

## Sustainable Livelihoods for Tourism: Lessons from the Sambi Village Transition

Agnes Ratih Ari<sup>1</sup>; Gatot Sasongko<sup>2</sup>; Aldi Herindra Lasso<sup>2</sup>; Titi Susilowati Prabawa<sup>2</sup>

<sup>1</sup> Student at Development Studies of Interdisciplinary Faculty, Satya Wacana Christian University, Central Java, Indonesia

<sup>2</sup> Lecturer at Development Studies of Interdisciplinary Faculty, Satya Wacana Christian University, Central Java, Indonesia

E-mail: [agnes4ri@gmail.com](mailto:agnes4ri@gmail.com)

<http://dx.doi.org/10.47814/ijssrr.v8i9.2867>

---

### Abstract

This study highlights changes in community livelihood patterns in Sambi Village, Yogyakarta, which have shifted from stone mining activities that have a negative impact on the environment to economic activities based on the tourism sector. Although the tourism sector provides hope for increased welfare and improved economic conditions for residents, the sustainability of this transformation still poses various challenges. By utilizing the Sustainable Livelihood Framework (SLF) and qualitative methods based on the constructivism paradigm, this research seeks to capture the social construction of local communities through their experiences, meanings and knowledge that they form during the transition process. Data collection techniques were conducted through in-depth interviews, participatory observation, and documentation studies, which were thematically analyzed. The study results show that while the tourism sector has created a short-term economic recovery and gained institutional support, the community's over-reliance on a single source of livelihood makes them vulnerable to external pressures. The lack of diversified livelihood sources as well as limitations in adaptive capacity reinforce the challenges in building a resilient and sustainable economic structure. Therefore, this study emphasizes the need for a comprehensive livelihood strategy, focusing on diversification, and strengthening local capacity to achieve sustainable development in rural areas dependent on the tourism sector.

**Keywords:** *Challenges, Economic Dependency; Vulnerability; Livelihood Diversification; Sustainable Livelihood Framework (SLF)*

### Introduction

Since the last few decades, the development of new tourist areas has been carried out massively with the aim of utilizing regional resources to improve productivity and the local economy. Tourism

development is considered an important tool in poverty alleviation, unemployment reduction, and increased economic growth, both at the regional and national levels (Li, K., 2018; Xue, 2018; Yanan, 2024). However, despite tourism's ability to absorb large amounts of labor, the sustainability of local communities' livelihoods is often overlooked. This is important to note because employment opportunities in the tourism sector tend to be seasonal and highly dependent on fluctuations in visitor numbers. If tourism does not develop sustainably, communities that depend on this sector could potentially experience serious economic vulnerability in the long run.

The importance of considering the sustainability of local livelihoods in tourism development has become an increasingly prominent topic of discussion. Various studies on communities adopting tourism as a new source of livelihood with various responses have been conducted. Tao and Wall (2009) highlighted the relationship between tourism and other types of livelihood strategies in Taiwanese aboriginal communities, where the findings encourage considering tourism as a new livelihood opportunity, either complementing or replacing other existing economic activities.

Several studies show that poorly managed tourism development can undermine the livelihoods of local communities. Cornet's (2015) research findings show that top-down approaches due to influence and domination by external developers can create social tensions and community conflicts that weaken local communities' participation and agency in tourism development. Cohen (2013) pointed out that in Thailand, coastal tourism resulted in a shift in livelihoods from fishing to tourism, which in turn made communities more vulnerable to economic instability due to fluctuations in the number of tourists.

The importance of considering the sustainability of local livelihoods in tourism development has become an increasingly prominent topic of discussion. This is motivated by the fact that if tourism development does not consider the socio-economic aspects of the local area, it will potentially create vulnerability, inequality, and even social exclusion of communities living around tourist destinations (Tao & Wall, 2009). In this context, a sustainable livelihood approach is important to ensure that the economic benefits of tourism are not only enjoyed by external investors or local elites, but also support the economic and social resilience of local communities in the long term (Iorio & Corsale, 2010). In addition, the integration of social capital, human capital, and access to local production assets should be a key concern in community-based tourism policy planning, in order to promote inclusive and sustainable livelihoods (Su, 2019). The tourism development agenda must go beyond a purely economic growth orientation and focus on structural transformation that enables local communities to be more empowered.

In the context of Sambi Village, significant changes occurred when communities that previously depended on stone mining had to shift to the tourism sector after the government banned mining activities. Although tourism offers new employment opportunities, the people of Sambi Village face serious challenges in adjusting to the new livelihood. Inadequate levels of education and skills in tourism potentially make it difficult for residents to adapt to jobs in the tourism sector, which often require new skills that are different from their previous jobs. This challenge may be further heightened by the seasonal nature of the tourism sector and its vulnerability to issues outside of tourism. Therefore, the sustainability of community livelihoods is a central issue in the discussion of the impact of this transition, especially since community income is heavily dependent on tourist visits.

In the Sustainable Livelihood for Tourism (SLFT) theory, the sustainability of local communities' livelihoods is defined as their ability to cope with economic, social, and environmental challenges arising from tourism development (Shen et al., 2008). This theory emphasizes the importance of maintaining a balance between the utilization of local resources consisting of natural, social, economic, physical and human capital and efforts to improve the welfare of local communities through sustainable livelihood strategies (Chamber & Conway, 1992). Tao (2009) states that the root of human development and economic growth is livelihood. Furthermore, Rasekhi (2016) and Baumann (2002) state that the rural

poor, whose livelihoods depend on natural resources, urgently need to pay attention to sustainable livelihoods.

However, previous studies have often focused solely on the economic aspects of tourism without regard to the long-term impacts on the social stability and well-being of local communities. Bebbington (1999) highlighted that studies on sustainable livelihood tend to emphasize income generation without considering how the social structure of communities is affected by rapid tourism development. Furthermore, research conducted by Tao and Wall (2009) shows a gap in the understanding of how local communities can capitalize on opportunities from tourism while still maintaining the sustainability of their livelihoods. Furthermore, these studies tend to neglect an in-depth discussion of the challenges that local communities face in running their livelihoods.

This study aims to contribute to the development of the theory of Sustainable Livelihood for Tourism by discussing case studies from Sambi villages. This study will explore the challenges faced by the Sambi village community in making a living after switching to tourism. The focus of this research is to show that although tourism can improve the welfare of the community in the short term, the vulnerability of tourism-based livelihoods remains high in the long term. This is due to the high dependence on the number of tourists, which is often unstable and influenced by external factors such as global economic conditions or pandemics.

Thus, this study seeks to fill the gaps in previous studies by offering a deeper perspective on the challenges faced by local communities in maintaining their livelihoods after switching to tourism. This study will provide new insights into how communities continue to face challenges despite having shifted to tourism, which is touted as an effective tool for improving community welfare. The results of this study are expected to provide guidance for policymakers in designing tourism development programs that not only focus on increasing income but also consider the sustainability of local communities' livelihoods.

## ***Literature Review***

### **Tourism and Community Livelihood Sustainability**

Tourism development has long been seen as an effective tool for boosting local economies and reducing poverty levels in various regions. Tourism provides opportunities for job creation and increased regional income, especially in areas that have natural and cultural resources that are attractive to tourists (UNWTO, 2023). However, behind the economic benefits offered, there are serious challenges related to the sustainability of local communities' livelihoods, especially due to the seasonal nature of the tourism sector, which depends on the number of tourist visits (Rogerson, 2015). These fluctuations can lead to economic uncertainty for communities that are entirely dependent on tourism as a source of livelihood (Lundmark, L., 2006).

Rogerson (2015) explains that in areas of economic depression in South Africa, tourism does boost local economic activity. However, its seasonal nature and dependence on the number of tourist arrivals make community livelihoods vulnerable during the off-season. When tourist flows decline, the community's main source of income is also disrupted, creating short- and long-term economic uncertainty. Similarly, Baum (1999) discussed the phenomenon of seasonality in the tourism industry. He showed that the tourism sector, which is highly dependent on peak seasons, faces great risks when there is a decline in visitation. Consequently, local people who turn to tourism work face income instability, have difficulty planning for long-term needs, and experience economic contraction when there is no diversification of economic activities.

Many studies have also highlighted the dark side of tourism development for the sustainability of community livelihoods. The study in Su, Z., (2021) concluded that household livelihoods in rural areas are vulnerable to seasonality as well as unequal distribution of benefits-with most tourism profits flowing to local elites or external investors, while poor residents face income uncertainty and limited access to new economic opportunities. Furthermore, Lee, M.H.'s (2008) study in Taiwan shows that agricultural tourism programs increase farmers' income in the short term, but the impact is highly dependent on government policies, initial capital, and institutional regulations that shape their livelihood strategies. Similarly, Cohen's (2013) study in Thailand showed that shifting livelihoods from fishing to tourism makes local communities more vulnerable to changes in the global economy, political instability, natural disasters or pandemics, resulting in a decrease in the number of tourists or changes in tourism-related policies.

### **Sustainable Livelihoods in Tourism**

Sustainable Livelihood Theory was developed to explain how communities can utilize the assets they have-such as natural, social and human resources-to sustain their livelihoods in the face of external challenges (Scoones, 1998; Serrat, 2017). Tao (2009) mentioned that the root of human development and economic growth is livelihood. The rural poor, whose livelihoods depend on natural resources, urgently need to pay attention to sustainable livelihoods. (Rasekhi, 2016). A sustainable livelihood will be able to cope with and recover from stresses and shocks, be able to maintain and increase assets, and provide opportunities for the next generation. An important message of the Sustainable Livelihood approach is that it starts with an analysis of local strengths and capacities, rather than needs that need to be supplied from outside. This approach implies recognition of the inherent potential of all people (Saragih, 2008).

In the context of tourism, the theory of sustainable livelihood is highly relevant because this sector often brings about significant changes in the economic and social structure of local communities (Chambers & Conway, 1992). Sustainable Livelihood for Tourism emphasizes the importance of maintaining a balance between the utilization of local resources and environmental conservation and the improvement of the welfare of local communities (Shen, Hughey, & Simmons, 2008; Tao & Wall, 2009).

However, several studies show that the implementation of the concept of Sustainable Livelihood in tourism still faces gaps. Bebbington (1999) shows that many studies on sustainable livelihood focus more on increasing community income without considering how tourism can change the local social and economic structure (Tao & Wall, 2009; Hall, 2020). Wall & Mathieson (2006) emphasize that this concept is still rarely applied in tourism studies that highlight the dynamics of local communities' livelihoods, particularly in relation to their vulnerability to fluctuations in visitor numbers and environmental impacts (Ashley, Boyd, & Goodwin, 2000; Shen et al., 2020).

This gap shows that many studies focus more on tourism as a tool to improve economic welfare, but few pay attention to the long-term sustainability of community livelihoods (Sharpley, 2009; Saarinen & Rogerson, 2020). However, the sustainability of local communities' livelihoods is highly dependent on the stability of the tourism sector, which is often volatile, especially in areas that are heavily reliant on tourists (Wall & Mathieson, 2006; Rogerson, 2020). Discussions about the sustainability of livelihoods are closely related to the challenges faced by communities after shifting to tourism.

### **Tourism Fluctuations and Livelihood Vulnerability**

One of the main issues in the context of tourism-based livelihoods sustainability is the high dependence on fluctuations in tourist numbers (Hall et al., 2020; Rogerson & Saarinen, 2021). When tourist numbers decline, whether due to seasonal factors or global crises such as pandemics, communities dependent on the tourism sector often face serious economic difficulties (Baum & Hai, 2020; Gössling et al., 2021). This instability in tourism exacerbates the vulnerability of communities that are already

economically vulnerable, particularly those with limited access to resources or skills that enable livelihood diversification (Ashley et al., 2001; Ruhanen, 2021).

A relevant example is Cohen's (2013) study in Thailand, which shows that fishing communities that have switched to coastal tourism become more vulnerable when the tourism sector declines (Cochrane, 2009; Saarinen & Rogerson, 2020). In this situation, livelihood diversification is key to reducing economic risk, but unfortunately, many communities lack access to adequate resources or skills to develop alternative livelihoods (Tao & Wall, 2009; Shen et al., 2008; Scheyvens & Biddulph, 2018). The absence of livelihood diversification increases the vulnerability of communities to tourism fluctuations (Harrison, 2001; Rogerson, 2020).

On the other hand, the limited capacity of human resources is also a challenge that affects the vulnerability of communities in running tourism-based livelihoods. The literature review shows that limited human resource capacity is often the main barrier for communities in running their livelihoods. This limitation weakens the competitiveness and sustainability of the tourism sector for these communities. Scheyvens and Hughes (2019) argue that the lack of skills and knowledge among local communities limits their ability to optimally manage and utilize tourism potential. As a result, they often do not have an important role in the industry's value chain. Meanwhile, Mir, M. and Ooi, C.S. (2024) in their study stated that the lack of local skills development leads to dependence on external interventions, such as training from outside investors or institutions. Maldonado in his study findings mentioned that the tourism industry often misses the potential of developing training and education for local communities (Maldonado, et.al., 2024). In addition, Mitchell and Ashley (2010) highlighted the impact of this vulnerability on community incomes, which become unstable as demand in the tourism industry fluctuates. The inability of local communities to adjust to rapid changes in the sector often leaves them trapped in low-paying jobs. Limited financial management skills are also a challenge for local communities.

## **Research Method**

### **Research Design**

This study uses a qualitative approach with a constructivist paradigm (Creswell, 2013). This approach was chosen because it aims to understand the experiences, perspectives, and livelihood strategies of the people of Sambi Village in facing the transition from stone mining to the tourism sector. The constructivist paradigm emphasizes that social reality is shaped through the interactions and experiences of individuals within their social environment, thereby enabling an in-depth exploration of how communities interpret the changes they experience.

This study uses a case study method to thoroughly investigate the phenomenon of livelihood transition in Sambi Village (Yin, 2018). Case studies were chosen because they can reveal the social, economic, and cultural dynamics that occur in communities undergoing livelihood changes. Through this approach, the study can identify emerging challenges and adaptation strategies implemented. As stated by Creswell (2013), case studies enable researchers to understand the complexity of a particular case by collecting rich and in-depth data from various sources.

In this research, the case study focuses on a single location, namely the community affected by the mining ban regulation which then turned to the tourism sector, in Sambi Village, Yogyakarta. The selection of this single location aims to gain an in-depth understanding of the specific dynamics occurring in the area without intending to generalize the findings to all communities experiencing similar livelihood transformations as a whole. However, with consistent and well-structured data collection procedures, the resulting data and analysis can contribute to the understanding of similar phenomena in other locations.



This is in line with Simon's (2015) view that although case studies do not offer statistical generalizations, they can still generate understandings that are expected to translate to other contexts when described richly and in detail. This study adopts a qualitative approach by collecting data through three main techniques: participatory observation, in-depth interviews, and document study.

### **Participatory Observation**

Participatory observation involves researchers directly engaging with the research subjects' environment to understand the context and behavior being observed. In this study, observation began in 2020 and continued after the Covid-19 pandemic until early 2024. This approach allows researchers to gain deep insights into the dynamics of local communities' livelihoods.

### **In-depth Interview**

In-depth interviews were used to gather information from purposively selected informants representing workers in the tourism sector who had previously worked as stone miners. The interview techniques applied include open-ended and semi-structured interviews. Open-ended interviews are conducted in the form of discussions with several individuals, while semi-structured interviews are used to guide questions based on initial findings, either to expand on information or to confirm data that has already been obtained.

### **Document Study**

Documentary studies are conducted by analyzing government documents containing relevant statistical data. This method is important in qualitative research to obtain data that cannot be accessed through direct observation or interviews. These documents provide historical and factual context that supports research analysis.

### **Data Analysis**

Data analysis in this study used stepwise coding. The first stage involved the classification of themes or issues in a general and random manner. Next, in the second stage, these issues were selected based on the periodization before and after the transition to the tourism sector. The categorized data was then analyzed to prove the main argument and answer the research questions. With this combination of data collection techniques and comprehensive analysis, the study is expected to provide an in-depth understanding of the phenomena under investigation in relation to the challenges faced by local communities undergoing livelihood transformation.

## ***Results and Discussion***

### **Result**

#### **Livelihoods in Sambi: Stone Miners Become Tourism Entrepreneurs**

The Central Statistics Agency (BPS) first published data on the village of Sambi in 2010, where based on the data and poverty criteria that had been determined, this village was classified as a poor village. The village of Sambi, as people often call it as a short name for the village of Sambirejo, is located in a hilly area, part of Sleman Regency, Special Region of Yogyakarta, Indonesia which has a soil depth of less than 2 meters, with the rest being rocky. The arid, rocky terrain prevents the community from fully relying on the agricultural sector. The farming activities undertaken by some residents consist of rain-fed agriculture, where rice fields can only be cultivated during the rainy season. As a result, the

local population relies on other sources of income, such as producing charcoal from tree trunks abundant in the hilly region, and some work as laborers in the city of Yogyakarta.

Under these conditions, the presence of stone mountains has become an alternative source of livelihood for the people of Sambi Village. With the arid natural conditions, the community's greatest asset is stone. The opportunity to earn income from mining stone and selling it to middlemen/bosses offers real hope for improving their standard of living and escaping from deep poverty. They have been engaged in this work for decades.

The mining of Breksi stone has been going on since 1980, when a village road was built that could be accessed by large vehicles (cars). With the opening of access for community mobility, namely the existence of a village road that is wide enough, the village's wealth in the form of stone as a building material can be transported for sale outside the village. Initially, the community began mining stone that was abundant around their homes in yards or gardens, driven by the desire to utilize the land where the stone was located, so that the area could be used for cultivation while also utilizing the stone itself.

The stone mining activities that have become the main livelihood of the community do not have permits from the relevant authorities. On the one hand, these mining activities have a positive impact on the local economy, but on the other hand, they have a negative impact on the environment. In response to this situation, in 2000, the Historical and Archeological Heritage Preservation Agency (SPSP) of Yogyakarta held discussions with the National Geological Agency under the Ministry of Energy and Mineral Resources and several universities in Yogyakarta regarding efforts to preserve the Ijo and Abang temples. One of the conclusions was that if white stone mining is not controlled, it will threaten the preservation of the surrounding temples (SPSP DIY, 2000). According to the 2004 Environmental Status Report of Sleman Regency, environmental damage caused by mining of Class C minerals, including white stone mines, has continued and has been a major environmental issue in Sleman Regency since 2003 (Sleman Regency Environmental Agency, 2004). The increasing number of active white stone mines has raised concerns about the preservation of archaeological resources and the surrounding environment.

Damage caused by mining activities has resulted in physical and environmental changes at the mining site. If these ongoing mining activities are not immediately controlled, the potential for damage will spread to the surrounding area within the region. This situation is feared to have an impact on the Prambanan Temple Cultural Heritage Area, which is located not far from the village of Sambi, and several cultural heritage sites within the cultural heritage area that are relatively close to the mining site.

Mining activities also involve the transportation of mined materials from the mining site to the next processing location. The transportation of mined materials requires transportation facilities and infrastructure, one of which is road access. Roads serving as access points to and from mining areas will eventually deteriorate due to the high volume of mining transport vehicles. This activity is also feared to have a negative impact on the preservation of the temple area previously mentioned. As a result, in 2014, the Sleman local government issued a Decision Letter halting stone mining based on recommendations from several relevant agencies regarding the geographical conditions of the Sambi village area.

After mining was banned, and at that time no viable alternative employment had been found, it was a difficult time for the former miners. Meanwhile, the villagers continued to place great hope in the former mining area as a source of livelihood. Initially, the residents wanted the former mining area to be converted into farmland. However, upon seeing the condition of the soil and the limited availability of water, they realized that this was difficult to achieve.

As agreement is reached on the use of former mining sites, these areas are increasingly visited by people who want to enjoy the sunset in the evening. Most of them are young people who take photos and post them on social media. This results in promotion by the visitors themselves.

Seeing this potential, the tourism office that participated in the discussion made an offer to the residents, suggesting that the area be turned into a tourist attraction, while also showing them various opportunities and preparing a master plan for its development. The experiences shared by leaders in the Yogya tourism community, who always accompanied them, became a source of inspiration and motivation for the residents at that time. The village of Sambu underwent a transition from a stone mining community to a tourism-based community, with an intensive and humanistic approach. Over time, the residents of Sambu Village left the stone mining industry and shifted to tourism-based livelihoods, including working as staff at tourism management companies, running food and beverage stalls, and operating jeep rental businesses for tourists.

As more and more people visit the village tourist destination, which was officially established in 2015, under the guidance of the village tourism management, all of whose members are former miners, several types of businesses have emerged, most of which are run by former stone miners.

The Breksi Cliff tourism management organization, called “Lowu Ijo,” was formed based on an agreement between residents affected by the mining ban and the government. As a community-based local institution, this management organization functions as a regulator and facilitator of various community activities in the local village.

The manager is not only responsible for the operational aspects of the destination but also coordinates various businesses that emerge. The types of businesses organized and facilitated by the manager include food stalls, jeep rentals for tours, parking services, photography services, cultural performances, local tour guides, and other informal economic activities such as street vendors (PKL). Business operators are provided with designated areas and facilities in accordance with the manager's regulations and are required to adhere to various rules and obligations to maintain safety, cleanliness, and prevent unhealthy competition among business operators. Additionally, the manager is obligated to establish partnerships with local governments, tourism agencies, and private sector entities to expand promotional networks and enhance the destination's appeal. Some former miners work for the tourism management as parking attendants, security guards, and cleaners, while others, along with residents without mining backgrounds, operate food stalls, photography businesses, jeep rental services, jeep drivers, and tour guides.

The types of jobs and businesses were far from what they had imagined. They never expected to work in a service-oriented field dealing with many people. Their low level of education, with some of them never having attended school and most not being fluent in reading and writing, coupled with their limited work experience as stone miners and livestock keepers, meant they had never imagined any other form of livelihood besides relying on the natural resources around them. That is, relying on stone as a source of livelihood or fields and forests as a source of food for livestock and farming, which only yields one harvest per year during the rainy season.

## **Challenges and Strategies in Making a Living After Switching to Tourism**

### **The Challenges Faced by Former Stone Miners Who Trade in Tourist Areas**

In the early days of the ban on mining activities around 2014, affected communities, especially miners, were faced with the need to change professions. According to informants, at that time there was an offer from the local government that provided two alternative employment options, namely raising cattle through a group cage system or opening a stall business at a tourist spot that would be opened later.



However, although village officials had prepared a location for the construction of the cages, the location, which was relatively far from the settlement, made the plan difficult to realize, as well as various other obstacles that accompanied the realization of the cattle group for former miners as originally planned. Under these conditions, along with the increasing urgency of family economic needs, most former miners chose to start new businesses, especially opening stalls. It was found that at present, apart from those who choose to work as employees of the tourism management, almost all former miners have turned into stall operators in the tourism area.

As time goes by, the number of food stalls in the Tebing Breksi tourist area continues to grow. The competition for food stalls is getting tougher. Mr. Gunawan (56 years old), a former stone miner who attended elementary school until the second grade, owner of a food stall in the Tebing Breksi area which he manages with his wife) also feels the impact of this competition, especially during the lean season when the number of visitors drops dramatically. This situation usually occurs in August and September, which is the start of the school year, as well as during the fasting month and when the weather is extreme during the rainy season. The decrease in the number of visitors directly affects their business income.

According to Mrs. Susi (46 years old), Mr. Gunawan's wife, the income of food stall owners is also greatly affected by the price of raw materials. The increase in the price of food raw materials puts pressure on them to remain competitive while maintaining the quality and quantity of the food they sell. This situation becomes even more difficult, especially during periods when there are few visitors.

Regarding the income earned from selling food, which is offset by various expenses that must be incurred, Mr. Gunawan said that he now borrows money more often than he did when he was a miner. *"The cost of living is much higher now than when I was working as a miner. Meanwhile, income from selling food is uncertain, as it depends on the number of visitors, so I borrow money more often than I did in the past."*

The closure of the stone mine due to government policy caused Mr. Gunawan to lose his main source of livelihood. Initially, he chose not to join the Tebing Breksi tourism management team and instead opted to raise cattle and goats, most of which belonged to other people. He cared for and raised other people's livestock under a profit-sharing system. However, three years after working independently as a farmer, he returned to the tourist area to open a food stall.

On another occasion, Mr. Gunawan provided confirmation and a more detailed account of the situation he faced when he had to decide whether to change jobs. Mr. Gunawan said, *"When stone mining was banned, I was offered a job in the Breksi Cliff area, which at that time was going to be turned into a tourist attraction. I could choose between working for the management or selling goods. Both offers were difficult for me because I had no experience in selling, let alone working for a tourist management company with fixed working hours. I could only break stones and gather grass. So I dared not choose that offer but instead opted to tend to livestock and gather grass every day."*

As time went by, around 2019, after four years of working as a livestock farmer and no longer mining stone, Mr. Gunawan noticed that his friends who were selling goods in the Tebing Breksi area were experiencing a noticeable economic improvement. Their lives were better than when they were mining stone. Mr. Gunawan felt that the income from livestock farming was not reliable enough to improve his economic standard of living. At that time, Tebing Breksi was always bustling with visitors. Tourists in large buses were often seen, not just on holidays. So, Mr. Gunawan and his wife mustered the courage to express their desire to the management to return to work at Tebing Breksi by opening a food stall. They were grateful for the permission granted by the management. However, unexpectedly, while preparing to open the food stall, the COVID-19 pandemic struck, forcing them to postpone starting their business at Tebing Breksi because the tourist site was closed for an extended period. After the pandemic ended in 2022, they were finally able to carry out the plan they had prepared for a long time. However,

after the pandemic ended, the situation was no longer the same as before. The number of tourist visits decreased, and to this day, it has not yet recovered to the levels seen before the COVID-19 pandemic.

The experiences of Mr. Gunawan and Mrs. Susi illustrate that the local community is heavily dependent on the sustainability of this tourism industry. This is further reinforced by the fact that Mr. Gunawan and Mrs. Susi are willing to sell their goods in a location that is not strategic and rarely visited by tourists because it is located far behind the gathering point for visitors. This is because the locations that are more frequently visited by tourists are already occupied by other vendors. The fairly extensive Tebing Breksi tourist area, spanning approximately 84,000 square meters, is already filled with vendors seeking to make a living at this tourist site.

This change in livelihood has had a significant impact on the family's income. When he was still working as a stone breaker, Mr. Gunawan earned enough to meet his household needs even though he did not complete his primary education. However, after switching to the tourism sector, the family's income declined. This situation forced them to continue relying on loans, especially from the National Program for Community Empowerment (PNPM), which had long been a source of credit for their family.

In running her food stall business, Mrs. Susi faces various challenges. One of them is the lack of tourists visiting the parking area where her stall is located. Although the management has tried to direct tourist buses to the inner area, the final choice remains in the hands of visitors and bus drivers who prefer the main parking area, which offers a more attractive view. This situation reflects a common challenge in managing tourist villages, where economic distribution is often uneven, leading to differing circumstances for various parties.

In facing economic constraints, Mrs. Susi uses the same method as Mrs. Sita (43 years old), the wife of a former miner, who also maintains the principle of friendly customer service. She refuses to raise prices even though raw material costs have increased, believing that fortune can come from many directions.

When there are few visitors, Mrs. Sita, Mrs. Susi, and some of their fellow food stall owners whose stalls are close to each other, have made an agreement that they will take turns in selling. This was motivated by the fact that in conditions of low traffic, they must consider business efficiency but also maintain services for visitors. By taking turns selling, they can minimize losses but can also keep visitors from being disappointed because of difficulties in buying needs/food. This attitude shows a form of social capital in the local community, where trust and social networks are the main strategies to survive in the unstable tourism sector.

On the other hand, although Mr. Gunawan and Mr. Warman (50 years old) are fellow former miners and have opened a food stall in the Tebing Breksi area with their wives, they initially faced difficulties due to the mine closure. However, they now accept that the policy is aimed at ensuring environmental sustainability and the economic well-being of the village. Like him, his fellow former miners can understand, because if the rocks from this cliff continue to be extracted, they will eventually run out. Once they are gone, there will be no more source of livelihood for them or their children and grandchildren. They can only hope that tourism from the former mining area will continue to provide a livelihood for the people of Sambi village.

### **The Challenges Faced by Former Stone Miners as Operators of Tourist Jeep Businesses**

The transformation of the former quarry area into the Breksi Cliff tourist destination has created new economic opportunities for the local community. However, despite the growth of the tourism sector, challenges remain inevitable. Among the challenges that have emerged is increasingly complex competition, compared to when they worked as stone miners in an effort to maintain their livelihoods.

Competition is one of the challenges faced by almost all economic actors in the region. For example, Mr. Nando (49 years old), a tourist jeep service owner, has seen a decline in visitor numbers due to the development of other tourist destinations that have become competitors, in addition to competition within the Tebing Breksi area itself. To address this situation, he has developed a differentiation strategy by enhancing service quality, including providing friendly service and continuously expanding his knowledge of the historical background of Tebing Breksi to ensure his jeep service users are satisfied with the information they need. Another way he maintains customer loyalty is by keeping his rates affordable. One challenging aspect he and his colleagues face is that tourists often request routes that are steep and extreme, which require higher costs to maintain the durability of their vehicles. This often requires negotiation and agreement with customers to adjust, such as by reducing the distance traveled. Mr. Nando strives to prioritize customer satisfaction as much as possible.

Tourism operators who rely on direct contact with visitors, such as tour jeep drivers and culinary business owners, experience a significant decline in income when visitor numbers drop. Like Mr. Nando, Mr. Sudi (47 years old) a tour jeep driver, identifies the rainy season as a critical period, when demand for services drops dramatically due to difficult terrain that makes it less attractive to tourists. He addresses this by using the available time to perform more thorough vehicle maintenance, if funds are available for that purpose. He must ensure that his jeep's engine can minimize vehicle exhaust emissions to keep them under control. This is in response to customer complaints about vehicle exhaust fumes and complaints from residents living along the tourist jeep route, who are affected by exhaust pollution and occasionally disturbed by the loud noise of passengers shouting. To minimize exhaust pollution and noise, he will also request customers' understanding when passing through residential areas to maintain order.

In an effort to reduce operational costs for machine maintenance and repairs, Mr. Nando and other jeep tour operators use the services of a workshop that collaborates with the jeep tour cooperative. As a cooperative member, he enjoys lower costs compared to using other workshop services. Operational cost efficiency is always prioritized to keep the business running, though after the COVID-19 pandemic, he has faced difficulties in saving money as he did before the pandemic.

Another effort to maintain the continuity of the business amidst the emergence of new tourist destinations and the increasing number of people entering the jeep tour business in Tebing Breksi is by adopting social media and digital platforms to expand promotional reach. This finding strengthens the argument that service innovation and information technology integration are relevant competitive strategies in the context of community-based tourism. Furthermore, this is consistent with the findings of Singalén, Sasongko and Wiloso (2019) that easy access to information through various social media is a driving factor for the development of tourism businesses in North Halmahera Regency.

The response taken was to maintain competitive service prices, improve service quality through an informative and friendly personal approach, and optimize social media as a promotional medium. This strategy emphasizes the importance of innovation and service quality in maintaining business existence amid the dynamics of the tourism market.

Although his work is mostly based on practical experience, he strives to manage his business well by performing regular vehicle maintenance and setting aside financial reserves in case of sudden operational needs. Mr. Nando and Mr. Sudi still remember what the trainer told them during the training session for Breksi Cliff jeep tour operators conducted by the management.

With financial needs increasing and the tourist situation still not improving since the Covid-19 pandemic, it has become increasingly difficult for Mr. Nando to save money. Therefore, he strives to maintain his livelihood through a side business raising cattle at home. He feels fortunate that his wife has the skill to sew clothes to order, which helps support the family's financial needs.

## The Challenges Faced by Former Stone Miners as Tourism Management Employee

Mr. Chairul (48 years old), one of the managers of Tebing Breksi tourism, was the party that suffered the most financial losses due to the local government's ban on stone mining at that time. Young Choirul was a white stone merchant who had received orders for Breksi stone from abroad. The ban on stone mining caused Mr. Choirul to suffer huge losses. He made various efforts to oppose the ban, both personally and by mobilizing the mining community. Various protest actions were carried out, both individually and collectively with other former miners, including intimidating and threatening certain parties deemed responsible for the decision to ban stone mining.

Mediation was carried out by the Yogyakarta tourism office with the involvement of a community of activists consisting of several young people experienced in developing community-based tourism in the DIY (Yogyakarta Special Region) and Central Java regions to assist the former miners. The approach taken by the facilitators took quite a long time to be accepted by Choirul and the former stone miners. The intensive efforts finally yielded a positive response after the local residents saw evidence of the various efforts made by the facilitators to convince them that the area where they had been mining had great potential to become a tourist destination. The local residents also came to believe that these external parties were willing to accompany them until they were able to independently manage the village tourism as a source of livelihood to replace stone mining.

After becoming a tourist destination and Mr. Choirul becoming one of the managers of the tourist site, the income he earned as a manager was less than when he was a mining entrepreneur. However, even though the income was lower, he continued to work there until now because he felt more at ease working legally and not violating government regulations. Additionally, due to his age, his physical strength has declined. Working as a tourism manager does not require as much physical strength as working in mining. Mr. Choirul has grown to enjoy his work, which involves interacting with many people, both guests who visit and when he is invited to speak about his experience managing village tourism. He has gained confidence despite only having a high school diploma.

For Choirul, the fluctuating income in the tourism sector, which is vulnerable to the influence of many factors, is quite a challenge. Based on data recorded by the Sleman Regency Tourism Office and verified by researchers through follow-up checks with the managers of Tebing Breksi Tourism, the following data on the number of visitors to Tebing Breksi Tourism Park since its opening as a tourist destination in 2015 up to the latest data in 2023, on a monthly basis, is presented as follows:

Table 1. Total Annual Visitors to Tebing Breksi (2015–2023)

| Year | Month   |         |        |               |               |               |         |               |         |        |         |         | Total     |
|------|---------|---------|--------|---------------|---------------|---------------|---------|---------------|---------|--------|---------|---------|-----------|
|      | Jan     | Feb     | Mar    | Apr           | May           | June          | July    | Aug           | Sep     | Oct    | Nov     | Dec     |           |
| 2015 | -       | -       | -      | -             | -             | -             | -       | -             | -       | -      | -       | -       | 17.877    |
| 2016 | 2.190   | 1.742   | 2.380  | 5.980         | 9.017         | 7.586         | 36.668  | 24.143        | 36.746  | 40.282 | 37.292  | 111.457 | 315.483   |
| 2017 | 50.736  | 58.597  | 58.312 | 67.820        | 63.778        | 58.089        | 103.645 | 66.798        | 56.433  | 64.815 | 63.467  | 118.769 | 871.259   |
| 2018 | 84.497  | 64.933  | 80.715 | 114.015       | 89.366        | 124.606       | 82.772  | 57.432        | 72.411  | 84.604 | 41.134  | 194.902 | 1.091.387 |
| 2019 | 141.311 | 111.094 | 98.702 | 144.392       | 47.345        | 163.595       | 165.950 | 99.105        | 130.335 | 134.68 | 158.209 | 255.174 | 1.649.923 |
| 2020 | 192.699 | 129.654 | 61.10  | <b>closed</b> | <b>closed</b> | <b>closed</b> | 17.969  | 62.513        | 53.331  | 61.692 | 56.029  | 65.683  | 700.580   |
| 2021 | 16.206  | 10.532  | 14.154 | 12.048        | 15.946        | 23.763        | 684     | <b>closed</b> | 3.665   | 14.955 | 20.358  | 15.477  | 147.788   |
| 2022 | 72.492  | 59.979  | 70.342 | 7.266         | 98.579        | 97.557        | 74.561  | 49.918        | 49.452  | 70.940 | 66.622  | 108.570 | 826.278   |
| 2023 | 86.130  | 86.033  | 55.726 | 25.469        | 89.279        | 74.542        | 56.605  | 29.147        | 44.714  | 55.084 | 49.949  | 89.651  | 742.330   |

Source: Sleman Regency Tourism Office (Sleman Regency Tourism Statistics various publications)

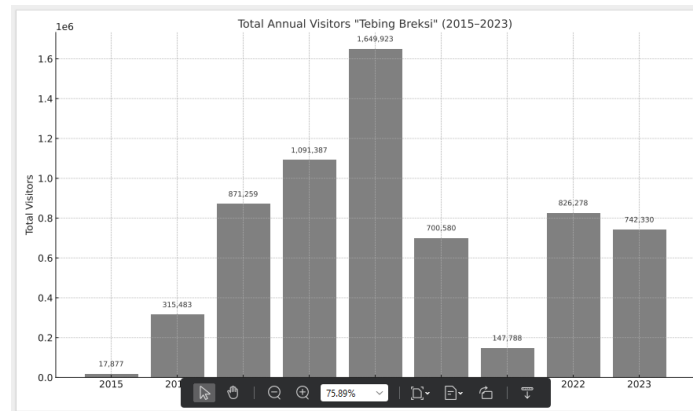


Figure 1  
Source: processed data

Description: Figure 1 is a graphical representation of the number of visitors to Breksi Cliff Park from 2015 to 2023. This graph visually highlights the sharp contrast between the initial growth period (2015–2019), the decline due to the pandemic (2020–2021), and the recovery period (2022–2023). The data presented visually indicates that, following the COVID-19 pandemic until the end of 2023, visitor numbers have not yet returned to the pre-pandemic peak of 2019.

Related to the situation of tourist visits after the Covid-19 pandemic, which has not recovered to pre-pandemic levels, Choirul personally responded to this by trying to do something else, namely opening a restaurant in his home. As a manager, he also thought about the situation faced by his friends, former miners who relied on their livelihoods as business people in this tourist destination.

The manager's efforts to maintain the livelihoods of local residents who depend on the vulnerable and seasonal tourism sector are classified into short-term and long-term strategies. Seeing that local residents are accustomed to working in groups when mining stones, this gave the manager the idea to prioritize social capital assets. One such initiative is a weekly meeting for all managers to share information, complaints, and feedback, as well as to foster a sense of community and facilitate various interests so that the best decisions can be made for the common good. Long-term efforts include the managers' efforts to educate and raise awareness among local residents from an early age that they must preserve their livelihoods in this community-based tourism sector. To address these long-term needs, he has initiated a teaching program at the elementary school in the Sambi Village area, called the “Breksi Mengajar” (Teaching Breksi Program). He hopes that future generations will have a greater awareness that they must preserve the sustainability of this village tourism as their livelihood source indefinitely, as it is currently the only viable source of income. Another effort made by the manager is to provide scholarships for some young committee members to pursue higher education so that they will be able to manage their village tourism better and more sustainably.

Mr. Purna (50 years old) is a manager who runs a homestay and restaurant. His formal education, which ended at junior high school, did not provide him with many job options. After no longer working as a stone breaker in mining activities, he now works for the Tebing Breksi tourism management company, handling the cleanliness and security of the restaurant and homestay. He used to think that tourist destinations already well-known to the public would always be bustling with visitors. However, reality turned out differently. Despite often being quiet, especially after the COVID-19 pandemic, he continues to perform his duties and accept the current situation.



The decline in income he experienced, compared to before, initially made him anxious because of the major changes that had taken place. As his income became increasingly unbalanced with his daily living expenses, he felt he needed to find another source of income. In recent times, he has become increasingly serious about pursuing his home-based business of raising cattle. Currently, Mr. Puna's wife has also begun to venture into a small-scale food delivery business, with orders placed at local shops. When faced with financial needs exceeding the norm, such as needing additional capital for his cattle business, he borrowed from a government bank. So far, he has taken out two loans to purchase cattle. When there is an urgent or sudden need for money, he or his wife usually borrows from a savings and loan association.

The main challenge faced by former miners who now work in the tourism sector is the limited opportunities to earn income, because now that they work in the tourism sector, they can only earn a fixed income determined by the management. This is different from when they were mining stone. At that time, they had ample opportunities to earn more than usual, so they would work harder, even at night, and not take days off. This was because their income was calculated based on the amount of stone they produced. Now, however, they work according to standard working hours with predetermined wages, based on the income from the number of tourist visits. When income increases due to rising visitor numbers, their wages can be raised. Conversely, if visitor numbers decline, their wages decrease. This is what Mr. Santo (52 years old) and Mr. Tomo (55 years old), former miners who rely on tourist visits to Breksi Cliff for their livelihood, have experienced and felt.

The physical decline they experience as they age also poses a challenge for them. Mr. Tomo, who now works as a cleaner at Tebing Breksi, where he is responsible for cleaning a fairly large area, has experienced a decline in physical strength, which makes it difficult for him to perform tasks that require physical endurance. This is a serious problem, considering that most of the jobs available in the tourism sector are still manual and physical in nature.

In addition to physical decline, limited education and lack of tourism-related skills are also obstacles for workers who switch from mining to tourism. Most of them are accustomed to working with nature and working independently, whereas working for tourism operators requires social interaction and communication skills. Low levels of education may limit their ability to obtain better positions in the tourism sector, which often requires higher levels of communication and management skills.

Fluctuations in visitor numbers also pose a significant challenge for tourism workers in Tebing Breksi. Like workers in other tourism sectors, Mr. Santo, who works as a security guard, faces seasonal declines in visitor numbers. At certain times, tourist numbers can drop dramatically, which directly impacts their income. The reduced wages are insufficient to cover daily living expenses, forcing workers to seek alternatives to meet their needs.

One way they meet their needs when their salaries as employees decrease is to borrow or go into debt with coworkers. When they mine stones, the income they earn varies, as the number of stones mined differs from one person to another. Those who work more earn higher incomes. This is different from the current situation, where employees receive nearly identical wages. The wages they earn from their work are not significantly different from one another. As a result, it becomes challenging for them to access the financial resources needed to meet sudden expenses.

Similarly, Santo and Tomo's age and low level of education prevent them from seeking other sources of income. They are confident that their employer will continue to look after them as it did during the COVID-19 pandemic, when tourism was shut down for several weeks but they were still able to receive their weekly wages, albeit much smaller than usual but sufficient to support their families.

Table 2. Summary of Challenges and Strategies of Former Stone Miners in Maintaining Sustainable Livelihoods

| Name (current occupation)  | Challenges  | Strategy  |
|--|---|---|
| Mr. Tomo (cleaning staff at the Breksi Cliff tourist site)               | <ul style="list-style-type: none"> <li>● Declining physical strength</li> <li>● Low education, accustomed to working with nature</li> <li>● The cost of living continues to rise, unlike wages</li> </ul>   | <ul style="list-style-type: none"> <li>● Decided to work in tourism management</li> <li>● Worked according to his abilities</li> <li>● Worked part-time</li> </ul>  |
| Mr. Santo (Security personnel)   | <ul style="list-style-type: none"> <li>● □ Seasonal, visitor numbers fluctuate, wages are insufficient</li> <li>● □ Debt has always been a problem</li> <li>● □ Difficult to borrow money from coworkers due to similar circumstances</li> <li>● □ Income is in line with standards set by management</li> <li>● Significant financial asset losses due to mining bans</li> </ul> | <ul style="list-style-type: none"> <li>● Borrowing money from associations and relatives.</li> <li>● “Digging holes to fill holes”</li> <li>● Borrowing money from relatives or children</li> <li>● Side jobs (goat farming) are pursued more intensively</li> <li>● Social capital is optimally empowered by becoming a community-based tourism leader</li> </ul>  |
| Mr. Chairul (tourism management figure)                                  | <ul style="list-style-type: none"> <li>● Excessive expectations of the tourism sector as a source of livelihood</li> </ul>  | <ul style="list-style-type: none"> <li>● Understanding the vulnerability and seasonal nature of the tourism sector</li> </ul>   |
| Mr. Nando (Jeep Tour Owner)  | <ul style="list-style-type: none"> <li>● High maintenance costs</li> <li>● Increasing competition</li> <li>● Increasing difficulty in saving money</li> <li>● Declining income</li> </ul>   | <ul style="list-style-type: none"> <li>● Using cooperative repair services</li> <li>● Setting aside income/saving money</li> <li>● Not raising prices to remain competitive</li> <li>● Improving service quality</li> <li>● Collaborating with online travel service platforms</li> <li>● Creating video and photo content on social media</li> <li>● Borrowing money from cooperatives and relatives</li> <li>● Keeping cows as savings</li> <li>● Wives helping with family finances by sewing clothes</li> </ul> |
| Mr. Sudi (Tour Jeep Driver)  | <ul style="list-style-type: none"> <li>● Consumers want steep terrain</li> <li>● Complaints from residents affected by air and noise pollution</li> <li>● Few visitors during the rainy season and at certain times of the year</li> </ul>  | <ul style="list-style-type: none"> <li>● Ensure that the jeep is in excellent condition.</li> <li>● Maintain the engine to minimize smoke emissions.</li> <li>● Set aside income as a precaution for when there are few visitors.</li> <li>● Borrow money from the Jeep Tourism Cooperative; borrow from relatives</li> </ul>   |
| Mr. Warman (owner of a food stall in the Breksi Cliff area)              | <ul style="list-style-type: none"> <li>● Not ready to switch jobs other than mining stones</li> </ul>   | <ul style="list-style-type: none"> <li>● Preparing to change jobs</li> <li>● Learning from friends about trading</li> </ul>   |
| Mr. Gunawan (Raising livestock, then opening a food stall with his wife) | <ul style="list-style-type: none"> <li>● Not ready to switch jobs other than mining stone</li> <li>● Income has decreased compared to when mining</li> </ul>  | <ul style="list-style-type: none"> <li>● Continuing to work in nature by farming and raising livestock</li> <li>● returning to Tebing Breksi to sell food.</li> <li>● selling food at home when not selling at Tebing Breksi.</li> </ul>  |

|   |  |  |
|---|--|--|
| Mrs. Susi (Wife of Mr. Gunawan, owner of a food stall in the Tebing Breksi area)    | <ul style="list-style-type: none"> <li>● Few visitors at certain times</li> <li>● Sudden need for money and savings depleted.</li> <li>● Increased raw material prices</li> <li>● Increasingly fierce competition</li> </ul> | <ul style="list-style-type: none"> <li>● Not selling every day, agreeing to take turns with friends in selling.</li> <li>● Borrowing money from PNPB, a savings and loan association.</li> <li>● Prices are not raised so that visitors are happy.</li> <li>● Serving buyers as best as possible.</li> </ul> |
| Mrs. Sita (Owner of a food stall in Tebing Breksi, wife of Mr. Aksa a former miner) | <ul style="list-style-type: none"> <li>● Few visitors</li> <li>● Rising material prices</li> </ul>   | <ul style="list-style-type: none"> <li>● Make an agreement with fellow food vendors to sell food on a rotating basis.</li> <li>● The price and portion size remain the same.</li> </ul>  |
| Mrs. Warman   | <ul style="list-style-type: none"> <li>● Tourist season is usually quiet during the "lean season" in August and September.</li> <li>● Increasingly fierce competition.</li> </ul>  | <ul style="list-style-type: none"> <li>● Set aside as much income as possible for savings.</li> <li>● Borrow from relatives, cooperatives, or friends.</li> <li>● Keep practicing to improve the taste.</li> <li>● Post a menu list with clear prices.</li> </ul>  |

Source: Interview data

## Discussion

### Discussion On The Livelihood Of Sambi People At The Edge Of The Cliff: a Discussion On The Vulnerability Of Local Livelihoods

Sambi communities face challenges that hinder the sustainability of their livelihoods both before and after shifting to tourism. Before the shift to tourism, the Sambi community's livelihood was highly dependent on the existence of natural resources, which were often faced with sustainability risks due to uncontrolled exploitation. In her study, Huber-Sannwald (2012) mentioned that environmental degradation, water scarcity encourage high uncertainty and trigger a long-term adaptation process between humans and their environment. In the context of rural communities dependent on natural resources, pressure on the carrying capacity of drylands not only results in ecological degradation, but also increases the risk to livelihood sustainability.

Scoones (2015) points out that dependence on natural resources is vulnerable to external threats, such as climate change, environmental degradation, and market dynamics, which can reduce the ability of communities to sustainably maintain their livelihoods. In the case of the Sambi community, they are not really affected by climate change, because their stone mining activities are not really affected by climate conditions. However, stone quarrying activities result in environmental degradation that negatively affects the sustainability of their livelihoods. Baumann (2002) further states that land degradation is a major threat to the livelihoods of most of the world's people. This is also in line with the findings of Ruhanen (2021) who found that natural resource-based livelihoods tend to be vulnerable to environmental degradation if not supported by adequate regulations. In addition, the demands of economic needs increasingly encourage excessive exploitation that damages the environment (Bennett et al., 2019). In fact, the stone mining activities carried out by the Sambi Community not only cause damage to the local ecosystem of the surrounding area, but also threaten the preservation and existence of archaeological sites. The designation of the Geoheritage area is contained in the Decree of the Geological Agency No. 1157.K/73/BGL/2014 dated October 2, 2014 concerning the Determination of the DIY Geological Reserve Area.

The livelihoods of the Sambi community, which depend on stone mining, are vulnerable to sustainability. This is because the livelihoods of stone miners face serious challenges, one of the main challenges being high safety risks. In the context of workplace safety, livelihoods based on natural

resources often involve physically demanding activities in hazardous environments, thereby increasing the risk of accidents or serious injuries (ILO, 2021). Stone mining activities, which are entirely carried out using traditional manual methods without adequate equipment to ensure the safety and security of miners, expose miners to the risk of workplace accidents. Serious accidents and even death are always a possibility, which means they pose a threat to the sustainability of livelihoods.

Although informants mentioned challenges beyond safety, such as fluctuations in demand and financial management, the biggest challenge to the sustainability of livelihoods in Sambi Village before the shift to tourism was the government ban on stone mining activities. The Sustainable Livelihood Framework (SLF) describes the position and role of government institutions as connectors and facilitators that influence access to livelihood resources (Scoones, 1998; DFID, 1999). In the case of the Sambi community, it was the government that became the main actor in halting the livelihoods of the Sambi community with the issuance of the ban on stone mining activities. However, this ban cannot be blamed because the livelihood of the Sambi community is an activity that damages the environment. This case also shows that it is not only access to livelihood assets that influences the sustainability of community livelihoods (Chambers & Conway, 1992; Scoones, 1998, DFID, 1999; Serrat, 2017), but the legality of livelihood activities also has a significant impact on the sustainability of community livelihoods. Unlicensed livelihood activities will face government regulations and result in the cessation of livelihood sources, as has occurred in the Sambi community.

Interestingly, the local government, which was one of the factors that led to the loss of livelihoods for the people of Sambi, also became one of the stakeholders that helped the people of Sambi to find new livelihoods in the tourism sector. Although the initiators of livelihood development in the tourism sector did not originate directly from the government, the government has acted as a stakeholder facilitating the transition process. The government's actions align with the role and position of the institution within the SLF, which serves as a bridge connecting the community to livelihood resources.

The loss of livelihoods has had a direct impact on family members who depend on them. The number of local miners increased significantly at that time, with most operating without mining permits and many of the older miners failing to renew the permits they once held. They faced dwindling natural resources, leading to heightened competition for mining land and further pressure on their livelihoods. They are aware that the rock hills they mine every day will eventually run out, and they do not know what will happen afterward. However, the need to provide for their families on a daily basis leaves them with no choice but to do what they can at the moment, without being able to think about the future, including for their children and grandchildren.

On the other hand, government regulations have also finally put an end to the livelihood of stone miners in Sambi. Various studies have been conducted which indicate that mining activities have the potential to cause damage to the ecosystem and pose a threat to the existence of archaeological sites, showing that stone mining activities do not have a strong basis for continuing. Their dependence on natural resources that are rapidly depleting due to continuous extraction, coupled with the non-renewable nature of these resources, significant safety risks, and regulatory obstacles, further underscore that stone mining is not a sustainable livelihood option for the people of Sambi.

New hope has sprung up among the people of Sambi since tourism development efforts began as a means of poverty alleviation following the decision to ban mining activities that had been going on for decades. A new hope has been cultivated, where tourism offers more sustainable livelihood opportunities compared to stone mining, which causes environmental damage and threatens the existence of archaeological sites. Several years after the shift to tourism, before the COVID-19 pandemic, the community of Sambi experienced significant positive changes in their livelihoods. Visitor numbers to the former mining site, now a tourist destination, continued to rise. By 2017, two years after the transition

from mining to tourism, the destination achieved recognition as the most popular tourist destination at the provincial level in DIY, followed by various other awards as visitor numbers continued to grow.

Their income increases through new employment opportunities, such as tour managers, food stalls, jeep tour service providers and so on. In addition, tourism development also encourages the emergence of micro-enterprises such as handicrafts and the sale of local products, which strengthens the village economy. Village infrastructure has also improved thanks to tourist visits, creating a more comfortable and supportive environment for economic activity. All of this provides optimism for the Sambi community that tourism can be a new path to a more viable and sustainable livelihood.

The tourism industry is an industry that is highly vulnerable when faced with various changes, both internal and external factors. The global economic situation, the occurrence of health crises such as the Covid-19 pandemic, natural disasters, and government policies are various factors that have the potential to have a major impact on tourist visitation rates and even halt tourism activities (Hall et al., 2020; Gössling et al., 2020). Changes in tourism trends, environmental factors, and dependence on tourist visitation levels make tourism a sector that cannot be expected to remain stable and sustainable in the long term (Ruhanen et al., 2019).

The theory of sustainable livelihoods emphasizes the importance of managing five key assets of livelihoods, namely human capital, physical capital, social capital, financial capital, and natural capital, as key factors in achieving sustainable livelihoods (Scoones, 1998; Chambers & Conway, 1992). However, in the village of Sambi, human capital poses a significant challenge in supporting sustainable livelihoods based on tourism. The people of Sambi have a low average level of education and limited skills, compounded by their previous livelihoods, which were very different from tourism—they were stone miners and farmers of barren land or rain-fed farmers who could only cultivate during the rainy season. As a result, they lack the skills required for direct service to tourists, such as communication, destination management, and small business management (Mitchell & Ashley, 2010). Consequently, the local community faces difficulties in maximizing the economic opportunities offered by tourism.

Scheyvens and Hughes (2019) emphasize that limited human resource capacity often hinders local communities from playing a strategic role in the tourism sector. In Sambi Village, this limitation is reflected in the low-income jobs that are mostly filled by former stone miners, such as cleaners or parking attendants. The lack of relevant experience and skills means that local communities can only fill positions that do not require high technical expertise. As a result, they remain trapped in vulnerable economic conditions and find it difficult to significantly improve their well-being (Suardana, 2016).

Although tourism generally offers higher and easier income potential, its seasonal nature and heavy dependence on tourist numbers make livelihoods vulnerable (Butler, 2001; Gössling et al., 2021). Therefore, relying solely on tourism as a source of livelihood is a situation that makes local livelihoods vulnerable (Lasso & Dahles, 2018).

Research conducted by Cohen (2013) in Thailand revealed that the tourism sector, which is the main source of livelihood, often exposes people to economic uncertainty, similar to the conditions experienced in their previous jobs. This reinforces the view that the tourism sector is vulnerable.

Furthermore, the lack of livelihood diversification efforts at the community level further exacerbates this situation of vulnerability, as communities do not have adequate alternative livelihoods when tourism is in a difficult situation. Often, shifting livelihoods to the tourism sector can result in the loss of local knowledge and skills that previously supported livelihoods in other sectors. The result can be not only economic insecurity due to the unsustainability of their livelihoods, but also a loss of resilience to adapt to change in the long term. Cornet (2015) notes that people's responses to tourism development are highly dependent on their livelihood strategies, suggesting that contextual uniqueness and local



heterogeneity play a large role. This further confirms that without using a sustainable approach oriented towards livelihood diversification, the tourism sector does not break the cycle of vulnerability but may even prolong the existing vulnerable situation.

The shift of livelihoods to the tourism sector is still overshadowed by livelihood vulnerability, which does not yet reflect a situation of livelihood sustainability. The livelihoods of communities engaged in stone mining are also in a more vulnerable situation, as stone mining poses threats to the availability of natural resources, environmental damage, and archaeological sites, as well as risks to physical health and safety due to mining activities being carried out without considering occupational safety aspects. Additionally, economic sustainability is also a challenge due to fluctuating demand patterns, and even the cessation of demand for the type of stone being mined, as it is replaced by other materials, has been proven.

Government regulations have stopped mining activities, which in the final period almost all miners had illegal status due to non-renewal of licenses. The ban followed by encouragement and direction to enter a new livelihood in the tourism sector had led to significant changes in their livelihoods. For about four years, livelihoods improved, but this did not last long. Now, by relying on the tourism sector, they again face similar vulnerabilities due to high dependence on the number of tourist visits, which is highly volatile. As pointed out by Đurkin Badurina & Soldić Frleta (2021), tourist destinations that are highly dependent on visitors become vulnerable to changes in the number of tourists.

Dependence on only one economic sector, in this case the tourism sector, means increasing the community's risk of various external shocks that occur, including pandemics and economic crises (Hall, 2020). This is in line with the results of research by Gössling et al. (2021), which revealed that high dependence on tourism tends to lead communities to a low level of resilience when the sector experiences a downturn. The lack of livelihood diversification means that people's livelihoods remain in a vulnerable state, in the event of economic instability or a low level of livelihood sustainability. An important point that also needs to be made here is that adapting to tourism as a new livelihood is not an easy task, as it involves experimenting, learning, adjusting, and overcoming various difficulties and challenges (Anand, 2012).

## **Conclusion**

From the case of the Sambi community, it can be seen that the Sambi community still faces challenges in maintaining the sustainability of their livelihoods. Although they have transformed from livelihoods that originally exploited mining resources that tended to damage the environment to tourism-based livelihoods, vulnerable living conditions remain. When their previous livelihood was deemed environmentally destructive and thus prohibited by the government, their complete reliance on the tourism sector—without the ability to develop new sources of livelihood or diversify their livelihoods—is a risky situation, given the characteristics of the tourism sector, which is highly influenced by factors outside of tourism itself. This is evidenced by the fact that although livelihoods derived from tourism initially appeared promising, when the COVID-19 pandemic struck, their businesses were disrupted and have yet to fully recover to this day.

Livelihood challenges will continue to arise in various forms, so a comprehensive study is needed to elaborate on the challenges faced by communities so that it can serve as a basis for thinking about appropriate livelihood strategies. Therefore, future research on sustainable livelihoods in tourism-based communities should focus more on elaborating the challenges faced from a long-term perspective.

One important finding in this study that has not been revealed in previous studies on Sustainable Livelihood for Tourism is the important role of legality, particularly in relation to access rights to tourism resources, in ensuring the sustainability of local communities' livelihoods.

### Recommendations

To strengthen the sustainability of the livelihoods of the Sambi community, which currently depends on tourism, policies are needed that encourage more diverse local economic development. Local governments should not only rely on the tourism sector, but also facilitate the development of micro-enterprises, skills training, and entrepreneurship based on village potential. Improving community capacity in the fields of education, tourism services, and business management is important so that local residents can play a more strategic role in the tourism economy. Legal and equitable access to tourism resources must be ensured through inclusive governance. Additionally, the development of tourist villages must be prepared to address various external risks through an approach based on economic resilience and livelihood risk management. Further studies are needed to formulate long-term adaptation strategies that align with the evolving social and economic dynamics.

### References

- Anand, A., Chandan, P., & Singh, R. B. (2012). Homestays at Korzok: Supplementing rural livelihoods and supporting green tourism in the Indian Himalayas. *Mountain Research and Development*, 32, 126–136.
- Ashley, C., Boyd, C., & Goodwin, H. (2000). Pro-poor tourism: Putting poverty at the heart of the tourism agenda. *Natural Resource Perspectives*, 51, 1–6.
- Ashley, C., & Carney, D. (1999). Sustainable livelihoods: Lessons from early experience. Department for International Development.
- Ashley, C., & Mitchell, J. (2009). *Tourism and poverty reduction: Pathways to prosperity*. Routledge.
- Badola, R., Hussain, S. A., Dobriyal, P., Manral, U., Barthwal, S., Rastogi, A., & Gill, A. K. (2018). Institutional arrangements for managing tourism in the Indian Himalayan protected areas. *Tourism Management*, 66, 1–12.
- Baum, T. (1999). Seasonality in tourism: Understanding the challenges. *Tourism Economics*, 5(1), 5–8. <https://doi.org/10.1177/135481669900500101>.
- Baum, T., & Hai, N. T. T. (2020). Hospitality, tourism, human rights and the impact of COVID-19. *International Journal of Contemporary Hospitality Management*, 32(7), 2397–2407.
- Baumann, P. (2002). *A critical analysis of central concepts and emerging trends from a sustainable livelihood perspective* (LSP Working Paper 1). FAO Livelihood Support Programme.
- Bebbington, A. (1999). Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods, and poverty. *World Development*, 27(12), 2021–2044.
- Butler, R. (2015). The evolution of tourism and tourism research. *Tourism Recreation Research*, 40(1), 16–27. <https://doi.org/10.1080/02508281.2015.1007632>.

- Carney, D. (Ed.). (1998). Sustainable rural livelihoods: What contribution can we make? London, UK: Department for International Development (DFID).
- Cawley, M., & Gillmor, D. A. (2008). Integrated rural tourism: Concepts and practice. *Annals of Tourism Research*, 35, 316–337.
- Chambers, R., & Conway, G. R. (1992). *Sustainable rural livelihoods: Practical concepts for the 21st century* (IDS Discussion Paper 296). Institute of Development Studies.
- Cohen, E. (2013). Tourism and land alienation in Thailand. *Annals of Tourism Research*, 40, 1–18.
- Cornet, C. (2015). Tourism development and resistance in China. *Annals of Tourism Research*, 52, 29–43.
- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Gao, J., & Wu, B. (2017). Revitalizing traditional villages through rural tourism: A case study of Yuanjia Village, Shaanxi Province, China. *Tourism Management*, 63, 223–233.
- Hall, C. M. (2007). *Tourism, governance and sustainable development: The political economy of tourism*. Routledge.
- Hall, C. M. (2020). Crisis and tourism: Perspectives on tourism's vulnerability and resilience. *Journal of Sustainable Tourism*, 28(8), 1223–1240.
- Hall, C. M., & Page, S. J. (2009). *Progress in tourism management: From the geography of tourism to geographies of tourism*. Routledge.
- Harrison, D. (2001). *Tourism and less developed countries: Key issues*. Routledge.
- Huber-Sannwald, E., Ribeiro Palacios, M., Arredondo Moreno, J. T., Braasch, M., Martinez Pena, R. M., de Alba Verduzco, J. G., & Monzalvo Santos, K. (2012). Navigating challenges and opportunities of land degradation and sustainable livelihood development in dryland social–ecological systems: A case study from Mexico. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 367(1606), 3158–3177.
- Iorio, M., & Corsale, A. (2010). Rural tourism and livelihood strategies in Romania. *Journal of Rural Studies*, 26, 152–162.
- Li, K. X., Jin, M., & Shi, W. (2018). Tourism as an important impetus to promoting economic growth: A critical review. *Tourism Management Perspectives*, 26, 135–142. <https://doi.org/10.1016/j.tmp.2017.10.002>.
- Lasso, A., & Dahles, H. (2018). Are tourism livelihoods sustainable? Tourism development and economic transformation on Komodo Island, Indonesia. *Asia Pacific Journal of Tourism Research*. <https://doi.org/10.1080/10941665.2018.1467939>.
- Lee, M. H. (2008). Tourism and Sustainable Livelihoods: the case of Taiwan. *Third World Quarterly*, 29(5), 961–978. <https://doi.org/10.1080/01436590802106148>.
- Lundmark, L. (2006). Restructuring and employment change in tourism production in sparsely populated areas. *Scandinavian Journal of Hospitality and Tourism*, 6(1), 22–38. <https://doi.org/10.1080/15022250600560648>.

- Maldonado-Erazo, C. P., Montúfar-Guevara, S. P., Verdugo-Bernal, C. M., & Durán-Sánchez, A. (2024). Sustainable Weaving: Guano Knotted Carpets as a Tourism Experience Contributing to Territorial Development. *Sustainability*, 16(23), 10558. <https://doi.org/10.3390/su162310558>.
- Mbaiwa, J. E., & Stronza, A. L. (2010). The effects of tourism development on rural livelihoods in the Okavango Delta, Botswana. *Journal of Sustainable Tourism*, 18, 635–656.
- Mir, M. A. M., Shelley, B., & Ooi, C.-S. (2024). Uses of tourism resources for educational and community development: A systematic literature review and lessons. *Tourism Management Perspectives*, 53, 101278. <https://doi.org/10.1016/j.tmp.2024.101278>.
- Partanen, M., Kettunen, M., & Saarinen, J. (2022). Community inclusion in tourism development: Young people's social innovation propositions for advancing sustainable tourism. *Tourism Recreation Research*, 50(1), 58–73.
- Ramaano, A. I. (2022). Nature and impacts of tourism development facilities and activities on the livelihoods of communities in Musina Municipality. *Tourism Planning & Development*, 20(4), 696–720. <https://doi.org/10.1080/21568316.2022.2115124>.
- Rasekhi, S., Karimi, S., & Mohammadi, S. (2016). Environmental impacts of tourism: A case study of selected developing and developed countries. *Journal of Tourism Planning and Development*, 5(16), 71–94.
- Rogerson, C. M. (2015). Tourism and regional development: The case of South Africa's distressed areas. *Development Southern Africa*, 32(3), 277–291.
- Saarinen, J., & Rogerson, C. M. (2020). Tourism and climate change: Perspectives from global South destinations. *Current Issues in Tourism*, 23(6), 679–694.
- Saragih, S., Lassa, J., & Ramli, A. (2007). Kerangka Penghidupan Berkelanjutan Sustainable Livelihood Framework. *Hivos–Circle Indonesia*.
- Scheyvens, R., & Hughes, E. (2021). Can tourism help to end poverty in all its forms everywhere"? The challenge of tourism addressing SDG1. In *Activating critical thinking to advance the sustainable development goals in tourism systems* (pp. 215–233). Routledge.
- Scoones, I. (1998). *Sustainable rural livelihoods: A framework for analysis* (IDS Working Paper 72). Institute of Development Studies.
- Sharpley, R. (2009). *Tourism development and the environment: Beyond sustainability?* Earthscan.
- Sharpley, R., & Telfer, D. J. (Eds.). (2014). *Tourism and development: Concepts and issues* (2nd ed.). Channel View Publications.
- Shen, S., Hughey, K. F. D., & Simmons, D. G. (2008). Connecting the sustainable livelihoods approach and tourism: A review of the literature. *Journal of Hospitality and Tourism Management*, 15(1), 19–31.
- Simons, H. (2015). Interpret in context: Generalizing from the single case in evaluation. *Evaluation*, 21(2), 173–188. <https://doi.org/10.1177/1356389015577512> (Original work published 2015).

- Singgaleen, Y. A., Sasongko, G., & Wiloso, P. G. (2019). Community participation in regional tourism development: A case study in North Halmahera Regency - Indonesia. *Insights into Regional Development*, 1(4), 318–333. [https://doi.org/10.9770/ird.2019.1.4\(3\)](https://doi.org/10.9770/ird.2019.1.4(3)).
- Stronza, A., & Gordillo, J. (2008). Community views of ecotourism. *Annals of Tourism Research*, 35, 448–468.
- Su, Z., Wen, R., Zeng, Y., Ye, K., & Khotphat, T. (2022). The Influence of Seasonality on the Sustainability of Livelihoods of Households in Rural Tourism Destinations. *Sustainability*, 14(17), 10572. <https://doi.org/10.3390/su141710572>.
- Suardana, I. W., & Sudiarta, I. N. (2016). Impact of tourism to poverty in tourism destination: Pro-poor tourism management approach. *Journal of Business on Hospitality and Tourism*, 2(1), 65–75.
- Susilowati Prabawa, T. (2010). *The tourism industry under crisis: The struggle of small tourism enterprises in Yogyakarta (Indonesia)* [Doctoral dissertation, Vrije Universiteit Amsterdam].
- Tao, T. C. H., & Wall, G. (2009). Tourism as a sustainable livelihood strategy. *Tourism Management*, 30(1), 90–98.
- UNWTO. (2023). *Tourism in the 2030 agenda: The role of tourism in sustainable development*. World Tourism Organization.
- Wall, G., & Mathieson, A. (2006). *Tourism: Change, impacts, and opportunities*. Pearson Education.
- Xue, L., & Kerstetter, D. (2018). Rural Tourism and Livelihood Change: An Emic Perspective. *Journal of Hospitality & Tourism Research*, 43(3), 416–437. <https://doi.org/10.1177/1096348018807289> (Original work published 2019).
- Yang, L., & Wall, G. (2009). Ethnic tourism: A framework and an application. *Tourism Management*, 30(4), 559–570.
- Yanan, L., Ismail, M. A., & Aminuddin, A. (2024). How has rural tourism influenced the sustainable development of traditional villages? A systematic literature review. *Heliyon*, 10(4), e25627.
- Yasinto, Y., Kameo, D., & Lawang, R. (2023). Persistent Poverty Amid Rural Infrastructure Development in Timor Island, Indonesia: Enhancing Livelihood Analysis on Rural Development. *International Journal of Social Science Research and Review*, 6(5), 384–400. <https://doi.org/10.47814/ijssrr.v6i5.1224>.
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Thousand Oaks, CA: Sage Publications.

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).