (environmental knowledge, biospheric value, and positive emotional experience) to identify the factors influencing intended environmentally responsible behavior of tourists visiting nature based destinations in the context of Indonesia. Based on the data collected from 204 respondents through questionnaires survey using purposive sampling approach. The structural equation analysis shows that biospheric value, environmental knowledge, and positive emotional experience have a positive influence on attitude toward behavior. Besides, the result demonstrated that attitude, subjective norm, and perceived behavior control have a significant positive influence on environmentally responsible behavior intention. The findings emphasized that positive emotional experiences have a strongest influence on attitude and perceived behavior control have a strong influence on environmentally responsible behavior. This work contributes to the sustainable development goals and environmentally responsible behavior in tourism behavior literature. Although, some limitations were acknowledged in this work, practical implication and future agenda for research are provided.

**Keywords:** Environmentally responsible behavior, avoiding littering, Theory of Planned Behavior, positive emotional experience, biospheric value, nature based tourism

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## INTRODUCTION

Tourism is one of the largest industries in the world with a market size of 1.54 trillion as of 2020 and estimated to increase to 1.7 million USD in 2021 (Statista, 2021). This sector is considered among the fastest growing industries, and its growth contributes significantly to the economics of the tourism destination (Astina et al., 2021; Naja et al., 2021). The tourism sector provides utmost socio-economic benefits, certainly the existence of the tourism activities deliver advantages for the societies such as job creation and opportunities, infrastructure (Mangwane et al., 2019; Yfantidou et al., 2017; Galindo and González, 2019). Despite the positive contribution of the tourism industry, this sector caused negative consequences to the environment. The cost of the environmental degradation and destruction is unmeasurable. Galindo and González (2019) reported on the tourism and climate change impact that tourism sectors estimated to contribute 8% of the greenhouse gas emission. This industry provoked environmental related issues such as water scarcity, marine and air pollution, waste due to the mass tourism and overconsumption of the natural resource (Arbulu et al., 2017; Clark et al., 2019; Garcés-Ordóñez et al., 2020; Yusuf et al., 2020). Moreover, littering has become a major social and environmental and economic problem for the tourist destination (Brown et al., 2010; Eastman et al., 2013), which causes various problems in different forms. Some studies illustrate that littering in nature based destinations is harmful for the environment in the destination, gives an unattractive image of the destination area, and reflects a negative image of the committee in destination (Ibrahim et al., 2021). In nature-based areas, the increasing number of visitors and tourists are making the area more vulnerable to the negative impact of littering (Brown et al., 2010). Besides the regulation and law enforcement in nature based destinations, numerous studies have attempted to provide an evidence based solution to reduce littering (Plakas et al., 2021). Some measure have been taken worldwide to tackle the littering problem such as social campaign (Brown et al., 2010) (Example: ‘Zero litter Initiative" China (Hu et al., 2019),

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"Minimal Impact Bushwalking" in Australia, "Leave No Trace" USA (Brown et al., 2010), regulation enforcement (Crump et al., 1977), and education (Al-mosa et al., 2017) to target individual changes to engage in environmentally responsible way particular avoiding littering in public area. However, behavioral change requires an understanding of what factors or motives drive the behavior (Al-mosa et al., 2017)**.** Thus, this present study purpose to identify that factors that influence environmentally responsible behavior intention specifically preventing littering (reducing and avoiding littering), to provide an understanding on what factors motivates tourist to avoid littering which is important in shaping appropriate and effective preventive actions to address the environmental problem (Al-mosa et al., 2017; Beeharry et al., 2017).

Littering is a universal socio-environmental problem that has attracted much interest from pro-environmental, social marketing, and tourism research (Almosa et al., 2017)**.** Littering includes the waste and rubbish that is mismanaged and misplaced (Ojedokun, 2015)**.** Hansmann and Scholz (2003) refers to littering to "the careless, incorrect disposal of minor amounts of waste." which include cigarette butts, food packaging, bottles, cans, caps and lids, bags (Sibley et al., 2003; Schultz et al., 2013). Various previous study conducted in protected areas (Brown et al., 2010), public space (Sibley and Liu, 2003), cinema (Hansmann and Scholz, 2003), marine coastal (Beeharry et al., 2017; Garcés-Ordóñez et al., 2020; Portman et al., 2020), beach (Eastman et al., 2013), and national park (Brown et al., 2010; Gao et al., 2021). Although the littering problem is a major issue for developing countries, most of these prior studies were conducted in the developed world leaving the evidence from developing countries scarce (Chaudhary et al., 2021)**.** Environmentally responsible behavior intention refers to the intended behavior of individuals to mitigate the potential negative impact of their action and behavior on the environment (Panwanitdumrong and Chen, 2021). This current study refers to the intended environmentally responsible behavior to the tourists' intention to prevent littering (avoid and reduce littering) when traveling to nature based destinations.

Numerous studies related to environmentally responsible behavior were conducted to understand and tackle this issue. Brown et al. (2010) conducted in Mt Field National Park, Tasmania to examine the influence of communication on tourist behavior to pick up litter. Hu et al. (2019) surveyed 372 tourists visiting Huangshan National Park, China to identify the factor influencing tourist intention toward the ZLI. Ibrahim et al. (2021) conducted an empirical study to test the link among psychological construct and anti-littering behavior with a sample of 303 Malaysian students. Hu et al. (2018) investigated the determinants of behavioral intentions of bringing self-generated litter down the mountain in HNP. This prior evidence shows the relevance of the Theory of Planned Behavior in explaining the environmentally responsible behavior focusing on avoiding and reducing littering. However, the findings were limited to these particular settings and most of the study adopted only psychological factors. Nonetheless, the effort of the prior scholars to integrate personal factors such as incentives, feeling (Panwanitdumrong and Chen, 2021). Consequently, integrating only both personal and psychological factors to explain the intention behavior does not give a sufficient understanding on environmentally responsible behavior related. Specific environmentally responsible behavior such as avoiding littering can be affected by the level of environmental knowledge (Paço and Lavrador, 2017), Environmental value, and emotion (Gautam, 2020; Wu et al., 2020)**.** Further, study on environmentally responsible behavior explained that the type of the destination might influence individuals' behavior, when tourists are visiting a natural setting, a construct related to the environment plays a crucial role (Al-mosa et al., 2017). Evidently, behavior modification is an important natural resource management task (Wagstaff and Wilson, 1988). This research therefore expanded the Theory of Planned Behavior (environmental knowledge, emotional experience, and biospheric value) to explain the tourist environmentally responsible behavior intention (intention to avoid littering) in nature based areas in the context of Indonesian. The research on environmentally responsible behavior intention has gained much attention in the recent year (Eastman et al., 2013). However, this growth remains in the developed countries due to high environmental awareness and concern about the environmental problem (Chaudhary et al., 2021). Despite the fact Indonesia has the second largest amount of coastal waste, and marine waste in the world (the World Bank, 2019)**,** not enough study was done related to this problem. To the best of our knowledge, very few studies have been done to address this issue from a tourist perspective in Indonesian context.

The objective of this research is to identify the determinants of tourist environmentally responsible behavior intention (avoid and reduce littering in nature based destinations) by implementing an extended Theory of Planned Behavior. The work hopes to enrich the body literature of littering behavior in the context of tourism in Indonesia, and provide a conceptual framework based on TPB to explain the tourist intention to avoid littering. We integrated the Biosphere value, environmental knowledge, and positive emotional experience into TPB. In addition, this study aims to provide a practical contribution to the policy maker, destination management, campaign and educator for encouraging tourist/visitor to avoid littering.

## LITERATURE REVIEW

### Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is one of the most prominent theories that is widely used to understand human behavior and psychology in various disciplines (Bosnjak et al., 2020). TPB was introduced by Ajzen (1991), which is a model developed from the Theory of Reasoned Action (TRA) Ajzen et al. (1974) by adding a non-volitional predictive construct of perceived behavior control. According to the TPB, intention is the best predictor of behavior. The model proposed three non-volitional antecedents that govern behavior intention namely; attitude refers to the favorable or unfavorable, like or dislike and positive or negative opinions on the behavior, subjective norm is the one's perception of the pressure from the social such as friends, family, and peers, and perceived behavior control refers to one's' perception of the capability and ability to engage or act in such as manner (Ajzen, 1991). Interestingly, the Theory of Planned Behavior is flexible by nature which allowed researchers to extend and add an additional predictor into the model (Ajzen, 2011). This theory successfully explains various environmentally responsible behavior; such as specific environmentally responsible behavior, ecological protection, recycling, and of course anti-littering behavior (Abdullah et al., 2019; Fenitra et al., 2021; Nguyen et al., 2017; Wang et al., 2018).

However, the majority of these prior investigations was conducted in developed countries and the implementation of the TPB in explaining littering behavior in Indonesia is relatively new which is still at the early stage (Yuriev et al., 2020).

**Attitude and Environmentally responsible behavior intention**

Attitude define as "a psychological tendency that is expressed by evaluating a particular entity with some degree" of favor or disfavor like or dislike, positive or negative, and preference or disgust (Hines et al., 1987, Eagly and Chaiken, 2005). The Theory of Planned Behavior argued that attitude is the predictor of intention behavior (Ajzen, 1991). Several studies have highlighted the link between attitude and intention behavior. In empirical study related to environmentally responsible behavior in Tasmanian park visitors, Brown et al. (2010) demonstrated that higher positive attitude towards the behavior leads to intention behavior. Also, Ojedokun, (2015) supported these view, by arguing that increasing positive attitude toward environmentally responsible behavior specifically reduction of littering can leads to a higher intention toward environmentally responsible behavior. With reference to the study Hu et al. (2018) followed by Hu et al. (2019), asserted that attitude enrich littering intention behavior. In addition, in recent year, Ibrahim et al. (2021) examined the link between attitude and anti-littering based on the findings from survey of 303 Malaysian. The result statistically shows that attitude is highly predicted anti-littering intention. Since attitude refers to one's' positive or negative evaluation of acting in a particular manner (Ajzen, 2011). In another word, the higher positive attitude of individual, the higher the intention to engage or perform a particular behavior. Based on the past evidence this study suggested that higher positive attitude leads to higher intention toward environmentally responsible behavior.

**Hypothesis 1:** Attitude toward entrepreneurship positively influence environmentally responsible behavior intention

**Subjective Norm and Environmentally responsible behavior intention**

Subjective norm refers to the perceived social pressure (Ajzen, 1991). Hu et al. (2019) define subjective norms as the "perceived social pressures from referents" such as family members, close friends, and peers. Ones' intention to engage in a particular environmentally responsible behavior is increased when they experience strong pressure from the ones who they considered important. Past scholars argued that the subjective norm is an important factor that has an influence on ones' intended pro-environmental behavior**.** Several empirical evidence demonstrated that subjective norm determine intention toward environmentally responsible behavior such as avoiding litter (Hu et al., 2018), picking up litter (Brown et al., 2010), and waste separation (Xu et al., 2017). Moreover, a similar study supported the finding, Hu et al. (2019) investigated the factor determining Zero Litter initiative (ZLI) in Huangshan National park, China, the hierarchical regression analysis demonstrated that subjective norm have a positive influence on intention behavior. This study therefore suggested that stronger the social pressure on tourists, their intention to engage in environmentally responsible behavior increase.

**Hypothesis 2:** Subjective norm positively influence environmentally responsible behavior intention

**Perceived behavior control and environmentally responsible behavior intention**

Perceived behavior control (PBC) refers to the perceived ability and capability of an individual to perform a particular behavior (Wang et al., 2021). PCB is associated with the intended behavior (Gautam, 2020). With reference to the Theory of Planned Behavior, perceived behavior control regulates intention behavior (Ajzen, 1991). This positive influence of perceived behavior control on intention behavior empirically supported by various studies in the tourism context. (Lee et al., 2017) asserted that this construct has a strong influence on ecotourism behavior intention. Further, Han et al. (2018) confirm that the tourist intention toward pro-environmental behavior is induced by perceived behavior control. Besides, based on the survey of 546 Chinese tourists, perceived behavior control positively influences tourists' intention to reduce waste (Wang et al., 2021). In addition, in another recent study Panwanitdumrong et al. (2021) demonstrated similar findings, they supported these prior findings with the evidence from 876 respondents in environmentally responsible behavior context in Thailand. Based on the above empirical evidence, this study therefore suggested that higher perceived behavior control increases tourist's intention toward environmentally responsible behavior**.**

**Hypothesis 3:** Perceived behavior control positively influence environmentally responsible behavior intention

**Biospheric Value and attitude**

Values are an important factor that shapes individuals' beliefs and pro-environmental behavior (Moon et al., 2017). According to Steg and Groot, (2014) each individual endorses different values which determine intention and it helps individuals to evaluate their choice and decision. Stern (2000) proposed three distinct values that form our beliefs and attitude, namely biospheric value, altruistic value, and egoistic value. Although individuals possess multiple values and these values are associated with belief and behavior about the environment, biospheric value is the most relevant to pro-environmental behavior (Agag et al., 2020; Steg and Nordlund, 2018). Biospheric values reflect the concern of individuals about the nature, ecosystem and biosphere (Han et al., 2017). This type of value encourages individuals to make and evaluate a decision based on the ecosystem and the environment cost. Moreover, when individuals have a strong biospheric value they have a propensity to make a decision that can improve the biosphere, environmental quality and welfare, and behave or engage in a way that can reduce and mitigate the environmental problem (Lindenberg and Steg, 2013). Bouman et al. (2018) stated that this value is the most relevant predictors that influence pro-environmental belief and behavior. Past studies affirm that biospheric value has a positive effect on attitude and pro-environmental behavior intention (Lee et al., 2017; Lee et al., 2021; Smith et al., 2021; Wang et al., 2021). The present study concluded that when the biospheric value of tourists is strong, they endorse a favorable attitude toward environmentally responsible behavior**.**

**Hypothesis 4:** Biospheric value positively influence attitude toward behavior

**Environmental knowledge and attitude**

Environmental knowledge allows individuals to make environmentally sound decisions and consumption. Environmental knowledge refers to the general understanding of individuals of the facts, concepts or relationships as regards the surrounding environment and its ecosystems (Fryxell and Lo, 2003). Environmental knowledge is complex, Hu et al. (2018) proposed two distinct categories of environmental knowledge namely environmental theory knowledge (the theoretical knowledge of consequences of the behavior on environment and society) and environmental practical knowledge (the practical know-how to reduce and mitigate the impact of behavior on environment and society). Further, Ünal et al. (2018) claimed that environmental knowledge is multidimensional, namely general environmental knowledge; "general knowledge of the causes and consequences of environmental problems" and specific environmental knowledge; "specific knowledge on the negative consequences of a particular behavior". The present study conceptualized environmental knowledge with reference to Hu et al. (2018) the practical knowledge of tourists to minimize and avoid littering in nature-based destinations. Scholars highlighted that environmental knowledge plays a critical role in shaping individual's attitude, perception and pro-environmental behavior (Janmaimool et al., 2019; Latif et al., 2013; Liobikien˙ et al., 2019; Paço et al., 2017). In the empirical study related to pro-environmental behavior Paço et al. (2017) designed a model to investigate the link between environmental knowledge and attitude. They demonstrated how environmental knowledge shapes individuals' attitude and intention toward pro-environmental behavior, and emphasized that favorable attitude toward behavior increases by the level of environmental knowledge of individuals; this relationship also can enforce intention behavior. Moreover, additional evidence asserted that the influence of environmental knowledge on attitude is positive and significant (Hu et al., 2018; Gautam, 2020; Su-lan et al., 2018). This above evidence concluded that environmental knowledge is associated with attitude. This study therefore suggested that higher levels of environmental knowledge of tourists increase positive attitude toward behavior.

**Hypothesis 5:** environmental Knowledge positively influence attitude toward behavior

**Positive emotional experience and attitude**

Emotion has gained much attention in psychology, pro-environmental, consumer behavior, and tourism literature (Hosany et al., 2020a; Hosany et al., 2020b; Hadinejad et al., 2019; Pearce, 2009; Schwartz et al., 2017; Yan et al., 2019) . Several past work study emotions in tourism experience (Hosany et al., 2020a; Hosany et al., 2020b; Liu, 2016; Moyle et al., 2019; Yan et al., 2019), place attachment (Scannell and Gifford, 2017), tourism destination (Abdul Hamid et al., 2020; Akgün et al., 2020), behavior (Akgün et al., 2020; Hosany et al., 2020a), decision (Quartz, 2009), and satisfaction (Prayag et al., 2017). Emotions fundamentally influence various stages of the tourist consumption pattern and vary over time depending on the event and agent. Emotion shapes how tourists perceive their experience and how they interact with the community, nature and within the tourist destination during their trip, and how they value their trip and behave after their traveling time.

Emotion refers to the reflection of the mental state of an individual which is the outcome of the process or evolution of personally pertinent information about the event (Hosany et al., 2020b). Psychological literature proposes three categories of emotions namely dimensional, categorical and cognitive appraisal (Hosany et al., 2020b). Emotions often last short periods which are generally distinct in two categories, positive or negative (Pearce, 2009). Moreover, emotion is divided into clear categories namely positive emotion and negative emotion (Gu et al., 2019). Previous study has focused on positive emotion experiences such as joy, surprise, fun, love (Abdul Hamid et al., 2020; Yan et al., 2019). The positive emotion can either engendered or triggered by the interaction with others during traveling or with the place (Hosany et al., 2020a).

This study mainly focused on basic positive emotional experience which is related to environmental behavior (Verdugo, 2012). According to (Yan and Halpenny, 2019) positive emotion can be referred to as a pleasurable affective state. This work attempts to examine the link between positive emotion experience and environmentally responsible behavior, since positive emotion works as an internal mechanism to approach or continuous actions. When individuals experience more positive emotion they encounter and engage more with their surroundings and become more active (Yan and Halpenny, 2019). Palau-Saumell et al. (2013) found that tourist emotion influences intention behavior. This view was supported by a recent study of (Yung et al., 2021a) who conducted a study on the use of virtual reality in the tourism context, and emphasized that positive emotion experiences have a positive effect on intention behavior. Followed by a similar study by (Yung et al., 2021b) demonstrated that positive emotion that tourists experience by the presence of VR increased their behavior intention. In fact, these relationships often strengthen by attitude, So et al. (2015) debated that attitude can be improved by the emotional state, when individuals experienced positive emotion they will show more favorable attitude. Evidence by Yan et al. (2019) affirm that emotion is associated with cognitive processes such as evaluation of a given behavior, higher positive emotion will improve attitude. This present study therefore suggested that when tourists' experience more positive emotions their positive attitude toward environmentally responsible behavior will be increased.

**Hypothesis 6:** positive emotional experience positively influences attitude toward environmentally responsible behavior.

## MATERIALS AND METHODS

This empirical study implies cross-sectional research design and used data collected from 204 tourists visiting nature-based destinations in Yogyakarta, Indonesia. Self-administered survey questionnaires were used for data collection using purposive sampling technique. The survey questionnaire consists of three sections; the first section consist of the overview of the purpose of the study and instruction for respondents, the second section contain the respondents' demographic variable including (gender, age, education background, occupation) and the third section included the 7 latent variables

with self-reported behavior and attitude questions. Self-reported behavior was used as it enables researchers to collect information easily and does not consume a lot of time (Hadinejad et al., 2019). The variables were measured with items developed from measurements adopted from previous studies; environmental knowledge (2 items), positive emotional experience (4 Items), biospheric value (3 items), perceived behavior control (4 items), attitude (4 items), subjective norm (3 Items), and environmentally responsible behavior (3 items) Table 2. All items were measured with a five-point Likert Scale range from (1 strongly disagree, 2 agree, 3 neutral, 4 agree, and 5 strongly agree). The SEM Analysis follows two steps first, evaluating the measurement model and the second step is structural model (Fan et al., 2016).

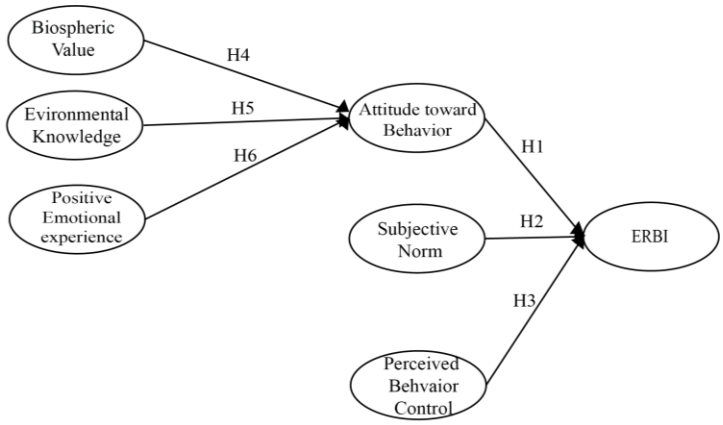


Figure 1. Conceptual Framework

Table 1. Demographic descriptive of the sample (*Note: N; frequency, %; percentage)

| **Gender** | **n** | **%** | **Educational background** | **n** | **%** |
|---|---|---|---|---|---|
| Female | 131 | 64.2 | High school | 28 | 13.7 |
| Male | 73 | 35.8 | Diploma | 48 | 23.5 |
| Total | 204 | 100 | Bachelor degree | 90 | 44.1 |
| **Age (years old)** | **n** | **%** | Master degree | 36 | 17.6 |
| 18-25 | 112 | 54.9 | Ph.D. | 2 | 1.0 |
| 26-35 | 52 | 25.5 | **Occupation** | **n** | **%** |
| 36-45 | 32 | 15.7 | Student | 89 | 43.6 |
| 46 and above | 7 | 3.4 | Government | 18 | 8.8 |
| 60 | 1 | 0.5 | Private sector | 69 | 33.8 |
| **Travel companion** | **n** | **%** | Self-employer | 11 | 5.4 |
| Alone | 86 | 42.2 | Other | 17 | 8.3 |
| Group | 118 | 57.8 | **Total** | **204** | **100** |

Table 2. Measurement and result of CFA (Source: Authors completed CFA with items adopted from Ajzen, 1991; Bronfman et al., 2015; Ciuk et al., 2015; Henk et al., 2018; Hu et al., 2019; Lee et al., 2021; Ojedokun, 2015; Panwanitdumrong et al., 2021; Wang et al., 2020)

| Variables and References | Items | Factor Loading | C.R | AVE | α |
|---|---|---|---|---|---|
| Biospheric Value (Bronfman et al., 2015; Henk et al., 2018; Lee et al., 2021) | BV1: I believe that everyone must look after the environment | 0.941 | 0.879 | 0.761 | 0.638 |
| | BV2: It is important to harmonize with other species in the earth. | 0.791 | | | |
| | BV3: It is important to prevent environmental pollution. | 0.879 | | | |
| Environmental Knowledge: (Hu et al., 2019) | EK1: Avoiding littering can help to reduce the environmental problem and improve the wild animals' welfare. | 0.945 | 0.921 | 0.838 | 0.825 |
| | EK2: Reducing littering can help to reduce the air pollution and the hazardous organisms that might be a source of disease. | 0.921 | | | |
| Positive emotional experience (Ciuk et al., 2015; Wang et al., 2020) | PE1: I feel amused with my travel experience | 0.813 | 0.899 | 0.747 | 0.901 |
| | PE2: I feel a sense of Joy during my trip | 0.788 | | | |
| | PE3: I feel my trip is interesting | 0.919 | | | |
| | PE4: I feel a sense of happiness | 0.93 | | | |
| Subjective Norm (Ajzen, 1991; Hu et al., 2019) | SN1: People who are important to me think I should reduce littering in nature. | 0.84 | 0.773 | 0.639 | 0.781 |
| | SN2: People who are important to me would want me to properly dispose of my litter when traveling. | 0.859 | | | |
| | SN3: People whose opinions I value would wish me to avoid littering in nature. | 0.689 | | | |
| Perceived Behavior Control (Hu et al., 2019; Panwanitdumrong et al., 2021) | PBC1: I am confident that, if I want to, I can do something helpful to protect the environment of this destination | 0.823 | 0.841 | 0.665 | 0.812 |
| | PBC2: It is up to me to do something helpful to protect the environment of this destination | 0.833 | | | |
| | PBC3: For me, it is easy to do something helpful to protect the environment of this destination | 0.786 | | | |
| | PBC4: If I want to, I could easily dispose of my litter in a proper way. | 0.821 | | | |
| Attitude toward behavior (Ajzen, 1991; Hu et al., 2019; Ojedokun, 2015) | ATT1: For me, reducing littering when traveling is very beneficial | 0.899 | 0.885 | 0.725 | 0.854 |
| | ATT2: For me, disposing litter properly is very meaningful | 0.91 | | | |
| | ATT3: For me, avoiding littering is very Favorable | 0.8 | | | |
| | ATT4: I believe littering is a negative habit | 0.791 | | | |
| Environmentally responsible behavior intention (Ajzen, 1991; Hu et al., 2019; Panwanitdumrong et al., 2021) | ERBI1: I am planning to properly dispose my litter in the near future | 0.924 | 0.863 | 0.739 | 0.925 |
| | ERBI2: I will make an effort to reduce littering in the near future | 0.96 | | | |
| | ERBI3: I am willing to properly dispose my litter | 0.666 | | | |

* Note: C.R= Composite Reliability, AVE= Average Variance Extracted, α= Cronbach Alpha

**Statistical Descriptive**

Table 1 describes the demographic characteristic of the 204 respondents. The table.1 shows that female respondents dominated 64.2 percent (n= 64.2) of the sample and male represented 35.8 percent (n= 73). Respondents aged between 18-25 years old (n= 112), 26-35 years old (n= 52), 36-45 years old (n= 32), and 46 years and above (n=8). The majority of students have bachelor degree which represent 44.1 percent (n= 90) of the sample. 43.6 percent (n= 89) of the respondents are students, 33.8 percent (n== 69) work in private sector represent, 8.8 percent (n=18) are government employer, 5.4 percent (n=11) of the respondents are self-employer and 8.3 percent (n=17) other.

**Measurement Model Testing**

Confirmatory Factor Analysis (CFA) was assessed to evaluate the internal validity and reliability of the measure and measurements with factor loading higher than 0.6, Average Variance Extracted (AVE) value exceed 0.5 , Cronbach Alpha higher than 0.6 and Composite Reliability (CR) cutoff value exceed 0.7 (Netemeyer et al. 2003; Hair et al., 2010). The goodness fit of the data represent ($\chi 2$/df = 2.240; GFI = .858; NFI =. 854; TLI = .889; CFI = .912; RMSEA = .078) (Hair et al., 2010). The reliability was assessed with Cronbach Alpha value which must exceed 0.6 (Hair et al., 2011). Table 2 demonstrated that the Cronbach Alpha value range 0.638 to 0.925, means that all constructs used in this model are reliable (Schreiber et al., 2010). Convergent and Discriminant validity described in table 3**,** convergent validity was assessed to evaluate the accuracy of measurement, the factor loadings meets the cutoff proposed by Hair et al. (2010) which ranged from 0.66 to 0.9, the average variance extracted exceed 0.5, the Cronbach Alpha ranged from 0.638 to 0.920 which larger than 0.6, and composite reliability exceed the cut-off value 0.7 (0.773; 0.991) **(**Hair et al., 2010; Nunnally, 1978). Further, discriminant validity is presented in Table 3. The correlation coefficients did not exceed 0.8 except the correlation between PBC and attitude (r= 0.82) and the correlation between knowledge and value (r= 0.841). However the squared roots average of extracted variance were higher than the correlation coefficient, in this case although discriminant validity problem was confirmed, according to Ronkko and Cho, (2020) correlation cutoff value 0.8<UL<0.9 issue is acceptable since it only represents a marginal problem.

Table 3. Discrimination Validity Correlation

| | ERBI | PBC | SN | ATT | PE | EK | BV |
|---|---|---|---|---|---|---|---|
| ERBI | *0.860* | | | | | | |
| PBC | 0.788 | *0.816* | | | | | |
| SN | 0.573 | 0.787 | *0.800* | | | | |
| ATT | 0.724 | 0.82 | 0.759 | *0.852* | | | |
| PE | 0.482 | 0.629 | 0.683 | 0.641 | *0.865* | | |
| EK | 0.645 | 0.762 | 0.626 | 0.749 | 0.506 | *0.915* | |
| BV | 0.677 | 0.719 | 0.588 | 0.739 | 0.476 | 0.841 | *0.873* |

*Note. Square Roots of AVE value in Diagonals; ERBI; Environmentally Responsible Behavior Intention, PBC; Perceived Behavior Control, SN; subjective norm, ATT; Attitude, PE; Positive Emotion, EK; Environmental Knowledge, BV; Biospheric Value

Table 4. Structural modeling

| Hypothesis | | Estimate | S.E. | C.R. | *p-Value* | Hypothesis |
|---|---|---|---|---|---|---|
| H1 | ATT>INT | 0.34 | 0.16 | 2.128 | 0.033 | Supported |
| H2 | SN>INT | -0.352 | 0.139 | -2.54 | 0.011 | Supported |
| H3 | PBC>INT | 0.834 | 0.15 | 5.551 | *** | Supported |
| H4 | BV>ATT | 0.324 | 0.143 | 2.265 | 0.023 | Supported |
| H5 | EK>ATT | 0.156 | 0.054 | 2.869 | 0.004 | Supported |
| H6 | PE>ATT | 0.221 | 0.043 | 5.141 | *** | Supported |

*Note; *** =p-value <0.001; $R^2$ Attitude= 0.46, $R^2$ Environmentally Responsible Behavior Intention= 0.57; ERBI; Environmentally Responsible Behavior Intention, PBC; Perceived Behavior Control, SN; subjective norm, ATT; Attitude, PE; Positive Emotion, EK; Environmental Knowledge, BV; Biospheric Value, SN; Subjective Norm

## RESULTS AND DISCUSSION

**Structural model testing**

This study examines the factor influencing the tourist littering intention behavior drawing from extended Theory of Planned Behavior. The proposed hypothesis was statistically tested with SEM as it is the most compatible with the present model (Hillman and Neustaedter, 2003). The goodness of fit statistic indicated a good fit (MacCallum et al, 1996; Yadama, 1995) (X2/df = 2.1399, RMSEA = 0.075, GFI = 0.856, AGFI = 0.809, NFI = 0.846, IFI = 0.912, TLI = 0.891, CFI = 0.910). Table. 4 demonstrated that the structural model result as follows: all proposed hypotheses were supported, biospheric value have a positive influence on attitude (S.E=0.143, C.R=2.265, p =0.023), environmental knowledge have a positive influence on attitude (S.E=0.054, C.R=2.869, p=0.004), positive emotional experience have a positive influence on attitude (S.E=0.043, C.R=5.141, p <0.001), attitude have positive influence on intention ( S.E=0.16, C.R=2.128, p=0.033), subjective norm have a positive influence on intention (S.E=0.139, C.R= -2.54, p=0.011), and perceived behavior control have a positive influence on intention ( S.E=0.15, C.R= 5.551, p<0.001). The structural modeling also demonstrated that the model explained the 57% of variance of environmentally responsible behavior intention. The factors integrated in the TPB explained 46% of the variance of attitude. The structural model results reveal that tourists who have a strong belief toward environmentally responsible behavior intend to reduce and avoid littering when traveling. This finding is similar to the past study (Panwanitdumrong and Chen, 2021)**.** It appears that tourists believe that reducing and mitigating litter in nature-based areas is beneficial and the wise things to do to protect the environment, this belief increases their intention to participate in litter prevention. As a consequence, tourists also will have a propensity to participate in environmentally responsible behavior such as properly dispose of their litter when they feel that this given behavior is favorable.

This study also demonstrated that tourists' environmentally responsible behavior intention is associated with subjective norm. Similar to past study (Panwanitdumrong and Chen, 2021; Fenitra et al., 2021) , this finding shows that tourists are willing to engage in environmentally responsible behavior if the social pressure that expects them to engage in this particular behavior is strong. This work reveal the importance role that social norm on tourist environmentally responsible behavior in context of Indonesian and empirically affirm that in tourist considered subjective norm as an important factors to have influence their environmentally responsible behavior intention. The result is consistent with Fenitra et al. (2020) argued that social norm do have a strong influence on tourists' intention to manage their litter properly when visiting natural areas. The result supported the findings of previous studies that argued that biospheric value has a positive significant influence on attitude (Lee and Jan, 2017)**.** This indicated that when tourists have a strong biospheric value such as concerning the harmony of the other spices and the earth, and preventing the harm on the environment, it would increase their positive attitude toward environmentally responsible behavior. In another word, if tourists have a stronger biospheric value, they would believe that reducing littering and avoiding the impact of litter on the environment is favorable and beneficial.

This study affirms that environmental knowledge has a positive influence on attitude toward environmentally responsible behavior**.** This present finding supported the prior findings of Hu et al. (2018), Gautam (2020), Su-lan Pan et al. (2018) asserting that higher levels of environmental knowledge improve attitude. This means that when tourists understand

that their behavior and action can have an impact on the environment they will have a stronger belief in environmentally responsible behavior. Besides, they would feel that reducing and avoiding littering is an important action to reduce that negative impact on the environment. In other words, if tourists have sufficient knowledge about the cause and consequences of behavior on the environment they would have a positive attitude toward environmentally responsible behavior. Positive emotional experience acts as an antecedents of tourist intention behavior, attitude, satisfaction and perception of the destination image (Prayag et al., 2017; So et al., 2015). The present study confirms that positive emotional experience has a positive influence on attitude which supported the findings of Yan et al. (2019). It appears that when tourists visit nature-based destinations feel happy, excited, and experience positive emotion, they will have a positive reaction toward environmentally responsible behavior. This study reveals that positive emotional experiences have the strongest influence on attitude toward environmentally responsible behavior. The findings also shed a light on the importance of perceived behavior control in the environmentally responsible behavior context. Similarly to past study Lee et al. (2017), among the attitude, perceived behavior control, and subjective norm, this finding revealed that perceived behavior found to have the strongest influence on environmentally responsible behavior intention, this influence is significant and positive. The finding supported the study of Hu et al. (2019) followed by Panwanitdumrong and Chen, (2021). Consequently, the findings explain that when tourists have full control of their behavior and acquire the ability and capability to litter properly or behave in environmentally responsible behavior, they will participate in environmentally responsible behavior to reduce the negative environmental impact in nature-based destinations.

Thus, the present findings concluded TPB framework successfully explained tourist environmentally responsible behavior intentions in the context of Indonesia. All the TPB constructs attitude, subjective norm, and perceived behavior control have a positive and significant influence on tourist environmentally responsible behavior intention. Strengthening these TPB factors can increase tourists 'participation in environmentally responsible behavior. Besides, increasing biospheric value, positive emotional experience, and environmental knowledge can enhance tourist attitude toward behavior. All the proposed hypotheses were supported. The link between the latent independent variables and dependent variables was positive and significant, the positive emotion experience found to have the strongest influence on attitude and perceived behavior control have a strong influence on tourist intention behavior.

## CONCLUSION

Indonesia with model drawing from Theory of Planned Behavior to provide. This present work extends the Theory of Planned Behavior (Ajzen, 1991) with an additional construct; biospheric value, positive emotional experience and environmental knowledge. The additional factors play a significant role in shaping environmentally responsible behavior of tourists. The data and measurements implied in this study were relevant and met all validity and reliability criteria, the proposed model to explain environmentally responsible behavior intention was acceptable. Moreover, the result of structural modeling demonstrated that all the proposed hypotheses (H1, H2, H3, H4, H5, and H6) were supported which indicated a positive significant relationship. Moreover, the result of the structural equation model emphasized that biospheric value, environmental knowledge plays a critical role in strengthening the belief about the given/particular behavior, subjective norm and perceived behavior control are vital in enriching intention behavior which have a positive influence on the intended behavior. Thus, increasing tourist intention to engage in environmentally responsible behavior in nature-based areas can help to mitigate the environmental problem. Furthermore, the findings asserted that perceived behavior control had a stronger influence on intention than the other TPB construct (attitude and Subjective norm). Moreover, among the constructs integrated into TPB, positive emotional experience has a stronger influence on attitude rather than biospheric value and environmental knowledge. This implies that perceived behavior control is a better predictor of environmentally responsible behavior and positive emotional experience is best predictor of attitude.

This empirical study provides insight and understanding on Tourist environmentally responsible behavior in nature-based destinations. This study is one of the few studies conducted in context in a developing country, Indonesia. This framework extended the understanding and offered a critical insight for tourism research particularly in environmentally responsible behavior and managers in nature-based destinations so they can identify the factors that determine tourist environmentally responsible behavior intention. First, this work thus contributes to the tourism literature on the theoretical framework of environmentally responsible behavior in the context of developing nations which is scarce. Work on this particular issue is lacking in developing countries particularly in Indonesia, thus this work provides an insight related to environmentally responsible behavior. Second, these findings also provide a practical implication. According to the result, perceived behavior control has a strong influence on tourist environmentally responsible behavior, thus practitioners should increase this factor to have a higher intention behavior to engage in littering prevention from tourists. This empirical evidence demonstrated that environmental knowledge enhances attitude. Thus besides providing a better experience for tourists, nature-based destinations also should aim to increase tourist environmental knowledge through education (Eastman et al., 2013). Increasing tourists' knowledge about the environment through different channels including environmental educational programs, activities and campaigns can increase their belief toward environmentally responsible behavior. Consequently, they would litter properly and mitigate the impact of their behavior if they have competences on the cause and consequences of their behavior and its impact on the environment. Concluded that environmental education is one of the most effective ways to reduce the littering impact in natural areas (Eastman et al., 2013).

Despite the contributions of this study few limitations were acknowledged. The limitations are related to the model, constructs, measurements, and the methodology. The variable environmental knowledge, biospheric value, and positive emotional experience are complex and abstract, measuring these variables with self-reported measurement does not give sufficient and relevant information for the objective of this study. Thus, future researchers are encouraged to conduct an

observational or experimental study to gain a better understanding of these constructs. This study also limited to evaluating the formation process of tourist environmentally responsible behavior intention, specifically reducing littering. Thus further study examining this process should extend to how environmentally responsible behavior intention actually translated to environmentally responsible behavior. Future work also should further extend to different types of environmentally responsible behavior (i.e. nature protection, recycling, and picking up trash). The present work was conducted in a nature-based destination in Indonesia, Thus the findings are limited to this particular setting. Future research suggested measuring and implementing the study in different settings and different types of destinations which would broaden our understanding. Furthermore, this work employed self-reported behavior, which can be limited to capture the respondents emotional intensity and retrospective reflection of emotions which might be distorted and non- representative (Hadinejad et al., 2019). The technique used and measurement also could not give a full understanding of value, and knowledge accurately. Hence, this work strongly suggested observation and longitudinal studies to provide full comprehension on this issue.

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# INTERRELATIONS BETWEEN WINE TOURISM AND GEOTOURISM: A WINE CONSUMPTION SURVEY IN MONOR (HUNGARY)

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**Abstract:** The Danube Wine Region is one of the most important wine regions in Hungary with potential for geological and wine tourism. The research focused on basic issues related to the Monor wine community of the Danube wine region and the Monor cellar village, such as the consumer attitudes of the potential guests of the Monor cellar village and the wine community, the tourist skills and the consumers' knowledge of local products and values. We tried to find answers to our research questions in a complex way with primary questionnaire research and secondary data collection. We found that Monor wine is good, consumer attitudes underpin wine tourism developments. Monor's basic wine tourism skills are good, with valuable elements from a geotourism point of view, but most of the additional tourism services are not available at a satisfactory level.

**Key words:** wine tourism, Monor cellars, wine consumption, landscape value, geosites

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## INTRODUCTION

The cellar village of Monor in Hungary dates back hundreds of years. The landscape and field conditions, the landscape values of the cellar village, the spatial structure of the plantations and the diversity of the vine varieties are the outstanding values of the area. Monor has features on the eastern side of Pest County that make it suitable to be a competitive player in wine tourism around Budapest in the long run. From a geotourism point of view, the two geoparks operating in Hungary display the geological values of the mountainous areas. Loess hills, sandy plains, and marshy environments are not currently represented by these parks. Monor is located in a geographical border area that is able to present these geological values in a small area. However, in order to succeed, it is essential to assess Monor, the wine of Monor, the local cellar village, and the geological values of this area, to find its place, role and opportunities.

Monor is an area of Hungarian wine production with a long tradition, which has special features with its small plantations, but also with the system of a cellar village with more than 900 cellars, which can be considered significant on a European scale. In order for this internationally remarkable built value to be maintained, to be a living, prosperous economic factor, it is worth examining such fundamental issues as the consumer and tourist habits and attitudes of potential customers, as well as their knowledge of local products and values. As a modest step, the awareness and recognition of Monor wine and the cellar village and the basic consumer needs were assessed.

## LITERATURE REVIEW

Wine tourism means visiting vineyards, wineries, wine festivals and wine shows, with the primary motivating factor being tasting, consuming and / or learning about the characteristics of the wine region (Macionis, 1996). It is a specific activity organized around interest in wine and wine consumption, which determines the core activity and / or destination itself, through wine consumption and region selection (Hall et al., 2009). This type of tourism, including day trips, is very important for many wine producers because it allows them to sell wine directly to consumers and to help gather customers for sale locally or by mail / courier (Hall et al., 1997). The enjoyable environmental balance of the cultural landscape and the built values also plays an important role in this leisure activity (Hall et al., 2009). The wine tourist is becoming more and more aware of the use of infocommunication tools. In addition to the classical factors, his choice is also significantly influenced by the Internet (Szakály et al., 2018). The tourism literature defines wine tourism as an industry, but points out that other services and goods are inextricably linked to it (Getz, 1998). This category of tourism

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is more typical of rural areas, but can also occur in urban environments. During a wine route, the tourist services are connected in a thematic way, the wine and the grapes provide a framework for the whole journey, it is arranged thematically. The primary goal of wine routes is to introduce grape and wine culture and to promote related services (Szakály et al., 2018). The promotion of wine routes and the enhancement of the reputation of wines have a significant impact on the image of a given wine region and are an integral part of the marketing policy of this area, thus organically helping to achieve the goals set by tourism. Wine tourism is one of the rural development methods that, by acting through the development of tourism in rural areas, can improve the quality of life of those living in wine regions (Csizmadia et al., 2017). Information relevant to Monor's wine tourism is that 429/2020. Government Decree no. designated 11 tourist areas in the country. In the tourist area of Budapest and its surroundings, Monor is not marked in it, against two Pest County wine communities, Etyek is currently stronger in terms of wine tourism, and Neszmély is more significant in terms of its winery are marked. CLVI of 2016 on the state tasks of the development of tourist areas. Taking into account the legal framework of the law, Monor may be at a disadvantage compared to the settlements marked by name in the tourist area.

Geotourism is also a dynamically growing sector that is a special branch of ecotourism (Vancsó et al., 2021). Attractions related to thematic demonstration sites and geoparks typically form the experience factor. Compared to previously known and prosperous sectors, it seeks to attract the attention of those interested in tourism through a new approach. It approaches consumers through geological foundations and natural and built landscape values. The scientific approach of the topic in Hungary mainly, but also internationally, often focuses on the presentation of geotourism attractions, geoparks, and the exploration of potential geopark areas to answer methodological questions (Futó, 2013; Albert et al., 2018; Horváth, 2019; Pál and Albert, 2020; Kelley et al., 2019; Gamkrelidze et al., 2021). International research is already exploring other approaches, such as tourism, social, economic, thematic historical orientation (Farsani et al., 2011, Dowling, 2013, Chen et al., 2020). In addition, we can speak of an approach that examines the environment and geological features, values and their tourist usefulness in their complexity and context (Dowling and Newsome, 2018). There are two UNESCO Global Geoparks in Hungary, which have brought about a positive change in the number of visitors to the affected areas over the last decade (Vancsó et al., 2021). So far, the valuable landscape of our country, which is waiting to be explored in terms of geotourism, has remained unknown, and so has Monor.

These areas are typically not fully protected, although some parts are protected, possibly highly protected, and as a whole have an unique value, but remain unknown in the absence of a well-defined category that ensures integrity (Kiss and Horváth, 2006). The complex value that they typically represent as a geotourism area can be best preserved (Horváth, 2019). In Monor, the natural conditions of wine tourism and geotourism are given, the two types complement each other to provide more information, a more meaningful program and an experience for visitors. For the conceptual definition of geotourism, Dowling and Newsome's formulation of 2018 is certainly remarkable. This has comprehensively, but not very extensively, successfully grasped the traditional essence of the category and extended in parallel with its development.

"The elements of geotourism are geology, tourism, geographical locations, the visits themselves and the transfer of knowledge (Bujdosó et al., 2015). The "geo" part of the term, i.e. geological elements, includes geological features that may be of tourist interest. The word "tourism" refers to the transformation of geological features and properties into tourist resources into "geographical" sights or tours, typically "geosites" in a well-defined area. By combining these elements with other elements of tourism, geological attractions, tours and the transfer of geological information, it is possible to present the "geoheritage" of this particular geological heritage".

The main geological factors are 'form', 'process' and 'time'. These features attract geological tourists. The subject of interest is the landscape, the topographic form, its formation, today's environmental appearance and when, during what geological period, how it was formed (Dowling and Newsome, 2018).

**The limitations of the system of origin protection**

The number of Protected Geographical Indications (PGI) adopted by the EU is 6, and the PDO (Protected Designation of Origin) designation has been granted to Hungary for 31. In 2018, Monor acquired the Monor PDO trademark. In Hungary, the protection of origin does not always fulfill its intended function, according to which the given product represents a higher standard and thus a value that can be expressed in money (Popovics, 2009). At the same time, some research points out that GIs allow producers to achieve a premium in theory and in practice (Gál, 2020). The dissonance between the two statements is resolved by the fact that no significant mark-up can be detected for 25-40% of geographical indications in the middle price range. However, that fact does not raise questions as to the designation of origin but as to the usefulness of using the relevant names. If this intentionally helps sales to low-priced products, as in the case of the Danube-Tisza PGI, it can also be positive (Gál, 2020). The basic aim of protection of origin is to increase the income of producers through the use of geographical indications, but this is examined and supported by few "studies with relevant economic data". None of the 111 available value-added studies provide data on whether and to what extent consumers pay higher prices for protected products (Török et al., 2020). The current regulation orients Hungary towards the Latin system, so the wine regions are primarily an administrative unit, but they can also mean territorial units left behind from the Germanic system that preceded the wine reform (Darvasné et al., 2014). This duality is to the detriment of the values of protection of origin, as the demarcation between the wine regions and some of its districts did not take place in an exact way (Gál et al., 2012). It is true not only about wine, but also in general that the situation of the Hungarian system of protection of origin is also reflected in its poor communicability. The relevant research found that consumers have little knowledge about the majority of geographical indications and the categories of protection of origin, they know only the "big names" en masse (eg: salami from Szeged, onions from Makó, wine from Tokaj) (Szakály et. al., 2010). Some research points out that in

Hungary, in the case of multi-generational, traditionally well-known and long-mentioned products of origin, it can be perceived that consumers attach a significant role to the indicated fact (Popovics et al., 2004). This complex, somewhat eclectic situation is also reflected on the wine side by the communication value pyramid of Hungarian wine created by the Hungarian Tourism Agency, which is based on a unit Tokaji Aszú with a century-old history (Máté, 2019) but it based on wine regions, and in the middle levels of pyramid are territorial definitions, geographical indications are.

**Wine consumption in Hungary**

Prior to our primary research on wine tourism, it was important to review the main features of wine consumption in Hungary. The per capita consumption of wine in Hungary seems to be stabilizing after a long-term decline, in 2018 it was 24 liters / person / year (HCSO). According to Gfk's 2016 data, slightly less than 85% of the active age population consumes wine on some regular basis, so Hungary is still considered a wine-consuming country according to tradition. More than 85% of purchases are made through retail store chains (Gfk, 2016). In terms of wine tourism and short supply chain producer wine sales, this means that only 15% of consumption can be considered a potential market. Rosé wine is the most popular among the young, the dry white and red wine are preferred by the older ones (AKI, 2019). According to several surveys (GfK, AKI), customers are particularly price sensitive, and place of origin motivates their decisions (AKI, 2006). The vast majority of Hungarian consumers are looking for 94% Hungarian wines (Szolnoki et al., 2017). This is followed by the grape variety, the region and the geographical indication in the election ranking. Six-tenths of consumers are looking for wines that can be included in the price category up to HUF 1,000 (approx. € 2,8), while only 10% of them are looking for wines that are more expensive than HUF 5,000 (approx. €14) (Totth and Szolnoki, 2019). According to domestic data, 34% of the adult population does not consume wine, while 22% consume it weekly. The latter group consumes 74% of the total amount of wine (Szolnoki et al., 2017).

**MATERIAL AND METHODS**

In order for the local value mentioned in the introduction to be maintained and to be a living, prosperous economic factor, it is necessary to regularly examine such fundamental issues as the consumer and tourist habits and attitudes of potential guests, as well as their knowledge of local products and values. The first, modest step in this study was born.

The research objectives are:

**C1.** Exploring wine tourism and complementary geotourism values.

**C2.** Investigation of consumer and tourism habits of potential customers.

**C3.** Assessing the knowledge of potential customers about local products and values.

**C4.** Get a picture of the consumer attitudes of potential customers.

Hypotheses:

**H1.** The reputation of Monor wine is low except for the Monor District.

**H2.** The quality of Monor wine is good, so they are willing to pay a price similar to the average.

**H3.** The majority of consumers do not have sufficient knowledge of the PDO mark and its Monorean aspect.

**H4.** The volume of services complementary to wine tourism is low.

**H**5. Geotourism values are available to the extent that they help boost tourism at the territorial level of Monor.

Primary and secondary data collection were performed during the study. Primary data were collected with a 20-point questionnaire for the target group of 18-79 year olds, which could be completed online or manually. The size of the collected sample is 505 people. If not recorded as a separate note, then in the case of figures and tables, the sample size, n = 505 people, is accordingly. The source of the used secondary data at the national level for AKI, KSH, HEGYÍR, HNT and with regard to Monor the Development Concept of Monor Strázsa Hill, various Monor urban spatial impact assessment documents, Monor hydrocarbon concession area complex sensitivity and load test report, Monor municipal environmental protection report program and other professional materials related to the topic. The null hypothesis for both gender and age group is as follows. H0: $\mu_{\text{national ratio}} = \mu_{\text{sample ratio}}$

The sample is representative of gender and age group, however, on a territorial basis, the Monor District is overrepresented, i.e. 49.1% of the respondents are local. It was difficult to determine the national average retail price of wine, as the HCSO publishes the wholesale prices of “commercial” 1.5-2 liters and AKI the wholesale prices of goods. In this case, the national average price of producer river wine or bottled wines is the ideal basis for comparison. In the absence of this, I used the average consumer price of bottled wines published in Gfk's 2016 research publication, which was € 1.55 , and this was adjusted by the category of “spirits, tobacco products” of the HCSO's consumer price index to calculate the adjusted average price of € 1.85. €. Further, where the willingness to pay and the average consumer price were compared, data were examined in relation to the adjusted average price.Monor is a hillside located in Hungary in the Gödöllő-Monor hills, on the south-western border of the Cserhát Mountains, eroded from the Pest alluvial cone plain and the Pilis-Alpár sand ridge geomorphological meadow. The Monor hills are characterized by low ridges divided by erosion valleys. Monor Wine Community is located in the northern part of the Kunság wine region of the Danube wine region (Figure 1).

Its topography is characterized by a low hill between 108 and 229 m, averaging 150 m above sea level, turning into a sloping plain in the SE direction, protruding into the Great Plain. The highest point of Monor is Strázsa, with its height of 191 m. The water coverage of the area and the proportion of surface watercourses are low, of the former, typically run-off stagnant waters, only Lake Kis still forms a permanent open water surface. The area around Forrás, which was once a swamp area, was declared a protected area of local importance in the mid-1990s, but since then, as the groundwater level has fallen, the area's unique flora has declined significantly. The main component of the soil is Upper Pleistocene loess 10-30 m thick and its sandy subtypes, as well as locally occurring quicksand and bound sand. The crop layer consists of thinly spread rust-brown forest

soil and carbonate forest residue chernozem soil. They contain large amounts of dolomite, few illite clay minerals, and small amounts of iron and aluminum. This composition is excellent for viticulture. The main shaper of the surface forms seen today was the ice age. During the cooling period, the derivation and then the sand movements shaped the surface. In warmer, humid intervals, erosion shaped the topography. There is a deep sowing line (Vecsés – Monor) on the border of the hills and the Great Plain, in connection with which oil production has boomed in recent years in areas further away from vineyards.

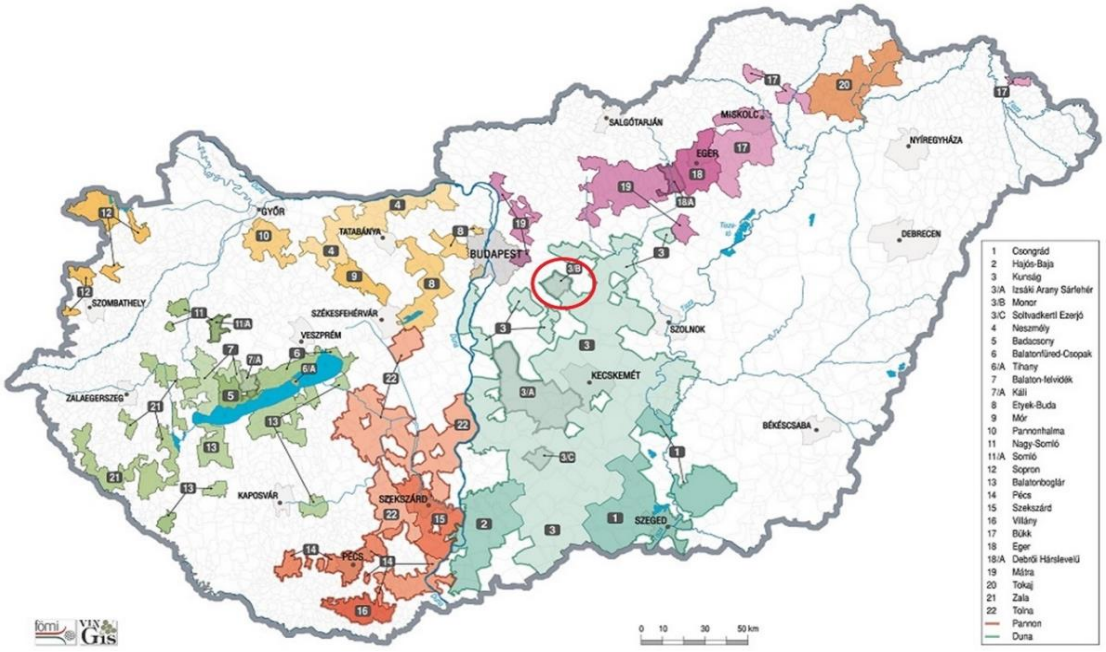


Figure 1. Monor's location in 7 Hungarian wine regions and 22 wine subregions (Source: FÖMI, 2021)

## RESULTS

### Development of traditional cellars and viticulture

In the vicinity of Monor, the main soil former is loess. Although loess is a soft rock, it is able to stand permanently as a vertical wall and the cellars were carved into this rock in Monor (Figure 2). Among the vineyards planted on Monor-Strázsahegy were cellars traditionally carved into loess. Among the smaller cellars, there are still a large number of cellars with brick-laid cellar staricase and unbricked cellars. The temperature in the cellars is typically in the optimal range of 10-13 °C , which is ideal for making quality wine. Groundwater is everywhere deeper than 10 meters and its level is constantly decreasing, but there are water layers suitable for irrigation between 40-50 and 90-110 meters. The climatic conditions of the area make the areas around Monor excellent for viticulture.

Figure 2. Wine cellar carved into loess
(Source: Own photo, 2021)

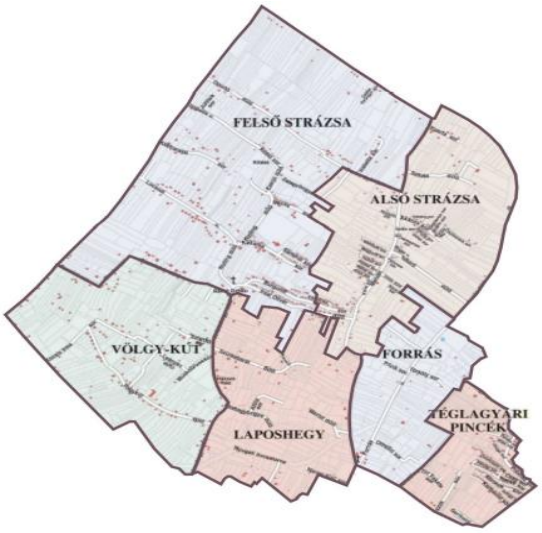


Figure 3. Map of Monor cellar village (Source: Hégely, 2009)

During the construction of the staircases down to cellar, the soil was traditionally excavated and then reburied after the vaulting. A press house was erected in front of most of the cellars, and a series of smaller mounds from the backfilled ground create a characteristic “bakhát” effect on the cellar rows. According to the cellar cadastre closed in 2009, there are 98 architecturally valuable buildings in their original condition and 132 buildings that have been partially remodeled but

have architectural value (Hégely, 2009). It has also been found that if the original style is restored during the renovation of the buildings and 2/3 of the buildings are renovated in this way, a significant and unique architectural value is created, which ensures a uniform and harmonious image of the area. However, many properties are neglected, in poor and / or ruined condition, but most of them would also be valuable if restored. There are about 960 cellar places and 700 working cellars in the cellar village. The connected and well-navigated cellar village can be divided into five sub-centers: the cellars around Felső-strázsa, Alsó-strázsa, Téglagyári, Vágóhidi and Temető-hegy / Forrás (Figure 3). In terms of spatial structure, with the exception of the latter, the characteristic rows of cellars with a bakhát part of the cellar built closely together are the dominant landscape elements. In the case of the cemetery hill / Forrás, the independent cellars next to the small plantations of 800/1200 m $^{2\ are}$ typical. Rows of cellars separated from the vineyards form the basis of wine tourism, where cozy community events take place. Garden-friendly farming takes place in cellars with vineyards.

The first cellars of the cellar village of Monor were hole cellars carved into the loess wall, of which the loess road on Acsády út stands for nowadays. These centuries-old structures are of historical significance. This is followed by a cellar that protrudes from the ground and a deep cellar that can be locked by a door built into its brick wall. Then, in front of the ~~gádor~~staircase down to cellar, a low, hut-like structure was placed, with a saddle roof perpendicular to the street front. The next type of press house already represents house-like constructions, in which you can walk narrowly but already upright. The press houses built after that already take on the character of farmhouses in the Great Plain. Perpendicular to the gable roof street, the front wall is gabled. The fourth type can be considered as an improvement on the previous type. Here, as an extension of the roof, a covered foyer was built, held by columns. The last two building types evoke the middle-classness houses of the 19th century, with a saddle roof parallel to the street front. There are also two small windows next to the entrance (Gajdos, 1995). In addition to the common style features, the last type of building differs from the previous one in the colonnade porch created by the widening of the roof (Figure 4).

Figure 4. Typical architectures of Monor wine cellars (Source: Gajdos, 1995)

For the cellars, which have mostly survived in their original state, three core areas have been demarcated.

- Kadarka, Mud White line,
- Irsai Olivér vineyard, Burgundy and Künkinka line,
- Apples, Pears, Raspberries, Dirt, Currants, Hazelnuts, Almonds, Pine Row, Cherry Vineyard.

There are several unique built and natural landscapes in and around the cellar village of Monor. These:

- Statues of St. Orban; Crucifixes,
- The first cellars carved into a loess wall more than 200 years old,
- Wheeled wells in need of renovation,
- Lookout tower, (provides a visibility of almost 50 km, mainly to the west)
- Thousand Cellars Viticulture and Oenology Study Trail,
- A multitude of geological forms formed during the glacial period, eg loess deep roads.
- Quicksand formations,
- Vecsés-Monor sower and the oil extraction observed along it,
- The geological diversity resulting from the confluence of the Great Plain and the Gödöllő-Monor hills,
- Extensive cellar village system with a special spatial structure .
- In the Source area there is an untouched sand oak area in a locally protected area.

Taking into account the environmental conditions and landscape values, the area can be considered valuable from both a wine tourism and geotourism point of view. Other important landscape values of geological significance can be found in the 20 km radius of the studied area:

- Ex Lege areas located in the Tápió Nature Park (12 bogs, 17 saline lakes, 8 kunhalom, 9 earthworks and dozens of springs),
- Svévharaszt, sand juniper, b uckás forest and sand steppe,
- Alberti loess wall and bee,
- Pannonian loess grassland in good condition, Pannonian sand grassland,
- Blue-swamp marshes on calcareous, peat and clay soils,
- Lake Gombai, (dam reservoir).

The local geotourism values are not professionally assessed, there is no such vault. The charming loess deep roads created over hundreds of years, the cellars carved into the loess, the vantage points of the hilly areas with a visibility of up to 50 km, the sandy habitats and the swampy wetlands are all present, but their tourist attraction has has not known enough by local professionals For Monor and its surroundings on the geopark development of even raised long-term goal, but the Monor cellar village of Vecsés Monor seed oil production taking place along Located in the Csévharaszt ősborókás and Tapio nature park geology and landscape values, overall, a color, each well additional attractions they provide a mass that can also represent the geological and natural diversity of sandy plains, loess hills, and wetland wetlands.

**Knowledge of the cellar village and events**

"Is there a wine community and/or cellar village in Monor?" and "How many wine cellars do you think Monor has?" questions We try to explore to what extent these local values are known. It can be stated that outside the Monor District, it is not known that Monor has one of the largest cellar villages in Europe with one of the largest territory cellar villages in Europe, with almost the largest quantity of cellars (950). 280 of the respondents answered the question "how satisfied were you with attending a wine event in Monor". 65.7% of the respondents rated the event at a level of 8 or higher, with a weighted average rating of 7.51 (Figure 5). According to this, the organized events provide quality recreation for those interested. This provides an excellent basis for furthering tourism developments. Based on the above, it is expedient to convert and use the local values outstanding from the point of view of wine tourism into information.

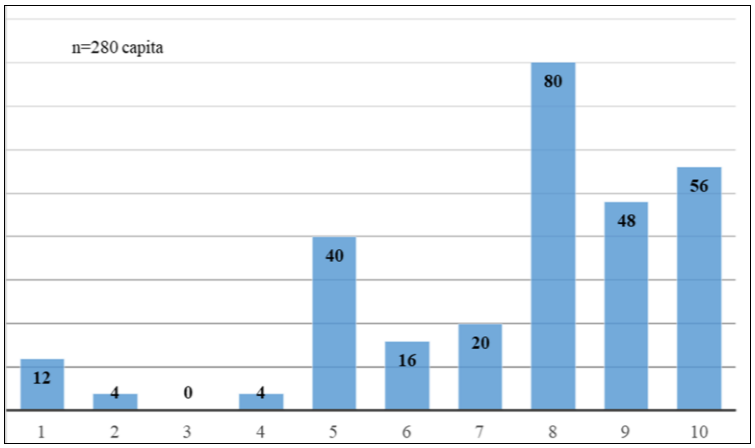


Figure 5. If you participated in a Monor wine event, how much did you enjoy it? (10 Likert scale, number of respondents)

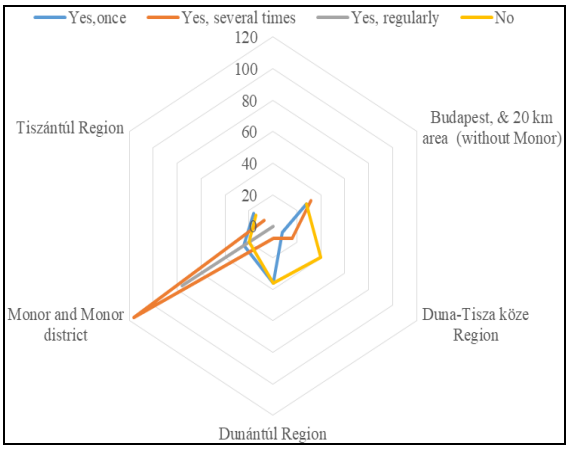


Figure 6. Have you ever consumed Monor wine? (number of respondent)

**Knowledge of Monor wine**

The regular consumer of Monor wine (76 people) is exclusively in the Monor District, which accounts for 32.2% of local respondents. This highlights the fact that without short supply chain sales, local production would not exist, so the needs of the "patriotic" population should be treated as a priority. Examining the totality of consumers, with the exception of the Monor District, the distribution of yes answers exceeded the negative ones significantly only in Budapest. In Monor, 91.5% of the respondents, while 68.1% in Budapest and the surrounding area, answered yes. Regarding the consumption habits related to Monor wine, it should be emphasized that the local consumer base is very strong (Figure 6), and in the case of Budapest and its surroundings, the consumer information of wine can be a good basis for recruiting regular consumers and wine tourists, so it is worth focusing on expansion. In the case of one-off consumers, the regional figures indicate that domestic consumers have already encountered Monor wine, but this is not enough to consume it recurrently, so building a national consumer base is currently not a realistic goal.

**Quality of Monor wine and wilingness to pay**

Nearly 53% of respondents rated Monor wine as good, another 24.5% rated it as medium and less than 8% as excellent. Based on this, 85% of the respondents, in addition to the rating according to their individual taste, do not have any serious reservations about Monor wine, they mostly rate it as good. This is an excellent base for organizing "wine" tourism events. 33.1% of respondents would give a price of between € 1.4 and € 2.79 for a bottle of wine, and almost 40% would not regret it for more than that, ie € 2.8-3.59 (Table 1). For a similar question to river wine, more than half of the answers rated their willingness to pay between € 1.4-2.79 per liter of wine. So the majority of respondents would pay more for bottled wine in Monor than the adjusted average price, so this also strengthens the emphasis on wine as a pull product for tourism.

Table 1. How much would you give for a bottle (0.75 l) of Monor wine (in €)

| Answers | Capita | Distribution% | Cumulated% |
|---|---|---|---|
| Less than 1.39 | 24 | 4.8 | 4.8 |
| between 1.4-2.79 | 167 | 33.1 | 37.9 |
| between 2.8-3.59 | 200 | 39.6 | 77.5 |
| between 3.6-3.99 | 64 | 12.7 | 90.2 |
| More than 4.00 | 8 | 1.6 | 91.8 |
| I wouldn't pay | 30 | 5.9 | 97.7 |
| No answer | 12 | 2.4 | 100 |
| Sum | 505 | 100 | |

**The reputation of PDO (protected designations of origin) in local and country**

72.7% of the respondents had consumed Monor wine

Table 2. Do you know what means PDO (in Hungarian OEM)?

| Answers | capita | Distribution% | Cumulated% |
|---|---|---|---|
| Protected Designations of Origin | 236 | 46.7 | 46.7 |
| Protected Original Quality | 64 | 12.7 | 59.4 |
| Nationally Recognized Sample | 4 | 0.8 | 60.2 |
| Nationally Recognized Quality | 32 | 6.3 | 66.5 |
| Don't know | 169 | 33.5 | 100 |
| Sum | 505 | 100 | |

Table 3. Is there Monor PDO wine?

| Answers | capita | Distribution% | Cumulated% |
|---|---|---|---|
| Yes | 184 | 36.4 | 36.4 |
| No | 12 | 2.4 | 38.8 |
| Don't know | 309 | 61.2 | 100 |
| Sum | 505 | 100 | |

at least once, and 50.4% had done so several times or regularly, so it can be assumed that the majority have some basic knowledge of local wine. Consequently, it is worth examining consumers' knowledge of the Monor PDO label, which is acquired by producers primarily for marketing and at a significant investment of money, and of the general content of the label.

PDO marking gave an indication that they thought they knew the correct answer, but several of them still did not answer correctly, so less than half of the total sample, i.e. 46.7%, could mark an accurate and correct answer (Table 2). Based on this, although PDO certification is familiar to people, they are limited in its content.

The Monor PDO was recognized by the European Commission in 2018, so it is considered young. The designation of origin was justified, according to the Monor PDO product specification, in the case of the wines produced here, nor can they be reproduced in other wine regions. This typicality is manifested primarily in taste- and flavor-rich, low-acidity, alcohol-rich wines. Due to their soil properties, the wines have a higher mineral content and mineral characteristics. " The cited features are outstanding product characteristics, if known, the consumer can pair a quality surplus with the product, which typically also motivates the willingness to pay. But does the consumer know that there is such an PDO mark? (Table 3).

Of the respondents, only 36.4% knew they had a Monor PDO. Based on the data of the cross-sectional table, it can be stated that the awareness of the origin marker is high in the Monor District, here 52.5% of the respondents knew the correct answer. Only 10.8% of the Trans-Tisza people had the right information, about 18% of the people of Budapest and its surroundings and the Danube-Tisza, and about 35% of the Transdanubians knew the existence of the Monor PDO mark. Thus, the Monor PDO was known to the majority of respondents in the Monor District, to a different extent, but significantly less, in the other regions. Thus, at present, the Monor PDO is not clearly considered to be a factor attracting wine tourism.

**Tourism skills**

Budapest is located approximately 40 km away, which is a significant potential base for day trips by both domestic and foreign guests, however, the number of group excursions organized here is currently negligible. Although local accommodation has grown by around 16% in the last ten years, the city can still show a capacity of only 150 people, of which 78 are maintained by the *** + rated Nyerges Hotel, which is at the top of the local service ranking. Thus, long weekends and multi-day vacations cannot be a large consumer base either. The number of catering units is 75, they also provide a significant number of hot kitchen services, in recent years several high-quality catering establishments have opened in the city (la Via, Vejkó, Kult), so there is no major lag in this area. Producer wine surveying was not addressed locally before 2019, and since then 3 service providers of this type have opened their doors.

There is currently no cellar open in full-time system on Strázsa Hill, 12 cellars are open on weekends, and a similar number of service providers accept guests by telephone. Some of them also provide hot kitchen service. Tourism development is significantly hampered by the fact that, despite the huge number of cellars, there is no cellar that is open continuously or seasonally. On-call weekend reception is extremely poor. The lack of care is not enticing to visitors, as the guest does not receive positive confirmation or provide a level of experience factor that can be conveyed by the visitor that could attract the attention of others (it is not posted on the tourist's page facebook, twitter post). There are no additional services such as traditional activities, handicrafts, fair sweets in and around the cellar village. This is also a significant shortcoming, as the trinkets that can be bought and / or made here could also strengthen the attachment of the guests, increase the experience factor and make the memories of the trip tangible at home.

**CONCLUSIONS**

From the point of view of wine tourism, the conversion and use of outstanding local values into information is essential. It is proposed to display the cellar village of Monor, which is a significant built and natural value at the European level with nearly a thousand cellars, as a main marketing element with an independent slogan and an intensive marketing campaign. Based on the scale evaluation of the participants in the wine events, the quality of the current programs and the satisfaction of the visitors are high (average 7.51 on a ten-point scale). Thus, it is useful to maintain the events and their quality in the future. The local consumer base of Monor wine is strong, it is worth keeping it, the proximity of the Budapest market, and based on consumer attitudes, the possible market expansion in this direction is worth doing. Monor producers currently have a chance to stay in the market with short supply chain sales. Wine tourism is essential for the development of this commercial segment, so wine tourism services need to be expanded. Consumers rate Monor wine as good, and are willing to pay a much higher price for bottled wines than the national average and current wines. This is a positive feedback on the product, which confirms that Monor Wine as a product serves as a good basis for wine tourism.

In Monor, the tourism, craft and catering services supporting wine tourism are generally not available in sufficient quantities. The establishment of an open-air visitor center center zone and its initial municipal operation or support can significantly improve the standard on the relevant topic. Monor has a complex geographical and environmental value mass, which makes it possible to make the settlement and the cellar village attractive from a geotouristic approach.

Given Monor's PDO awareness and recognition, brand building ideas for PDO certification need to be reviewed. It is recommended to treat PDO certification as a secondary brand building factor. The value of Monor PDOs can be created primarily in professional circles with gold, silver and certifications achieved at major professional wine competitions, and this can also establish the subconscious relationship of equal high quality Monor wine in the public consciousness.

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