

VULNERABILITY ASSESMENT OF TOURISM VILLAGE COMMUNITIES IN THE SPECIAL REGION OF YOGYAKARTA DURING THE COVID-19 PANDEMIC

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ABSTRACT

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This study aims to identify the vulnerabilities faced by tourist villages, especially the advanced tourist villages, during the Covid-19 pandemic. The research was conducted in five advanced tourist villages in different districts/municipalities in DIY. Basically, this study is a quantitative research. Data was collected through a questionnaire survey process among the village residents. The analysis technique used is descriptive statistics. The results of the study show that there are still several factors that remain vulnerable for the tourist villages' communities in DIY when facing Covid-19. These factors include financial conditions, the sustainability of tourism activities, the sustainability of social interactions, and the level of community adaptation. One way to

reduce these vulnerabilities is through innovation. However, the vulnerabilities caused by Covid-19 are still greater compared to the efforts made by some other tourist villages. There are still several challenges faced by tourist villages for recovery, such as the lack of visitor enthusiasm, lack of innovation and attractiveness, lack of budget, and decreased visitor trust. In this regard, the preparedness and capacity of tourist village communities in facing disasters still need to be improved. Thus, efforts are still needed to prepare communities for possible future detrimental events and to enhance their capacity and resilience for recovery.

Keywords: Vulnerability; Financial; Adaptability; Social Interaction; Tourism Village

INTRODUCTION

The Covid-19 pandemic has impacted many sectors of human life. The tourism sector is one of the sectors most severely affected. There have been many negative impacts from the Covid-19 pandemic that have paralyzed the global tourism sector. These impacts are expected to persist for a long time (Gössling et al., 2020). The negative implications of this pandemic are also strongly felt by rural tourism and its community (Sharma et al., 2021). Although not all rural tourism relies on tourists



from foreign countries, rural tourism is highly dependent on people from outside their region as visitors.

Many rural communities have become victims of the Covid-19 pandemic. This is not only happening in Indonesia but also in other countries such as the United States, Iran, and India (Kesar et al., 2021; Mueller et al., 2020; Smittenaar et al., 2021; Yazdanpanah et al., 2022). In the case of the United States, rural communities are one of the most vulnerable populations in this country and are significantly affected by the Covid-19 pandemic, such as the increase in unemployment, the decrease in overall life satisfaction and mental health, as well as economic prospects (Mueller et al., 2020; Smittenaar et al., 2021). In the cases of Iran and India, economic and health conditions are the most severe vulnerabilities faced by rural communities (Kesar et al., 2021; Yazdanpanah et al., 2022). In this regard, Covid-19 worsens the existing vulnerabilities of rural areas (John et al., 2022).

Indonesia is one of the countries dominated by rural areas. In its development, many rural areas have developed into tourist villages to optimize their potential and empower their communities. In the context of Indonesia, these tourist villages come in various forms. Yogyakarta Special Region is known as one of the areas with a variety of tourist villages. According to its development stages, these tourist villages are divided into four categories: advanced and independent tourist villages, developing tourist villages, and pioneering tourist villages.

Advanced and developing tourist villages are categorized as exemplary tourist villages. This category of tourist villages is considered to have made more progress in the development of tourist villages compared to others. It is not uncommon for this category of tourist villages to receive awards for their innovations. For example, tourist villages like Nglanggeran, Pentingsari, Tinalah, and Kakilangit. However, even in the Covid-19 pandemic conditions, this category is also not exempt from the impacts of Covid-19. These tourist villages still face threats and vulnerabilities to survive during the Covid-19 pandemic.

The main issue is the lack of a mitigation system for the COVID-19 pandemic. The community's experience with past disasters has not improved their preparedness in facing new disasters (Bhaskara & Filimonau, 2021). There is only limited evidence that rural communities have resilience against the COVID-19 pandemic (John et al., 2022). Until the arrival of the COVID-19 pandemic, no preparations had been made. This is especially concerning for rural communities, as they have greater vulnerability due to financial factors, employment, housing conditions, access to education and healthcare facilities, decreased social interaction, and a lack of adaptability (Bhaskara & Filimonau, 2021; Hizra et al., 2021; John et al., 2022; Pangarso et al., 2021; Peters, 2020; Susanti et al., 2023; Tokazhanov et al., 2020; Wang et al., 2020).

In the development of the literature, there are still limitations in our knowledge regarding the vulnerability of rural communities in the context of COVID-19. This highlights the importance of further studies on vulnerability identification in rural tourism communities in facing the COVID-19 pandemic (John et al., 2022). There hasn't been specific identification of this vulnerability in advanced tourist villages as pilot tourism villages with different regional characteristics. This research can be used as a basis for the government and tourism village managers to develop strategies in facing future disasters.

METHOD

This study is a type of quantitative research. The study was conducted in four tourist villages in the Special Region of Yogyakarta, which received the ADWI 2021 award. These four tourist villages were selected to examine the vulnerability still felt by the four tourist villages that are considered more advanced in their development. These four tourist villages also represent different areas in the Special Region of Yogyakarta. The tourist villages that are the objects of this study include Nglanggeran Tourist Village (Gunungkidul Regency), Pentingsari Tourist Village (Sleman Regency), Tinalah Tourist Village (Kulonprogo Regency), and Kakilangit Tourist Village (Bantul Regency). Data were collected through a questionnaire survey process among the residents of the tourist villages. The population defined in this study is the tourism business actors. Each tourist village has approximately 100 tourism business actors, resulting in a total population of approximately 400 in this study. With a confidence level of 92%, the determined sample size is 135 samples. The analysis technique used in this study is descriptive statistics. **Table 1** presents the variables analyzed in this study.

Table 1. Vulnerability Factors

Factors	Sources
Financial	(Kesar et al., 2021; Mueller et al., 2020; Smittenaar et al., 2021; Yazdanpanah et al., 2022)
Job Activities	(Bhaskara & Filimonau, 2021)
Social Interaction	(Peters, 2020; Susanti et al., 2023; Yazdanpanah et al., 2022)
House Sustainability	(Hizra et al., 2021; Pangarso et al., 2021; Tokazhanov et al., 2020)
Health Access	(Mueller et al., 2020; Peters, 2020; Wang et al., 2020)
Education Access	(Bhaskara & Filimonau, 2021)
Adaptability	(John et al., 2022; Kesar et al., 2021)

RESULTS AND DISCUSSION

1. Vulnerability Assesment

The financial factor has become the biggest vulnerability for rural tourism communities in facing the Covid-19 pandemic. This is consistent with previous research findings (Kesar et al., 2021; Mueller et al., 2020; Smittenaar et al., 2021; Yazdanpanah et al., 2022). Based on **Figure 1**, a decrease or loss of income is felt by almost the majority of rural tourism communities. This situation becomes even more severe for communities that rely on tourism activities as their sole source of income, such as in Kakilangit Tourism Village.

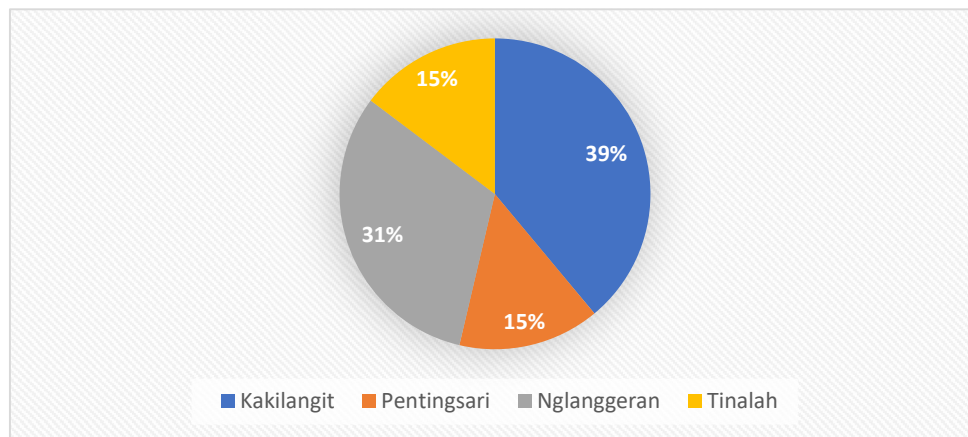


Figure 1. Percentage of Tourism Village Communities Who Have Financial Constraints During The Pandemic

Resource: Authors' Data Processing

With the presence of Covid-19, tourism activities have been forced to come to a halt. The young people in the Kakilangit Tourism Village, who have willingly left their parents' farming jobs to focus on the sustainability of the tourism village, are among the most affected by the Covid-19 pandemic. The same goes for Nglanggeran Tourism Village. Although tourism activities there are not their main source of income, they still contribute significantly to their economy. Therefore, the loss of income from the tourism sector greatly disrupts their lives financially, especially in meeting needs beyond the basic necessities. For example, for people who already have loan installments, they become unable to pay those installments due to the loss of income from tourism activities. Another example is the hindrance that the community faces in paying vehicle taxes. These conditions cause difficulties for people to survive during the Covid-19 pandemic. These results are not far from previous research that shows that the Covid-19 pandemic has caused more than 20% of households in the most vulnerable groups to experience delays in rent payments (Smittenaar et al., 2021). These findings are in line with previous research which states that Covid-19 exacerbates the vulnerability of rural communities that already exist, including poverty, isolation, socio-economic marginalization, and high unemployment rates (John et al., 2022; Tokazhanov et al., 2020).

In facing these conditions, there are several efforts made by the community to meet their needs during the Covid-19 pandemic, as shown in **Figure 2**. More than 50% of the community chooses to sell their assets, and some use their reserve funds. Although only a small portion of the community resorts to borrowing for the sake of survival during the pandemic, this situation still needs to be monitored. Similar findings were shown in research (Kesar et al., 2021), which states that nearly 80% of households in India have reduced their food intake, more than 60% do not have enough money for essential needs for a week, and some take out loans to cover expenses during the Covid-19 pandemic. This is related to the community's ability to recover post-Covid-19 and how long they can sustain with the remaining assets/reserve funds. The more assets/reserve funds are used, the more difficult it will be for the community to recover post-Covid-19. This condition is related to the initial capital that the community needs to invest in restarting tourism activities, such as providing health protocol equipment, implementing new marketing strategies, repairing damaged tourism infrastructure, creating new attractions, and so on.

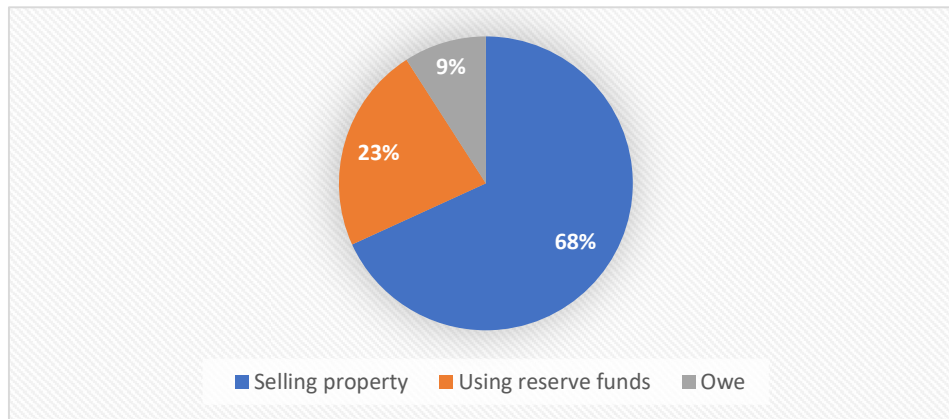


Figure 2. Tourism Village Communities' Adaptation Efforts to Meet Their Basic Needs During the Pandemic

Resource: Authors' Data Processing

Different conditions can be observed in the Pentingsari Tourist Village. Based on Figure 1, only a few members of the community complain about financial decline due to COVID-19. This is because the majority of business people in the Pentingsari Tourist Village do not rely solely on the tourism sector for income. Many of them work as employees, civil servants, retirees, and teachers. Therefore, although the COVID-19 pandemic still has financial implications, the community there can still meet their daily needs.

Furthermore, the vulnerability caused by the COVID-19 pandemic can be seen from the aspect of disrupted community activities, especially in carrying out their work or businesses. Based on **Figure 3**, each tourist village has a similar vulnerability in this aspect, except for the Pentingsari Tourist Village. In the Pentingsari Tourist Village, not all members of the community feel disrupted in their activities during COVID-19 because they can still carry out their work outside the tourism sector. Additionally, in the case of the Pentingsari Tourist Village, the community can still conduct their businesses online. This finding is in line with Torabi's assertion that the utilization of technology can help society adapt to life during the COVID-19 pandemic (Torabi et al., 2023).

The presence of COVID-19 has also required all tourism activities to be carried out with strict adherence to health protocols. The instruction to enforce these protocols has required tourist villages to adapt in marketing their services and products. Forms of adaptation include providing equipment and mechanisms to ensure visitor health, implementing new regulations for organizing tourism activities, and preparing competent human resources. However, implementing health protocols is not easy and not always beneficial. With the enforcement of health protocols, it does not automatically make tourists return to visit as usual. Many tourists also feel disadvantaged because they have to pay higher costs for tourism due to the implementation of health protocols. This condition then becomes a vulnerability for the community in the tourist village in facing the COVID-19 pandemic.

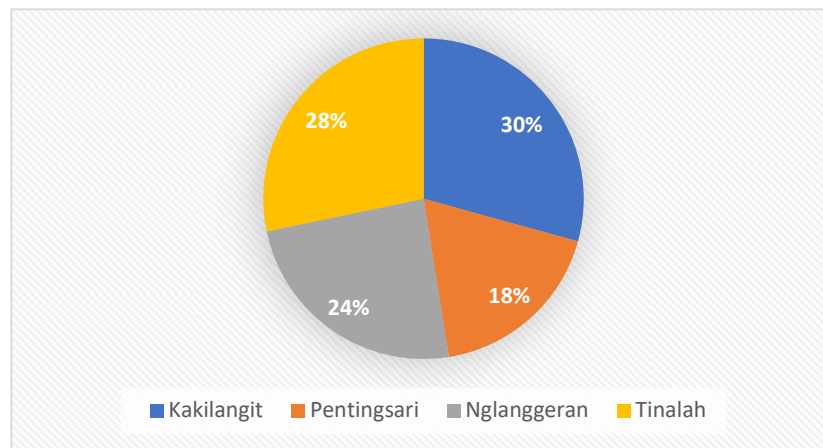


Figure 3. Percentage of Tourism Village Communities Who Feel Their Activities Have Been Disrupted Due to the Pandemic
Resource: Authors' Data Processing

In addition, another factor that makes rural tourism communities vulnerable to COVID-19, as shown in **Figure 4**, is the reduction of social interactions. This is consistent with previous research (Yazdanpanah et al., 2022). This condition contradicts the strong social capital characteristic of rural communities. Social capital is formed through intense social interactions among community members. This suddenly disappeared during the early days of COVID-19. This condition was most severe during the early stages of the pandemic. During that time, many people were afraid to interact with their neighbors or relatives. Many people tended to choose to stay at home due to their fear of COVID-19. This condition needs to be taken seriously because based on previous research, social capital is what can have a positive impact on livelihoods during a pandemic (Peters, 2020; Susanti et al., 2023). As a result, some people express their frustration with self-isolation at home. In addition, community meetings for the development of rural tourism also became difficult during that time. With the help of technology, social interactions can still be conducted, but this cannot replace the natural interactions among rural communities.

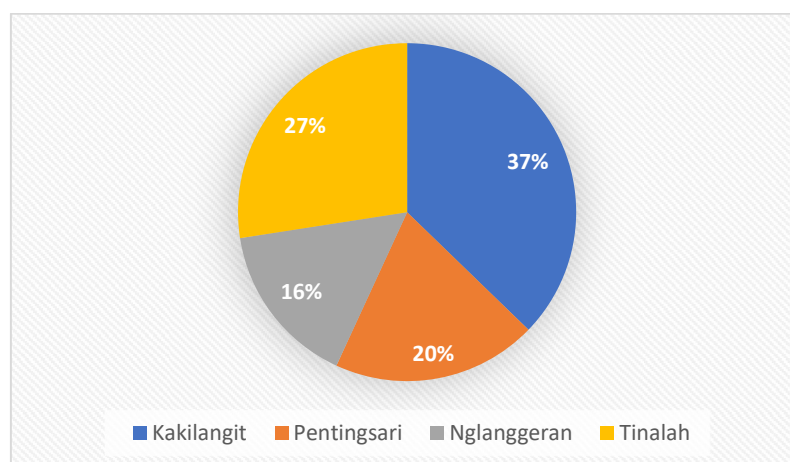


Figure 4. Percentage of Tourism Village Communities Who Facing Difficulty in Social Interactions During the Pandemic
Resource: Authors' Data Processing

Similarly, when viewed from an educational perspective, despite the changes in education during the COVID-19 pandemic, rural tourism communities are still able to adapt to these changes. Based on **Figure 5**, this is evident in the return results.

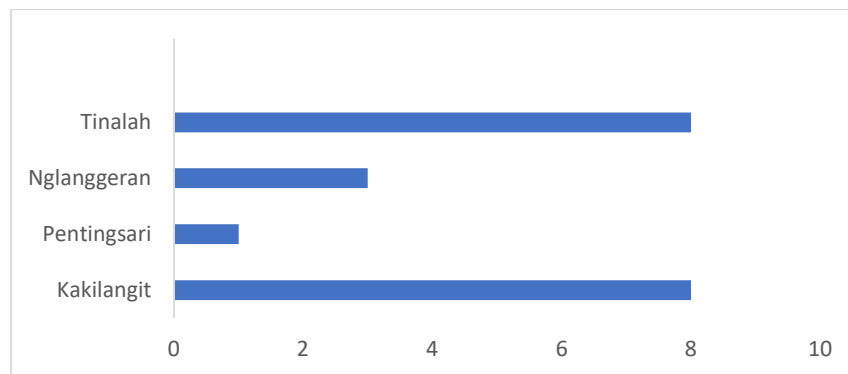


Figure 5. Percentage of Tourism Village Communities Who Have Difficulty Accessing Education Facilities

Resource: Authors' Data Processing

In school-age children, they can still continue learning online despite the challenges of network quality due to the influence of the region's topography. However, what needs to be considered in terms of education is the transformation of society in using technology. The presence of covid-19 has forced tourist villages to transform, particularly in the digital field. Many tourism activities/services have now shifted towards the virtual realm. Therefore, the human resources of the tourist village community need to be prepared, especially among the younger generation, as it has become increasingly difficult to attract young people to become managers of tourist villages. This is consistent with previous research indicating that limited human resources and social capital will restrict their learning and make them vulnerable to future disasters (Bhaskara & Filimonau, 2021).

The capacity of tourist village communities to adapt is also still a vulnerability factor they face in dealing with covid-19. This is consistent with previous research (Bhaskara & Filimonau, 2021). It is necessary to specifically address this issue in order to change their negative stigma towards covid-19. This is because covid-19 has demanded many changes, both managerial and in terms of products. This finding is consistent with previous research indicating that rural areas have low resilience to shocks due to their limited adaptive capacity (John et al., 2022). For example, in terms of implementing health protocols, initially, the community admitted to not paying much attention to the importance of health. They tended to perceive health protocols as something complicated and inconvenient to implement. Additionally, since the emergence of covid-19, the community has had to learn to anticipate the uncertainty of future conditions, especially related to securing their economic situation (Kesar et al., 2021). However, despite this, it remains challenging due to their greater concern about the uncertain conditions.

In terms of housing conditions, most communities in each tourist village have met the standard housing needs during covid-19. This result can be seen in **Figure 6**. Firstly, this is due to the average characteristics of houses in rural areas, which are not densely packed like most houses in cities, therefore posing a lower risk of transmission. Secondly, the characteristics of houses in rural areas often have spacious open spaces that can be used for sunbathing to boost immunity. Thirdly, the spaciousness of rural houses reduces the risk of exposure. Thus, the housing

conditions in the case of tourist village communities do not contribute to their vulnerability. This is consistent with previous research indicating that the covid-19 pandemic has required households to adapt by considering the availability of isolation spaces, open spaces, air circulation, lighting, and sanitation (Hizra et al., 2021; Pangarso et al., 2021; Tokazhanov et al., 2020).

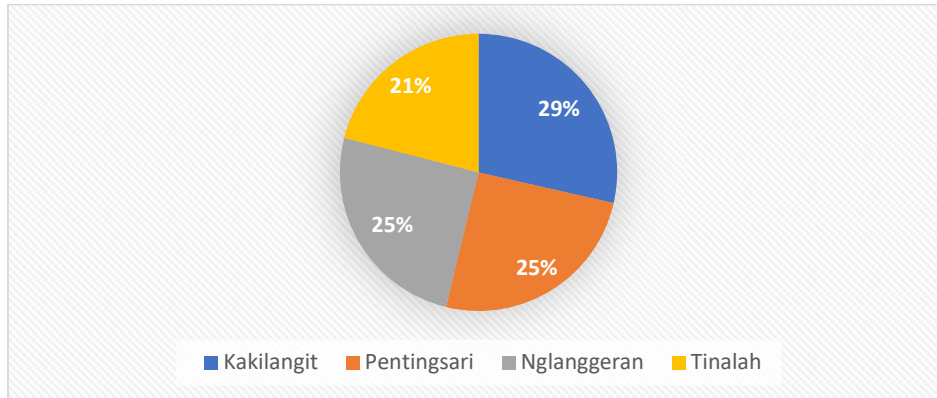


Figure 6. Percentage of House Suitability for Adaptation during the Pandemic
Resource: Authors' Data Processing

Health factors are also not a vulnerability factor for rural tourism communities in facing COVID-19. Based on **Figure 7**, only a small portion of rural tourism communities still face difficulties in accessing healthcare facilities during the COVID-19 pandemic. Most of them claim that in facing COVID-19, the community has actually been more active and innovative in making herbal beverages to boost their immune system. This condition presents a different picture from previous research that stated rural communities are more vulnerable in terms of their health conditions due to their limited access to healthcare facilities and healthcare workforce availability (Mueller et al., 2020; Peters, 2020). These activities and innovations ultimately lead to new advantages during the COVID-19 pandemic. These findings are consistent with previous research conducted in Lerep Tourism Village, which indicated that reading and meeting market needs during the pandemic are among their strategies for recovery (Pangarso et al., 2021). In terms of providing equipment and necessities for maintaining health, the community also does not face many obstacles. Each individual can provide these tools and necessities either through self-reliance or with the assistance of the local government.

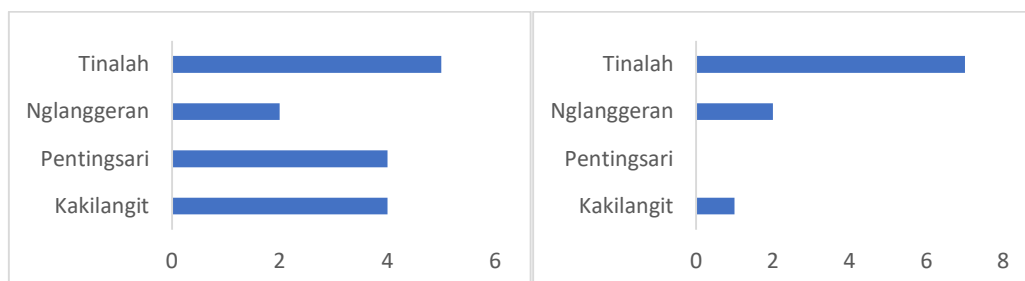


Figure 7. Percentage of Tourism Village Communities Who Have Difficulty Accessing and Providing Health Facilities

Resource: Authors' Data Processing

2. Community Readiness

The majority of the rural tourism community has responded to the Covid-19 pandemic with fear and anxiety. According to **Figure 8**, over 50% of the community in each tourist village stated that Covid-19 has made them feel afraid. Some individuals express fear of Covid-19 due to its deadly nature and rapid transmission process. Additionally, people also mention that Covid-19 has resulted in numerous restrictions on activities. This situation has had an impact on their livelihoods in the tourism sector. It is unfortunate for the community as the pandemic occurred at a time when tourism activities were reaching their peak of success.

On the other hand, the Covid-19 pandemic has led to other negative stigmas. For instance, people feel more afraid of being isolated than being infected by the virus itself. With isolation, individuals are greatly restricted from meeting others, including their own families. This condition is contrary to the habits of the rural community, who enjoy interacting with others. Additionally, some individuals are afraid to go to healthcare facilities because they fear being immediately labeled as having Covid-19 by others in the community. This condition subsequently affects their psychological vulnerability, as mentioned in previous research by Amghani5, as the closure of public facilities, education, recreation, health centers, and social quarantine have a negative impact on the mental health of the community (Mueller et al., 2020; Wang et al., 2020).

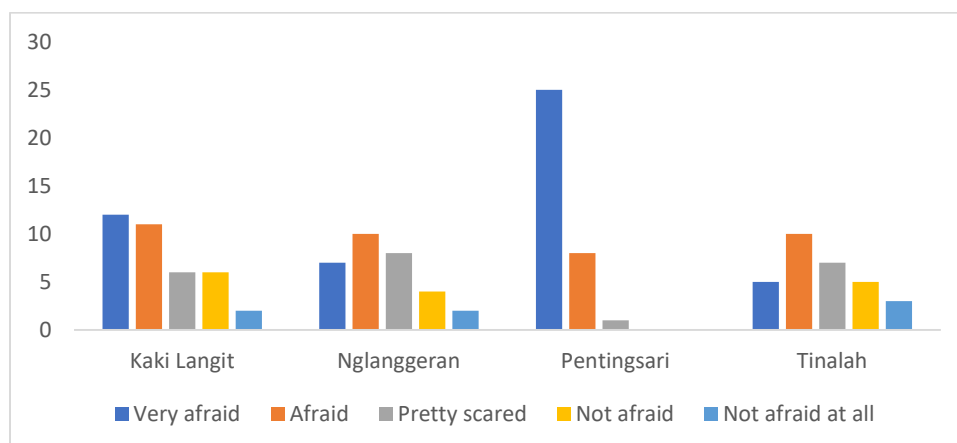


Figure 8. Communities Initial Response to Covid-19
Resource: Authors' Data Processing

Basically, the Special Region of Yogyakarta (DIY) is an area that is constantly threatened by natural disasters. Each tourist village has had experiences in coping with natural disasters. For example, the Kakilangit and Nglanggeran Tourism Villages experienced an earthquake in 2006. The Pentingsari Village also experienced a volcanic eruption, and the Tinalah Village experienced a landslide. Despite having experience in dealing with disasters, based on **Figure 9**, more than 50% of the community in each tourist village admitted to not being prepared to face the COVID-19 pandemic. This is because the pandemic came suddenly and the community did not anticipate its magnitude. This finding is consistent with previous research (Bhaskara & Filimonau, 2021) that past experiences provide limited learning opportunities for local tourism businesses, thus indicating their vulnerability to current and future disaster events.

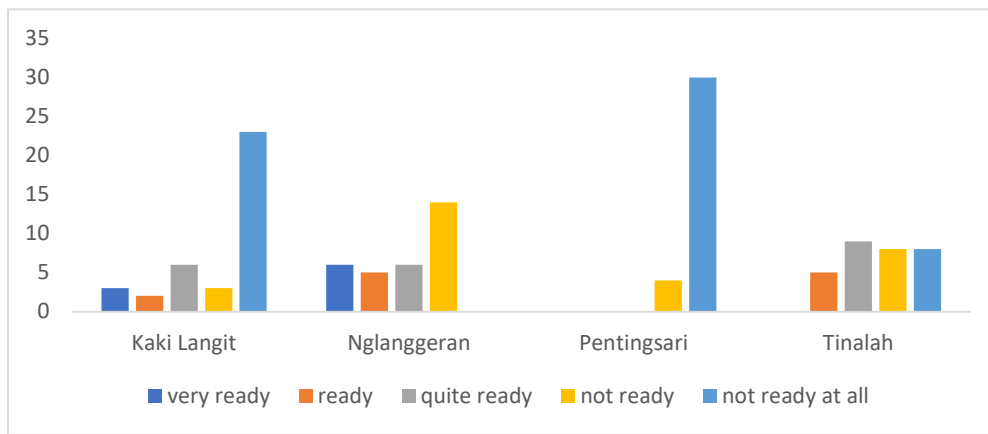


Figure 9. Communities Readiness in Facing Covid-19
Resource: Authors' Data Processing

On the other hand, the community also has a great dependence on the sustainability of the tourism village as their sole source of income. With the existence of COVID-19, the community has not prepared or anticipated the financial impact caused by it. Additionally, the community also admits that initially they didn't pay much attention to the health world. This condition certainly makes the community very unprepared for the presence of COVID-19. Nevertheless, there are some individuals who claim to have preparedness in facing COVID-19. They mention that their habits of consuming traditional herbal drinks and other herbal beverages can help boost their immune system during the COVID-19 pandemic.

There are also some people who diligently follow the developments of COVID-19 in the news, thus they know how to anticipate the arrival of COVID-19, including closing destinations. In tourist villages like Nglanggeran, there are also healthcare facilities that can be utilized during the COVID-19 pandemic. Additionally, they are assisted by government aid such as providing inexpensive masks, basic necessities, training, and education. This assistance can slightly improve the preparedness of the community. This is in line with previous research (Pangarso et al., 2021). Based on **Figure 10**, the majority of the community already knows the procedures for handling, recovery, and prevention.

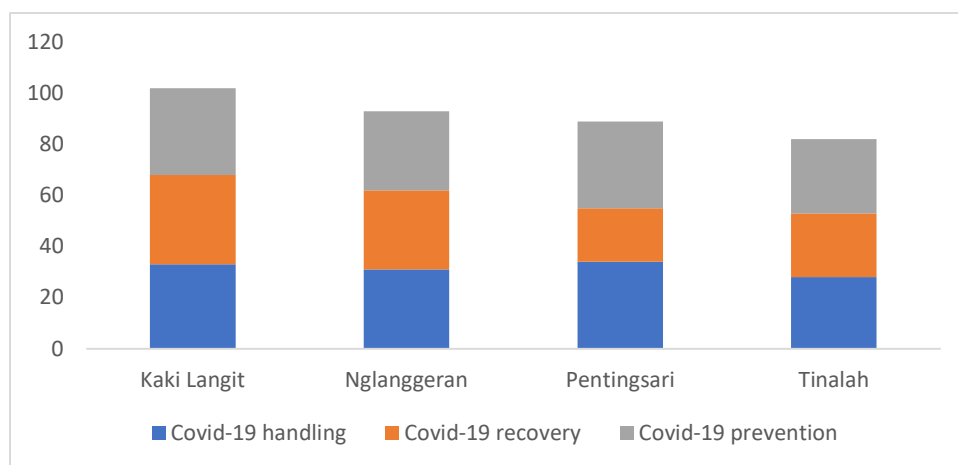


Figure 10. Communities Knowledge of Procedures for Handling, Recovering and Preventing from Covid-19
Resource: Authors' Data Processing

However, this condition has not fully affected the resilience of the community during the COVID-19 pandemic. This is due to several factors, as seen in **Figure 11**. Firstly, it is related to the number of visitors that has not returned to normal. Even after the COVID-19 situation subsided and there were relaxations in tourism activities, the enthusiasm of tourists to visit tourist villages has not been restored. Secondly, there is a lack of innovation and attractions. Post-COVID-19, the presence of new attractions is crucial to adapt and regain the interest of tourists to visit. This is due to the demand for new business patterns, as mentioned in previous research (Bhaskara & Filimonau, 2021).

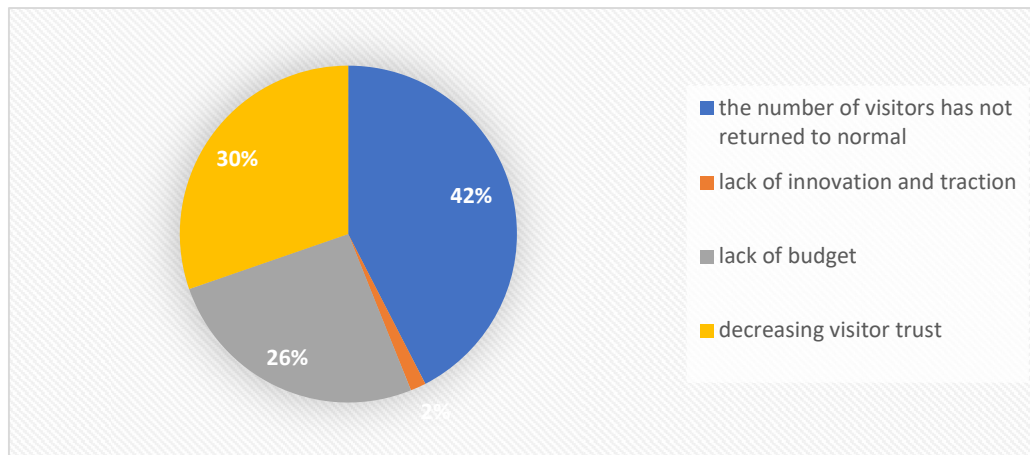


Figure 11. Obstacles to Recovering from the Covid-19 Pandemic
Resource: Authors' Data Processing

The third is the lack of budget due to the previous reserve funds being used for the operationalization and improvement of tourism infrastructure during Covid-19. The lack of budget for this recovery period ultimately affects many aspects such as the suboptimal promotion activities, tourist services, and development of new attractions, resulting in difficulty in attracting visitors. The fourth is the reduced trust of visitors to return to the tourist village. This can be due to the insufficient completeness of the tourist village that meets health and safety standards, as well as the traumatizing or negative stigma of the community towards Covid-19.

CONCLUSIONS

Based on this research, there are several factors that still pose vulnerabilities for the tourism villages in DIY (Yogyakarta Special Region) in facing COVID-19. These factors include financial conditions, tourism activity sustainability, social interaction sustainability, and the level of community adaptation. Among the four tourism villages studied, Pentingsari Tourism Village is the village with the lowest vulnerability. This can be attributed to the fact that tourism activities are not the only source of income for the community. In the midst of the pandemic, the community of Pentingsari Tourism Village is still able to engage in their respective work activities and some have even shifted to developing online businesses. Although the initial impact of COVID-19 reduced social interaction there, at least the community of Pentingsari Tourism Village was able to adapt by being innovative. This is also done by other tourism villages to reduce their vulnerabilities. However,

the vulnerabilities caused by COVID-19 are still greater compared to the efforts made by other tourism villages. This can be seen in the number of visitors that have not returned to previous levels, and the tourism activities that have not been able to operate optimally. Additionally, the preparedness and capacity of the tourism village communities in facing disasters still need to be improved. This is related to how the community responds to future events full of uncertainty. There are several obstacles still felt by the tourism village communities in their post-COVID-19 recovery efforts. These obstacles include the lack of a return of visitor enthusiasm to previous conditions, lack of innovation and attractiveness, insufficient budget, and reduced visitor trust. Based on these conditions, efforts are still needed to prepare the community for potential future detrimental events and to enhance their capacity and self-reliance for recovery. Further research can be conducted on the strategies/efforts that each tourism village, together with other relevant stakeholders, can undertake to recover from the COVID-19 pandemic.

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