



Hungarian University of Agriculture and Life Sciences

**Employing of Marketability, Sustainability, Participatory, and Disaster
Mitigation in Rural Community-Based Tourism (CBT) as Decision Support
System (DSS) Assessment**

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ABBREVIATION

Comma-separated values (CSV)

Decision Support System (DSS)

Destination Marketing Organizations (DMO)

Marketability, Sustainability, Participatory, Disaster Mitigation (MSPDM)

Online Travel Agencies (OTA)

Travel & Tourism Competitiveness Index (TTCI)

United Nations World Tourism Organization (UNWTO)

Vos Viewer application (VosV)

World Travel & Tourism Council (WTTC)

1. INTRODUCTION

As a part of rural tourism, community-based tourism (CBT), in general, is the type of tourism that focuses on enhancing the relation between the local communities and the tourists (Mayaka, Croy and Wolfram Cox, 2019). The “community-based tourism” term itself is not new in the tourism field, but rather it is based on an old idea that has existed for decades (Goodwin and Santilli, 2009). The main idea of this type of tourism goes back to the traditional concept of tourism itself, which defined as the activities of people who move from one place to another for a temporary period to discover new things, ex-changing cultures, and learning different ways of life from the usual in these people’s home place (Manaf *et al.*, 2018). In the past, this concept appears in the choices and behavior of visitors (Jin, Hu and Kavan, 2016). Where, instead of choosing the large famous hotel chains at present, tourists used to deal with small and medium-sized enterprises and low-cost local accommodations which are committed to protecting the local environment (UNEP, 2011). Therefore, it can be said that despite the community-based tourism terminology, which is considered relatively new and modern for some people, it is an old concept of tourism that has been discussed and tested since antiquity.

Despite many tourism forms interested in studying the relation between tourists and societies such as eco-tourism, homestay, eco-adventure tourism, and agrotourism, community-based tourism comes at the forefront of these prominent terms, either the academic society level or the local and governmental level (Rindrasih, 2018; Mayaka, Croy and Wolfram Cox, 2019). Finding a solution that is in accordance with the challenges of the moment and globalization requires ongoing understanding and innovation.

1.1 Rural Tourism as a Focused Community-Based Tourism Form in This Research.

One of community-based tourism forms is in rural area, which considers the main focused community-based tourism concept in this research. The term "rural tourism," which appears most frequently in this issue, refers to a type of tourism that occurs outside of cities and is distinguished by natural activities, traditional lifestyles, and rural cultures supported by community (Răcășan *et al.*, 2023). In this context community-based tourism has been used to describe a broad range of different tourism models but usually refers to tourism that involves community participation and aims to generate benefits for local communities in the developing world by allowing tourists to visit these communities and learn about their culture and the local environment (Garcia Lucchetti and Font, 2013) particularly in the rural areas.

Most rural tourism activities intersect and are related to community-based tourism activities (Rosalina, Dupre and Wang, 2021). The concept of organization in rural tourism

development areas is now an interesting issue thus rural tourism is identified as a tool for rural revitalization (Okech, Haghiri and George, 2012). Rural tourism also related to ecotourism activities and have a significant role in the economic development of those areas or regions as touristic attractions (Dorobantu and Nistoreanu, 2012). Recent studies revealed that retaining visitors is possible for ecologically conscious rural areas through the agricultural, natural, and cultural potential they possess as tourism attractions managed by local communities (Djuwendah *et al.*, 2023). One of the advantages of rural tourism is that it is based on local initiatives, local management, has local spin-offs, is rooted in the local scenery, and taps into the local culture (Okech, Haghiri and George, 2012). For tourism activities to be described as rural tourism, it should mirror the characteristics that signify a rural area including small settlements, low population densities, agrarian-based economies, and traditional societies (Okech, Haghiri and George, 2012).

Agrarian-based activities, village's life, rural landscapes, and local culture tourism activities that take place in rural areas consider attractive factors of tourism industry operators. The agricultural resources and the traditional agricultural landscape are the major farming operations to appreciate the local scenery, see the local ecology, and try the local food. Moreover, whether the residents benefit from rural tourism and be willing to participate in, is an important criterion to measure the development quality of rural community-based tourism development (Wang *et al.*, 2013). One main issue in preserving rural community-based tourism is to ensure that local communities (in collaboration with all stakeholders) remain involved and have a key role in tourism destination management. So that most of the benefits and uses remain in the destination of the local is the community itself (Manaf *et al.*, 2018).

1.2 Importance of Rural Community-Based Tourism Perspectives.

Despite the fruitful issue of sustainable tourism in general and in particular community-based tourism, it is important to obtain a further understanding of hosts' attitudes toward tourism development and the factors influencing their attitudes (Zhu *et al.*, 2017). Villager's point of view, as community members, in community-based tourism concept should be deeply understandable either by academics or tourism industry operators to discover new, more relevant, and up-to-date motivations for local communities to participate in community-based tourism development. The previous study's results also indicate that the use of predictive policing in conjunction with community policing can help prevent and lessen crimes in recreational, tourism, and hospitality venues, where crimes tend to follow temporal trends (Khalilzadeh, 2021). This implies that it is equally essential to include the community in security measures to promote tourism in the area (Szabolcs *et al.*, 2022). In other words, we can

say that the opinions and thoughts of villagers are very important to note in community-based tourism it is considered the intangible aspect that can effect on the whole tourism development outputs (Hardy and Pearson, 2016).

In many countries community-based tourism has also become an important part of the tourism business. In China and Turkey community-based tourism activities appear with various accompanying phenomena (Giampiccoli and Saayman, 2018). In Costa Rica, the growth of the local economy associated with community-based tourism has also become an activity that is understood by many business people (Trejos and Chiang, 2009). Community-based tourism also supports socio-economic development and poverty alleviation in Nqileni Village, Eastern Cape Province in South Africa (Setokoe, 2021). The view that community-based tourism could equally contribute to reducing inequality and complement efforts towards redistribution is also a discourse about this tourism activity (Giampiccoli, 2020).

In Indonesia community-based tourism is a very important tool to achieve national sustainable tourism goals. There are 1302 rural community-based tourism business entities in Indonesia according to 2014 statistics, and this number grew up to more than 1734 by 2018 and is expected to continue (Reily, 2018). Every Indonesian stakeholder (government, community member, academic, investors, business operators, and visitors) seeking to achieve sustainability principles on community-based tourism. Of the 24.79 million poor people in Indonesia, 60% are living in rural areas (BPS-Statistics Indonesia, 2020b). This means that the perspective of rural communities who have carried out rural community-based tourism business activities and the opinion of the concept of sustainability are important to be understood. A growing deeper understanding of the perspective by the villagers will enrich the knowledge that has been formulated from the previous concept to grow and maintain the sustainability of thousands of rural community-based tourism business.

1.3 Decision Support System (DSS) Approach.

Support for decision-making requires prior knowledge and understanding of the problems, processes, and activities leading to a decision (Kersten, Mikolajuk and Yeh, 1999). The right choices in the management function will drive organizational success. This management challenge increasingly requires fast, effective, and efficient decisions to achieve organizational goals optimally and sustainable. Through open innovation, the content of sustainability is enriched (Yun and Liu, 2019). Efficient decisions are based on accurate logical or intuitive fact and information checking, and it is essential for the management's success (Luburić, 2014). Since it was first introduced by J.D. Little (1970) with the term concept of a decision calculus and by Gorry and Scot Morton (1989) with the term Decision Support System

(DSS), the evolution continues to occur (Marakas, 2003). DSS methods and techniques' objective is to integrate data, information, and knowledge to help decision-makers reach well-informed decisions (Kersten, Mikolajuk and Yeh, 1999).

DSS is an interactive computer-based system that helps decision-makers utilize data and models to solve unstructured problems but still need other information to make the decisions more correct (Sprague, 1980). The International Institute for Software Technology of the United Nations University and the International Development Research Centre (IDRC) in Canada, called the Expert Group Workshop on Decision Support Systems for Sustainable Development, explored the importance of DSS. They stated that the use of information and computing technologies for decision support systems (DSSs) in sustainable development is needed (Kersten, Mikolajuk and Yeh, 1999). In this case, tourism is one of the sectors that can encourage sustainable development. Finally, on a conceptual level, the DSSs variables act as parameters that decision-makers in the field of tourism development might refer to.

The development of the tourism business and driving the economic movement worldwide make management need the right business decisions. Another exciting thing is that the tourism business is now increasingly penetrating geographic boundaries, so rural areas also develop tourism businesses. Even small tourism business entities play a key role in the development of local tourism (Issakov *et al.*, 2023). In general, community-based tourism (CBT) describes how local communities participate in tourist-related activities by offering tourism services. Giving communities, people, and organisations the chance to enhance their capabilities for community-based tourism growth in the ways that they are interested in and want to be involved is one of community-based tourism 's primary roles (Quang *et al.*, 2023). Many region and Particular efforts are needed to increase rural tourism competitiveness, as specialized rural tourism services represent a significant challenge (OECD, 2020).

With many rural communities wanting to develop tourism in their region, academics should not allow this by not contributing constructive thoughts. The villagers' existing understanding of tourism still requires enrichment with comprehensive community-based tourism business concepts and standards. The aim is to reduce the potential for failure and reduce the villagers' community-based tourism business knowledge gap. Thus, community self-reliance has great promise for addressing the inadequate support of rural tourism by the community, particularly in communities that practice community-based tourism (Hutagalung *et al.*, 2022).

However, comprehensive assistance and information from tourism experts, consultants, and tourism academics are not easy to find for rural tourism business actors. Moreover, the limited number of tourism experts is still an obstacle to disseminating understanding about the

concepts of building a good community-based tourism business. The permeability of enterprise boundaries, or the inflow and outflow of concepts, services, and workers, is emphasized in open innovation (Zhou, Yang and Kim, 2020) . Rural communities that desire to grow their local tourism industry can use the DSS to receive a nearly accurate image of the work plans and goals they need to accomplish without waiting or seeking knowledgeable tourism experts or consultants. As the gap of decision and evaluation for the management team, we provide a conceptual DSS framework for the assessment of real-time evaluation management systems.

1.4 Conclusion of Introduction Part.

According to the previous explanation, this research paper will focus on presenting the community perspective and the situation in rural community-based tourism business. This proposal starts with the introduction in part one, which presents the overall background of community-based tourism and its relationship with activities as well as the local communities and its perspectives. The finding then will be elaborated to align with the DSS approach concept. Furthermore, a comprehensive literature review introduces in Literature Review part to highlight the main research gap which is the importance of determining in the community-based tourism concept. After that, the data collection and analytical method are explained in Research Method part.

1.5 Significance of the Research.

The important thing about tourism planning in rural community-based tourism area is to encourage local people and local government so they can assess and measure their own initial condition by their self not by outsider scientist. The components of tourism business should also be evaluated and could be footing consistent for tourism development plans hereinafter as well as a function of the control / monitoring of what is being, has been, and will continue in the years of the continuous program period. So, if we can create good Decision Support System (DSS) effective analysis and methodology for everyone they can maintain and develop their own area. It also will bring benefits for local people, local government, natural environment, and villager's way of life as well in term of tourism business. If solid framework of MSPDM method is proven it can be used as Decision Support System (DSS) in the future development. An easy and solid DSS also can be integrating with ICT (Information Communication Technologies) and strengthen the proses of tourism and community development. The diagram below explains the process of generalizing MSPDM analysis from every destination.

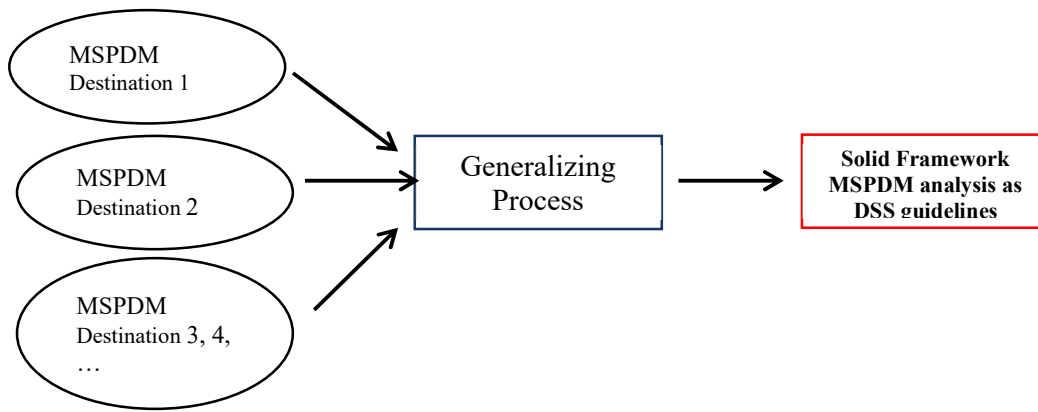


Figure 1. *Frameworking of Generalized MSPDM as DSS*
Source: own editing, 2023

If solid framework of MSPDM analysis is proven it can be used as Decision Support System (DSS). Furthermore, in the future an easy and solid DSS also can be integrating with ICT (information Communication Technologies) and strengthen the proses of tourism and community development (Deuchar, 2012) as shown in Diagram 2 below.

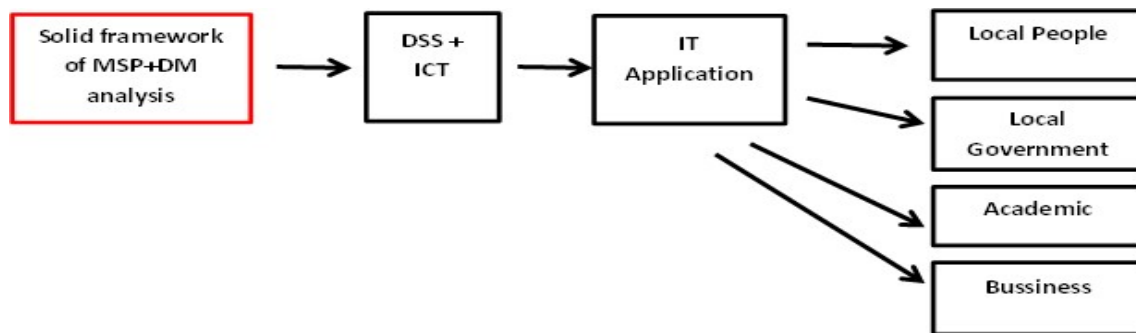


Figure 2. *Possibility of Using Solid Framework ICT*
Source: own editing, 2022

Research Benefits/Significance:

1. to encourage local people and local government about tourism planning in their rural community-based tourism area so they can assess and measure own initial condition by their self not by outsider scientist (Priatmoko, 2018; Reindrawati, 2023). Since is science-based development, examine the level of readiness of the community to carry out of it will depend in various aspects (Sayuti, 2023). So, If they can measure in easy way they can manage.
2. evaluate the components of tourism as a business as well as a function of the control / monitoring of what is being, has been, and will continue in the future planning (Purbadi, 2016).

3. If we can pave a good Decision Support System (DSS) effective analysis tool for everyone, they can maintain and develop their own area in term of good tourism business management. It also will encourage local people, local government, and villager's way of life as well as a part of tourism business activities.

1.6 Objectives to Achieve

There are several types of methods that are often used by many previous tourism researchers. Commonly, SWOT (Strength, Weakness, Opportunities, and Threat) analysis is one of the most frequently used methods in strategic management (Goranczewski and Puciato, 2010; Angelevska-Najdeska and Rakicevik, 2012). In addition to SWOT there is also the AHP (Analytic Hierarchy Process) method and A'WOT (AHP-SWOT) which is a combination of AHP and SWOT (Kişi, 2019), and also other methods that make the concept of sustainability as the focus. Unfortunately to analyze a recreational area that it contains a variety of natural life, social and cultural, SWOT become less effective in analyzing a strategic planning scheme. It because the region there are contain dynamic people's life. It also would be very subjective and difficult to maintain consistency when a development program must pass through certain phases, multiple interest, and changing development in a rural tourism area (Belsky, 1999; Priatmoko, 2017).

Spontaneous approach, based on market situation, is also the older and the most common and brings a spontaneous development of tourism and tourism products are making disturbances of tourism-related and other functions held by a territorial unit (Goranczewski and Puciato, 2010). Another thing that is more bothering in tourism activities that something considered a weakness or strength is not always as consider. SWOT relies on subjective perceptions, avoids quantification, and lacks predictive powers (Ayub *et al.*, 2013).

Using SWOT for Strategic planning for the destination could be a difficult task as there are many possible strategies derived from the assessment of environmental factors (Oreski, 2012). The qualitative method only is also not easy to apply because it requires in-depth analysis by the experts which are limited in number and reaches. Other qualitative methods, in other words, rely on professional researchers or academics involved in the planning process for rural tourism development. The phenomenon depends on the attitude and creativity of local tourism players and also targets to be achieved by communities so, different analysts will lead to different perspectives. On the other hand Involving community members to make informed decisions about tourism development is important and become useable, relevant and understandable (Deuchar, 2012).

According Mackay et.al (2014) the characterization of 'the rural' and its relationship to recreation and tourism shows that it is very important to think holistically when seeking to interpret the social and economic processes which are both creating and changing the countryside (Dashper, 2014). Collaboration works best when an enabling environment is created to encourage activities that came from organic and originate the grassroots level too (Deuchar and Milne, 2016). At the level of tourism creativity industry, such conditions will lead dispute for a strategic plan development.

The old paradigm often sees the activities and business of tourism is more to a product. Indeed, the great line of products is what will always appear on a marketing activity of tourism and its derivatives business. Using specific places or clusters where creativity (i.e. tourism activities) can be embedded is important from a marketing perspective (Richards, 2014). Directing marketing communication messages which highlight the appropriate temporally emphasized benefits of the product at the appropriate target market may be ultimately critical in order for marketing efforts to be successful (Gad Mohsen and Dacko, 2013).

Sustainable development can also be explored by supported the assessment of communities participating in the (Zapata *et al.*, 2011). Hospitality sector resilience is also understood by the majority of businesses as the need to withstand the constantly changing market as well (Tibay *et al.*, 2018). Community's participation is locally recognized to initiate by two categories, which are participation in management planning process and participation in interpretation services (guide, cooking, driving, handy crafts, and local festival) to achieve existing outputs (Suvdantsetseg, Fukui and Oe, 2011).

The concept of bottom-up development presupposes that all sections of the community are adequately informed about the nature and consequences of tourism development and this opportunity become their participation on the course of that development (Deuchar, 2012). Proper planning and selection of places in constructing emergency stations are very important to reduce the effects of crisis (Kahani *et al.*, 2016). Rural tourism will also cause the development of social and economic aspects of a village in long terms (Mahmoudi, Haghsetan and Maleki, 2011). So, in terms of community-based tourism products there are things that should be focused are:

Marketability, Sustainability, and community participation (Participatory). Furthermore, because of the condition of many territories in the world which is considered particularly prone to natural disasters (i.e.: earthquakes and tsunamis) and disasters due to human factors is also needed as well as analysis of Disaster Mitigation. Destination management and marketing organizations (DMMOs) has Roles to maintain safety, security and crisis (Adeyinka-Ojo, Khoo-Lattimore and Nair, 2014). Assessing the overall community

functioning to better understand the expected outcomes in the event of a natural disaster is important (Sansom *et al.*, 2016).

From the four variables (Marketability, Sustainability, Participatory, and Disaster Mitigation) needs to be made a tool that can help to local governments and especially local communities to provide the most appropriate direction of tourism development. Another thing that is important is that components of Marketability, Sustainability, Participatory, and Disaster Mitigation should also be evaluated and could be footing consistent for tourism development plans hereinafter as well as a function of the control/ monitoring of what is being, has been, and will continue in the years of the continuous program period/ multi years (Purbadi, 2016; Priatmoko and Purwoko, 2020).

Using tourism attractions aspects is assessed by MSPDM, parameters are then given the scale of the value (scaling) which is an instrument relates the qualitative construction with quantitative metric units. The purpose of this scaling is to make easier assessment of everyone's perception and provide consistency for all parties in the future. The use of a scale of values considered can greatly reduce the subjectivity of each researcher/ analyst or related parties in order to obtain an objective mind approach despite the change of personnel. Aspects that are considered infirm would be rated lower and the aspects that are considered strong given high marks by the parameter value of 1 (lowest) up to 5 points (the highest).

The shift value from low value to a higher value indicates the position of the criteria that will be achieved for the next development of targeted programs (Table. 1). The purpose of this scaling is to make easier assessment of everyone's perception and provide consistency for all parties in the future. The use of a scale of values can reduce the subjectivity of each researcher/ analyst or related parties in order to obtain an objective approach despite the change of responsible staff/ personnel.

From the total average value obtained will then set out the criteria a precondition for development programs to target specified criteria scores. The criteria are divided into a number based on the score obtained. Such criteria are sorted from lowest to highest value named: Embryo, Pioneer, Growing, and Advance. The most desirable targeted criteria is the Advance.

Table 1. Assessment and Indicators of MSPDM of Tourism Attractions

Parameters	Elements	value 1	value 2	value 3	value 4	value 5
MSPDM	Elements of MSPDM	Indicators	Indicators	Indicators	Indicators	Indicators
		Embryo	Pioneer	Growing	Advance	

Source: own editing, 2022

To give more clarify the above conditions of development, we can use the purpose of the pyramid as can be seen below. An easy-to-follow strategic planning framework at the individual, team and department level is offered by the goal pyramid (Kuncheria, 2023).

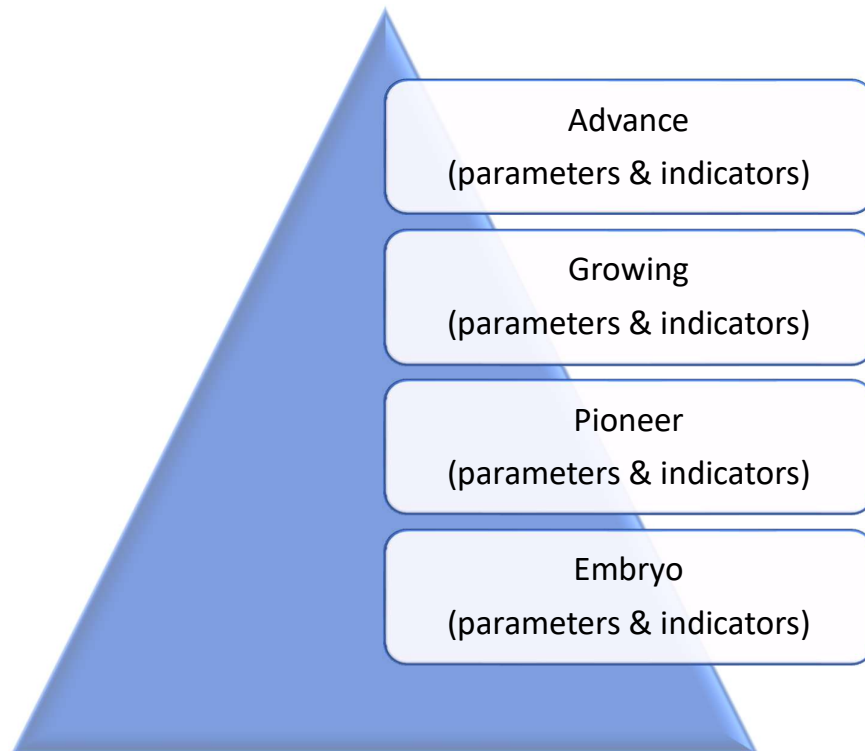


Figure 3. Goal Pyramid of Rural Tourism Growth of Quality

Source: own editing, 2022

This study aims to design a new approach for DSS to help community-based tourism business planning by these questions and hypothesis;

Research Questions:

1. How has the aspects of Marketability, Sustainability, Participatory, and Disaster Mitigation (MSPDM) can be used to analyze the attractions and potential facilities in rural community-based tourism area
2. How has the generalization of MSPDM work as a framework of DSS
3. To what condition this MSPDM aspects can be accepted as DSS tool

Hypothesis:

Marketability, sustainability, participation, and disaster mitigation management variables can play a role in forming a Decision Support System (DSS).

2. LITERATURE OVERVIEW

This section discusses the literature supporting the initial framework of the research.

2.1. Understanding Community-Based Tourism Through Its Concept.

In this context, community-based tourism has been presented as a social or community planning approach to tourism (Mayaka, Croy and Wolfram Cox, 2019). One important thing to know is that community-based tourism has a different concept from mass tourism; it has a mission to raise awareness among tourists and enable them to learn about the daily way of life of local people (Manaf *et al.*, 2018). The understanding of sustainability in the tourism aspect of community-based tourism needs to be updated given the increasing number of community-based tourism businesses in rural areas. community-based tourism plans were also used to develop a variety of products that were ultimately marketed to visitors (World Tourism Organization, 2004). Sustainable tourism also means making a destination a livable residential environment in the future, while at the same time protecting natural resources and local customs and traditions (Paunovic and Jovanovic, 2017).

Concerning social capital and its importance as the main resource to apply community-based tourism business, there are several parties related to community-based tourism activities, such as government, destination management organizations (DMO), non-government organizations, regional and rural tourism organizations, communities, agencies related to the development of tourism, etc. (Boronyak *et al.*, 2010). All these entities have a significant role in organizing, managing and developing community-based tourism business.

For example, Destination Marketing Organizations (DMO) defined as any organization at any level that responsible for the marketing of a named or identifiable tourism destination (Adeyinka-Ojo, Khoo-Lattimore and Nair, 2014). In association with DMO, personal features, social networks, and previous knowledge of both policymakers and the indigenous or local villagers are pivotal for developing the community-based tourism business by promoting the entrepreneurship alertness to invest in Small and Medium-sized Enterprise (SME) tourism-related in local villages (Situmorang, Trilaksono and Japutra, 2019). It's also known that the reliance of the local people on local government depends on how well the local government, divided into a district government and central government, can coordinate their governing bodies to work side-by-side (Situmorang, Trilaksono and Japutra, 2019).

2.2. Indonesia & Tourism Nowadays.

The importance of the tourism economic dimension emerged at the local, regional, national, and global levels. However, According to the United Nations World Tourism

Organization or UNWTO, the growth of tourism travel after 2020 is still in the recovery zone and is still lower than in 2019 (UNWTO, 2020). The exact manner can be seen in the Asia-Pacific Region (which consists of 13 countries), where the tourism industry plays a significant role in shaping the regional countries' economic strategies. Each country competes with the uniqueness and beauties of nature or culture to package these activities in a tourism product. Asia and the Pacific recorded and enjoyed the highest growth in arrival and above-average growth in tourism earnings by 2018 (World Tourism Organization, 2019).

Indonesia is Southeast Asia's largest economy, rich in all types of natural resources and cultural diversity (Oberman et al., 2012). A young and dynamic democracy, it is urbanizing and modernizing rapidly. In contrast with most OECD countries and many emerging economies, around half of the population is under 30 years old. The working-age population ratio is set to rise during the next decade (United Nations, 2017). The data is in line with the number of visitors to various destinations in Indonesia, dominated by younger people (BPS-Statistics Indonesia, 2020a). Indonesia's economic growth is promising and takes place regularly, supported by political stability and security, making it a confident middle-income country (The World Bank, 2020).

The key to understanding these claims is seeing them as socially constructed or shaped by discourse (Fazito, Scott and Russell, 2016). Confidence in the national government is higher than in any OECD country, and its following with emblematic of Indonesia's success in creating a famous tourism brand (OECD, 2018). Based on data from the World Travel & Tourism Council/WTTC, Indonesian tourism is the fastest-growing, ranking nine globally, number three in Asia, and number one in the Southeast Asia region. (Indonesia.go.id, n.d.). Domestic and foreign tourist visitors still show that Indonesia's typical visitor is still in mass tourism activities (BPS-Statistics Indonesia, 2020e).

The development of tourism leads to the following economic benefits: GDP growth; unemployment decrease, i.e., creating workplaces (as well as for unskilled workers) in the related business - accommodation, catering, trade, entertainment; increasing residents and state revenues; foreign investment attraction; promotion of the development and variety in other sectors (local crafts, manufacturing, and agriculture); infrastructure development (Barkauskas, Barkauskienė and Jasinskas, 2015). There is a strong degree of specialization in industry when employment and GDP are taken into consideration (Diniz and Upadhyay, 2010).

These competitive standards are increasingly broader with variables and measures for comprehensive pillars of thought such as the Travel & Tourism Competitiveness Index/TTCI by the World Economy Forum/WEF. (Calderwood & Soshkin, 2019). By using sustainable community business capital as assets, all of which are important to manage, enhance and

conserve, it is expected that the destinations will continue to attract visitors. Furthermore, it will feel connected and committed to experiencing while also contributing to sustainable community vision and robust economic growth in tourism (Richins, 2009). Moreover, attention to security and safety is also part of the thinking for tourism development, be it mass tourism or non-mass tourism (Khalilzadeh, 2021).

If mass tourism is to be chosen, then a diverse local workforce and production is an extensive portfolio of links to the broader economy and looking at tourism in this context (Biddulph, 2015). Mass tourism is considered a loose umbrella term for various types of large-scale and widespread tourism segments. Mass tourism is the role taken by or given to one or several types of tourism, and these together represent the masses in a certain considerable number (Vainikka, 2013). In this condition, discussing the choice of mass tourism or non-masses' tourism is no longer contextual, considering the challenges of tourism development and planning are managing innovation and its consequences. Furthermore, through innovation, they can retain their competitiveness (Omerzel, 2015).

In Indonesia, community-based tourism is an essential tool for achieving national sustainable tourism goals. There are 1302 rural community-based tourism business entities in Indonesia, according to 2014 statistics; this number grew up to more than 1734 by 2018 and is expected to continue to grow (Reily, 2018). Every Indonesian stakeholder (the government, community members, academics, investors, business operators, and visitors) seeks to achieve the sustainability principles of community-based tourism. Of the 24.79 million poor people in Indonesia, 60% live in rural areas (BPS-Statistics Indonesia, 2020b). This means that rural communities that have carried out rural community-based tourism business activities and sustainability should be understood. A growing deeper understanding of the villagers' perspectives will enrich the knowledge that has been formulated from previous concepts, and will help to grow and maintain the sustainability of thousands of rural community-based tourism business.

Tourism ecosystems and territories may take into account digital innovation and include smart tourism perspectives. They are sustainability, circular economy perspective, quality of life enhancement, and social values; they should also aim to enrich the tourism experiences and enhance the competitive benefit of smart tourism destinations (Pencarelli, 2020). Furthermore, recreational experiences connected to livelihoods can add another dimension and thus need particular attention for recreation-based ecosystem conservation. Moreover, it will also push the non-economic valuation of recreation-related to indigenous and local people's lifestyles should be considered seriously for a fuller appreciation of socio-ecological relations in tourism-dominated areas (Chakraborty, Saha and Ahmed Selim, 2020).

2.3. Rural Development and Community-Based Tourism in Europe.

Tourism enterprises in different nations have different tactics and practices on a micro level. However, their ultimate goal is the same, namely, to produce long-term profitability and business, especially in such a volatile environment as now. Entrepreneurial improvisation, environmental instability, and anxiety of scenario changes all have good and important correlations. Globally, the environment is rapidly changing, and businesses must be prepared with knowledge and plans to deal with these unforeseen developments (Shabbir et al., 2021). Their challenges also include future pandemics and unanticipated health issues, but also business model shifts that were unthinkable five or ten years ago. Food and beverage, entertainment and tourism, and agriculture are the industries most concerned about a drop in consumer confidence at the moment (Ahmed and Nair, 2020).

The tourism industry is one of the most important economic sectors globally, which has shown remarkable growth in recent decades (Dwyer et al., 2000; Selimi et al., 2017). Accordingly, this sector has become an essential economic field that attracts researchers and academics, as tourism represents a complex phenomenon with different economic, social, geographical, environmental, technological, and other dimensions (Rodríguez-Díaz & Pulido-Fernández, 2021). According to Neil Leiper, the Australian researcher who created Leiper's model to understanding tourism in 1979, tourism consists of a set of push factors and the pull factors, representing the economies of the tourism industry (Paul & Varghese, 2015; Yusof et al., 2012).

Understanding the behavior of tourism industry in various countries as a source of knowledge would be able to assist in gaining a better understanding and insight for future business development. Thus, perform a comparative study to examine very different facets of business people's behavior in numerous countries in order to arrive at a formula that is close to equilibrium. Comparative analysis enhances the understanding, awareness, develop of universally applicable theory (generalization), prevents from over-generalizing based on their own or naïve universalism (relativization), and comparison provides access to a wide range of alternative options and problem solutions (Esser and Vliegthart, 2017). Because tourists are increasingly inclined to travel across countries, the quest for a balanced formula for tourism business conduct is critical. The effects of variances in the character of tourists from various nations will be accommodated by business models that are broad and acceptable to tourists, ensuring that they are satisfied or at the very least not dissatisfied while visiting a place in another country.

Rural tourism is a business that continues to grow positively in the European Union. Apparently, roughly 15% of the total accommodation capacity of Europe is represented by rural tourism establishments (Ana, 2017). The broadening, deepening, and regrinding processes—which collectively make up the primary axis of rural development—are pervasive throughout rural Europe. Due to its ability to create local jobs, encourage outside investment, and support traditional businesses, rural tourism has become a "development tool" for many communities looking to diversify their economies (Rajović and Bulatović, 2017).

According to estimations of the coefficient of elasticity, spending on rural development will increase 191.49 times for every 1% increase in direct grants and market-related spending. This suggests a synergistic relationship between financial costs for the growth of rural tourism and the capacity to significantly boost other rural development areas (Maliuta et al., 2022). Thus, supporting rural tourism as a form of business is proven to boost the economy.

Seeing how important the countryside is, the European Regional Development Fund (ERDF) as one of the five European Structural and Investment Funds also finds it useful by targeting rural tourism projects in the EU (Aytuğ and Mikaeili, 2017). Several prominent fund can also be seen on Table 2 below.

Table 2. Rural projects & aims in Europe

European Financing Policies	aim
European Regional Development Fund (ERDF)	reducing problem in urban and rural areas
Cohesion Fund	promoting sustainable development
European Social Fund (ESF)	improving rural tourism sector employee
European Agricultural Fund for Rural Development (EAFRD)	diversification of farmers and engaged in sustainable tourism
European Maritime and Fisheries Fund (EMFF)	rural tourism project connected with fisheries
Financial Instrument for the Environment and Climate (LIFE)	support rural tourism and biodiversity
Instrument Pre-accession Assistance (IPA)	support rural development in Türkiye
Mediterranean Integrated Programmes (MIPs)	establishment of rural tourism cooperatives
The “Agro-tourism—Agrocraft” programme	improving the rural world’s income and support to new/young farmers
The Regional Operational Programmes (ROP) of CSFs	support small-scale entrepreneurship of the rural world and young farmers
The Community LEADER Initiative	rural and transnational areas cooperation & networking
The Integrated Rural Development Programmes (IRDPs)	support mountainous and disadvantaged rural areas

Source: Author, generated, 2022 (Aytuğ and Mikaeili, 2017; Apostolopoulos et al., 2020)

Comparative studies for such global business interests would be better if taking examples of cases in countries with significant differences in characteristics such as location, culture, economic level, and language. Comparisons can be made on a variety of levels, including regional, national, and international ones, all depending on a specific subject or area

of interest. This facilitates in the establishment of links between two or more phenomena as well as the giving of sound justifications (Adiyia and Ashton, 2017). Countries in Europe within Asia will certainly be able to provide an overview of the significant difference. Hungary, which is a member of the European Union and Indonesia as an Asia's developing country, can be utilized to illustrate the various contrasts and phenomena between tourist business units. Thus, using world awarded most popular rural/ village destination in Hungary as research location will be enlightening.

2.4. Rural Community-Based Tourism Development.

In the future, economic factors will depend more heavily on environmental factors, and sustainable (including rural) tourism will grow because of the worse state of the environment (Barkauskas, Barkauskienė and Jasinskas, 2015). Tourism is thus a suitable way to merge even remote areas under a globalized world economy, which greatly increases available local cash income and contributes to the building up of physical wealth (Gossling, 2003). Tourism also can be a significant opportunity to end social, demographic and economic disparities (evident from many rural regions) (Boccia et al., 2019). However, caution is needed because apart from the positive impacts there are also negative impacts from tourism. Communities and visitors often have different perceptions, especially regarding norms, values that apply in society, and achieving a sustainable environment (Chang and Wang, 2023).

Involving the host community in planning and maintaining tourism development to cater to the community's welfare is directly notable. The most common form is community-based tourism (Banik and Mukhopadhyay, 2020). Through local control of tourism businesses and activities, community-based tourism is thought to contribute to cultural and environmental conservation and the redistribution of economic benefits among the most vulnerable groups, such as indigenous communities (Garcia Lucchetti and Font, 2013). Indonesia, which has many more rural areas than urban areas (Indonesian Ministry of Home Affairs, 2017), needs this approach by paying attention to tourism development down to the village level.

Visitors come to spend a certain amount of money starting from transportation expenses, buying products or services in tourism destination areas, such as accommodation, food, and beverages, souvenirs, and recreational activities (Succurro, 2016). Hence, the high transport integration is one of the success key of tourism business (Tsiotas, Krabokoukis and Polyzos, 2020). It is necessary to pay attention to the values that support visitors' attitudes and behavior toward tourist destinations with an emotional element as part of planning. The dynamic stuff tends to impact tourist behavior that may not be captured by attitudes and cognitive beliefs related to environmental sustainability (Sneddon et al., 2016). Furthermore, the tourism

industry's contribution to the economy can be identified through visitor activities (Khademi-Vidra and Bujdosó, 2020).

Biodiversity is also a severe concern for planning current tourism activities (World Tourism Organization, 2019). Biodiversity conservation and sustainable land use are indicators of sustainable environmental use (UNEP, 2017). Furthermore, attention to ecological resources needs to be done while prioritizing conservation and not destroying natural areas (Holladay and Ormsby, 2011). A cultural unity containing human, nature, and physical culture manifestation, including architecture, as the complexity of components, should be valuable capital in tourism development (Vitasurya, 2016). Stipulation of destination forms' development also needs to pay more attention to local communities with a more pro-poor and comprehensive Tourism Value Chain/ TVC approach to involve local communities to work and maintain sustainability (Ndivo and Cantoni, 2016). Communities will work for tourism if tourism works for communities (Milne et al., 2012).

2.5. Comprehensive Tourism Development View.

The role of government as a facilitator and catalyst in collaboration with local small-medium enterprises improves the local economy and social impact (Zapata et al., 2011). Furthermore, the government should support capacity building and give financial and technical assistance (UNEP, 2017), including more empowered non-capital-intensive enterprises. It also maximizes local skills and technology, discourages enclave practices, encourages flexible public-private partnerships, and creates and strengthens institutions and develops revenue-sharing policies for communities (Mandić, 2019).

In order for potential visitors to plan their journeys, new destinations should be regularly developed by the local government and coordinated with the policies of the national government. Thus a bottom-up approach and participatory process is required to establish a new economic paradigm (Stilianos and Christos, 2011; Papadopoulou, Papalexou and Hasanagas, 2012; Horvath and Magda, 2017). The increase in consumption, investment, and government expenditure in the tourism industry positively affects economic growth (Hariyani, 2018). In other words, tourist facilities built to target foreign tourists should have an alignment version for domestic tourists at affordable prices. It also avoids too high a difference in inflation between regions because of deviations of the inflation rate, the speed of reaction of implementing correction measures, and the output cost of implementation that will affect other sectors (Kuncoro, 2020). Moreover, it will encourage the growth of trips and more widely destination option.

Dynamic process and socio-economic benefits appear in the related themes of previous research. The research is also confirmed by statistical data, which shows that the number of visitors is correlated with the amount of income and economic benefits. The challenge of getting the same number of visitors or even a lot more before the Covid-19 pandemic becomes more severe for the year after 2020. As a result, improving the quality of tourism products can encourage tourists to pay more because it relates to satisfaction (Žabkar, Brenčič and Dmitrović, 2010). When visitors want to spend more, there will be a potential increase in revenue from the previous one. Along with other factors such as perceived value, tourist satisfaction can provide destination marketers with greater insight into tourist loyalty behavior (Song, Su and Liaoning Li, 2013). A product's quality will also determine someone to pay more (Spáčil and Teichmannová, 2016).

The findings of tourism impact in thematic analysis researches led to the understanding that a strategy is needed to better understand the importance of the local economy. Implementing a slow tourism strategy so that visitors do not just come, take pictures and leave without spending a penny also needs to be designed. Slow tourism activities are emphasizing genuine experiences, environmental sustainability and loving a step back away from the frantic lifestyles (Noor et al., 2015). Slow tourism as community-based tourism is a concept to hold visitors in a destination longer so that there are a more profound linkage and engagement with the surrounding environment (Pécsek, 2018). Furthermore, it will encourage more lavish spending with additional benefits in the form of concern for the destination environment due to creating unique co-creation of experiences, allowing tourists to become more physically and emotionally engaged in planning their vacations (Mathis et al., 2016).

In tourism destination creation, contentment with the co-creation of an impression is likely to have a constructive predictive result on satisfaction to the vacation experience (Mathis et al., 2016). That co-creation of an impression can be based on improved visitor participation in the experience while tourism impacts can enfold numerous economic, social, and cultural points (Figuerola & Rotarou, 2016). Furthermore, in many tourism events and activities, the economic advantages and the negative effects on the environment are occurring simultaneously, mainly due to the high strain applied to the carrying capacity of the environment by the number and type of visitor activities implemented (Figuerola & Rotarou, 2016).

The most important thing in the analysis of the development idea of tourism activities is to minimalizing conflict of interest between stakeholders and the possibility of obtaining an increase in the achievement of the targeted aspects (Corral et al., 2016). In addition, the conditions for concept and work to make impact and stimulate legitimacy are the building of trust relationships with stakeholders (Piber et al., 2019). Meanwhile, in the tourism area

development plan, it is important to know the initial conditions so that the direction of the development plan can be determined (Priatmoko & Purwoko, 2020; Purbadi, 2016). Lastly, the confidence to be able to open up to tourism professionals and work comfortably are: A business environment that facilitates discussions of two or more parties to create a typical, personalized and value-added impression; and opportunities for greater social relationship between tourism destination and surrounding local communities (Mathis et al., 2016). The processes of tourism development planning in this turbulence situation by many stakeholders must pay attention to various data to find the most appropriate approach to its conditions.

2.6. Marketability in Rural Tourism.

As previously mentioned, rural tourism is a form of economic business. Tourism is a commodity, and it refers to the activity and behavior of travelers engaging in travel-related activities or making purchases in tourist destinations to meet their unique demands, both internal and external, in order to fulfil a variety of travel-related goals (Zheng et al., 2021). Rural tourism can be seen as a type of tourism product, and this perspective high-lights the significance of source management and marketing initiatives (Pakurar and Olah, 2008). Customers' expectations and perceptions will be shaped through marketing, which is today affected by global conditions, the internet and technology, and culture (Zeithaml, Bitner and Gremler, 2006; Hawkins and Mothersbaugh, 2010). As a result, there is significant concern about the items related to product and marketing concerns. Thus, Marketing in tourist destinations, particularly rural tourism management, includes visitor management strategies (Silva, Silva and Vieira, 2023).

The development of internet technology also opens up many opportunities for community-based tourism organizations which are dominated by SMEs considering their impact which facilitates communication and dissemination of information (Fernandes, Belo and Castela, 2016). In the last few years, social media and extensive internet networks in remote villages have encouraged tourism village actors to use them as well. About ten years ago, in the early days, tourism village actors used blogs and websites to promote and show their business's existence. Furthermore, with the social media boom started with the presence of Facebook, the platform became the main media for promotion. Instagram and YouTube are the next social media used by tourism village managers together with Facebook. Blogs began to be abandoned, and the website was used as a window to validate a tourist village's existence.

The developments in technology and transport infrastructures, such as low-cost airlines and more accessible airports, have also made many affordable tourism types. Seeing the emergence of OTAs in the early 2000s, with the entry of Online Travel Agencies (OTA) such

as TripAdvisor, Traveloka, and Booking.com business models in collaboration with large capital tourism players or big private businesses such as star hotels and airlines again changed the tourism business map (Garcia, Dos Anjos and Dogan, 2022). Thus, villager-owned community-based tourism should be involved in the flow of digital trends to be more profitable. As a result, using online and IT applications through the internet boosts tourist services sales and has facilitated lifestyle changes (Succurro, 2016). More over, the presence of the OTA in the tourism business ecosystem has radically changed the industry into reality on the ground. The travel and tourism industry shows IT's change and its pervasiveness will face other technology waves (Neidhardt and Werthner, 2018).

The business needs to position itself and concentrate on a certain target market in order to enhance its reputation, popularity, and brand image (Ihnatenko *et al.*, 2020; Wang, 2023). For these reasons, a web-based platform for tourism management is widely utilised with the objective of advancing the rural tourism business. Making online orders, purchases, and even payments is made simple for tourists or visitors using this platform (Firdaus *et al.*, 2022; Muangasame and Tan, 2023). Furthermore, increasing and improving marketing and branding in destination management organizations are needed because they will deal with the visitor as their consumers (Wang *et al.*, 2019).

Marketability will be a promising area for future studies, as mentioned by Kastenholz *et al.* (Kastenholz, Eusébio and Carneiro, 2018), who views marketing as a component of management in rural tourism business. Marketing mix elements, namely product, price, place, promotion, people, process, and physical evidence are proven to be valid and reliable variables on customer satisfaction and repurchase intention of SMEs products (Jasin and Firmansyah, 2023). Thus, discussing community-based tourism as a part of SMEs cannot be separated from marketing strategy.

Visiting tourism destinations associated with popular tourism booklet is increasingly raised as a tourist practice (van Es & Reijnders, 2016) so folklore can also be implemented in tourism part activities. Most tourism places, for instance, are using the country of the visitor's origin as a segmentation point of reference and develop adjusted marketing strategies for each one (Dolnicar, 2008). Thus, this segmentation can be used as a tool to develop tourism product and shape the market, especially in slow tourism activities.

Methods for doing market research can also be specifically deepened, especially those related to internet marketing strategies, which Khartishvili *et al.* (Khartishvili *et al.*, 2019), previously investigated. However, in following circumstances, various settings might be employed. Basically, the concept of marketability is to determine whether something considered a tourism product in the region is able to be sold and sustain.

2.7. Sustainability in Rural Tourism.

Sustainable tourism and environmental topics have been linked in many earlier studies. The need to include the concept of economy in sustainability was hinted at by Zapata (Zapata et al., 2011), and Jin et al. (Jin, Hu and Kavan, 2016). However, it hasn't developed into a topic that is expressly articulated to address the issue of economic sustainability instead of environmental issues in the rural tourism community. In other words, examining rural tourism through the lens of a wider view will be enlightening.

Environmental, social-cultural, and economic considerations are all incorporated into the sustainable tourism idea (Jin, Hu and Kavan, 2016). Conservation and revitalization make rural tourism activities become sustainable and successful as a destination (Gao and Wu, 2017). The UNWTO also demonstrates how investment-oriented sustainability (green investment / sustainable tourism) in the tourism industry may help to expand the economy, create decent jobs, and reduce poverty while also increasing resource efficiency and reducing environmental deterioration (UNEP, 2011). The development of rural tourism also makes an important contribution to the sustainable development (Lakner et al., 2018). Thus, sustainable tourism refers to methods, programs, and regulations that include the needs of the tourism service provider community, which may support or be impacted by tourism initiatives and the environment, in addition to the expectations of tourists about the management of natural resources (UNEP, 2011). In other words, when analyzing the development of a place, it is important to take into account the local environment and community that surround tourism activities to make it concerned with sustainability issues.

Regarding the small numbers of visitors in the unpopular tourism destination area, its recommendations are to escalate community participation and collaboration with the public spaces (Holladay & Ormsby, 2011) and it is believed can push nature more sustainable. Sustainable ecotourism development (SED) in destinations with poor potential for development through other parts, can be a sustainable income-generating scheme for locals' resident and a place for visitors to spend their leisure time (Asadpourian et al., 2020). Thus, it is very notable to prioritize the use of these services based on closeness as well as the income level of the local residents, which should be considered during the plan arrangement and implementation of the conservation scheme of tourism destinations (Thapa et al., 2020).

Despite the fruitful issue of sustainable tourism in general and, in particular, community-based tourism, it is vital to understand further the hosts' attitudes toward tourism development and the factors influencing their attitudes (Zhu *et al.*, 2017). Villagers' points of view, as community members, in the community-based tourism concept should be deeply

understandable either by academics or tourism industry operators to discover new, more relevant, and up-to-date motivations for local communities to participate in community-based tourism development. In other words, we can say that villagers' opinions and thoughts are significant to note in community-based tourism; they are considered to be the intangible aspect that can affect the whole tourism development outputs (Hardy and Pearson, 2016).

Enhancing community livelihoods will determine whether or not the business's operations are to continue. In order for destination managers' organizations to be viable, this is a concern (Su, Wall and Jin, 2016a). Thus, supporting the evaluation of communities taking part in community-based tourism is another way to investigate the sustainable development (Zapata et al., 2011). According to UNWTO, the UNEP, the UN Foundation, and the Rainforest Alliance in 2008, sustainable tourism itself should have the following objectives: the maximum profit for local communities, reducing the negative impact on the local indigenous culture, reducing the damaging impact on the natural environment, and the existence of sustainability planning (UNWTO, 2011). So that the analysis of the sustainability principle must be used in order to fulfil the requirements of the present without jeopardizing the potential to fulfil the needs of future generations, sustainability must be practiced. In conclusion, when tourism-related activities increase, issues related to sustainability become an issue that can be avoided.

2.8. Participatory in Rural Community-Based Tourism.

Participatory means including interested parties in decision-making via both transparent and participatory procedures (Corral et al., 2016). Participatory also refers to involving the public. Besides authenticity, integrity and outstanding universal values, cultural relativism and the participation and involvement of the locals are also important requisites in the evaluation processes of the tourism development (Harlov-Csotán, 2016). It will make visitors and locals villages mediate and negotiate the affections, memories and cultural/ historical meanings thus made and remade in this action, provides a deeper cognition of the agency of both visitors and residents (Zhang and Smith, 2019).

Lucchetti (2013) and Tolkach (2015) presented clear evidence of the importance of allocating a sufficient part of the tourism project fund to design plans for the participation of local communities in implementing the proposed tourism development plans (Garcia Lucchetti and Font, 2013; Tolkach and King, 2015). The findings confirmed the importance of paying attention to local communities' involvement, especially when discussing tourism projects' financial resources. Emphasizing the importance of the "whole" community's participation in community-based tourism, which is represented by residents, a management team, community leaders, commercial business entities, and government parties, is highlighted by many

researchers, such as Trirat (2014), Xu (2017), and Rindrasih (2018) (Trirat *et al.*, 2014; Xu, Zhang and Tian, 2017; Rindrasih, 2018). On a similar note, Mayaka (2019) and Pramanik (2019), in their published work, highlighted the differences between theoretical community-based tourism plans and the implementation of these plans. The results emphasized local communities' generous contributions in implementing the planned community-based tourism development schemes (Mayaka, Croy and Wolfram Cox, 2019; Pramanik, Ingkadijaya and Achmadi, 2019).

Rural tourism activities enable rural communities with less desirable tourism resources to develop close links with one another and to build a sense of community pride. Moreover, this encourages community participation in the village to become more active (Chen *et al.*, 2018). Locally, there are two forms of community involvement: participation in management planning processes and participation in interpretation services for existing outcomes (Suvdantsetseg, Fukui and Oe, 2011). Thus, maintaining local communities' involvement and essential roles in the management of tourist destinations is one of the most important aspects of maintaining community-based rural tourism. Moreover, the degree of genuine public participation is correlated with the degree of social influence or control that the public has over the decision-making process (Jami and Walsh, 2016). This will ensure that the majority of the advantages and usages stay within the local community itself (Manaf *et al.*, 2018).

Another form of participatory is a locality which is described as the development of an innovative initiative that aimed to facilitate a closer connection between production and consumption and to connect local producers with consumers who looking for traditional products (Quaranta, Citro and Salvia, 2016). Local communities appear to be the key to implementing sustainable tourism practices, as they are the ones most impacted by uncontrolled and unsustainable tourism growth (Figueroa and Rotarou, 2016). Therefore, people's support for tourist development is determined by how they see the effects of tourism development (Rasoolimanesh *et al.*, 2017). As a result, as tourism activities become business activities that are more accessible and involved local communities, participation becomes necessary in the case of tourism villages and is defined as the participation of local communities.

The forms of community participation that have been expressed by Suvdantsetseg *et al.* (Suvdantsetseg, Fukui and Oe, 2011) can be further investigated. Moreover, management planning processes and participation in interpretation services for existing outcomes can be explored to find out the activities involved in that engagement in a more detailed form. As a result, we will be able to understand more about the role of rural tourism communities in tourism activities in their region. Exploration of the uniqueness of local products can also be an interesting topic because the uniqueness of each destination will certainly be specific. This is in

line with the opinion of Quaranta et al. (Quaranta, Citro and Salvia, 2016) that a typical locality can connect the needs of visitors. However, the impact of tourism development, such as the research by Rasoolimanesh et al. (Rasoolimanesh et al., 2017) is also good to study in order to find out the opinion of residents about their role in a tourist village.

2.9. Disasters Mitigation Management in Rural Tourism.

Disasters frequently resulted in major decreases in destination image and reputation, increased concern for safety, damage to infrastructure, and loss of agricultural land, according to the perspective of community-based tourism in rural areas (Kamarudin, Wahid and Chong, 2020). Immediate response needs to be applied in a disaster, but many activities occur before and after a disaster. Thus, local communities' role in designing and implementing disaster relief efforts is prominent (Kovács, Matopoulos and Hayes, 2010). The UN defines a disaster as a significant disturbance of a community or society that has widespread effects on human, material, economic, or environmental losses that are more than what the affected community or communities are able to overcome using their own resources (UNISDR, 2009). Therefore, Crisis/ disaster mitigation benefit is becoming community benefits. The welfare values that the community receives as a result of a natural hazard mitigation method are known as the social benefits that accrue to the community (van den Honert, 2016).

Mitigation seeks to prevent harmful events and, if possible, reduce the severity that occurs, and minimize loss and subsequent damage (Miller et al., 2016). Thus, mitigation products and services are very relevant objectives so that tourists can travel safely (Orishev et al., 2020). Managing the spatial overlap between farm and off-farm activities, in this case, tourism is needed so that damage to nature does not spread into a disaster for humans (Sasaki et al., 2021). In the future, there is an urgent need to identify, analyze and better understand the multi-hazard, systemic and cascading nature of the disaster to have an integrated model that can be assisting in the preparation and response to disasters (Sriram, Dorasamy and Vipul, 2022). As a consequence, tourism development must pay attention to natural resources, environmental, community, and tourism impact factors to minimize future disasters (Su, Wall and Jin, 2016a).

According to Kamarudin et al. (Kamarudin, Wahid and Chong, 2020), a crisis that is not resolved will negatively affect a variety of aspects of the tourist village. This is in line with the statement of Miller et al. (Miller et al., 2016) that mitigation is important as a preventive measure for tourism village managers. There is still not enough production of manuscripts related to crises/disaster mitigation in this area which will be an opportunity for a large gap in this issue. Future attention will be given to minimizing potential future disasters, as stated by Su et al. (Su, Wall and Jin, 2016a), will be paid if there is more research on crises/disaster

mitigation. Additionally, Sasaki et al.'s (Sasaki et al., 2021) suggestion that spatial management is a crucial issue can be connected to biodiversity, protected areas, and pandemic prevention should be addressed. The tourism sector has a wide range of difficulties, including "economic instability, recession and stagnation, social instability, war/terrorism that should be maintained well (Kim *et al.*, 2018). Another research indicates that a variety of security issues, such as terrorism, political unrest, war, and so forth, might have a direct or indirect negative impact on the expansion of the tourism industry (Akamavi, Ibrahim and Swaray, 2023). Furthermore, when hundreds of millions of visitors become marketing targets, disaster mitigation becomes essential. The study results show that public mitigation has positively less total damage from the disaster; however, the policymakers are advised to improve mitigation to control disaster (Akhter et al., 2020).

2.10. Decision Support System (DSS) in Rural Community-Based Tourism Business.

As a tourism alternative, community-based tourism bases its activities on the business and identity of its residents. A strong relationship between the destination and the residents who occupy it to become a tourism business entity is the main content of community-based tourism activities (Murphy, 2014). The involvement of the community in a site that declares itself to be a community-based tourism organization is the most crucial component of community-based tourism (Novelli and Gebhardt, 2007). Adjustments made by the community when entering the tourism business market will inevitably affect the behavior of the local community (Murphy and Murphy, 2004). Community-based tourism is present in many different geographical areas of the world, in particular in developing countries (López-Guzmán, Sánchez-Cañizares and Pavón, 2011). The process in the business entity should follow a facilitative approach that it is "not owned/controlled by external agents and its aim should be to make the local community not merely participate, but also to own and control (and be able to manage) tourism facilities and the development process (Giampiccoli and Saayman, 2018). Community-based tourism is a tourism industry activity, community-owned and operated, and managed or coordinated at the community level that contributes to the well-being of communities through supporting sustainable livelihoods and protecting valued socio-cultural traditions and natural and cultural heritage resources (The ASEAN Secretariat, 2016).

The decision-making process involves many factors. Svenson (1997) stated that a decision-maker might apply one or more decision rules on the set of choice alternatives. Sometimes, different subjects perceive the same objective decision problem differently and react concerning their perceptions (Svenson, 1979). Some decision-making techniques are only to increase the degree of suitability and coherence between the process and the decision-making

value system to reduce the value of ambiguity, uncertainty, and many ramifications (Roy, 1990). The determination of various alternatives for setting organizational goals/targets also influences dynamic final decision making (Abbas and Matheson, 2005). Emotions serve an essential function in decision making and employ a broader perspective when assessing the outcomes of coordinating cognition and behavior (van der Pligt, 2015).

The decision-making process itself goes through multiple phases. First, it is necessary to identify a problem and determine who the decision-makers and stakeholders are in the decision process. The second part of this step is to define requirements to obtain a list of absolute necessities and goals. Steps 3 and 4 - Model Development and Alternative Analysis: After the alternative generation and selection of fitting alternatives, the next step is the model development to measure the alternative's effectiveness (Felsberger, Oberegger and Reiner, 2017). It is important to pay attention to the tourism development process because there is still a need to strengthen the coordination and integration of ecological protection and tourism business related (Cheng *et al.*, 2023).

The use of DSS in business also has been widely used. In USA, applying the Visitor Experience and Resource Protection (VERP) Framework is a common activities for tourism planning in the U.S National park (Fefer *et al.*, 2018). As we can see, the typical DSS serves many functions, which makes arriving at a simple but comprehensive definition of a DSS more complicated than it may first appear (Marakas, 2003). A change in the user community DSS applications has generally been implemented in commercial environments where users are employees of the firm, not limited to the managers and experts working on business-related problems and general consumers for consumer decision-making (Bharati and Chaudhury, 2004). A DSS is a system under the control of one or more decision-makers that assists in decision-making, providing an organized set of tools intended to impose structure on portions of the decision-making situation and improve the decision outcome's ultimate effectiveness (Marakas, 2003). It also should be recognized that there is a wide range of sustainable decision problems which are likely to require different approaches since DSS are relatively underused in sustainable decision making (Hersh, 1999).

DSS is expected to extend the decision maker's capacity in processing the mountain of information involved in making a decision (Marakas, 2003). In developing tourist villages or community-based tourism businesses, decision-making is based on input from communal opinion. The information obtained is then processed by stakeholders, including the management team and the informal leader, to determine appropriate decisions (Deuchar and Milne, 2016; Rindrasih, 2018). Even some places where tourism development decisions tend to be top-down are government decisions (Cornet, 2015; Lor, Kwa and Donaldson, 2019). In several other

areas, the findings in running tourism organizations are held by Destination Management Organizations (DMO)(Adeyinka-Ojo, Khoo-Lattimore and Nair, 2014; Abou-Shouk, 2018). Information retrieval will undoubtedly be impacted by a variety of input data, experiences, and emotional values, as previously noted by van der Pligt (van der Pligt, 2015).

Several categories affect the role of use DSS, which are Operational Factors (availability, performance), Functionality (feature set, capabilities), Demographics (type, size, and geographic location of the user), user experience (usability), and accountability (Dean and Kadambi, 2000). From the decision-making models in community-based tourism development activities and the DSS contribution, there is no linkage to using this technology for community-based tourism players. There has not been found extensive use of DSS for the community-based tourism business. In other words, decision-making in planning and development of rural tourism areas has not used DSS. If there is organized information quality and system quality, it will influence decision-making satisfaction (Bharati and Chaudhury, 2004).

2.11. Conclusion of Literature Overview.

In general, the marketability, sustainability, participatory, and disaster mitigation in one comprehensive scientific production that related to RT was poor and most of the articles published in this field discussed the aspects separately. This huge potential gap becomes an opportunity for further research to examine these four aspects as well as their relationship to RT. A more comprehensive notion of RT and marketability, sustainability, participatory, and disaster mitigation will be gained if we can encapsulate the entire concept that already exists and then fill it with research gaps that we will explore for answers to. Using the aspects of marketability, sustainability, participatory, and disaster mitigation for building a DSS tools approach is needed to pave the understanding of every stakeholder in community-based tourism business comprehensive development. Thus, it also can be assumed that marketability, sustainability, participation, and disaster mitigation management variables can play a role in forming a Decision Support System (DSS).

3. MATERIALS AND METHODS

This research uses mix-method bringing quantitative and qualitative approach. In order to create detailed and thorough understandings, mixed methods research purposefully combines the views, methodologies, data formats, and analytical techniques of both quantitative and qualitative research (Plano Clark and Ivankova, 2016; Creswell and Clark, 2017). The quantitative will be using VOSviewer and the qualitative will be using depth interview data. The variables used in this analysis to asses' contents are aspects of Marketability, Sustainability, Participatory, and Disaster Mitigation Management (MSPDM).

In rural community-based tourism destinations there are several tourism attractions and its potential. First, the attractions and potential mapped and recorded subsequently prepared as contents. According Haggarty (1996) content analysis is a research method which allows the qualitative data collected in research to be analyzed systematically and reliably so that generalizations can be made from them in relation to the categories of interest to the researcher (Duran, 2013). The elements of the MSPDM variable will be examined on the activities and attractions of the tourist village in several locations. Confirmation through interviews and field observations will be explored to obtain comprehensive data on the variables working on the MSPDM aspect. Furthermore, the variety of attractions are then assessed by the parameters derived from the variables contained in Marketability, Sustainability, Participatory, and Disaster Mitigation (MSPDM).

3.1. Types and Sources of Data.

Primary data is obtained and observed through field monitoring. Observation technique is the first step of the research (Duran, 2013), within this context, the whole of the events and fields of community-based tourism destinations were considered as part of the observation activities. Stakeholders (local people, and business player) in-depth interviews conducted to fulfill assessment and indicators of MSPDM where available. Primary data was taken from five community-based tourism destinations in Indonesia and Hungary which were considered successful in tourism activities provided by the international authority body, namely UNWTO (The United Nations of World Tourism Organization). To reduce the impact of saturation, pragmatism, and a priori concerns in selecting qualitative samples, efforts are needed to reduce them (Sim *et al.*, 2018; Vasileiou *et al.*, 2018). Therefore, the effort made is to use parameters that can be agreed upon by many tourism businesses and researchers in the world by using UNWTO's recognition. The recognition from UNWTO is that we use the acknowledgement or achievements as the known rural tourism destination that UNWTO conducted. With the

UNWTO's recognition as tourist village destination, the sample was selected. In this way, the effects of saturation, pragmatism, and a priori concerns in selecting qualitative samples are minimized. However, even though there are no provisions regarding the number of samples in qualitative research, it can be recognized in common sense that the greater the number of locations studied can further improve the quality of the findings.

The next step of this research is to make a generalization from 5 (five) different community-based tourism destinations and pull the conclusion by its as primary data and ssecondary data from the field observation to examine the work concept of MSPDM variables analysis. The sample selection based on the UNWTO best rural tourism criteria is expected to minimize bias since the destinations have undergone a previous selection process by the international legitimate body. As a results, generalization is reasonable. Generalizing is very good for demonstrating that some idea works in practice (Rossi, Purao and Sein, 2012). The word 'generalize', is from something particular to something more general. A representative case can help identify the characteristics of demi- regularities in the population to which the case belongs (Tsang, 2014).

Primary data taken from three community-based tourism destination in Indonesia and two locations from Hungary which is considered success in tourism activities. These locations are Nglanggeran tourism village and Pentingsari Tourism Village in Yogyakarta Provence which received the 2017 community-based tourism Award by the Ministry of Tourism (Ministry of Tourism, no date). The third location is Penglipuran village in Bali, which was awarded the cleanest village in the world in 2016 (Ministry of Tourism, no date). The fourth and fifth location are Hollókő old village and Tokaj wine region in Hungary. Primary data is obtained and observed through field monitoring. Observation technique is the first step of the research (Duran, 2013). Within this context, the whole of the events and event fields of community-based tourism destinations were considered as part of the observation. Stakeholders (local people, government, business player) in-depth interviews conducted from these areas to comment about assessment and indicators of MSPDM.

Interviews were then conducted with selected community-based tourism informants. The selected informants are community-based tourism managers, local residents, and owners of business units related to tourism activities at the location. The themes of the questions are to confirm the variables in MSPDM and the elements in it. In addition, it will also be asked whether these parameters can work to measure the achievement and planning of a community-based tourism. The results of the interview will then be compiled, and conclusions drawn to determine whether the concept of using MSPDM variables is acceptable or not. Content analysis is used to

support the understanding of existing objects or processes and their relationship with other information. We construct a novel data set consisting of the interviews.

3.2. Quantitative Analysis.

Secondary data obtained in this study is from previous research literature from Scopus Database. Databases from Scopus will be processed quantitatively with the VOSviewer bibliometric analysis application. A bibliometric technique was employed in conjunction with library research and descriptive analysis. The goal of bibliometric analysis is to track the evolution of scientific article publishing and contributions (Zakhiyah, Suprpto and Setyarsih, 2021). Many factors can be attributed to the use of its analysis in the current paper and allow rigorous study to the discovery of emerging trends (Kabil, Priatmoko and Magda, 2021; Silva, Silva and Vieira, 2023). In this study, researchers focused on international journal publication from Scopus database. The Scopus database is widely considered as the world's largest citation and abstract database. It meets stringent quality standards, including the Scimago Journal Rank (SJR), as well as being simple to access, download, and use data. Bibliometric research in a variety of academic subjects have also used the Scopus database (Elsevier, no date; Herrera-Franco, Montalván-Burbano, Mora-Frank and Moreno-Alcívar, 2021; Kabil, Priatmoko and Magda, 2021)

The article metadata was acquired from Scopus database searches over a period of time, and we used a database over the last 10 years in this study. The papers we utilize have already been published in journals and conferences. We employ keyword criteria that are tailored to the study's objectives. This study demonstrates a four-stage methodological quantitative process (see Figure 4): i) search criteria, ii) initial search results, iii) data cleaning, and iv) data analysis.

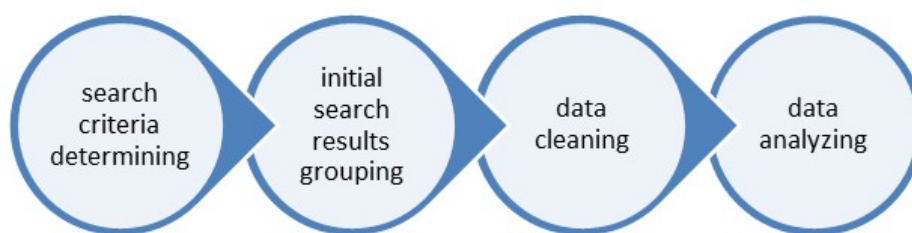


Figure 4. The order of quantitative process
Source: Author, 2023

Stage I-Search criteria: The first step for conducting bibliometric analysis in this study is extracting the rural tourism businesses articles from the databases. Accordingly, Scopus was the main database that was relied upon to extract the various published articles related to rural tourism businesses in this study. The Scopus database is considered the world's transdisciplinary largest citation and abstract database (Burnham, 2006). It meets stringent quality standards, as well as

being simple to access and download datasets (Shrivastava and Kumar Dwivedi, 2020; Herrera-Franco, Montalván-Burbano, Mora-Frank and Bravo-Montero, 2021; Kabil, Priatmoko and Magda, 2021).

Four proposed search queries were organized to extract the records from the Scopus database, each search query linked rural tourism businesses with one of the aforementioned driving forces that shaped the complicity picture of these businesses (marketability, participatory, disaster, crisis mitigation and sustainability). Different keywords and the most common synonyms were used in a form of “loose phrases” that were detected by Scopus as terms enclosed in double quotation. Furthermore, the Boolean operators "OR" and "AND" were employed to find the records. It was also followed by a thorough review by the authors to ensure that the collected publications matched the study's objectives. Table (1) depicted the search queries used for each driving force that affected the rural tourism businesses. The Boolean operators used in this data collection are as follows (see Table 3 below):

Table 3. Boolean Operators search queries of each rural Community-Based Tourism Business

Elements	Search Query*
Marketability	((TITLE-ABS-KEY ("rural tourism" OR "rural tourism business*" OR "rural tourism enterprise*")) AND (TITLE-ABS-KEY (village OR mountain OR lake OR river OR coastal OR indigenous OR forest* OR remote OR traditional OR agriculture* OR heritage))) AND (TITLE-ABS-KEY (market*))
Participatory	((TITLE-ABS-KEY ("rural tourism" OR "rural tourism business*" OR "rural tourism enterprise*")) AND (TITLE-ABS-KEY (village OR mountain OR lake OR river OR coastal OR indigenous OR forest* OR remote OR traditional OR agriculture* OR heritage))) AND (TITLE-ABS-KEY (participat*))
Disaster Mitigation	((TITLE-ABS-KEY ("rural tourism" OR "rural tourism business*" OR "rural tourism enterprise*")) AND (TITLE-ABS-KEY (village OR mountain OR lake OR river OR coastal OR indigenous OR forest* OR remote OR traditional OR agriculture* OR heritage))) AND (TITLE-ABS-KEY (disaster OR cris* OR risk OR mitigat*))
Sustainability	((TITLE-ABS-KEY ("rural tourism" OR "rural tourism business*" OR "rural tourism enterprise*")) AND (TITLE-ABS-KEY (village OR mountain OR lake OR river OR coastal OR indigenous OR forest* OR remote OR traditional OR agriculture* OR heritage))) AND (TITLE-ABS-KEY (sustaina*))

* Note: The records collected by these research queries were refined by the authors based on their relevance to study objectives.

Source: Author, 2022

Stage II-Initial search: The data were extracted from the Scopus database in December 2021. Choosing Scopus as the main database for extracting the relevant articles for conducting the bibliometric analysis was based on various reasons. Firstly, Scopus provide a broader overview of several journals in the intellectual capital field from 1956 to 2020 (Al-Khoury et al., 2022). Secondly, Scopus also provides access to important, top-notch research being under-taken and

published in developing countries due to its greater coverage of emerging markets. This helps many scholars all over the world to have a more comprehensive grasp of fair access to information (elsevier.com, no date). Thirdly, selecting Scopus as the main database in this study was supported by the choice of many researchers who conducted bibliometric analysis in different scientific fields using only the Scopus database, including tourism studies.

The search refinement was quite limited in this study, where any records before 2012 were excluded. As we focused on identifying the rural tourism businesses as part of community-based tourism challenges in the last 10 years. Papers from 2022 were also omitted because the scientific publication is still ongoing and was not complete yet when this research was starting. The obtained records were downloaded in CSV (comma-separated values) format. These data include various variables such as the author's bibliography, affiliation, keywords and references. Additionally, English manuscripts only were adopted in this study.

Stage III-Data cleaning: From the data obtained, we carried out data cleaning by checking the suitability of the contents of the manuscript theme, duplication, and the manuscript retracted by the publisher. Furthermore, by using VOSviewer can be known cluster and word link-strength. A cluster is a set of items included in a map. and the word link-strength is. The Links and Total link strength attributes indicate, respectively, the number of links of an item with other items and the total strength of the links of an item with other items (van Eck and Waltman, 2021). Thus, the word link strength defines the words linked with others. The words in the clusters are then checked and cleaned of words that are just conjunctions or words that have no related meaning.

Stage (IV): Data Analysis: This study relied on VOSviewer as the main software to conduct bibliometric analysis. Despite there are various bibliometric analysis software and tools (e.g., Bibexcel, R, CitNetExplorer, SciMAT, Gephi, HistCite, etc.), this study selected VOSviewer because it presents collections of comprehensive analyzing and visualization tools such as intellectual networks and clusters graphs (van Eck and Waltman, 2021). From the data obtained, we carried out data cleaning by checking the suitability of the contents of the manuscript theme, duplication, and the manuscript retracted by the publisher. Furthermore, by using VOSviewer can be known cluster and word link-strength. A cluster is a set of items included in a map and the word link-strength is. The Links and Total link strength attributes indicate, respectively, the number of links of an item with other items and the total strength of the links of an item with other items (van Eck and Waltman, 2021). Thus, the word link strength defines the words linked with others. The words in the clusters are then checked and cleaned of words that are just conjunctions or words that have no related meaning. Firstly, the VOSviewer maps feature enables the creation, exploration, and visualization of two-dimensional bibliometric networks that are simple to analyze and implement in a specific research topic (Herrera-Franco, Montalván-Burbano, Mora-Frank and

Bravo-Montero, 2021). Secondly, we examined the item on VOSviewer's action panel that contains word clusters. Data analysis is conducted by investigating the visualization results in both network formats: overlay and density. In addition, the word clusters formed by the VOSviewer software have been investigated. Each dominant cluster on each research topic (driving force) will show themes based on the most linked keywords that appeared in the articles published on this topic. Generally, keywords are considered one of the most significant components of any research paper that seeks to identify the primary research issues in various scientific research fields (Gao et al., 2021; Kabil, Priatmoko and Magda, 2021).

3.3. Qualitative Analysis.

Even though, the power of the contacts in rural areas where unique relationships, it should be carefully scrutinized to ensure that integrity of the research process is maintained (Pierce, Carolyn DSN and Scherra, Elizabeth RN, MS, 2004). Tourism attractions and any potentials is analyzed as contents and collaborated among all. Content analysis is a research method which allows the qualitative data collected in research to be analyzed systematically and reliably so that generalizations can be made from them in relation to the categories of interest to the researcher (Duran, 2013).

All contents is provided by local people and visitors in community-based tourism area which will be collected by interview, observations, and document collections. The concept of bottom-up development presupposes that all sections of the community are adequately informed about the nature and consequences of tourism development and this opportunity become their participation on the course of that development (Deuchar, 2012). So researcher and local community will collaborate and elaborate about the attraction and other aspect in tourism bussines. Collaboration works best when an enabling environment is created to encourage activities that came from organic and originate the grassroots level too (Deuchar and Milne, 2016).

The dataset used in this research was based on three primary sources: in-depth interviews, non-participant observation, and drawing the attractions and activities based on marketability, sustainability, participatory, and disaster mitigation aspects. Firstly, in-depth, semi-structured, and open-ended scripted interviews were conducted in Penglipuran Village, in Bali Provence, Nglanggeran village, and Pentingsari village, in Yogyakarta provence, Indonesia. Holloko old village and Tokaj wine region in Hungary also the location where the data obtained. However, we carefully conducted personal interviews in certain situations and involving the local language to provide richer data and more significant insights into phenomena than the questionnaires could. It was also used to reduce the skewness of studying recreational

ecosystem services by capturing diverse viewpoints (Chakraborty, Saha and Ahmed Selim, 2020).

Secondly, the field observation collected data using the non-participant observation model. Non-participant observation requires observing without deliberately participating participants (Given, 2008). The results of observations by observers are reported in the form of descriptions and photographic documentation.

Lastly, the triangulation process was used to collaborate with the data. All three previously mentioned kinds of data—in-depth interviews, non-participant observation, and drawing the attractions and activities—were triangulated and confirmed each other. A triangulation study incorporates qualitative data alongside a literature review to clarify the difference between ideals and facts. Studies that use triangulation may include two or more data collection sets using the same methodology to add richness and depth to a research inquiry and explain different aspects of the phenomenon of interest (Heale and Forbes, 2013; Noble and Heale, 2019).

The collected data were triangulated through the triangulation process, then processed to get conclusions (see figure 5.).

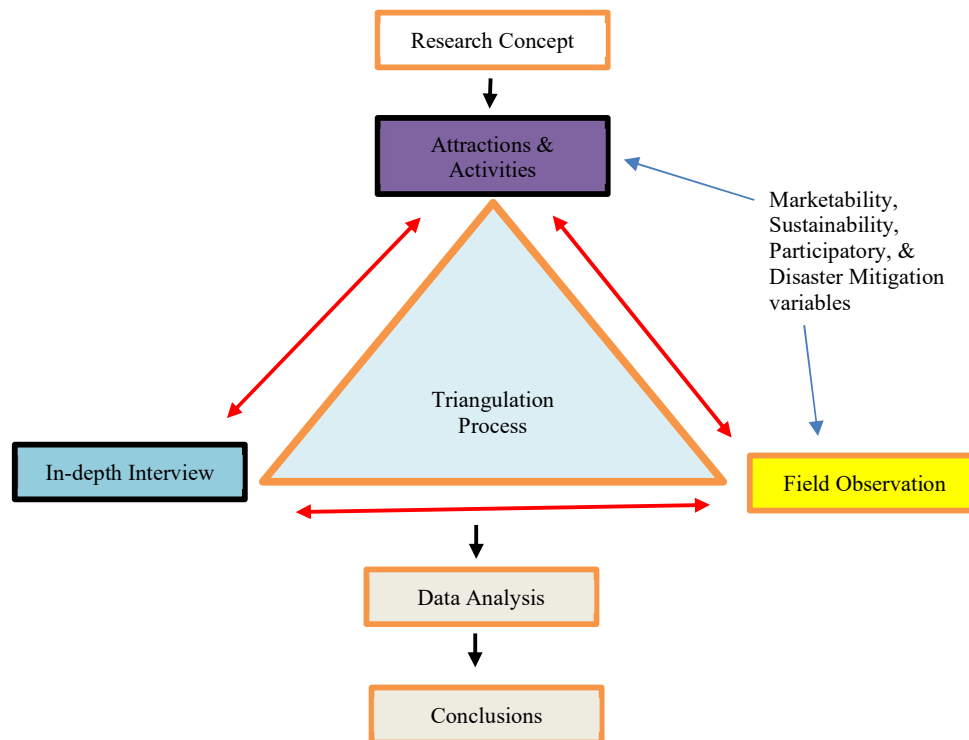


Figure 5. The process of qualitative work
Source: Author, 2023

Finally all the combined research process can be seen on figure 6, as below.

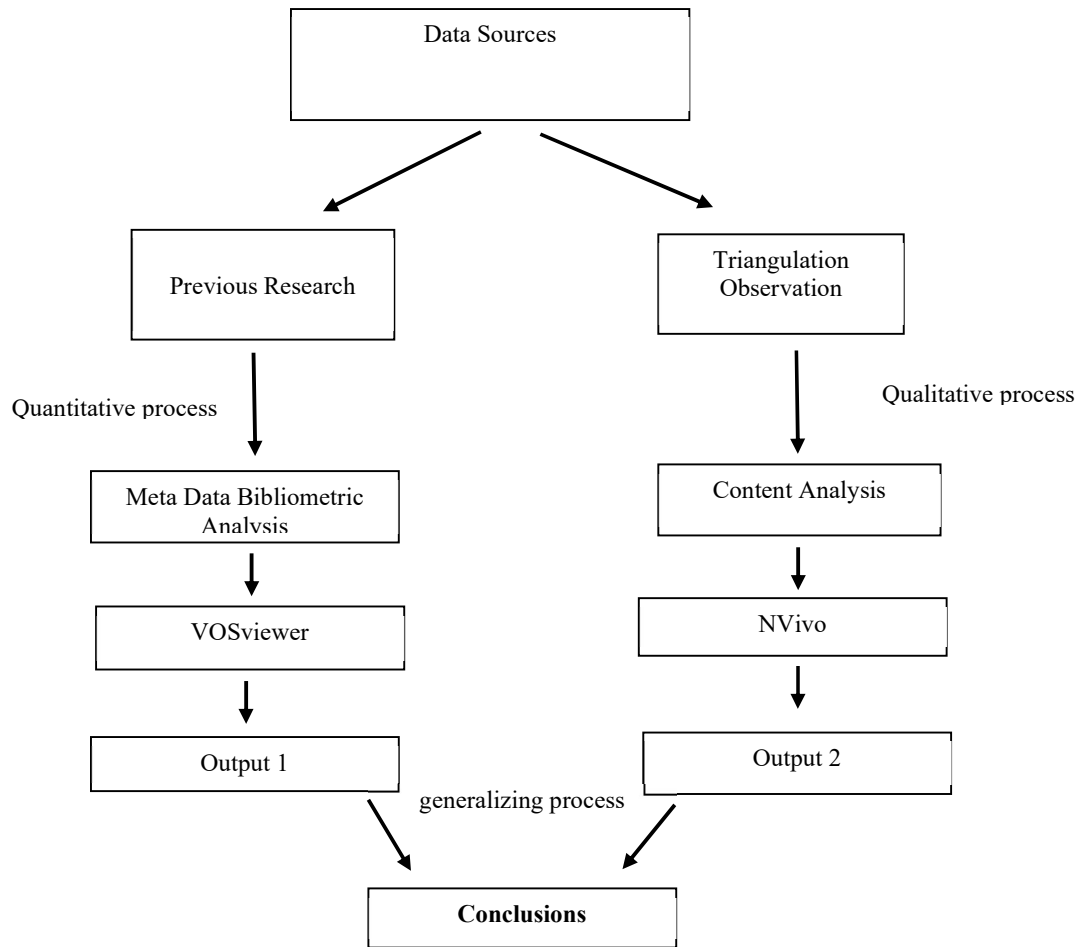


Figure 6. Combined quantitative and qualitative research process
Source: Author, 2023

3.4. Location of the samples obtained.

The sample locations for rural tourism destinations were chosen based on the UNWTO's recognition of those locations as suitable for rural tourism destinations. We selected five locations, as shown in Table 2 and figure 3 below, with their main attraction.

Table 4. Sample Locations and Main Attractions

Population	Hollókő old village	Nglanggeran village	Penglipuran village	Pentingsari village	Tokaj wine region
	311 (2023 census)	2700 (2021 census)	1111 (census 2021)	5432 (2022 census)	3801 (2023 census)
Main attractions	well-preserved traditional architecture	ancient geological formation	Balinese traditional settlement	Javanese culture and rural life	authentic winemaking
	living village museum of history and culture	ancient volcano trekking	well-preserved traditional architecture	shadow puppet	traditional wine cellars
	Hungarian cuisine	traditional cuisine	bamboo garden	participating traditional ceremony	vineyard tour
	Cultural festivals & natural attractions	local tropical fruits	cleanest rural tourism destination	traditional farming	natural/ river attraction
	old castle	traditional rural lifestyle	traditional rites and	volcano tour	historical spot
Development theme	preserving old architecture	national geosite	preserving old architecture & way of life	preserving old traditional rural life	preserving Hungarian signature winemaking
Awards	World Heritage Site by UNESCO since 1987	2017 ASEAN CBT Award	2023 UNWTO Best Tourism Villages	2017 Indonesia Sustainable Tourism Award (ISTA)	2002 the region was declared a UNESCO World Heritage Site
	2021 UNWTO Best Tourism Villages Upgrade Programme	2018 Top 100 Sustainable Destinations Global Green Destinations Days (GGDD)	2017 ASEAN Tourism village standard	2023 ASEAN Tourism Forum (ATF) Best Tourism villages	2023 UNWTO Best Tourism Villages
		2015 UNESCO Global Geopark (UGGp)		2013 UNWTO for Private Sector Commitment to the	2023 Decanter WWA Platinum awards
		2021 UNWTO Best Tourism Villages			

Source: Author's generated, 2023

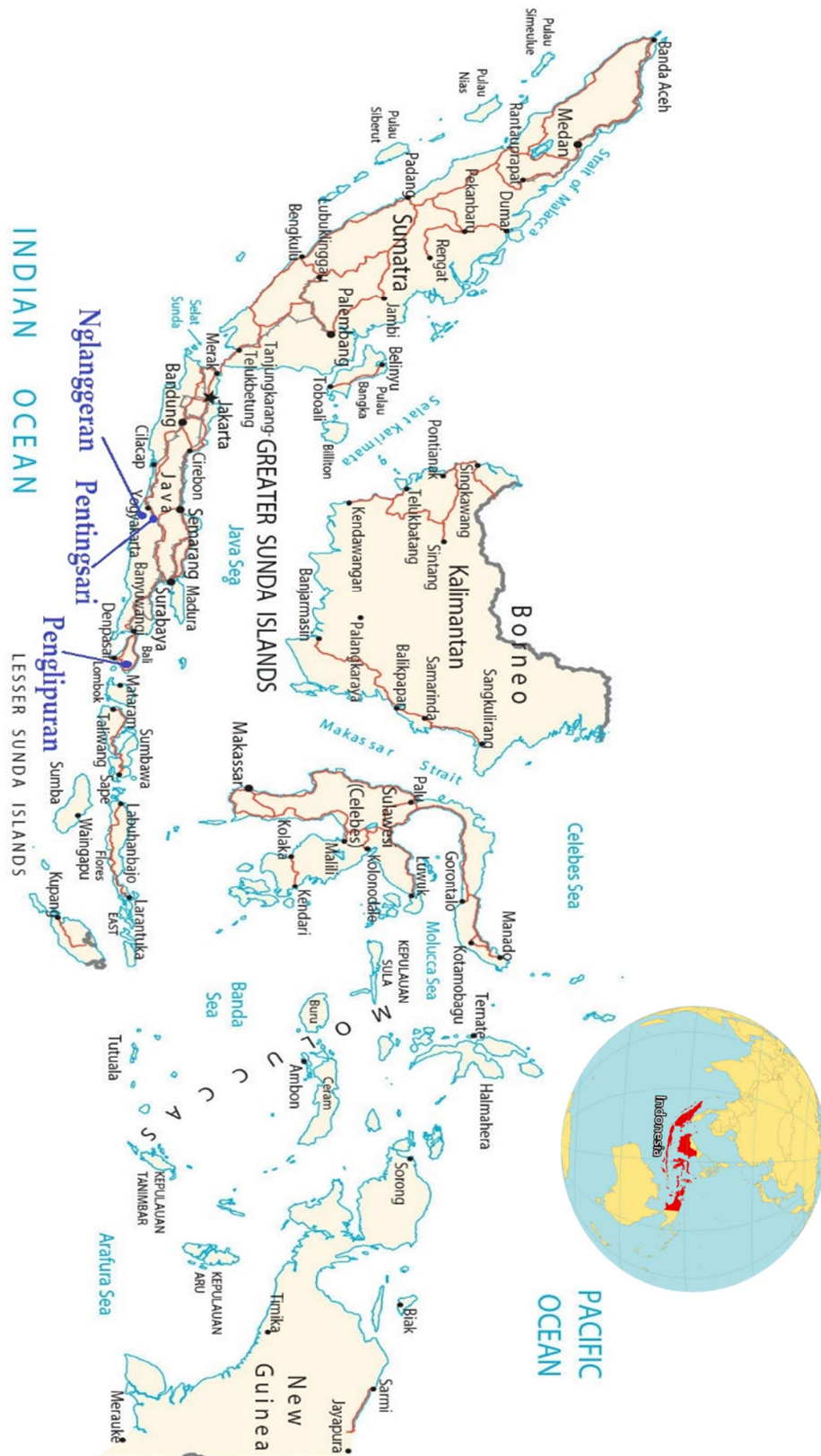


Figure 7. Indonesian Rural Sample Locations
Source: <https://gisgeography.com>. Edited 2023

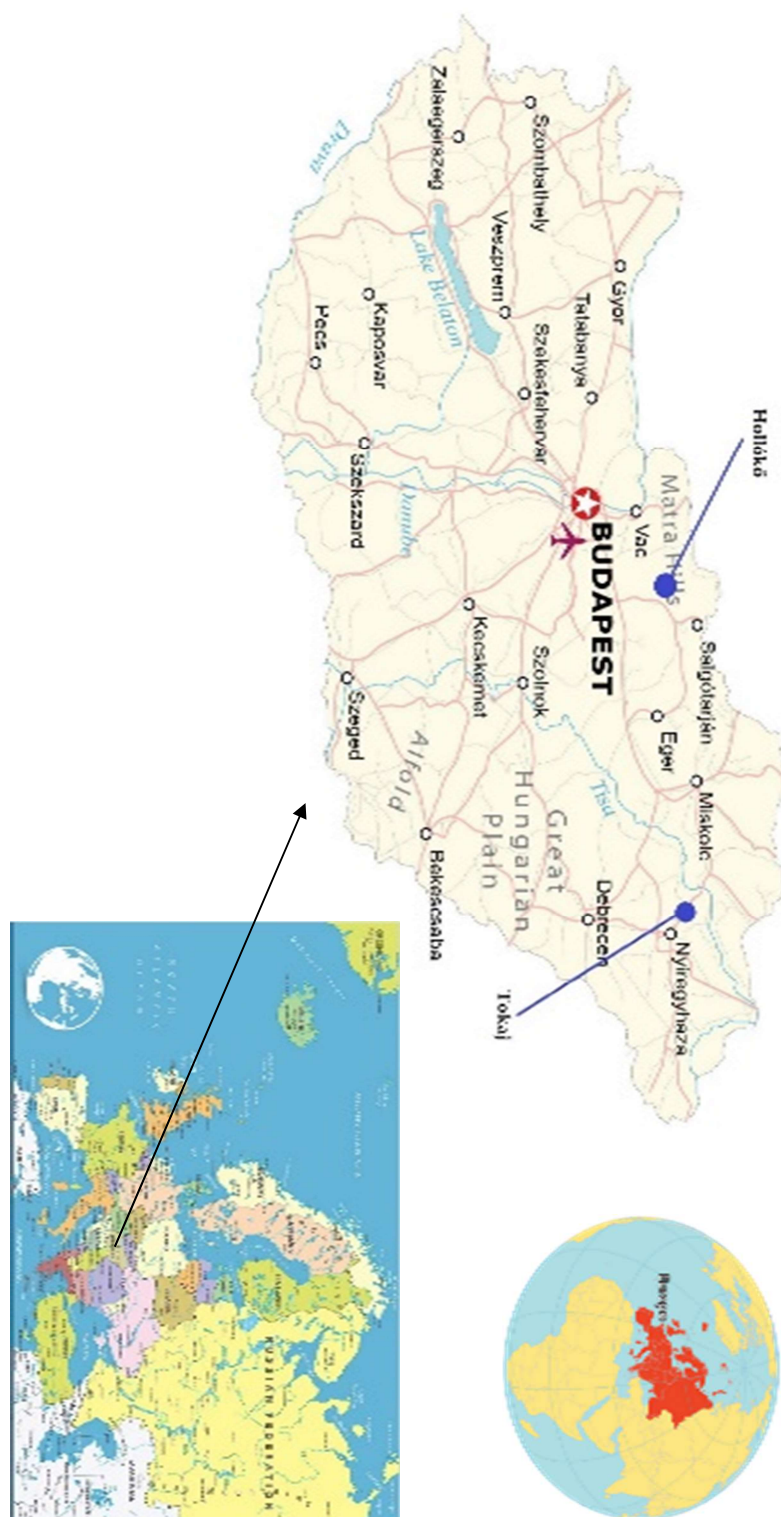


Figure 8. Hungary Rural Sample Locations
Source: <https://gisgeography.com>. Edited 2023

4. RESULTS AND DISCUSSION

Therefore, an effort has been made to address the research questions as part of the study. This section describes the study and the methodology used, and provides an analysis of the data found.

4.1. Quantitative Analysis Results.

Many definitions of rural tourism and finally make the term as an umbrella term (Ayazlar and Ayazlar, 2015). However, almost all parties agree that rural tourism activities have a positive impact on the community and for conservation, both for the environment and way of life. One of prominent rural tourism form is community-based tourism. Rural community-based tourism, one of which is characterized by slow tourism, seems to be an antithesis for more massive tourism activities, mass tourism (Guiver and McGrath, 2016). It is also considered a more responsible form of tourism since it places quality of life as its core (Goodwin, 2016).

Examining research subjects relevant to rural tourism can help to enhance and deepen this understanding of community-based tourism. So that by narrowing the issue, we may understand a phenomenon more clearly, and it will, of course, be more applicable (Pasian, 2015). Many of the research that looked at rural tourism between 2012 and 2021 were focused on specific difficulties or characteristics. However, it's fascinating to see what the current study themes in community-based tourism. Thus, understanding clusters and balancing among the various forces on rural tourism issues can help us gain a better understanding of the phenomenon and serve as a roadmap for future research (Zhang and Stewart, 2017; Kabil, Priatmoko and Magda, 2021). There are numerous tools and ways available to accomplish this. The one who popular is using VOSviewer application.

Based on metadata search results on Scopus, 678 articles were obtained for 2011-2021 with the keyword 'rural village tourism'. These words were chosen because it is an umbrella term for community-based tourism. Metadata saved in .csv (Comma Separated Values) format and .ris (Research Information Systems) will then be prepared to be visualized using VOSviewer software. First, based on the Scopus database, all 678 articles sourced from journals were selected but still adjusted to the titles and keywords analyzed, the mapping was obtained (see Fig.9).

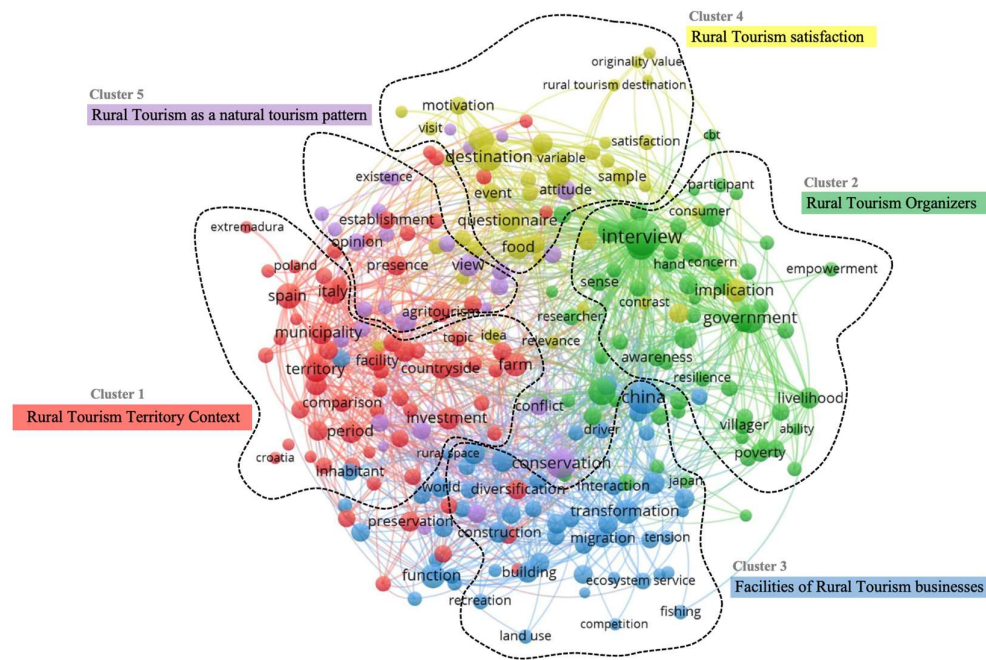


Figure 9. Co-word analysis of rural tourism visualization

Legend: Color: represents a cluster of disciplines of interest in the research field; Nodes: represents keywords (the size of node represents the keywords frequency); Links: represent relations between keywords (keywords mentioned together in published articles); Colors: represent the temporal orders of appearance of keywords; Link Thickness: represents the words strength. Note: clusters formed based on three parameters in VOSviewer software (clusters resolution 1.00; minimum cluster size 1; merge small clusters).

Source: Author, 2022 derived from VOSv

Using VOSviewer software, the co-words intellectual network has been extracted and divided into five main clusters, as shown in figure 9 above. These clusters were formed based on the total link strength of the items/words in the total network. The first cluster is the red cluster whose main theme was “rural tourism territory”. In this red cluster, the largest six keywords were territory, Spain, Italy, municipality, farm and mountain, respectively. This was not surprising based on the theme of this cluster which discussed the various geographical areas where rural tourism businesses were established. Most of the case studies discussed in this cluster’s articles were in popular destinations in Spain and Italy, which reflects the importance of rural tourism activities in these territories.

In RT cluster 1, the largest keyword is "territory" and this is not surprising because the concept of a specific area characterizes RT activities. "Spain" and "Italy" are the second and third largest words due to documents of case studies conducted in that region. The linkages of authors from Spain and Italy with authors from China, the USA and the United Kingdom in other clusters also affect the production of articles that make Spain and Italy popular (see figure 10). They (“Spain” and “Italy”) are dominating due to the volume of documents and, in particular, the strong links between authors from Spain and Italy and those from China, the USA, and the UK.

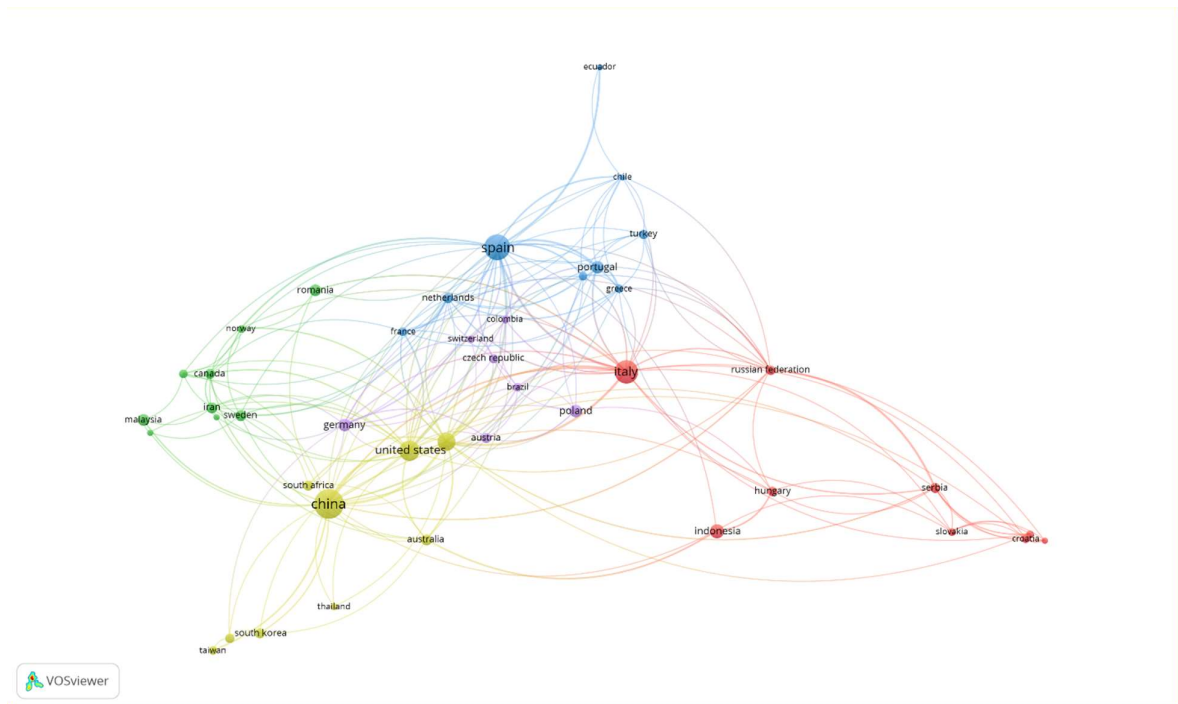


Figure 10. Country-based co-authorship

Legend; Nodes: represent keywords (the size of the node represents the frequency of the keywords); Links: represent relations between keywords; Link Thickness: represents the words strength. Note: clusters formed based on three parameters in VOSviewer software (clusters resolution 1.00, minimum cluster size 1 and merge small clusters).

Source: Author, 2022 derived from VOSv

Additionally, the rest of the strongly linked keywords in this red cluster still enhance this cluster's main topic, such as Europe, countryside and biodiversity. This means that regionally, other European countries could be attractive places for further research, for example, Visegrad Group countries (the Czech Republic, Hungary, Poland, and Slovakia). “Municipality” as a regional-level unit seems to be the focus of discussion on RT activities. This is in line with activities typical of the municipality, such as farming and agro tourism. Encouraging agricultural activities will also create a more sustainable combination for potential future research (Hoyk et al., 2022). Investment and facility are also keywords used in line with the tourism phenomenon. Seeing how important the countryside is, the European Regional Development Fund (ERDF) as one of the five European Structural and Investment Funds also finds it useful by targeting rural tourism projects in the EU (Aytuğ and Mikaeili, 2017).

Moving to cluster 2 (green cluster), the main concept of it was “rural tourism organizers”. The strongest keywords in this cluster were government, interview, empowerment, villager, improvement and livelihood. The importance of this green cluster theme is that the official support of rural tourism businesses plays a significant role in the continuity of these businesses. Additionally, this government support for rural tourism businesses will influence the local community, especially farmers.

In the cluster 2 breakdown (see figure 11) the "government" and "local communities" have an equal line in the issue of rural community-based tourism. The role of farmers and matters related to improving livelihoods and poverty problems can also be seen.

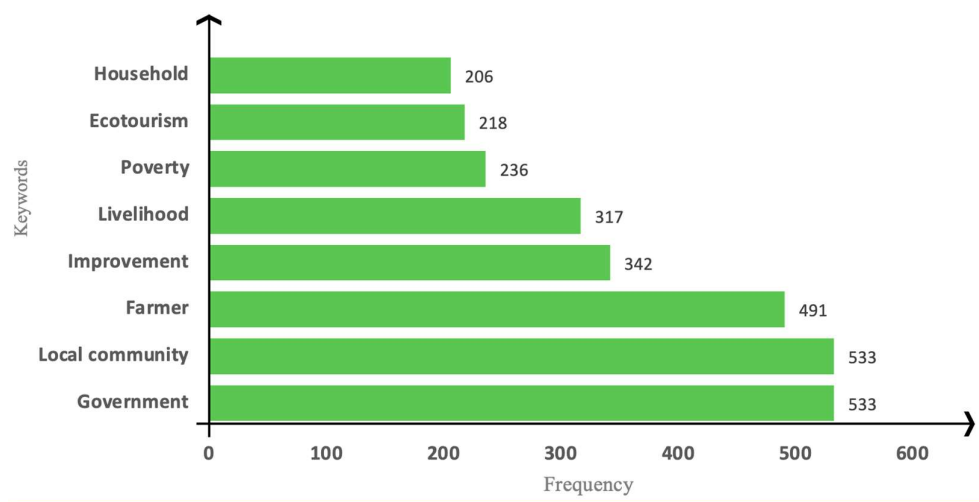


Figure 11. Cluster 2 Breakdown
Source: Author, 2022 derived from VOSv

Ecotourism and household activity are also less frequently used keywords. Yet, farming has come to be associated with rural tourism. However, ecotourism is only recognized as a generic subject that is currently being discussed as seen in figure 11 above. Therefore, a chance to uncover more specialized subjects for rural tourism activities that are connected to ecotourism and the local community appears. As a result, there is a gap that might be developed for further research, for example on rural tourism activities in the coastal area, special interest tourism in nature activities, and endemic bird watching (avitourism) in rural area.

The blue third cluster of the articles discussed rural community-based tourism business was focused on the “facilities of rural tourism businesses”. All the keywords in this cluster (e.g., transformation, function, resources, building, etc.) were centered around the strongest word in this group, China. China is currently a pioneer country in various economic fields including tourism, it is likely to show a strong link between other keywords included in the structure.

A total of 81 abstracts of the 678 articles that were discovered discussed rural tourism related in China. The majority of the abstracts in the article discuss rural tourism development, rural urbanization, rural restructuring, tourism's impact on nature and social life, the developing infrastructure, and the global tourism industry which reflects the live activities in China. This is congruent with what the VOS-viewer cluster breakdown study showed (see figure 12).

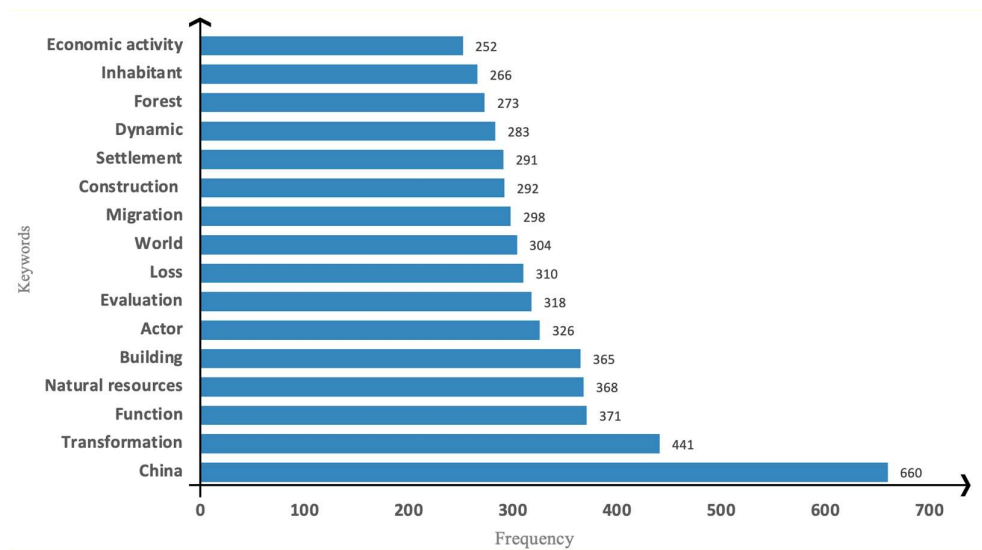


Figure 12. Cluster 3 breakdown
Source: Author, 2022 derived from VOSv

The existence of keywords such as building, construction, actor, migration, transformation, and evaluation in this cluster accordance with the most article's abstracts about China shows that there is dynamic progress in the rural tourism industry in China, which makes it an important future research direction for studies interested in rural tourism businesses.

In cluster 4 of figure 9, the yellow cluster, the main theme was “rural tourism satisfaction”. The keyword “destination” was the dominant keyword in research on rural tourism in this chapter. Flowed by keywords such as visitors, food, motivation, and satisfaction. This cluster reflects tourist satisfaction as a significant pillar that guarantees the future of rural tourism activities. Finally, the purple cluster, which is considered the weakest cluster in the rural tourism research area, with the theme “rural tourism as a natural tourism pattern”. Conservation, protected area and view were the dominant keywords in this cluster.

4.1.1. Rural Community-Based Tourism Businesses Literature Data Cleaning.

Before analyzing the relation between rural tourism businesses literature and each driving force, a revision process was carried out by researchers to identify whether the 678 records were directly relevant to this study's objectives or not. Consequently, 372 articles were excluded from the dataset. A total of 306 articles were relevant to this study's interest and these articles were divided based on the four driving forces (marketability, participatory, crisis mitigation and sustainability). Articles discussing the rural tourism businesses from a sustainability perspective appeared at the top of the list by 62% (n= 189), followed by articles that discussed the role of locals in the participation in rural tourism businesses by 19% (n=

58), then articles focused on rural tourism businesses marketing ideas and strategies by 14% (n= 43), and finally the articles addressing the idea of the ability of rural tourism businesses to mitigate different crises, risks and disasters (5%; n= 16), as shown in the following figure 13.

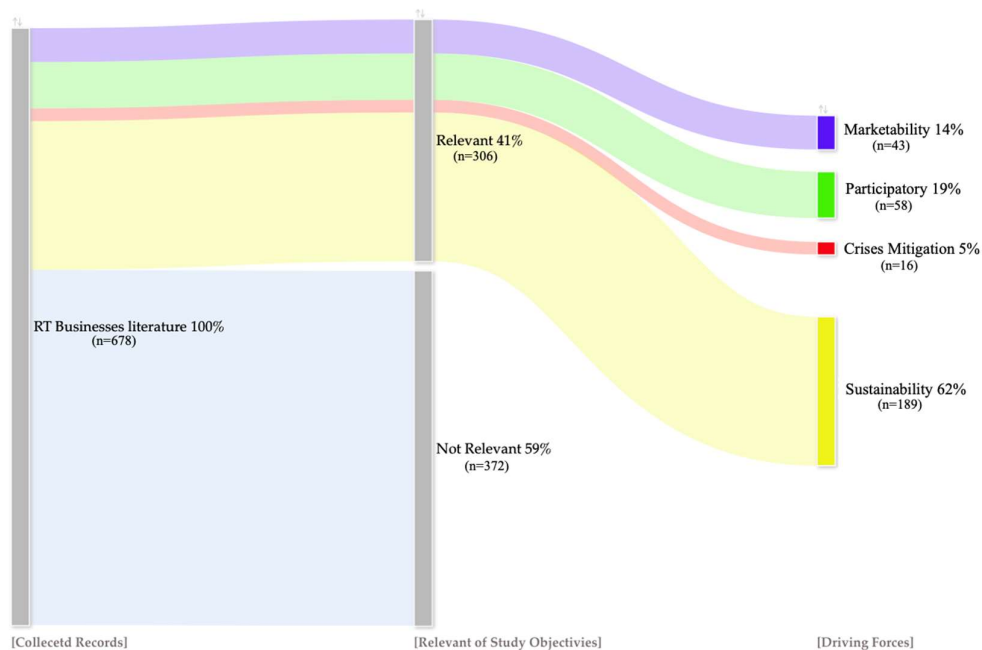


Figure 13. Segmentation of the literature based on the MSPDM aspect
Source: Author, 2022 derived from VOSv.

4.1.2. Community-Based Tourism Relation with Marketability.

Marketing which is considered one of the business tools will be something that needs to be associated with community-based tourism. Since community-based tourism is a business activity (Peña and Jamilena, 2011). Understanding ‘marketing’ as part of rural community-based tourism activities also leads to a deeper and more applicable understanding of real activities in the peripheral environment (Ajake, 2016). The main keywords that shaped this network were tourism, development, marketing, study and rural area. As all these words are considered core general words in the rural tourism field, this driving force “marketability” represented the second less important driving force for rural tourism businesses based on the scientific published articles. This may be due to the special and uniqueness of the rural tourism business, which is particularly preferred by tourists compared to other tourism patterns, which in turn reduces the motivational factors of these businesses to be more innovative and creative during marketing their different rural products and services. However, authors can help improve the discoverability of their work by adopting more concise terminology, such as by utilizing words that have distinct, unambiguous meanings (Hocevar and Bartol, 2021). Thus, marketing in rural tourism activities can be seen as a common topic that can be developed

more.

It must be recognized that community-based tourism is a commercial endeavor. Thus, as a business, there are management activities to be discovered. The concept of marketing mix, which is looking at a company activity with the components of marketing activities in it, can help us comprehend business in this business (Goodwin and Santilli, 2009; Peña and Jamilena, 2011; Priatmoko and Purwoko, 2020). UNWTO also states rural community-based tourism has a high potential to stimulate local economic growth and social change because of its complementarity with other economic activities, its contribution to GDP and job creation, and its capacity to promote the dispersal of demand in time (fight seasonality) and along a wider territory (UNWTO, no date).

In research on marketing and rural tourism issues, 43 articles were found in the Scopus database. The mapping articles can be seen in the figure 14 below.

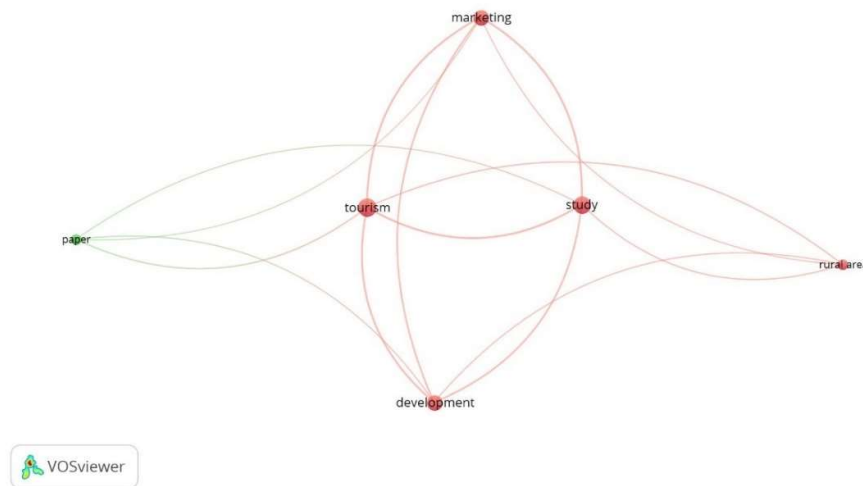


Figure 14. Co-word analysis of marketing on rural tourism issue visualization

Legend: Color: represents a cluster of disciplines of interest in the research field; Nodes: represents keywords (the size of node represents the keywords frequency); Links: represent relations between keywords (keywords mentioned together in published articles); Colors: represent the temporal orders of appearance of keywords; Link Thickness: represents the words strength. Note: clusters formed based on three parameters in VOSviewer software (clusters resolution 1.00; minimum cluster size 1; merge small clusters).

Source: Author, 2022 derived from VOSv.

Tourism activities related to product problems, thus the content of the product as a part of marketing are the main concern of these activities (Phakdee-Auksorn *et al.*, 2023). Marketability will be a promising area for future studies, as mentioned by Kastenholz *et al.* (Kastenholz, Eusébio and Carneiro, 2018), who views marketing as a component of management in the rural tourism business. Marketing, according to Kotler & Armstrong

(Kotler and Armstrong, 2008), comprises numerous marketing mix elements, namely product, price, place, and promotion, targeting consumers—which is the strategy in Gad Mohsen & Dacko's research (Gad Mohsen and Dacko, 2013)—can be further expanded. This implies that there are opportunities for research on rural tourism in every aspect of marketing.

4.1.3. Community-Based Tourism Relation with Sustainability.

Sustainability aspects are also the main thing from tourism village activities (Okech, Haghiri and George, 2012). Thus, in context of tourism industry the natural environment, culture, and also in the business aspect should be sustain and preserve (Zhu et al., 2017). The interrelatedness aspect of social, economic and environmental, and strategists should be considered in the process of planning and execution (Pécsek, 2018).

The Brundtland Report of 1987 is largely responsible for the present notion of sustainable development (World Commission on Environment & Development, 1987) and community-based tourism activities are considered to be examples for that (OECD, 2020). It is necessary to know the research circumstances that lead to ‘sustainability’ in tourism activities so that we can keep track of what new thoughts emerge.

Community-based tourism can be described as a tourism form that results directly from the attempt to apply sustainability principles in tourism development (Pramanik, Ingkadijaya and Achmadi, 2019). Since the 1992 World Summit, where the beginning of promoting the concept of sustainable development to affect the value of tourism, community-based tourism concept was one of three main developments in the tourism sector: natural resources conservation, tourism as a learning experience, and importance of the participation of local communities (Garcia Lucchetti and Font, 2013).

Sustainability is an important part of the tourism business, including community-based tourism. Sustainable-tourism aims at providing a balance between the economic, socio-cultural and environmental dimensions in the tourism industry. Moreover, sustainability indicates that tourism experiences in the natural regions should be immersive tranquil experiences that encourage tourists to engage with the natural surroundings and be of minimal impact (World Tourism Organization, 2017).

The view that rural community-based tourism is in line with the concept of sustainability has also been conveyed by many researchers. Rural-based tourist destination is one of the revealing factors which are crucial for sustainable development (Tan, Liu and Hu, 2013). The UNWTO asserted that principle of sustainability should be applied to all forms of tourism; that it had to be applied to the environmental, economic and socio-

cultural aspects of tourism development; and that a balance had to be struck between “these three dimensions to guarantee its long-term sustainability (Goodwin, 2016).

The perspective that rural tourism businesses is in line with the sustainability concept has been addressed by many researchers. The UNWTO asserted that the principle of sustainability should be applied to all forms/patterns of tourism; that it had to be applied to the environmental, economic and socio-cultural aspects of tourism development; and that a balance had to be struck between these three dimensions to guarantee its long-term sustainability (Goodwin, 2016). Cultural elements are significant since they have a direct impact on the region's competitiveness as well as economic development and performance (Bujdosó *et al.*, 2015). Traditional mass tourism has some significant disadvantages for the environment, thus rural tourism can be a valuable complement and alternative (Lakner *et al.*, 2018).

Furthermore, this was confirmed by the number of publications connecting rural tourism businesses and sustainability compared to the other three driving forces investigated in this study (marketability, participatory and crises mitigation). With 62% (n= 189) of the articles published in rural tourism businesses scientific area, sustainability is the most important driving force that attracted the attention of academic studies in this field of rural tourism. Next figure 12 depicted the keywords network of the literature linked rural tourism businesses to sustainability divided into four main clusters.

The first cluster (red cluster) included many articles under the theme "rural tourism businesses management". Keywords such as management (n= 196), interview (n=195), survey (n=194), benefit (n= 151), issue (n= 150) and government (n= 136) were the most frequent words in this cluster (see figure 12). Additionally, this cluster high-lighted the importance of government management policies and strategies in boosting/declining the rural tourism businesses (Augustyn, 1998), as well as the importance of the various tools/techniques (e.g., interviews, surveys, etc.) that can be used to collect data about these businesses in order to build a robust and precise database and information system.

The second cluster (green cluster) focused on the published articles concerned about “rural tourism businesses settings”. The main keywords in this cluster were country, term, potential, order and territory with frequency scores between 187 and 146, as shown in figure 12 below. This cluster confirms that the different case studies' geographical areas will lead to different criteria for achieving sustainability for rural tourism businesses (Deuchar and Milne, 2016). “Sustainable rural tourism businesses” was the main theme of the third cluster (blue cluster). This shows from the presence of keywords such as rural tourism development, sustainable tourism, production and conservation. Finally, the fourth

ecological processes and helping to conserve the natural and man-made heritage as well as biodiversity (World Tourism Organization, 2010).

4.1.4. Community-Based Tourism Relation with Participatory.

Rural livelihood as an activity that makes the community as the core of activity becomes an illustration of the participatory concept (Mshenga and Richardson, 2013). The role of the community in transforming their village into a rural community-based tourism business entity will of course lead to various understandings and excesses (Sdrali, Goussia-Rizou and Kiourtidou, 2015).

Another fact is that the tourism activities become a business activities considered as common business and involve many local communities (Manaf et al., 2018). The trend of Community-based tourism and its participation appeared in various regulatory treasures ranging. From UNWTO to the level of local regulations even at the smallest level of community groups (UNWTO, 2011). Interest and demand for local products and services is growing and become jobs. locality is important: local businesses and local workforce might have been placed in the sustainability category as well (Pécsek, 2018). The absence of an element of community participation will immediately be a differentiator whether tourism activities in such a place are considered to be a community-based tourism or just an ordinary private business (Gunawijaya *et al.*, 2006).

Exogenous processes such as market competition and endogenous processes such as local willingness to engage in multifunctional activities are highly related to the success of local interventions in places in the tourism development process (van Berkel and Verburg, 2012). One of the key variables influencing residents' willingness to participate in participatory initiatives is the support role of local governments (Sdrali, Goussia-Rizou and Kiourtidou, 2015). Furthermore, the support of local leaders and communities is very important in a tourism village's business activity (Kibicho, 2008; Figueroa and Rotarou, 2016; Priatmoko *et al.*, 2021).

A total number of 58 articles represented the relationship between rural tourism businesses literature and participatory factors. The co-word analysis network shows that there are two main clusters that can describe this relationship, as shown in figure 16. The first cluster (red cluster) focused on the participation processes linked with the case study location. Keywords such as participation, China, area, village, case study, development and rural tourism were the core keywords in this cluster. The second cluster was only about the local community, where we can find keywords such as local community, data and study. The main topics of these two clusters reflect the importance of the location and the local

community in determining the performance of rural tourism businesses such as China (Ruiz-Real et al., 2022). The villager's acceptance may also happen if they believe they are gaining benefits from the initiatives that help their community (Edit and András, 2022). Understanding this issue will open up opportunities for future research on citizen participation in the tourism business.

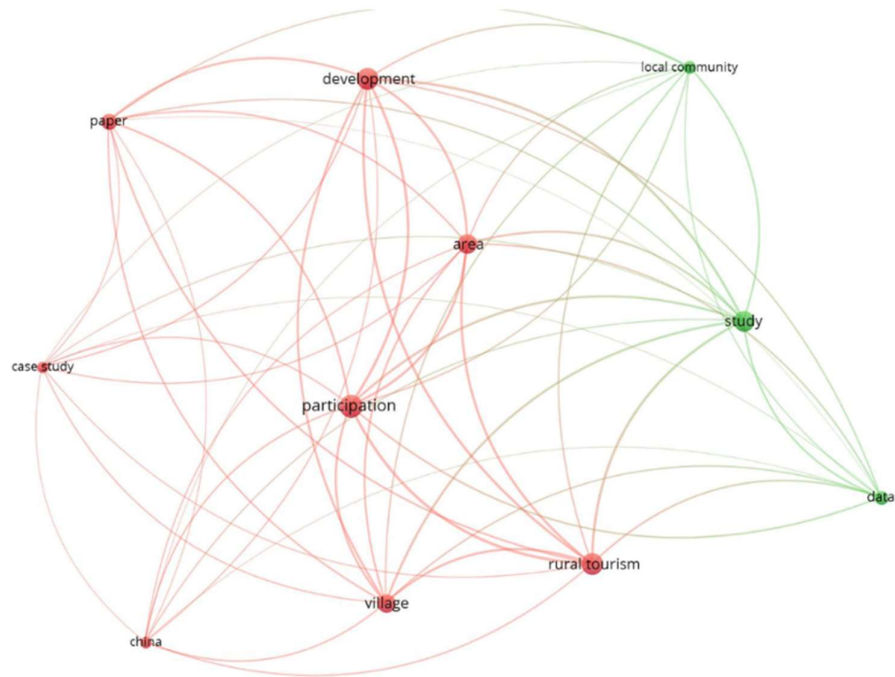


Figure 16. Co-word Analysis Network of Rural Community-Based Tourism and Participatory
Source: Author, 2022 derived from VOSv.

The forms of community participation that have been expressed by Suvdantsetseg et al. (Suvdantsetseg, Fukui and Oe, 2011) can be further investigated. Moreover, management planning processes and participation in interpretation services for existing outcomes can be explored to find out the activities involved in that engagement in a more detailed form. As a result, we will be able to understand more about the role of rural tourism communities in tourism activities in their region by exploring the gap. Exploration of the uniqueness of local products can also be an interesting topic because the uniqueness of each destination will certainly be specific. This is in line with the opinion of Quaranta et al. (Quaranta, Citro and Salvia, 2016) that a typical locality can connect the needs of visitors. However, the impact of tourism development, such as the research by Rasoolimanesh et al. (Rasoolimanesh et al., 2017) is also good to study in order to find out the opinion of residents about their role in a tourist village.

4.1.5. Community-Based Tourism Relation with Disaster Mitigation.

Last but not least, disaster mitigation has been a source of concern, particularly in light of the Covid 19 pandemic issue (Zenker and Kock, 2020). However, Covid19 isn't the only one who has raised awareness about the significance of catastrophe preparedness. Diverse natural disasters in various RT areas have prompted scholars to try to comprehend and explain these phenomena, particularly the community's ability to face and recover from calamities (Tsai et al., 2012; Xiao et al., 2020; Partelow, 2021).

Disaster mitigation and prioritizing resilient in the community-based tourism area are important issues (Fathoni, Sutisna and Supriyatno, 2023; Yang and Kim, 2023). A related analysis is needed so tourism activities can be more mitigated from the start to reduce greater risks for tourists and local managers (Susmayadi *et al.*, 2014). Awareness of the importance of disaster mitigation is needed in the community of the villages (McNamara and Des Combes, 2015). The relationship of cultural tourism and experience economy into many aspects, experience of demands and cultural supplies raising so it needs research more detail (Bujdosó *et al.*, 2015).

We obtained 16 manuscripts that linked rural tourism businesses with crisis/disaster mitigation. Figure 17 depicted the co-word network divided into three clusters. The main large cluster in the context of research on rural tourism businesses and crisis mitigation, the red cluster, contained these main keywords: interview, number, rural area, resilience, important role, resident, covid, and pandemic. One of interesting point related to this cluster was the appearance of covid as the main keyword, which reflects the interest of rural tourism businesses literature in managing the negative consequences of this pandemic. The second cluster, the green cluster, focused on the protected areas in connection with recreation and sustainable development as a tool for crisis mitigation in the rural tourism industry and its businesses. That enhanced the perspective of rural tourism as a natural-based tourism pattern, which plays an important role in the crisis mitigation (Place, 1991; Rogers, 2002; Gallardo and Stein, 2007; Lanfranchi, Giannetto and Pascale, 2014). The third cluster discussed employment and its relation to biodiversity under the crisis mitigation concept in rural tourism. Biodiversity is an important issue in the future because many rural tourism activities depend on it and the environment has a positive determinant effect (Plokhikh *et al.*, 2022).

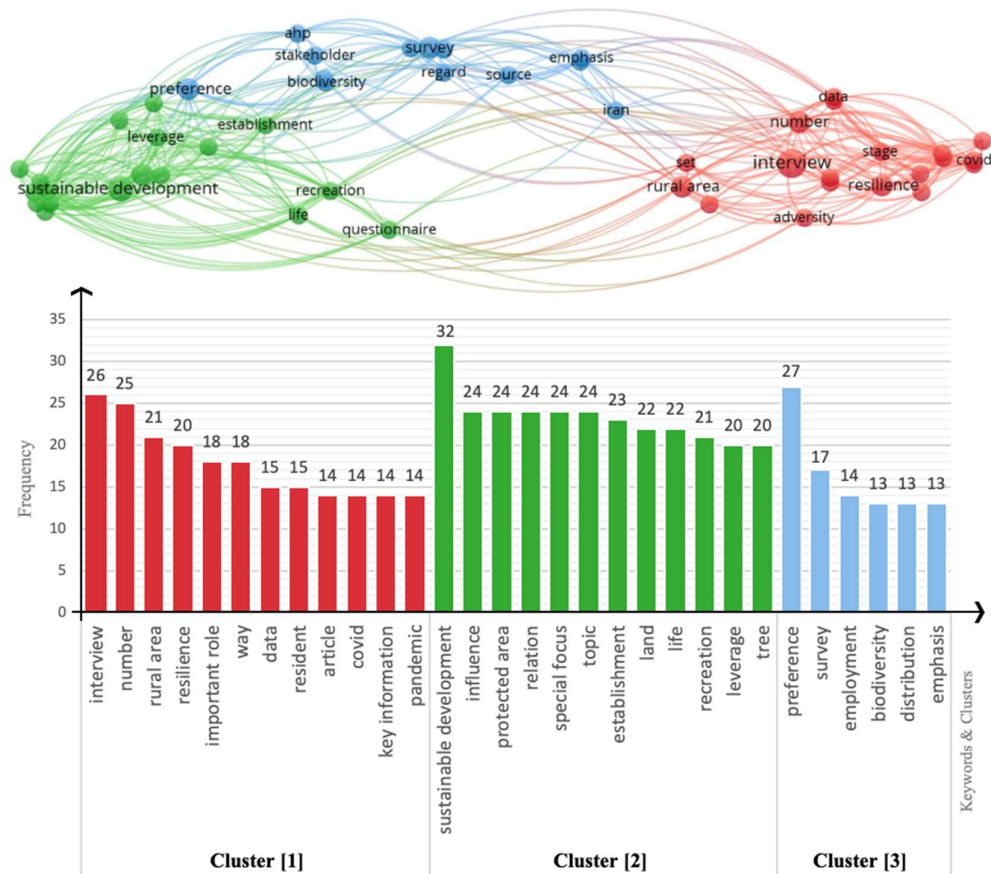


Figure 17. Co-Word Analysis of The Community-Based Tourism Businesses and Disaster Mitigation
Source: Author, 2022 derived from VOSv.

There is still a lack of manuscripts dealing with crisis/disaster mitigation in this field, which will result in a significant gap in the literature on this subject. The percentage of Crises/Disaster mitigation related to tourism manuscript production is still small, only 5% (see figure 9). According to Kamarudin et al. (Kamarudin, Wahid and Chong, 2020), a crisis that is not re-solved will negatively affect a variety of aspects of the tourist village. This is in line with the statement of Miller et al. (Miller et al., 2016) that mitigation is important as a preventive measure for tourism village managers. Thus, it can be a research gap to explore more extensively. Future attention will be given to minimizing potential future disasters, as stated by Su et al. (Su, Wall and Jin, 2016b), and will be paid if there is more research on crises/disaster mitigation. Additionally, Sasaki et al.'s (Sasaki et al., 2021) suggests that spatial management is a crucial issue that can be connected to biodiversity, protected areas, and pandemic prevention research as seen in VOSviewer's clusters should be addressed.

4.1.6. Marketability, Sustainability, Participatory, and Disaster Mitigation (MSPDM) in Rural Tourism and Community-Based Tourism.

The economic conceptual kernels of rural tourism presented it as a broad-based plan to support rural communities' economics (Johnson, 2010), as well as a tool for poverty alleviation. This consideration of rural tourism activities as an economic tool creates many businesses and small and medium enterprises (SMEs) based on these different tourism activities. These businesses are considered essential supporters of the continuity and prosperity of the rural tourism pattern in general.

Rural tourism as a form of tourism activity terms can be identified as business as well when it's connected to business-related topics (e.g. marketing, management, investment, and consumption) (Hocevar and Bartol, 2021). Rural tourism businesses are considered a fast-growing tourism sector in many countries, especially in EU territory, such as Hungary, France, Poland, Italy and the Czech Republic. These rural tourism businesses share about 10 to 20% of the income generated by the tourism sector in the European Union countries (Paresishvili, Kvaratskhelia and Mirzaeva, 2017). According to estimations of the coefficient of elasticity, spending on rural development will increase 191.49 times for every 1% increase in direct grants and market-related spending. This suggests a synergistic relationship between financial costs for the growth of rural tourism and the capacity to significantly boost other rural development areas (Maliuta et al., 2022). Thus, supporting rural tourism as a form of business is proven to boost the economy.

By analyzing the various literature that discussed the businesses creation lifecycle in different fields related to rural tourism such as agritourism/agrotourism, farm tourism, community-based tourism (CBT), rural tourism (RT) and community-based rural tourism (CBRT) as seen on Table 2, we developed a conceptual framework for the rural tourism businesses including the main four driving forces that shaped the complex picture of these enterprises, as well as affected its developing, as shown in following figure 18. The lifecycle of establishing a rural tourism business goes through four different stages, relying on four main elements: resources, local community, businesses and management elements (see figure 18 below).

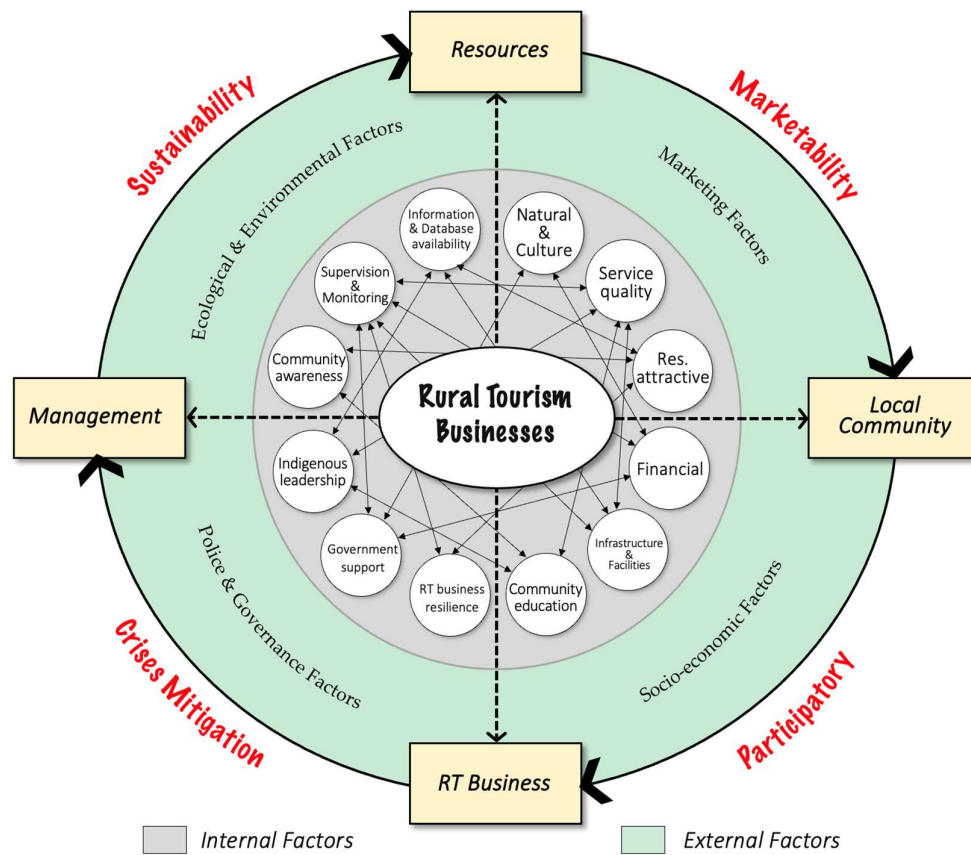


Figure 18. Conceptual Framework Finding of Rural Community-Based Tourism Lifecycle
Source: Author, 2022

The process of establishing rural tourist businesses begins with the presence of some tourist resources and potentials in rural areas and territories such as stunning rural landscapes, local food productions, farms, local handcrafts and customs and traditions (Prestia and Scavone, 2018). Although the two don't always boost each other's productivity, tourism and agriculture can coexist harmoniously (Bacsi, Dávid and Hollósy, 2022). After the availability of tourism resources and the potential to carry out rural tourism activities, here comes the role of local communities in marketing and preparing these resources for different rural community-based tourism activities. The role of the human element (local communities) is instrumental in the rural tourism businesses creation lifecycle, where the locals act as hosts, vendors, guides and organizers of the various rural tourism activities (Boronyak et al., 2010; Fatimah, 2015).

Moving to the third element in the lifecycle of community-based tourism businesses is “business establishment”, the enterprises concepts shifted from theoretical ideas to projects on the ground in the tourism activities term (Hocevar and Bartol, 2021). In this stage, the various challenges and complexities confronting rural tourism businesses arise,

as a result of being a part of the market economy. Examples of these challenges that shape the complex picture of rural tourism businesses: competition, freedom, government intervention, self-interest, private property, currency exchange, monopoly policies and other labour market challenges. These challenges were a major factor in the emergence of the fourth element of the tourism business lifecycle: Management. Management is a pivotal element in the lifecycle of rural tourism businesses, it consists of many sub-elements that help to thrive or collapse this type of business. For instance, the study and analysis of rural tourism supply and demand for local products and services (taking into consideration changing tourist preferences and behaviours, as well as competition), understanding the various marketing strategies, the study of the rural tourism system from various perspectives (tourists, tourism operators, community organizations, government, tourism authorities and others), attention to the environmental dimension in the management of rural tourism business, and finally considering innovation and creativity as tools for achieving the sustainability of this business.

Regarding the driving forces that control the aforementioned rural tourism businesses lifecycle, there are four core forces: marketability, sustainability, participatory, and disaster mitigation. Firstly, marketability is considered one of the most significant tools that determined the future direction of any business (Peña and Jamilena, 2011). Understanding marketing as a part of rural tourism businesses leads to a deeper and more applicable understanding of how the available rural tourism resources can be optimized (Ajake, 2016). Additionally, the marketability of the rural tourism businesses is affected by many external and internal factors such as the availability of natural and cultural resources in the peripheral environment, the presented services quality and the attractiveness of the rural resource.

Secondly, sustainability represents the fourth driving force for rural tourism businesses performance. The Brundtland Report of 1987 presented the local businesses as largely responsible for the present notion of sustainable development, especially in rural areas and regions (World Commission on Environment & Development, 1987). The main factors that support the sustainability of the various rural tourism businesses are community awareness, long-term supervision and monitoring, and the availability of different information kinds and databases related to these businesses.

The third driving force in the rural community-based tourism businesses is the participation process of locals in the rural tourism businesses is a critical issue that needs more attention from the various tourism industry actors. Rural livelihoods are attractive to many tourists, making them an opportunity for rural tourism businesses which become an

illustration of the participatory concept in all its aspects (Mshenga and Richardson, 2013). Community participation in the various types of rural tourism businesses is influenced by many factors, such as community education, financial factors (i.e., factors that influence the business value such as capital, cash flow, assets, risk factor, etc.), and infrastructure and facilities factors (e.g., logistics, labour, constructions and transportation).

Finally, the fourth prominent variable in the community-based tourism businesses is disaster/ crisis mitigation which is considered a source of concern for different activities and SMEs, especially in the light of COVID-19 pandemic issues. The main factors that affect the disaster mitigation for rural tourism businesses are government support, the actual businesses resilience and indigenous leadership skills.

4.2. Qualitative Analysis Results.

The findings from the field research conducted at the four rural and village community-based tourism settings are presented in this section. Each location was evaluated using the variables of marketability, sustainability, participation, and disaster mitigation.

4.2.1. Lesson Learns from Nglanggeran Village, Yogyakarta, Indonesia.

Nglanggeran Village, located in the Yogyakarta area, Indonesia, is an attractive tourist destination that captivates the hearts of visitors. Nglanggeran Tourism Village is one of the Best Tourism Villages in ASEAN in 2017 with the concept of community-based tourism. Nglanggeran is famous for its stunning limestone formation known as the Nglanggeran Ancient Volcano. This ancient volcano is a former volcanic eruption that occurred thousands of years ago. Today, this mountain has become an interesting geological site and is nicknamed the "Open Natural Geology Museum" because of the peculiarities and uniqueness of its limestone formations. Visitors can take a hike to the top of the mountain to enjoy the incredible panorama from above while enjoying spectacular sunsets.

Marketability and Its Indicators in Nglanggeran

A. Product Packaging & Appearance

The management of the Nglanggeran tourism village has made packaging for its tourism products in accordance with the life style prevailing in the village. So that the forms of services and products show the uniqueness of the region. Their branding as a geopark area makes the uniqueness of geology combined with local culture which is difficult for

other villages to imitate. This makes the appearance of the Nglanggeran tourist village unique.

B. Promotion Model

The observation results show that Nglanggeran Tourism Village has carried out several marketing activities, such as marketing through social media, participation in tourism exhibitions, and collaboration with local and national travel agents. They have also worked with online travel agents to strengthen their promotional positioning.

C. Tourism Information System

Village managers use several forms of IT tools to support tourism activities. These tools are websites, social media in the form of Instagram and Facebook, cell phones, and also the WhatsApp instant messenger.

D. Distribution

Nglanggeran Tourism Village gets local and foreign tourists. This was obtained because of its popularity when it received international awards at the ASEAN level. Tourist visits to Nglanggeran average around 500 people per day. This number can increase during national holidays. The majority of typical visitors are visitors who spend less than 4 hours. Tourists enjoy the geological landscape which is the mainstay of the Nglanggeran area. The majority of tourists are from various locations in Indonesia.

Sustainability and Its Indicators in Nglanggeran

A. Physical Development Thresholds

Officially there is no limit to the number of physical buildings allowed in Nglanggeran. However, for some sites there are restrictions on the construction of buildings due to customary regulations. Currently, the construction of physical buildings is mostly in the form of additional home stays for guests using brick and wood materials and prioritizing traditional designs.

B. Number of Visitors Threshold

The number of tourists to the Nglanggeran tourist resort was never previously limited. However, over time and after being evaluated, it turns out that the negative impact has been received by the environment. Garbage and vandalism are the effects of too many visitors that cannot be controlled. Then management sets a limit on the number of tourists

by increasing ticket prices almost triples. With the increase in ticket prices, the number of visitors fell to almost three times, but in fact income increased and waste became more controllable.

C. Natural Resources Thresholds

The village community, initiated by management in collaboration with various parties (university, government, and private business sectors) planted durian and longan fruit trees. This is to improve environmental conditions which are traditionally dry and barren areas. This effort succeeded in making the area greener. The government is also building a water reservoir to supply water during the dry season. With the existence of a water reservoir in the form of a reservoir, it will further improve the environmental quality of the Nglanggeran area.

D. Local Communities' Response

The people of Nglanggeran village really benefit from the status of their area as a UNESCO Global Geopark. They take advantage of this status in carrying out community-based tourism activities. By having a landscape in the form of an ancient volcano, the community sells this image as a tourism product. Several corporate service responsibility (CSR) programs held in Nglanggeran have increasingly made the community feel positive about community-based tourism activities. They also benefit from the provision of part of the profits by the management of the tourism village.

E. Tourist's Response

Because the theme of the Nglanggeran village tourist destination has a clear positioning as a geopark village destination, naturally the type of visitors are people who have prepared their perceptions of village conditions. They understand that preserving the geosite is the main purpose of visiting this village. Even though at the beginning of the establishment of the village there were some vandalism activities and littering, but because the market segment was controlled, the response from tourists was also more controllable.

F. Government's response

Initially, the provincial government helped build a water reservoir for supplies during the dry season. However, because community-based tourism activities are growing, the government Tourism Office helps facilitate technical assistance in the form of

assistance for capacity building. Meanwhile the village government and district government are assisting with road infrastructure improvements.

Participatory and Its Indicators in Nglanggeran

A. Local Resources

Utilization of local resources is something that can be directly observed in the Nglanggeran tourist village. The most important resource is the geopark landscape. The ancient volcano Nglanggeran itself is included in the landscape of the solution process (rock dissolving activity) which is dominated by organic sedimentary rock resulting from the metamorphosis of coral reefs in the form of limestone which forms a karst topography with various formations such as cones, valleys, and karst walls (Alsabila *et al.*, 2019). Traditional houses, orchards, and traditional culinary as well as local chocolate products are a mainstay. In addition to the uniqueness of the landscape, the use of biodiversity in the form of fruit plants is also an attraction for tourists. In this case residents sell processed chocolate products for sale to tourists.

B. Local Accountability

The tourism village business activities in Nglanggeran are managed by the tourism village management. Management will report plans and results of existing tourism activities with regular meetings with residents and government. There is a transparent and accountable sale of entrance tickets to the area which can also be easily audited due to the existence of a profit-sharing scheme for the village and for the local government.

C. Local Variety

The uniqueness of the geopark landscape has been recognized by its residents. Apart from that, residents also enrich their local variety with durian, longan, and cocoa fruit plants. The plant is actually not a local endemic plant because at first the area was a dry area. This means that residents and management are consciously manipulating their local wealth to meet tourism needs as well as conservation. The "village feel way of life" attraction is the main attraction to offer as a tourist attraction, especially targeting urban communities who want to feel the nuances of village life. The management places great emphasis on the sustainability aspect in carrying out tourism development in the Nglanggeran Tourism Village.

D. The Economy Advantage for Local People

Through tourism village activities, the community's income, which was originally only in the agricultural and livestock sector, is now supplemented by community income from the tourism business. This opens up new jobs that can reduce unemployment in the region. The agricultural sector is also developing by planting durian and longan fruit because of the supplied irrigation waters from man-made reservoir. Additional income is also obtained from homestays established by residents and souvenir shops. In addition, the management also shares part of the profits with residents in the form of paying for health insurance and tuition assistance.

Disaster Mitigation and Its Indicators in Nglanggeran

A. Natural Disaster

The Nglanggeran area has a risk of geological hazards. The main factors that influence the threat of landslides in this area are rainfall, slope, and thickness of the soil with the types of landslides in the form of slides and falls (Setiawan, 2019). Earthquake also a potential disaster however nothing can do to overcome the situation. For areas that are often traversed by tourists, the manager has hardened the road and made steps so that the risk of landslides is minimized.

B. Non-natural Disasters as A Result of Technological Failures, Diseases, or Human Error

Another potential disaster caused by human error is an accident in a tourist area. For risks that can occur to tourists, for example being injured in the village, a rescue team from residents has been prepared to provide first aid or immediately take them to a hospital or health clinic in a car belonging to the management. Local residents also cooperate with the National Search and Rescue Agency, police, and rescue clubs to anticipate risks by humans.

4.2.2. Lesson Learns from Pentingsari Village, Yogyakarta, Indonesia.

Located about 25 kilometers east of the city of Yogyakarta, the Pentingsari Tourism Village offers a unique experience that is different from most other tourist attractions. This village maintains the authenticity of Javanese culture and rural life, giving visitors the chance to experience the daily life of the village people.

One of the main attractions of the Pentingsari Village is its unspoiled natural beauty. In the vicinity of this village, vast rice fields with a stunning view of the mountains in the background. Apart from the natural beauty, the Pentingsari Village also offers a variety of interesting cultural and traditional activities. Tourists can also participate in Javanese traditional ceremonies, such as traditional wedding ceremonies or shadow puppet performances, which provide deep insight into Javanese culture.

Marketability and Its Indicators in Pentingsari

A. Product Packaging & Appearance

When conducting this research, the village relied on live-in tour packages by presenting rural life to tourists. Live in at Pentingsari is packaged in the form of experiencing and seeing first-hand the life of the village community. Tourists stay, eat, cook, go to the rice fields, and explore the village and interesting places around the village. The management realizes that in the future the competition will become increasingly stringent with other villages as well as changes in the typical tourists, so the management needs to make new products. For this reason, they also plan to develop interesting spots and activities that tourists can visit without having to live in. This is also supported by the Pentingsari location which is at the sloop of mountain with a unique landscape typology so that it has the potential to be explored more optimally.

B. Promotion Model

The results of the analysis show that the Pentingsari Tourism Village has carried out several marketing activities, such as marketing through social media, participating in tourism exhibitions, and cooperating with local tourism parties. They also do direct selling in schools to offer village visits. The promotion model currently being used effectively is the use of social media. Social media has become a channel that has begun to dominate the responses of potential visitors to get to know the village.

C. Tourism Information System

Village operators use several forms of IT tools to support tourism activities. These tools are websites, social media in the form of Instagram and Facebook, cell phones, and also the WhatsApp instant messenger. All forms of information systems that support the establishment of the dissemination of information and communication are used by the community of the village. Communication through this IT platform has become part of

management's daily activities in managing the tourism business. This means that for now the use of information technology is always being followed by them.

D. Distribution

The majority of visitors to the Pentingsari village are domestic tourists. The number of visits is around 2000 people per month with an annual number of around 25,000 people per year. Visitors came from various regions in Indonesia. They consist of students, family groups, company groups, or government agencies from other regions in Indonesia to conduct comparative studies or short course. This means that their market distribution has reached all of Indonesia. Foreign tourists also visit this destination but the number is not significant. Pentingsari has established itself as an international player by winning multiple honors, choosing not to stop at the national level. Pentingsari earned the Netherlands' Top 100 Green Destinations Award in 2019. They also received a prize from the ASEAN Sustainable Tourism Award (ASTA) in Cambodia in February 2022. They now have more of the chance to frequently host visitors from the Netherlands as a result.

Sustainability and Its Indicators in Pentingsari

A. Physical Development Thresholds

Provincial government regulations for the Special Region of Yogyakarta strictly regulate the use of paddy fields and green zones. This is beneficial for the village area because it will not be easy for someone or an investor to change the function of the land. However, on a more micro scale, namely in the hamlet area around Pentingsari there is already a shared awareness that the construction of physical buildings is in line with the community-based tourism business as far as possible. This happens because the community has directly felt the economic benefits of tourist visits.

B. Number of Visitors Threshold

In particular, the management of Pentingsari places limits on the maximum amount that residents can manage or serve. The parameter is the number of beds or accommodation facilities that can be used by guests. Even though in general the villagers still like how many guests come because it is economically profitable, the manager realizes that this will reduce the quality of service and satisfaction for guests so that it could portray a negative image. As for campers, they use the capacity of the existing camping ground.

C. Natural Resources Thresholds

The village government realizes that tourism activities carried out by the management of the Pentingsari Tourism Village bring benefits to residents and the environment. For this reason, the village provides loan allocations for village-owned land that can be used without changing its function. Examples are the use of fields, springs, village treasury land to be used for example as camping areas and visiting spots. This means that natural resources will automatically be maintained without burdening and changing the landscape due to the capacity of tourists. The utilization of trees and other natural resources is governed by village ordinances. Wood is frequently required by locals for home repairs or for sale when money is tight. Although the tree was established on private property, it has been decided that residents must plant 4 (four) new trees to replace each one that is chopped down. With the help of these rules, the village's temperature and air quality are kept cool and wholesome.

D. Local Communities' Response

Pentingsari, which consists of around 390 residents, began to be intensely involved in village tourism business activities since 2008. Although at first it was a bit difficult for residents to accept the concept of a tourism village and dealing with the guests from outside, the more experienced they are, the better the services provided. This has an impact on the increasing number of visitors which directly provides economic benefits for residents. Residents positively welcomed this community-based tourism activity. Even if the capacity threshold is not considered, residents want to always receive guests. However, because they are also aware that capacity will be related to service quality, they understand that limiting the number of guests must be regulated.

Interesting facts about the concept of when tourism works for community, community will work for tourism actually happened in the Pentingsari village. Local residents are very enthusiastic about community-based tourism activities because they get direct and indirect benefits. Direct benefits are economic benefits from business that involve almost the entire community. Every year all villagers also get an amount of gift from the management as a form of sharing a portion of the profits. All residents get it even though some are not directly involved in community-based tourism activities. The indirect benefit is the adding of infrastructure facilities, for example a community meeting hall given by private companies as a form of community social responsibility program.

E. Tourist's Response

Due to the explicit marketing theme of the Pentingsari village tourist destination as a cultural destination combined with mountainous nature, it follows that the tourists are typically those who are already aware of how they would feel. Another interesting thing is that typical tourists who come to visit tourist villages are well-educated tourists so that they will have a positive attitude while in Pentingsari. Enthusiasm and a respectful attitude are generally shown by tourists who come to the Pentingsari village and also another village destinations.

F. Government's Response

Through the tourism office, the regional government of Yogyakarta facilitates technical assistance in the form of assistance for capacity building. The local authority is assisting with infrastructure upgrades in the meanwhile, lending part of the land and property and renovating roads, for example. Currently, the village council even has plans to contribute funds to the development of new tourist attractions. The government strongly supports community-based tourism activities in the Pentingsari village. This is because the government has an interest in increasing people's income while protecting culture and the environment. With the community-based tourism program, it will lighten the government's workload. The Village Government also provided assistance to improve road infrastructure so that tour buses could pass through it. Property assets belonging to the village government such as fields are also lent to management to be used as camping ground. The district and provincial governments often hold capacity building programs for residents so that community-based tourism management and services are better. Such programs include customer service or guiding training, whose training costs are borne by the government

Participatory and Its Indicators in Pentingsari

A. Local Resources

The village always prioritizes the use of local resources. Starting from the workforce that empowers local residents, food and drinks, cultural arts performances, and also lodging, they always take advantage of what is in the village. It can be said that almost everything related to tourist needs always uses local resources. The use of non-local materials is usually only for items that cannot be made by residents, for example, watercolors for painting activities.

B. Local Accountability

At least once a month management and residents hold regular meetings to discuss activities that have been carried out, activities to be carried out, and finances. Village government officials are also usually present to witness and comment. Every tourist group that will come is also written openly on the management information board so that all residents can find out about the activities carried out by the manager. This makes accountability for community-based tourism activities can be controlled and accountable.

C. Local Variety

Tourism village management uses various local resources to meet the needs of tourists as well as part of the attractions. This local diversity is manifested in the form of various kinds of local food menus, artistic attractions, the use of local wood and bamboo materials for accommodation instead of steel structure buildings. They also use traditional farming tools to demonstrate traditional farming systems.

D. The Economy Advantage for Local People

The financial advantages of community-based tourism activities for locals are beyond question. This activity even explicitly makes residents improve their homes with standard facilities needed by tourists, for example toilets that meet health standards. Fulfilling the needs of tourists in the form of accommodation, food and drink, attractions, guiding which is fulfilled from local resources directly makes local residents get additional financial income. The additional income that is almost continuous every month from the many tourist visits makes the residents happy because it adds to their profits.

Disaster Mitigation and Its Indicators in Pentingsari

A. Natural Disaster

Pentingsari village is located at the foot of Mount Merapi, one of the most active volcanoes in the world. The biggest risk from a natural disaster is the eruption of Mount Merapi. In collaboration with the National Disaster Management Agency (BNPB) of the Government of the Republic of Indonesia, management always updates the condition of the mountain. Due to the natural disaster risk, the management and village government have created evacuation routes and a team of residents who have been trained in handling natural disasters.

B. Non-natural Disasters as A Result of Technological Failures, Diseases, or Human Error

For visitors, the risk of a non-natural disaster is typically posed by their own health situation. The potential of accidents at tourist village locations has been foreseen by management by setting up clinics for first aid treatment, even though it very rarely occurs. In addition, handling health risks also coordinates with government-owned or private health service centers in the form of general practicing doctors, clinics or hospitals. Teams from tourist villages use cars to deliver patients to get first aid for emergency health problems.

4.2.3. Lesson Learns from Penglipuran Village, Bali, Indonesia.

The island of Bali, known for its natural beauty, also contains several traditional villages that radiate a deep sense of cultural appeal. One of the villages that stands out is Penglipuran Tourism Village. Located in Bangli Regency, about 45 kilometers from the center of Denpasar City, Penglipuran Village is a popular tourist destination for tourists who want to experience the charm of authentic Balinese traditional life. the area of Penglipuran is 112 Ha with the use of the area in the form of agriculture 50 Ha for agricultural land, 45 Ha of bamboo forest, 4 Ha of timber forest, 9 Ha of settlement, 4 Ha of holy sites and public facilities (Kemenparekraf, no date).

Penglipuran Tourism Village is famous for maintaining Balinese cultural heritage and its traditions. The name "Penglipuran" itself comes from the Balinese word which means "true" or "natural." The people of this village have committed to maintaining their customs and traditions along with the times. One of the characteristics of Penglipuran Village that attracts the attention of tourists is the beauty of its traditional architecture. Every house in this village is built in a distinct Balinese architectural style, using natural materials such as wood and bamboo. The houses are perfectly placed with equal spacing between them, making for a lovely and peaceful sight. In addition, the stringent spatial regulations give this community a highly clean, organised appearance.

Marketability and Its Indicators in Penglipuran

A. Product Packaging & Appearance

The ambiance in the village is calm and well-kept. Visitors can see traditional homes with lovely gardens and traditional Balinese architecture. The locals are quite kind and smile pleasantly when guests arrive. Visitors can engage with people, discover more about their culture, and get a glimpse into daily life. This village has a bamboo garden that is owned by the locals and is utilized as a water reservoir area, as building materials and as

a tourist attraction. Bamboo is the main material for making handicrafts, a source of community life and no less important is as a source of oxygen and absorption of ground water. The only village in Bali without motorized vehicles is Penglipuran village, and those that do exist are parked outside of it. As a result, the village has a unique appearance.

B. Promotion Model

The results of the analysis show that Penglipuran Tourism Village has carried out several marketing activities, such as marketing through social media, participating in tourism exhibitions, and cooperating with local tourism parties. However, there is still potential for development by residents, including increasing marketing through digital media and developing creative tourism products. The role of travel agents has a central role because most visitors are tourists in the form of groups served by travel agent companies.

C. Tourism Information System

Village managers use several forms of IT tools to support tourism activities. These tools are websites, social media in the form of Instagram and Facebook, cell phones, and also the WhatsApp instant messenger. Due to the international expansion of this village market and the influx of tourists from different nations, varied information must be offered on multiple platforms.

D. Distribution

Penglipuran Tourism Village continues to attract the attention of tourists both from within the country and abroad. Natural beauty, authentic culture, and the friendliness of the locals have made this village one of the favorite destinations for tourists in Bali. The average daily visit of tourists to Penglipuran Tourism Village is around 2000-3000 people per day. This describes includes local, domestic and international tourists. The number of daily visits tends to vary depending on the season, holidays and other factors. On holiday's season, tourist visits can reach higher numbers, exceeding the daily average figures mentioned above. Foreign tourist arrivals came from Malaysia, Singapore, India and the United States.

Sustainability and Its Indicators in Penglipuran

A. Physical Development Thresholds

In the Penglipuran village area there is a prohibition on the construction of new buildings. Existing traditional buildings are being preserved because customary rules require it. Village roads or neighborhood roads are also functioned as in the past, prohibiting motorized vehicles from passing. Making a parking place a bit further outside the conservation area is the answer for motorized vehicles or other contemporary modes of transportation. The space has a maximum capacity. This limitation automatically imposes a cap on the maximum number of visitors permitted to access the Penglipuran village area. Balinese people who strongly adhere to local customs always pay attention to the concept of *Tri Hita Karana*, namely dividing the area of residence with a philosophical concept for religious needs with God, with the natural surroundings, and with fellow communities. This also means that normatively and practically it becomes a limiting control for every physical development.

B. Number of Visitors Threshold

The Penglipuran village area which is far from the city center requires visitors to use a motorized vehicle to reach it. Moreover, there is no mode of mass transportation to Penglipuran. This means that access to the location can only be done by vehicle (car, tour bus, or motorbike). The number of visitors can be automatically managed and split into balanced working hours when a parking lot has a particular capacity.

C. Natural Resources Thresholds

The village community represented by a customary institution owns customary land that covers more than 45 hectares. This is 40% of the total area of the village. The utilizations of the land are using as bamboo forest. It's used only by permitted with the consent of an agreement from the customary council and is protected by traditional institutions. They use this bamboo forest as a water reservoir, an air pollution filter, and a source of harvested bamboo trees for building materials. This means that the village community really pays attention to natural resource thresholds related to plant conservation through bamboo.

D. Local Communities' Response

Penglipuran village community began to be intensely involved in village tourism business activities since 1993. They realized that it was their culture and way of life that attracted tourists to come. This communal awareness encourages them to be protective of their culture and way of life in order to continue to attract visitors. They also created a

special management organization outside the customary institution to manage tourism business activities. Villagers also actively participate in doing business with tourists by selling souvenirs, food and drinks, as well as photo services in traditional clothing. Another interesting thing is that they openly let and even tell tourists various kinds of traditional ceremonies which can be witnessed directly in the ancient houses which are the main attraction in Penglipuran village. In other words, they continue to maintain their confidence and pride in their way of life and culture for their visitors.

E. Tourist's Response

Visitors who have prepared their ideas of village conditions find themselves drawn to the Penglipuran village destination since its theme clearly positions it as a cultural destination. They understand that respecting local values is by acting quietly, not being noisy, and dressing appropriately. The majority of tourists who are groups have also been given a briefing by the tour guide while on the bus to Penglipuran village. This is even more helpful in understanding and respecting the cultural values and way of life of the villagers.

F. Government's Response

The Provincial Government of Bali through the Tourism Office helps facilitate infrastructure assistance. This includes building or repairing roads, sanitation, clean water, drainage systems, and other public facilities. The provincial government assists in the promotion and marketing of the Penglipuran village as one of a leading tourist destination in Bali. This involves marketing strategies, participation in tourism fairs, production of promotional materials and promotion through social media or official websites. The government also provides training in tourism management, handicraft skills, customer service, and financial management. This helps improve the quality of service and the traveler experience.

Participatory and Its Indicators in Penglipuran

A. Local Resources

Penglipuran Village is a place where the use of local resources is clearly seen. The primary asset is the village atmosphere, which consists of specially designed and tidy physical facilities. Traditional houses and village alleys that have unique landscapes are the main attraction for the majority of tourists and are irreplaceable. In addition to the unique architecture and landscape, the use of biodiversity in the form of herbs and fruits is also an

attraction for tourists. In this case residents sell herbal drinks and also durian fruit for tourists. The existence of a communal bamboo garden area is also maximized as part of a tourist attraction. Visitors are also offered to learn about conservation through the use of bamboo trees.

B. Local Accountability

The tourism village management, which reports to the village leadership and community, manages the business operations in Penglipuran. Management will report plans and results of existing tourism activities with regular meetings with residents. The sale of entrance tickets to the area which is transparent and accountable can also be easily audited due to the existence of a profit-sharing scheme for the village and for the Balinese government. The provincial government also has the responsibility to oversee and regulate the operation of the village. This includes ensuring adherence to safety, quality and hygiene standards. The provincial government can also assist in formulating regulations or policies that support the development of sustainable tourism villages.

C. Local Variety

The unique way of life of Penglipuran Village has been fully realized by its residents. This means that awareness of cultural uniqueness has become communal awareness. Local regulations in the form of customary rules as well as national regulations stipulate Penglipuran Village as a conservation area with its unique characteristics. Apart from the beauty of architecture, Penglipuran Village also offers community life that upholds Balinese customs and traditions. The locals proudly observe religious rites, dress in traditional Balinese attire every day, local-genius landscaping, and uphold the cleanliness and beauty of their environment. The local people are also very friendly and warm towards visitors, providing opportunities for tourists to interact directly with them and learn about Balinese culture in depth. This means that local uniqueness will continue to be protected and it will not be easy to replace it with content from outside the village.

D. The Economy Advantage for Local People

Coordination between commercial relationships, tourists, and villagers is made possible through a management organization that manages the tourism village company. The service provided to tourists and businesses serving other businesses is the most visible benefit. Profit sharing has also been regulated in a transparent manner using mutually agreed profit sharing. Some of the profits aside from paying the village residents who are

involved in tourism activities are also returned to the residents, including to finance traditional and religious ceremonies which require a lot of money. Penglipuran Tourism Village offers various activities that can be enjoyed by tourists. The village also has a variety of shops and stalls selling beautiful Balinese handicrafts, such as wooden sculptures, paintings, textiles and various other handicrafts. Tourists can also try a variety of authentic Balinese culinary delights at food stalls in the village. This means providing additional income for the community.

Disaster Mitigation and Its Indicators in Penglipuran

A. Natural Disaster

Natural disasters generally infrequently impact Bali. It is unlikely that Penglipuran village, which is in the highlands but far from volcanic mountains, will experience a volcano eruption or a tsunami. For the risk of strong winds, the residents make the community bamboo forest as a windbreaker as well as a water reservoir, and prevent air pollution. Residents also use bamboo for their houses so that they are relatively safe from earthquake shocks because bamboo is more elastic than concrete.

B. Non-natural Disasters as A Result of Technological Failures, Diseases, or Human error

Fire is just another possible catastrophe brought on by human error. In order to prevent a fire from spreading to neighboring homes, locals build their homes at a specific distance in anticipation of this calamity. To help guests stop the infection from spreading, the village also offers hand sanitizers. For risks that can occur to tourists, for example being injured in the village, a rescue team from residents has been prepared to provide first aid or immediately take them to a hospital in Denpasar, the city capital of Bali.

4.2.4. Lesson Learns from Old Village Hollókő, Hungary

Old Village Hollókő is a small settlement located in the Cserhát Mountains, about 100 kilometers northeast of Budapest, Hungary. Hollókő Old Village is a Palócz settlement located in the Nógrád District in Northern Hungary, about 100 km northeast of Budapest. The rural architectural ensemble, which covers 145 ha, consists of 55 residential buildings, farm buildings and churches. Together, Palócz's use of traditional architectural forms and materials forms a harmonious unit with the surrounding landscape and natural environment, characterized by strip-field agriculture, orchards, vineyards, pastures and forests (UNESCO, 2014).

With a rich history and well-preserved traditional architecture, the village has been recognized as a World Heritage Site by UNESCO since 1987. Old Village Hollókő is an attractive destination for visitors who want to experience the charm of authentic Hungarian tradition and culture. In Hungarian, "Hollókő" means "crow's rock", and the name of the village comes from its geographical shape which is considered unique. Hollókő Old Village is surrounded by towering rock cliffs, creating a spectacular view and providing an enchanting ancient atmosphere.

Marketability and Its Indicators in Hollókő

A. Product Packaging & Appearance

One of the main attractions of Old Village Hollókő is its traditional architecture. The buildings in this village are made of natural stones combined with wood, creating a warm and natural atmosphere. The houses situated along the village's narrow streets have distinctive thatched roofs, giving a glimpse into Hungarian village life in ancient times. Visitors can wander the winding streets, pass colorful houses and experience the unparalleled charm of the past.

Apart from the beautiful village architecture, Old Village Hollókő is also famous for its well-preserved traditions and culture. The village is home to the Palóc ethnic community who have maintained their traditions for centuries. Visitors can watch traditional ceremonies, traditional dances, and typical clothes that are still worn today. The Palóc Festival held annually in Old Village Hollókő is a much-anticipated event, where local people and visitors from all over the world come together to celebrate their cultural heritage. Old Village Hollókő is also an ideal base from which to explore Hungarian history. In the center of the village is the formidable Hollókő Castle, which was built in the 13th century to protect the inhabitants from enemy attacks. This castle offers an amazing view of the village and its surroundings. Visitors can visit the museum inside the castle to learn more about history and life in this area. In general, the characteristics possessed by this destination present a unique appearance.

B. Promotion Model

The results of the analysis show that Hollókő carries out several marketing activities, such as marketing through social media, participation in cultural events, and cooperation with local tourism authorities in Budapest. In general, many promotional activities are carried out by the government by utilizing locations that are the center of attention such as airports or bus terminals.

C. Tourism Information System

Old Village management use several forms of IT tools to support tourism activities. These tools are websites, social media in the form of Instagram and Facebook, cellular phones, short message service/SMS, and also the Facebook instant messenger. In the Hollókő area there are also many information boards that make it easier for tourists. They have also used online reservations on their official website to make the reservation easier.

D. Distribution

The majority of tourists who travel to Hollókő are locals as well as travelers from nearby European Union nations and other countries. This is due to the vigorous promotion assisted by the Hungarian government which positions Hollókő as one of the main destinations. There are also quite a lot of local tourists, especially from Budapest and the surrounding cities.

Sustainability and Its Indicators in Hollókő

A. Physical Development Thresholds

In the area of the old village Hollókő there is a prohibition on the construction of new buildings. This is because the area has been protected to become a heritage area supervised by UNESCO. Existing traditional buildings are being preserved because legal regulations require it. Some limited growth started again in 1960 and is now strictly controlled. Village roads or neighborhood roads are also functioned as in the past, namely by using a layer of stones, not asphalt nor gravel.

B. Number of Visitors Threshold

Visitors must utilize a mobile vehicle to travel to the area of the historic settlement Hollókő, which is located distant from the city center. There is a public transport option, the bus to Hollókő, however there are only a limited number of trips each day. This seems to automatically set a limit on visitor visits. Vehicle parking areas that have a certain capacity also make the number of visitors controllable and divided into balanced working hours because not all places are allowed to park.

C. Natural Resources Thresholds

Natural resources are carried out by maintaining existing vegetation in Hollókő. Trees were maintained and local flowering plants were planted in many places in the Area.

They also create a nature trail program that explores the biodiversity in the area. This means that attention to the natural resources threshold becomes awareness for Hollókő management.

D. Local Communities' Response

The community realizes that it is their architecture and traditional way of life that attracts tourists to come to Hollókő. With the existence of a legal basis for preservation and tourism business interests, Hollókő is an attractive spot to manage. This means that the community is aware of attractive business opportunities in the area and encourages the emergence of several activities including the emergence of local cultural attractions. Many tourism activities sponsored by the government also create job opportunities for the community. The agricultural business, which historically was the main activity of local people, has turned into a service and manufacturing industry. Tourism business at least provides new opportunities that are welcomed by the community considering that modern agricultural systems are relatively more difficult to achieve modern economic scale with sloppy land conditions around Hollókő.

E. Tourist's Response

The visitors to the Hollókő village are people who have already prepared their perceptions of the location. Moreover, the concept of the destination is clearly positioned as an old architecture and history destination. They have also received information about the Hollókő theme from various content, especially those provided by the Hungarian government. With Hollókő's UNESCO certification, visitors have a greater appreciation for cultural values and the preservation of the old the village.

F. Government's Response

The Hungarian government really supports Hollókő as a proud destination. This is proven by the large amount of promotional content at their international airport, bus station, and certain public area. Hollókő seems to be one of the mainstay destinations besides natural hot springs which are one of the hallmarks of tourism activity in Hungary. Infrastructure development and building preservation in Hollókő are also fully supported by the government, including allocating funds from the European Union. This includes building or repairing roads, sanitation, clean water, drainage systems, and other public

facilities. The government's dominant role in developing the area has also received positive response from the community.

Participatory and Its Indicators in Hollókő

A. Local Resources

In a modern society like Hungary, it is rather difficult to maintain massive and intensive use of local natural resources. This is due to the industrialization process in Europe which made the process of producing goods or services dispersed and fragmented. In this condition, the form of preservation of natural resources threshold is to maintain cultural activities. They use local food menus, traditional children's games, knitting arts, bread and cheese making using traditional methods and styles. This means that tourism operators in Hollókő really pay attention to natural resource thresholds with the necessary adjustments according to conditions in modern Europe condition.

B. Local Accountability

In Hollókő, the majority of tourism-related businesses are run by either single people or specific company organizations. Since this region is under the government's direct control, the management of the old settlement of Hollókő comes under the jurisdiction of the local Hungarian government. This means that although local communities cannot directly oversee management accountability in detail, the conditions in European Union countries that are relatively transparent allow citizens to assess whether management actions are proper or not. However Local communities directly contribute to some decisions relating to management. The local municipality acts as the World Heritage management body. Based on the World Heritage Act, the state of the property, as well as threats and preservation measures will be regularly monitored and reported to the National Assembly; the management plan will be reviewed at least every seven years (UNESCO, 2014).

C. Local Variety

Locals of Hollókő have acknowledged the distinctiveness of the historic heritage in the form of an old village that has been recognized by UNESCO. This means that awareness of cultural uniqueness has become a shared awareness even at the national level. Local regulations in the form of cultural preservation as well as national regulations stipulate Hollókő as a conservation area with its own uniqueness. The vineyards, orchards and vegetable gardens have been recreated; the ecological balance has been restored even in the

forestry environment, taking special care to respect historical authenticity. This means that local uniqueness will continue to be protected and not easily replaced with content related to the tourism business of that destination. During visit to Old Village Hollókő, many options for Hungarian delicacies. The village has restaurants and cafes serving traditional dishes, such as *goulash*, dumplings with apricot filling, and a variety of grilled meat dishes.

D. The Economy Advantage for Local People

Through the political policies issued by the Hungarian government to develop the Hollókő Region, business activities are supported. This is quite a substitute for agricultural activities which are currently less popular in the region. The most visible benefit is the emergence of small industries and handicrafts, food and beverage, as well as services for tourists. It seems clear that there are economic benefits for local residents with tourism activities in Hollókő even though the dependence on the government's role in the area is still dominant.

Disaster Mitigation and Its indicators in Hollókő

E. Natural Disaster

According to a report from UNESCO, the natural disaster potential for Hollókő is earthquake and hydrology/ rain/ water risk (UNESCO, 2014). For the risk of earthquakes, there is nothing that can be done other than minimizing the impact after an earthquake. For the risk of hydrological disasters due to water, the government has repaired the drainage channels in the old village of Hollókő. Preservation of the forest around the Area is also carried out strictly to protect the entire area from environmental damage and landslides as well as wild animals.

F. Non-natural Disasters as A Result of Technological Failures, Diseases, or Human Error

Another potential disaster caused by human error is fire due to use wood in most of the buildings. Residents anticipate this potential disaster by providing fire extinguishers. Fire management training has also been conducted between The Village Municipality of Hollókő, the Organization of Voluntary Fire Fighters and the local population (ERDF and INTERREG IVC, 2014). The government also provides hydrants at certain locations to anticipate fires risk. Visitors who have already paid for an admission ticket can seek management for assistance in calling a medical team in the event that they are at danger of an emergency situation, such as getting injured while on a visit.

4.2.5. Lesson Learns from Tokaj wine region, Hungary.

A. Product Packaging & Appearance

Stretching approximately 100 kilometers from northeast to southwest, mostly in Hungary and a small part in Slovakia, lies the Tokaj wine region. The atmosphere of Hungary's Tokaj wine region is a mix of rustic charm and scenic splendor. Traditional wine cellars with distinctive architecture honoring the region's long history of winemaking are scattered throughout the countryside. Visitors are welcomed with authentic wine products, renowned for their authentic taste and inviting them to explore the region throughout its picturesque villages and vineyards. Tokaj offers an authentic glimpse of Hungarian rural life, with its famous vineyards. Almost all aspects of his business show uniqueness, in this case in the form of images of grapes or wine bottles.

B. Promotion Model

The Tokaj wine region employs a multifaceted approach to promotion. Marketing efforts extend across social media platforms, participation in wine exhibitions, and collaboration with local tourism entities. Recognizing the potential for growth, there is a call to enhance digital marketing strategies and develop innovative tourism products.

C. Tourism Information System

The Tokaj wine area uses a variety of IT platforms, such as websites, Instagram, Facebook, and mobile phones to provide a wide range of information to meet the needs of the growing number of visitors. Through these channels, the region's rich viticultural history, wine types, and cultural experiences can be shared with a global audience, strengthening links with them. They are also helped by the Tourist Information Center which has offices in this region.

D. Distribution

The Tokaj wine region attracts a steady stream of visitors, both domestic and international, drawn by its surrounding beautiful vineyards and authentic culture. Using various modes of transportation, visitors explore the region daily, with numbers fluctuating based on seasons and holidays. Foreign tourists arrive from neighboring countries such as Slovakia and Austria, contributing to the region's global appeal.

Sustainability and Its Indicators in the Tokaj Wine Region

A. Physical Development Thresholds

Preserving the architectural heritage and landscape, the Tokaj winery is proud of the old cellar which is part of their industrial identity. The cultivation of vineyards follows sustainable practices, adhering to local customs deeply rooted in the concept of harmony with nature and fellow wine producer community members. Even though organic farming cannot be fully carried out due to the challenge of pests, the wine processing process that has been passed down from generation to generation is still maintained. Hungary's strict regulations for physical construction protect this area.

B. Number of Visitors Threshold

Accessed primarily by private vehicles and public transportation modes (trains and buses), the Tokaj wine region strategically manages the number of visitors, ensuring a balance during peak hours. Directions to several places of interest are provided so that it is hoped that visitors can spread out. Apart from that, the winemakers also require reservations for visitors who want to do wine tasting. Thus, this will be able to control and maintain the quality of services provided to visitors.

C. Natural Resources Thresholds

With more than 500 hectares of land dedicated to vineyards and natural spaces, the Tokaj wine region prioritizes sustainable practices. Vineyards are cultivated with respect for the environment, emphasizing the preservation of natural resources and the biodiversity of the region. Apart from vineyards, Tokaj also depends on two rivers that flow in this region, namely the Tisza River and the Bodrog River. Tourism activities are also carried out in the river area with boating or fishing activities. To maintain the sustainability of fish in rivers, the government also bans periods for fish so that particular fish can continue to reproduce.

D. Local Communities' Response

Local winemakers and communities actively engage in the preservation and promotion of Tokaj's winemaking heritage. Their commitment extends beyond viticulture to include cultural events, traditional ceremonies, and interactions with visitors. A dedicated management organization oversees tourism activities, ensuring a balance between economic benefits and cultural preservation.

E. Tourist's Response

Visitors to the Tokaj wine region are drawn by a shared appreciation for the cultural significance of winemaking. Of course, visitors who come to Tokaj are tourists with a special interest in wine making. They are tourists who have previously really studied or even understood the culture of wine making and wine tasting. This encourages an understanding of respect for local cultural values from visitors.

F. Government's Response

The Hungarian Government supports the Tokaj wine region with infrastructure development and promotional activities. Collaborative efforts include marketing strategies, participation in international wine fairs, and funding initiatives to enhance the overall tourism experience.

Participatory and Its Indicators in the Tokaj Wine Region

A. Local Resources

Once known as the "wine of kings," Tokaj is the home of the famous aszú wine (Aszú meaning dried up). Berries are afflicted by the botrytis fungus and the wine they produce is known by their Hungarian name, aszú. The primary component of Tokaj's well-known wine is aszú berries that have either been dried out or impacted by the botrytis fungus. The Tokaj wine region leverages its local resources, emphasizing the unique landscape, traditional winemaking techniques, and indigenous grape varieties. Residents actively participate in selling local products, such as wines, coffee, and sports activities, contributing to the region's economic vitality.

B. Local Accountability

Since Tokaj has been established for hundreds of years with various business models, local accountability is the government's responsibility. Citizens and business people are only obliged to pay taxes obediently and monitor them in the form of services and infrastructure development carried out by the state. Local accountability is represented by elected members of parliament.

C. Local Variety

The Tokaj wine region takes pride in its wine uniqueness, especially Aszu winemaking. The preservation of traditional winemaking practices, food and drink menus served with ingredients from their region showcases a commitment to maintaining the

distinctive character of the region. The Tisza River and Bodrog River provide fish and sport fishing or boating facilities are the preferred local variety. There are 11,149 hectares of classified vineyards in the region, of which 5,500 are presently planted, and 28 recognised villages. UNESCO listed Tokaj—also known as the Tokaj Wine Region Historic Cultural Landscape—as a World Heritage Site in 2002 (www.magyarborokhaza.com, no date). As a UNESCO World Heritage Site, the area attracts tens of thousands of visitors annually, many of whom are the descendants of the Jewish families who formerly called it home.

D. The Economy Advantage for Local People

Through a modern well-organized management organization, the Tokaj wine region facilitates economic opportunities for locals. Winemaking is still the main business in this area. However diverse business activities, including the daily tour activity and culinary delights, contribute to the economic well-being of the community. Restaurants, cafés and accommodation are also part of local economic growth.

Disaster Mitigation and Its Indicators in the Tokaj Wine Region

A. Natural Disaster

Given the low likelihood of natural disasters affecting the region, the Tokaj wine region focuses on preventive measures. The landscape itself, with its vineyards and natural barriers, serves as a protective element, reducing the risk of potential natural disasters.

B. Non-natural Disasters

Aware of potential non-natural disasters, such as fires or accidents, the Tokaj wine region has implemented safety measures. This applies because strict regulations regarding safety, accidents and health are very strict in the European Union. Apart from that, health facilities are also quite adequate in the Tokaj area. This provides a maximum guarantee to visitors.

4.3. The Works Concept of MSPDM Generalizing.

Based on a bibliometric analysis as the systematic review in this research, it shows that the variables Marketing, Sustainability, Participation and Disaster Mitigation (MSPDM) are a concern for the narrative of the development and evaluation of community-based tourism areas. Its corresponds to the preliminary research designed as the initial measurement instrument to determine the environment condition of the initial development area (Ani and Dewi, 2016; Saarinen, Rogerson and Hall, 2017; Lanya *et al.*, 2018; Priatmoko and David, 2020). Previous

research also shows that the implementation of evaluation of the Marketability, Sustainability, Participation and Disaster Mitigation variables simultaneously has never been carried out and has only been carried out partially. Thus, this research will fill its gap.

Furthermore, based on observations of the history of the four rural community-based tourism research sites, variable MSPDM is also used for long-term development strategies and monitoring and evaluation of the implementation of its development. This means that implementing the evaluation variables for marketability, sustainability, participation, and disaster mitigation at the same time will result in a measurement that is comprehensive. Comprehensive assessments and measurements will help develop plans for a tourism area's sustainability and preservation. The results of observations on the destinations sample can be seen in Table 5.

Table 5. Sample Locations Scoring

No	Location	1. Marketability				2. Sustainability						3. Participatory				4. Disaster Mitigation			Total			
		A	B	C	D	Sub total	A	B	C	D	E	F	Sub total	A	B	C	D	Sub total				
1	Hollókő old village-UNWTO 2021	5	3	5	5	4.50	5	4	5	2	5	5	4.33	3	5	5	3	4.00	5	5	5.00	4.46
2	Nglanggeran village-UNWTO 2021	3	5	5	5	4.50	3	4	5	5	5	5	4.50	5	5	4	4	4.50	5	3	4.00	4.38
3	Penglipuran village-UNWTO 2023	5	5	4	5	4.75	5	4	5	5	5	5	4.83	5	5	5	5	5.00	5	3	4.00	4.65
4	Pentingsari village-UNWTO 2013	5	5	4	5	4.75	4	4	5	5	5	5	4.67	4	5	4	4	4.25	5	4	4.50	4.54
5	Tokaj-UNWTO 2023	5	5	4	5	4.75	5	4	5	4	5	5	4.67	5	4	4	5	4.50	5	5	5.00	4.73

Score parameters:

1-1.99 Embryo

2-2.99 Pioneer

3-3.99 Growing

4-5 Advance

Source: Author, 2023

Based on the MSPDM assessment, each location are in compliance with UNWTO recognition standards and satisfy the Advance score requirements. This illustrates how decision support systems are used in community-based tourist development using MSPDM parameters.

Peeters et al. (Peeters *et al.*, 2018) stated the impact of tourism on the attractiveness of a destination is often ignored and remains unchallenged and difficult to measure. So, measurement is an challenging option for tourism development tactic. People have to be made aware that sustainability efforts can only succeed if done with systems thinking, holistically and using transdisciplinary principles and methodology (Lengyel, 2018). Using comprehensive assessments by considering marketability, sustainability, participation, and disaster mitigation at the same will give a holistic perspective in rural community-based tourism tourism development. So, these comprehensive assessments can be used to help building a Decision Support System (DSS) in evaluating and planning a community-based tourism area. Tourism plays a complex role in shaping various socio-cultural and socio-economic aspects and give the impacts on social relationships, environment and physical safety (Rátz and Michalkó, 2011). It can be said that the elements of Marketability, Sustainability, Participation and Disaster Mitigation (MSPDM) are basically the necessary parameters for managing a community-based tourism village and can be used as DSS parameters. This situation corresponds with the results from five study locations, namely the Indonesian villages of Pentingsari, Nglanggeran, Penglipuran, the Hungary's old village of Hollókő, and the Tokaj wine region in Hungary.

5. CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS AND FUTURE DIRECTIONS

The conclusion of the study is summarized in this chapter. This chapter consists of three main sections. An overview of the findings and their importance for theory and practice are presented in the first section, while recommendations are provided in the second section. A discussion of the study's limitations and future directions is presented in the third section.

5.1. Conclusions

In this research, it is known that many community-based tourism destinations use Marketability, Sustainability, Participatory, and Disaster Mitigation aspects as determining factors in the development and management of these tourist areas. These aspects are proven to make a significant contribution in increasing the attractiveness and sustainability of tourist destinations, as well as involving local community participation and disaster mitigation management. Thus, MSPDM variables can be used to analyze the condition and potential of rural areas that wish to develop community-based tourism businesses. By paying attention to the parameters in each MSPDM variable, the planning and evaluation steps can be easier to use while at the same time equating the perceptions of each stakeholder.

The results of this study indicate that the aspects of Marketability, Sustainability, Participatory, and Disaster Mitigation are appropriate to be used as parameters in making a Decision Support System to support decision making in the community-based tourism area. This framework can provide comprehensive guidance for managers in identifying the attractiveness and potential of facilities in community-based tourism areas, as well as assisting in planning for sustainable development and management. Community-based tourism is proven to improve the economy as well as being a tool for cultural and environmental preservation. Learning from community-based tourism locations that are considered advanced and independent, it can be seen that the Marketability, Sustainability, Participatory, and Disaster Mitigation (MSPDM) variables are critical variables that are always met and applied by the managers of these destinations. In certain contexts, these Marketability, Sustainability, Participatory, and Disaster Mitigation aspects can be accepted as a Decision Support System tool in situations where environmental and social sustainability, community participation, and disaster risk mitigation are important factors in decision making related to development and management community-based tourism area. This finding is also in line with studies at other locations based on quantitative data in the literature review.

This research provides a valuable contribution in strengthening understanding of the importance of involving Marketability, Sustainability, Participatory, and Disaster Mitigation aspects in decision making in the community-based tourism area. By combining relevant theories and the results of this research, it is hoped that more effective and sustainable solutions can be found in developing community-based tourism areas in the future. By looking at the results of previous research through systematic literature reviews and comparative observation studies at research locations conducted in several superior community-based tourism destinations, a generalization approach can be accepted as part of the DSS tool approach.

In relation to the significance of the MSPDM variable as a predictor of a community-based tourism destination's success, it can be claimed that this indicator can be used as an evaluation tool for a community-based tourism location's development. As a result, the MSPDM variable is eligible for inclusion in the DSS if Marketability, Sustainability, Participatory, and Disaster Mitigation as a whole is acknowledged as a benchmark for a community-based tourism destination's success.

Finally, based on the results of the qualitative and quantitative analysis, the hypothesis that marketability, sustainability, participation, and disaster mitigation management (MSPDM) variables can play a role in forming a Decision Support System (DSS) can be accepted. Stakeholders will be able to create more development plans and assess the efforts already made by establishing these indicators. This implies that subjective opinions expressed by stakeholders about a development or assessment strategy can be minimized. This conclusion also confirms that the generalization of MSPDM aspects as variables to be applied as parameters in Decision support systems is acceptable.

5.2. Recommendations.

Aspects of marketability, sustainability, participation, and disaster mitigation management are significant in community-based tourism industry as criteria for evaluation and development planning. Some of the recommendations that can be given are as follows:

1. Integrating Marketability, Sustainability, Participatory, and Disaster Mitigation aspects in the development of a Decision Support System (DSS): It is recommended that managers and policy makers in the community-based tourism area use this framework in developing DSS. A DSS that is integrated with these aspects will provide more holistic and up-to-date information, enabling better and more sustainable decision making.
2. Encouraging community participation in decision-making: Involving local communities in decision-making processes regarding the development and

management of community-based tourism areas is very important. This recommendation encourages participatory mechanisms that involve local communities in the planning, implementation, and evaluation of policies related to community-based tourism. This will ensure that decisions taken take into account the interests and aspirations of local communities.

3. Strengthen cooperation and collaboration: This recommendation underscores the importance of collaboration between stakeholders in the development of community-based tourism. Collaboration between the government, local communities, non-governmental organizations and the private sector will strengthen the implementation of Marketability, Sustainability, Participatory and Disaster Mitigation aspects in the development of the community-based tourism area. Encouraging strong synergies and partnerships will enhance the success and sustainability of community-based tourism.
4. Conduct ongoing research and evaluation: The final recommendation is the importance of ongoing research and evaluation in the development of community-based tourism. Technological developments and socio-economic dynamics will continue to influence the community-based tourism area. Therefore, it is important to continue to conduct research and evaluate the use of Marketability, Sustainability, Participatory, and Disaster Mitigation aspects in DSS in order to adapt and improve existing practices.
5. Develop a decision support system (DSS) application based on information and technology (IT) that incorporates aspects of marketability, sustainability, participation, and disaster mitigation for the development of community-based tourism areas so that the community and stakeholders may utilize it more easily.

By implementing these recommendations, it is hoped that the development and management of the community-based tourism area can become more measurable, sustainable, participatory and effective in dealing with existing challenges.

5.3. Limitations and Future Directions.

Despite attempts have been made to summaries quantitative and qualitative data on the development of community-based tourism in this study, there are still certain limitations. The following list of limitations includes those that are specific to the analysis while others deal with sampling and data intervals. The most significant limitations of the research are discussed in this part, yet it is not a complete list. It also addresses certain research limitations and future directions.

Limitations:

1. Generalizability: The findings and recommendations of this research may have limitations in terms of generalizability. The study focuses on a specific context and may not fully capture the diverse characteristics and challenges of all community-based tourism areas. Therefore, caution should be exercised when applying the results to different regions or contexts.
2. Data availability: The research may have relied on limited or specific data sources, which could impact the comprehensiveness and accuracy of the findings. The availability and quality of data related to Marketability, Sustainability, Participatory, and Disaster Mitigation aspects may vary across different locations and could affect the robustness of the Decision Support System. Future research should strive to gather more comprehensive and reliable data to enhance the validity of the findings.
3. Scope of analysis: The study focuses primarily on the aspects of Marketability, Sustainability, Participatory, and Disaster Mitigation. While these aspects are crucial, there may be other factors and dimensions that contribute to the development and management of community-based tourism. Limiting the analysis to these aspects may overlook other important considerations that should be integrated into decision-making processes.

Future Directions:

1. Long-term impact assessment: Future research can explore conducting long-term impact assessments of implementing Decision Support Systems based on Marketability, Sustainability, Participatory, and Disaster Mitigation aspects in community-based tourism areas. This will help in evaluating the effectiveness and sustainability of the systems and provide insights into their long-term benefits and challenges.
2. Stakeholder engagement: Further research can focus on investigating effective strategies to enhance stakeholder engagement and participation in decision-making processes within community-based tourism. This can involve exploring innovative approaches, tools, and mechanisms to foster meaningful collaboration

and shared decision-making among local communities, tourism operators, government agencies, and other relevant stakeholders.

3. Technology integration: The integration of advanced technologies such as artificial intelligence, big data analytics, and digital platforms can enhance the functionality and efficiency of Decision Support Systems. Future research can explore the potential of integrating these technologies into the systems to improve data collection, analysis, and decision-making processes in community-based tourism.
4. Policy and governance frameworks: Research can examine the development of policy and governance frameworks that promote the integration of Marketability, Sustainability, Participatory, and Disaster Mitigation aspects into decision-making processes at the governmental and organizational levels. This can include exploring policy incentives, regulations, and guidelines that support the implementation of sustainable and participatory practices in community-based tourism.

By addressing these limitations and pursuing future directions, researchers can further advance the understanding and application of Decision Support Systems based on Marketability, Sustainability, Participatory, and Disaster Mitigation aspects in community-based tourism, leading to more effective and sustainable management practices.

6. NEW SCIENTIFIC RESULTS

1. The scientific results obtained from this research contribute to the field of community-based tourism by highlighting the significance and applicability of Marketability, Sustainability, Participatory, and Disaster Mitigation aspects as one comprehensive package in the development of Decision Support Systems (DSS). The study reveals that these aspects serve as crucial factors in enhancing the attractiveness and sustainability of tourist destinations, as well as promoting community participation and effective disaster risk mitigation management.
2. Through the integration of community-based tourism, social capital & community participation, and planning theories, this research establishes a comprehensive framework for the design and implementation of DSS in the community-based tourism context. The findings demonstrate that the parameters based on Marketability, Sustainability, Participatory, and Disaster Mitigation aspects effectively guide managers in identifying the potential and attractiveness of facilities within community-based tourism areas. Furthermore, the framework assists in the planning and management of sustainable development practices.
3. The research findings also emphasize the contextual acceptance of the Marketability, Sustainability, Participatory, and Disaster Mitigation aspects as essential components of a Decision Support System. Particularly in situations where environmental and social sustainability, community participation, and disaster risk mitigation play critical roles in decision making related to community-based tourism development and management, these aspects prove to be valuable tools in guiding effective decision-making processes.
4. The integration of these aspects into Decision Support Systems demonstrates a significant step forward in promoting sustainable practices within the community-based tourism sector. By leveraging the insights gained from relevant theories and the empirical findings of this research, future endeavors can focus on refining and expanding the applicability of these aspects in the development of innovative and efficient Decision Support Systems. These advancements will lead to more effective decision-making processes, resulting in the sustainable growth and management of community-based tourism destinations.

Overall, the scientific results of this research contribute to the understanding of the key factors and parameters necessary for the successful implementation of Decision Support Systems in community-based tourism. The findings serve as a foundation for future research and practical applications, aiming to enhance the overall sustainability, community engagement, and disaster resilience within community-based tourism destinations.

7. SUMMARY

The research work entitled "Making a Decision Support System in community-based tourism based on Marketability, Sustainability, Participatory, and Disaster Mitigation Management Aspects" conducted in Pentingsari Village, Nglanggeran Village, Penglipuran Village in Indonesia, Old Village of Hollókő and Tokaj wine region in Hungary utilizes a mixed-method approach, combining qualitative and quantitative methods through field studies and systematic literature review. The study aims to assess the attractiveness and potential of facilities in rural community-based tourism areas by integrating the aspects of Marketability, Sustainability, Participatory, and Disaster Mitigation into a Decision Support System (DSS) framework.

The findings reveal that Marketability, Sustainability, Participatory, and Disaster Mitigation aspects play vital roles as determining factors in the development and management of community-based tourism destinations. These aspects contribute significantly to enhancing the appeal and sustainability of tourist sites, as well as facilitating local community participation and effective disaster mitigation management.

Based on the study's results, it is concluded that these aspects can be utilized as parameters within a Decision Support System to support decision-making processes in the community-based tourism sector. The framework developed in this research provides comprehensive guidance to managers in identifying the attractiveness and potential of facilities within community-based tourism areas, while also aiding in the planning of sustainable development and management strategies.

Moreover, the study highlights the acceptance and relevance of Marketability, Sustainability, Participatory, and Disaster Mitigation aspects as valuable tools within a Decision Support System. Specifically, in contexts where environmental and social sustainability, community participation, and disaster risk mitigation are crucial considerations for decision-making in community-based tourism development and management, these aspects hold significant importance.

Overall, this research makes a significant contribution to understanding the significance of integrating Marketability, Sustainability, Participatory, and Disaster Mitigation aspects into decision-making processes within the community-based tourism domain. By combining relevant theories and empirical findings, the study paves the way for the development of more effective and sustainable solutions in the future development of community-based tourism areas. In summary, limitations, implications, and future research can be positioned around the idea of understanding and creating a decision support system for community-based tourism.

8. APPENDICES

8.1. Appendix 1. Bibliography

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8.2. Appendix 2. Assessment Guidelines

Table 6. Tables of Assessment Guidelines

1. MARKETABILITY						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
A. Product Packaging	the packaging of goods or services appearance	If there is no agreement for the packaging of various types of tourism products	If using standard for packaging several types of tourism products, but not for all its products yet	If using product standardization, however, for certain types of business only	If there are agreement and standardization of forms and all kinds packaging of tourism products	If there are agreement and standardization of forms and all types of tourism products and thematic packaging continuity
B. Promotion Model	kind of various media promotions	if not using a promotional media	If using one type of promotional media	If using more than one media campaign	If using of various promotional model for all businessman has been coordinated	If using varieties of media promotions and take advantage of coordinated communications network
C. tourism information system	The combination of information technology and the activities of people who use the technology to support the activities of tourism	If not using the information system	If using one kind of information systems by local tourism players	If using a wide variety of information systems, but is driven by outsiders	If using various forms system travel information and only driven by local tourism players	If using various forms of information systems and driven independently by local tourism stakeholders and outside stakeholders
D. Distribution	Products reaching and relationship	If the product reaching & relationship is still very local (one district and surrounding areas only)	If the product reaching & relationship levels is between districts	If the product reaching & relationship levels is other provinces in the island	If the product reaching & relationship levels is national	If the product reaching & relationship levels is international level

2. SUSTAINABILITY						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
A. Physical development Thresholds	The extensive use of open land for physical development	If there is still no regulation of land use	If the existing arrangement of land use not obeyed	If the existing arrangements and restrictions on physical development began to be obeyed	If the existing land use regulation is obeyed and tend to expand open space rather than physical development	If the existing land use regulation is obeyed and willingness revision for physical development
B. number of visitors threshold	Number of visitors to the various attractions of the carrying capacity according to the UNWTO standard	If there is still no path scenario and visitors only understand a particular point of attraction	If there is still no tread path scenario for the flow of visitors and the amount of buildup only at certain points	If there is existing thread path for a variety of point of interest but there is no mechanism for distributing the number of visitors	If there is existing thread path for a variety of point of attraction and a mechanism for distributing the number of visitors	If existing thread path for a variety of point of attraction and the number of visitors dispersed as the carrying capacity of each object
C. natural resources Thresholds	Supply capability and durability of natural resources on the needs of tourists in various tourism objects	If there is still no regulation on the use of local natural resources	If there is already regulation on the use of local natural resources but have not obeyed	If the existing arrangements and restrictions on natural resources began to be obeyed	If the existing regulation on the use of natural resources tendency to renew the carrying capacity resources	If the existing regulation on the use of natural resources obeyed and willingness to contribute to the renewal function of resources
D. local communities' response	Reaction and action of local community on tourism activities in the region	If the majority of local people do not accept tourism activities in the area	If the majority of local people feel no need to engage the activities of tourism	If the majority of local people want to be involved in tourism activities	If communities have formed organizations to regulate the role of the tourism activity	When the organization formed by community tourism has been connected with various stakeholders

2. SUSTAINABILITY						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
E. Tourist's Response	Reaction and action tourists who visit	If various attractions deserted and stalled	If visited by individual travelers but no tourist groups	If the group of tourists began to visit at least by family group	If already marketed by tourism businesses corporation	If start to be a list of must visit for tourists who come to the destination
F. Government's response	Reaction and action of government in the development area	If there is no response from government in planning the region	If it listed in the regional development agenda	If it began to be included in local government development agenda and budget allocations	If it involves a wide range of stakeholders in the development of the region	If the provincial or national government making plans and budget allocations

3. PARTICIPATORY						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
A. local resources	The use of various resources and local materials insights	If local people do not want to use local materials	If local people using local resources as compulsion	If Local People want to use any local resources as a supplement	If the majority of local people using local resources	If the local people maximizing in using local resources and make it as a theme of tourism area
B. local accountability	The involvement of local communities for the management and development of organizations	If local people do not want to get involved in the activities of tourism	If local people want to be involved in tourism activity but do not want to form organizations	If there are tourism organizations but there is no activity	If tourism organization start becoming as a regulator of local community activities	If the organization has been associated with cross-sectoral stakeholders

3. PARTICIPATORY						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
C. local variety	The uniqueness of the various local tourist attraction	If there is not uniqueness of the area	If there is already uniqueness of the area but not been packed yet	If some existing local uniqueness been packaged for tourism products	If the local uniqueness has become the collective consciousness as tourism product	If the local uniqueness has become the collective consciousness and packed and protected by legal instruments
D. The economy advantage for local people	Distribution of income received by the local community and direct business player	If there is no economic benefit received by local communities	If there is already a small part of community members receive economic benefits	If most of the travel needs can be supplied by a variety of backgrounds of individuals in society	If an existing business entity/ organization to distribute most profit for local people	If the business institution formed by local people has associated with the majority of citizens and external parties

4. DISASTER MITIGATION						
PARAMETER	DETAIL	VALUES & INDICATORS				
		1	2	3	4	5
A. The earthquake and landslides	Anticipation of risk and recovery planning	If there are no anticipation and rescue plans from earthquakes and or landslides	If there are anticipation and a rescue plan for earthquakes and landslides but has not been socialized	If there are anticipation plan, socialization and rescue training	If there are evacuation plan and a special team to handle the disaster by the local people	If there are a plan, SAR Team, and the post-disaster recovery area plan
B. non-natural disasters as effect of failed technology, pestilence	Anticipation of human error and standardize the safety and health	If there is no anticipation and standardization for minimum safety and health	If already have a standardization but has not been used as a reference	If safety & health standard is already becoming a reference for local tourism stakeholders and tourist	If there is an international standardization of safety and health are obeyed	If there is sanctions/ penalty for disobeyed health and safety standardization by local people and tourist

8.3. Appendix 3. Interview Questions Guideline

1. What do you think about the packaging of goods or services appearance/ looks? Is it important or not?
2. What do you think of using kind of various media promotions? What are you using for promotion?
3. Do you think using IT/ Information Technology (Internet, software, computer, application) system is important? why? What do you have on IT resources if any?
4. What do you think about the discoverability of your product? Is the larger area of the distribution and relationship important for your business or is it enough for you if you get local customer? Why?
5. What do you think about land use regulation for tourism facilities?
6. What do you think about visitor/ customer/ guest number? Do you prefer larger or smaller number? Why?
7. Is the visitor certain/ special pathway flows or tourist track/ route needed in the community area? Why?
8. What do you think about regulating natural resources for example: river, cave, hill, forest, etc.?
9. What are the local people responses if there is many visitors/ tourists who came to your community place? Do they care or don't consider as opportunity or threat? Why?
10. Is the local organization needed to manage the tourism activities like for example: hotel, sport activities, restaurant, cafe, festival, etc.?
11. How do you measure the response of the visitor with your business? Is it by the increasing number of visitors? By the other tourism business entities who join to ask to sell your product?
12. What do you think about the role of government? Are they need to be involved? Why?
13. Do you think the use of various resources and materials from your local area is important? Why?
14. Do you think the involvement of local communities for the management and development of organizations is needed? Why?
15. Do you think the uniqueness/ special of the local tourist attraction is important? Why?
16. Do you think the Distribution of income or profit received by the local community organization and direct business player is important? Why?
17. Do you think anticipation of risk and recovery planning is important? Did you, do it? Why?
18. Do you think anticipation of human error and standardize the safety and health is needed in the name of tourism activities? Why?

8.4. Appendix 4. Documentation of Research Locations

8.4.1. Nglanggeran Village, Yogyakarta, Indonesia pictures



Figure 19. Nglanggeran Village Landscape
Source: Author, 2023

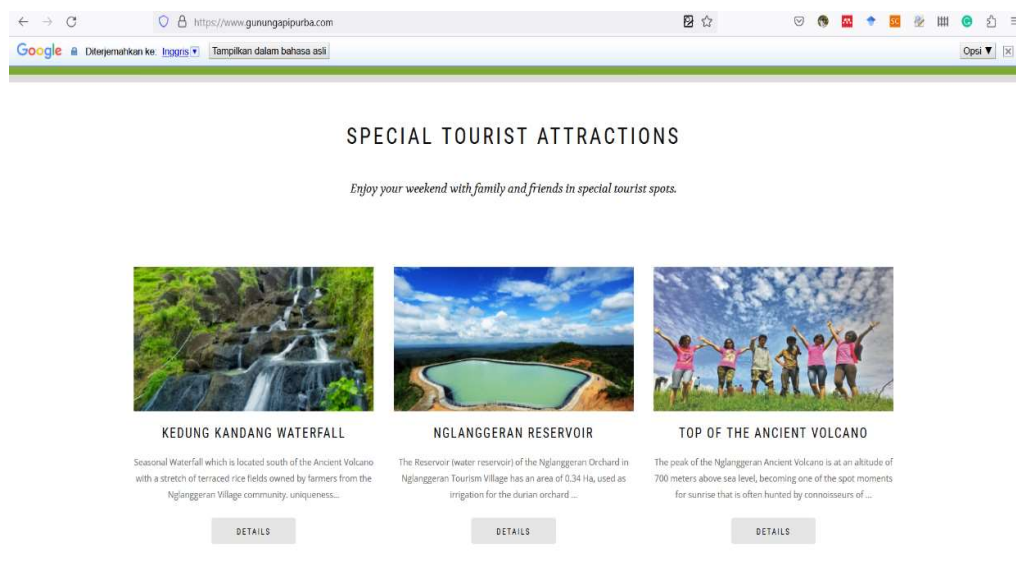


Figure 20. Nglanggeran's Official Website
Source: gunungapipurba.com, 2023

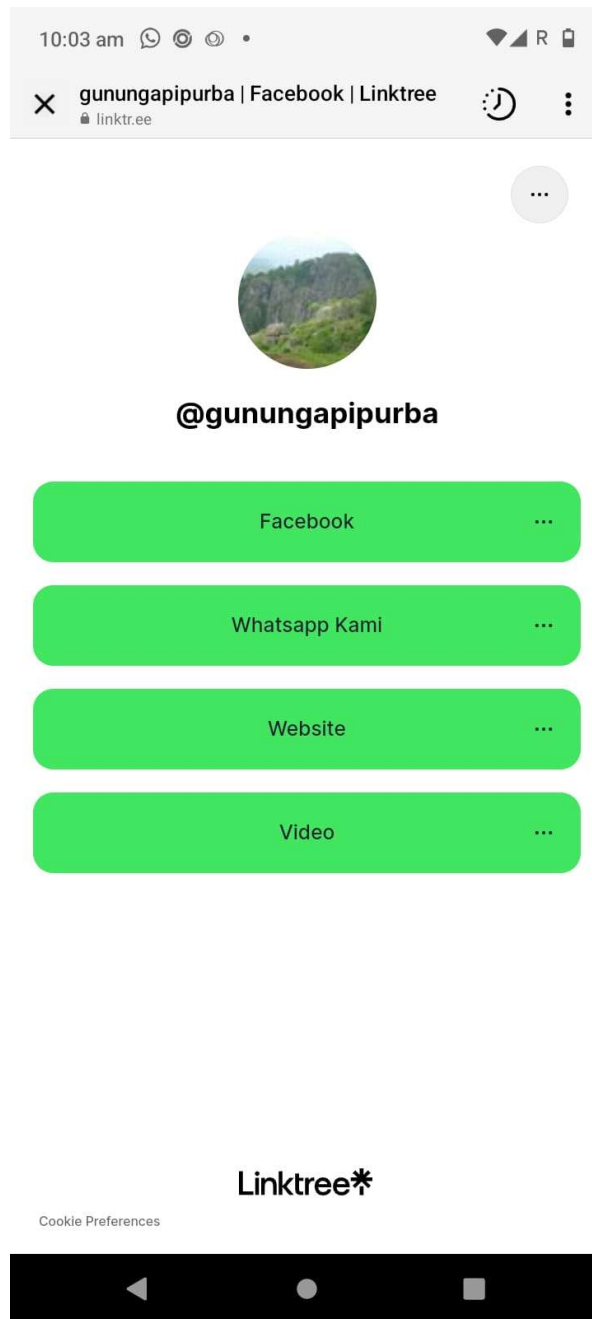


Figure 21. Nglanggeran's Information Systems
Source: gunungapipurba linktree, 2023



Figure 22. Typical Homestay in Nglanggeran
Source: gunungapipurba.com, 2023



Figure 23. Durian Trees in Nglanggeran
Source: Author, 2023



Figure 24. Guest's Comment and Emergency Numbers
Source: Author, 2023



Figure 25. Local Serving & Selling Hot Local Chocolate Product
Source: Author, 2023



Figure 26. Nglanggeran's Ticket Box
Source: Author, 2023



Figure 27. Nglanggeran's local cuisines
Source: Author, 2023



Figure 28. Concrete in slopy area
Source: Author, 2023



Figure 29. Rescue Team Partners
Source: Author, 2023

8.4.2. Pentingsari Village, Yogyakarta, Indonesia pictures



Figure 30. Practicing How to Plant Paddy
Source: desawisatapentingsari.com, 2023



Figure 31. Several Online Communications Channel
Source: Author, 2023



Figure 32. Tourists From Netherland Cycling at Pentingsari
Source: desawisatapentingsari.com, 2023



Figure 33. Pentingsari's Leaflet
Source: Author, 2023



Figure 34. Typical touristic building facilities in Pentingsari
Source: Author, 2023



Figure 35. Camping Ground in Pentingsari
Source: Author, 2023



Figure 38. Traditional farming activity as attraction
Source: desawisatapentingsari.com, 2023



Figure 39. Local work as a tourist guide
Source: Author, 2023



Figure 40. Room for First Aid and Emergency
Source: Author, 2023

8.4.3. Penglipuran Village, Bali, Indonesia



Figure 41. Penglipuran Main Street
Source: Indonesia.travel, 2023



Figure 42. Main Street as The Main Spot attraction
Source: Author, 2023



Figure 43. Information and Communication Channel
Source: penglipuranvillage.com, 2023



Figure 44. Domestic Tourist in Penglipuran
Source: Author, 2023



Figure 45. Wood and Bamboo Building in Penglipuran
Source: Author, 2023



Figure 46. Main Gate of Bamboo Forest in Penglipuran
Source: facebook/desawisatapenglipuran



Figure 47. Family's Temple in Every House
Source: Author, 2023



Figure 48. Information on Do's & Don'ts at Penglipuran
Source: Author, 2023



Figure 49. Learn How to Make Local Beverage at Penglipuran
Source: facebook/desawisatapenglipuran, 2023



Figure 50. Directions of Attraction Spots at Penglipuran
Source: Author, 2023



Figure 51. Local Durian Fruit to Sell for Visitors
Source: Author, 2023



Figure 52. Hand Sanitizer and Fire Extinguisher (Behind)
Source: Author, 2023

8.4.4. Old Village Hollókő, Hungary



Figure 53. Hollókő Official Main Attraction Map
Source: Author, 2023



Figure 54. Hollókő Main Street Walk
Source: Author, 2023



Figure 55. Hollókő's Official Social-Media
Source: facebook.com/iloveHolloko

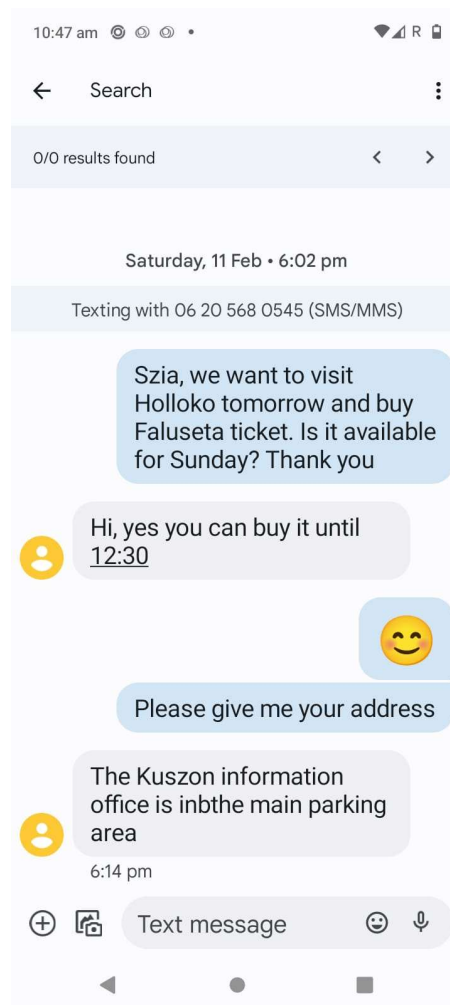


Figure 56. SMS Response from The Hollókő Official Staff
Source: Author, 2023



Figure 57. Visitors Buying Cheese from Local
Source: Author, 2023



Figure 58. Preserved Old House
Source: Author, 2023

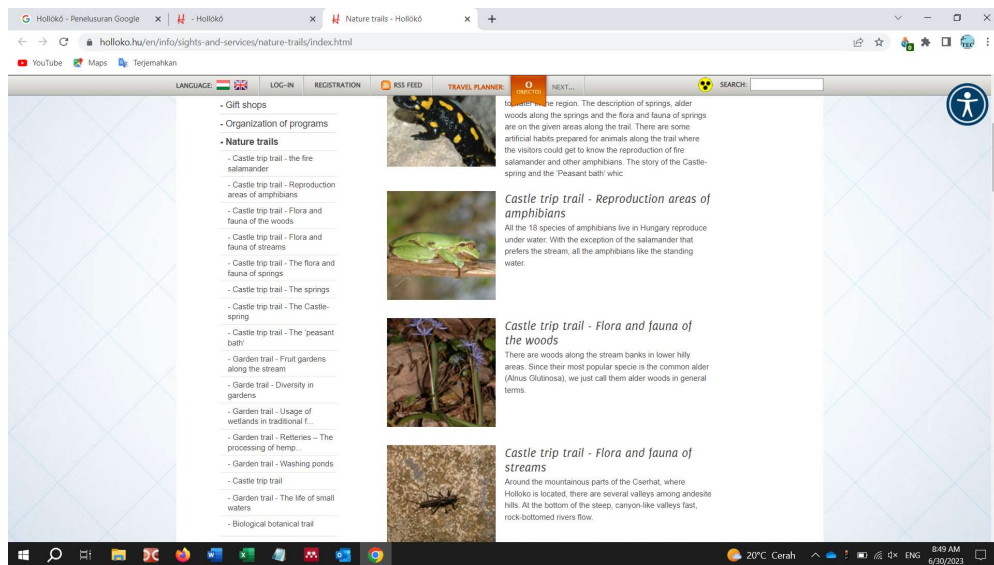


Figure 59. Hollókő's Nature Trip
Source: holloko.hu, 2023



Figure 60. Official Signage of Hollókő's Attractions
Source: Author, 2023



Figure 61. Traditional Knitting Machine as Attraction
Source: Author, 2023

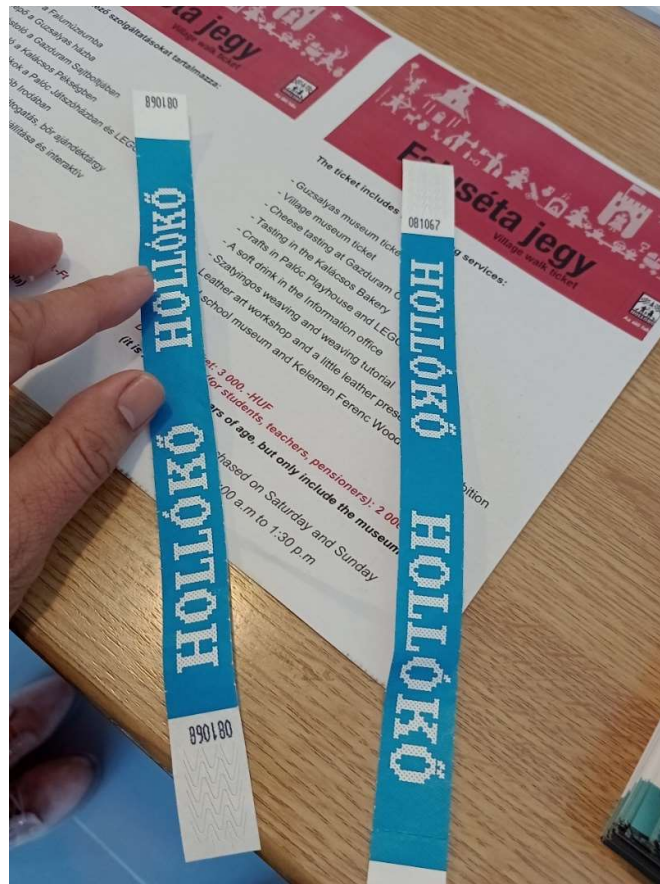


Figure 62. Wristband Ticket
Source: Author, 2023



Figure 63. Hungarian Hollókő's Palóc Local Cuisines
Source: Author, 2023



Figure 64. Hollókő's Leather Handicraft
Source: Author, 2023



Figure 65. Hollókő's Manhole and Underground System
Source: Author, 2023

8.4.5. Tokaj wine region, Hungary



Figure 66. Tokaj Signage Installation Using Wine Corks
Source: Author, 2023



Figure 67. Tokaj's Characteristic Ornament with A Vine
Source: Author, 2023

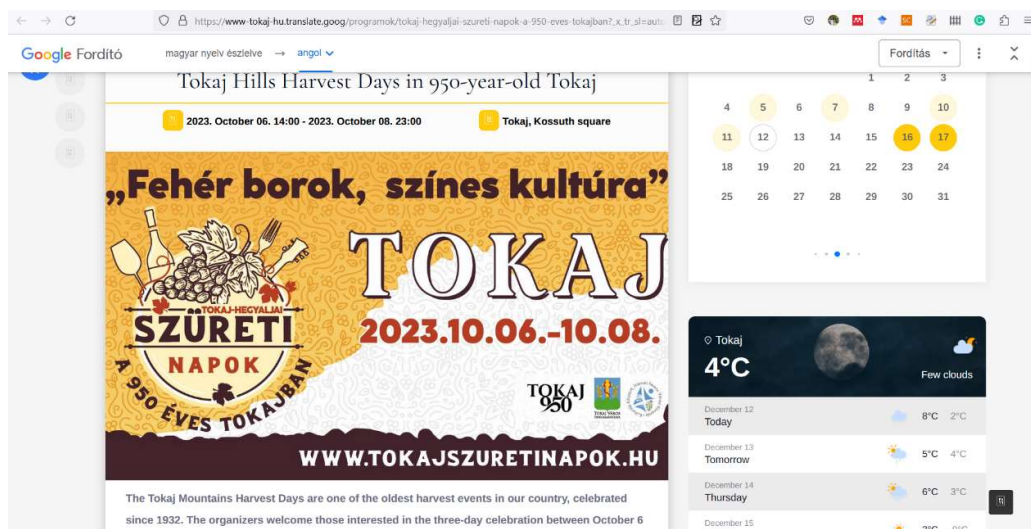


Figure 68. 950 years Tokaj Harvest Days festival
Source: www.tokaj.hu, 2023



Figure 69. Tokaj Tourist Information Office
Source: Author, 2023



Figure 70. Various Local Tokaj Wine Sell by Locals
Source: Author, 2023



Figure 71. Place of Interests' Signage
Source: Author, 2023



Figure 72. Typical Cellar in Tokaj
Source: Author, 2023



Figure 73. River Tour Activities in Tokaj
Source: Author, 2023



Figure 74. Official Tokaj Wine Region Maps by Government
Source: Author, 2023

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