

Perception of Farmers Concerning the Impact of Panyaweuyan Terrace Tourism in Majalengka, Indonesia

Sudrajat

Department of Environmental Geography, Faculty of Geography, Universitas Gadjah Mada, Yogyakarta, Indonesia

Received: 2024-08-04

Revised: 2024-08-20

Accepted: 2025-04-11

Published: 2025-04-28

Key words: impact;
tourism; farmers;
terasering

Correspondent email :

sdrajat@ugm.ac.id

Abstract. The increase in tourist visits to Panyaweuyan terrace is observed to have a positive impact. However, negative effects are being felt by farmers in the surrounding areas of the tourist site. Therefore, this research aimed to examine the socio-economic characteristics of farmers and perception concerning impact of Panyaweuyan terrace tourism activities on the socio-cultural, economic, and environmental aspects. The basic method of this research was a survey, including a sample of farmers for interviews. Additionally, primary data were collected through in-depth interviews with several informants. The Likert scale data analysis was performed using quartile (Q) method and analyzed descriptively and qualitatively. The results of the research showed that the socio-economic conditions of farmers around Panyaweuyan terrace tourism area were quite diverse. According to perception of farmers, tourism activities in the area had a positive impact on both the socio-cultural and economic aspects of community. However, farmers still perceived negative impact on the socio-cultural and environmental aspects. Based on these results, management should be community-based and sustainable to minimize the negative impact of Panyaweuyan terrace tourism.

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1. Introduction

Majalengka is a regency in West Java Province that possesses various natural resource potentials, highly suitable for development into natural tourism areas. An intriguing natural phenomenon in the Argapura region of Majalengka Regency is Panyaweuyan terrace tourism area. Initially, terrace is a form of land use in hilly areas created by farmers to prevent landslides and soil erosion. Due to the unique pattern of the terraces creating a beautiful landscape of rolling green terraces when planted with crops such as shallots, green onions, and other plants (Aripin, 2018), it has become a major attraction. This condition has led to an increase in tourist visits, prompting the local government of Majalengka Regency together with the village government to designate the Panyaweuyan terrace area as a rural tourism destination. The development of Panyaweuyan terrace tourism has brought significant changes to the socio-cultural and economic life of the local community, as well as to the surrounding environment (Huda & Matondang, 2020).

Tourism activities in Panyaweuyan terrace area have become a popular tourism industry, enabling it to be a very attractive and promising business for community, local government, and the country. This occurs because local government, community, and nation can generate revenue from each tourist attraction offered through tourism activities (Ahdiati, 2020). According to Ridwan et al. (2018), economic activities in tourism sector are now capable of driving economy, and improving the development of community, regions, and the nation. To ensure that tourism activities provide increasingly significant economic opportunities for community and local governments, tourism development

is expected to create opportunities for the growth of other financial sectors as well as contribute to sustainable regional advancement. In a similar manner, Muhamad et al. (2024) showed that the development of a sustainable tourism ecosystem was crucial, particularly in considering its impact on local community and the environment. Therefore, this development should be guided by principles including the wise use of resources, environmental conservation, and the empowerment of local community. The role of the government in managing community-based tourism becomes crucial to achieve this objective.

The development of tourism has a positive impact on the socio-economic, cultural life of the surrounding community and the environment (Huda & Matondang, 2020). According to Kartika (2016), the positive impact of tourism activities can be observed from economic aspects, such as increased village revenues, community income, job opportunities, land/property prices, the distribution of benefits/profits received by village officials/community, and land ownership/control. Tourism activities can enhance local community knowledge and awareness through interactions with tourists, increase recognition of local tourism potential, improve socio-economic conditions, and strengthen the image of the community in line with tourism development. Kumar (2020) observed that tourism development positively contributed to economic growth and served as a source of national income. Tien et al. (2020) showed that well-managed tourism created job opportunities and supported community-level economic development, while also promoting environmental preservation for sustainable growth. Similarly, Malek & Costa (2015) and Isma & Soetjipto (2019) signified that effective

tourism strategies especially those including community participation could improve the quality of life for local residents.

Tourism advancement can have a negative impact on community around the tourist locations (Huda & Matondang, 2020). According to Kartika (2016), a negative impact of tourism activities on the physical environment includes the occurrence of water pollution, decreased soil fertility, waste accumulation, noise, air pollution, and damage to agricultural land. Additionally, tourism can have a negative impact when interactions between tourists and local community are less harmonious, potentially lead to changes in socio-cultural dynamics, economic conditions, and the environment. This is also supported by Cohen (2013), who stated that tourism activities had caused negative impact on local community, such as the development of dependency on tourism sector, inflation, changes in land values, an increase in imported goods, slow capital recovery, and the occurrence of other external costs. Tourism activities can lead to the degradation of the socio-cultural conditions of local community due to the influence of modern life brought by tourists. This phenomenon shows that tourism activities in a region have a positive impact and also lead to negative consequences for the socio-cultural, economic, and environmental aspects.

The occurrence of negative impact from tourism on socio-cultural aspects is due to the increasing number of tourists, characteristics of tourist attractions including cultural, religious, or natural tourism, structure/function of tourism organization, tourism growth, and the level of tourism-based economic development, respectively (Pitana, 2005). Similarly, Mathieson & Wall (1982) argued that tourism activities could negatively impact socio-cultural features due to interactions between tourists and local community, such as through buying and selling of local products by tourists as well as community participation with tourist activities. Other interactions include direct communications where tourists exchange information, ideas, or opinions with locals. Meanwhile, Cooper et al. (2008) stated that the negative impact of tourism arose from direct interactions between tourists and local community, influenced by factors such as the nature of the stay, the activities performed,

behavior toward local culture, satisfaction with tourist attractions, or differences in socio-cultural and economic background. The development of both positive and negative impact will be felt by community living in tourist areas.

Both positive and negative impact from the development of Panyaweuyan terrace tourism largely depend on management system by government and active role of local community. This supports Megawati et al. (2023), who argued that the local community should know about local economy and tourism development as the most important agent. Additionally, the role of government in tourism development is essential to inspire local community participation (Nandi, 2008). Based on this, exploring community perceptions of tourism development is essential to ensure that tourism management improves the welfare of local communities in tourist areas. Therefore, this research aims to examine the socio-economic conditions of farming communities affected by tourism in Panyaweuyan and to assess perceptions of farmers concerning the impact of tourism on socio-cultural, economic, and environmental conditions in Argapura District, Majalengka Regency, Indonesia.

2. Methods

This research was conducted in Argapura District, Majalengka Regency, West Java, Indonesia, with samples collected from Sukasari Kidul and Kaler Village as shown in Figure 1. Panyaweuyan terrace tourist attraction administratively spanned three villages, namely Sukasari Kaler, Sukasari Kidul, and Tejamulya, respectively. However, tourism activities, infrastructure, and the flow of tourists were primarily focused on Sukasari Kaler and Kidul. As a result, tourism impact was more significantly felt by community living in Sukasari Kaler and Kidul compared to those residing in Tejamulya Village. Based on these considerations, the research location was focused on Sukasari Kaler and Kidul Villages.

The population in this research consisted of farmers who owned agricultural land and were actively engaged in farming activities. In 2023, the number of farmers in Sukasari Kidul

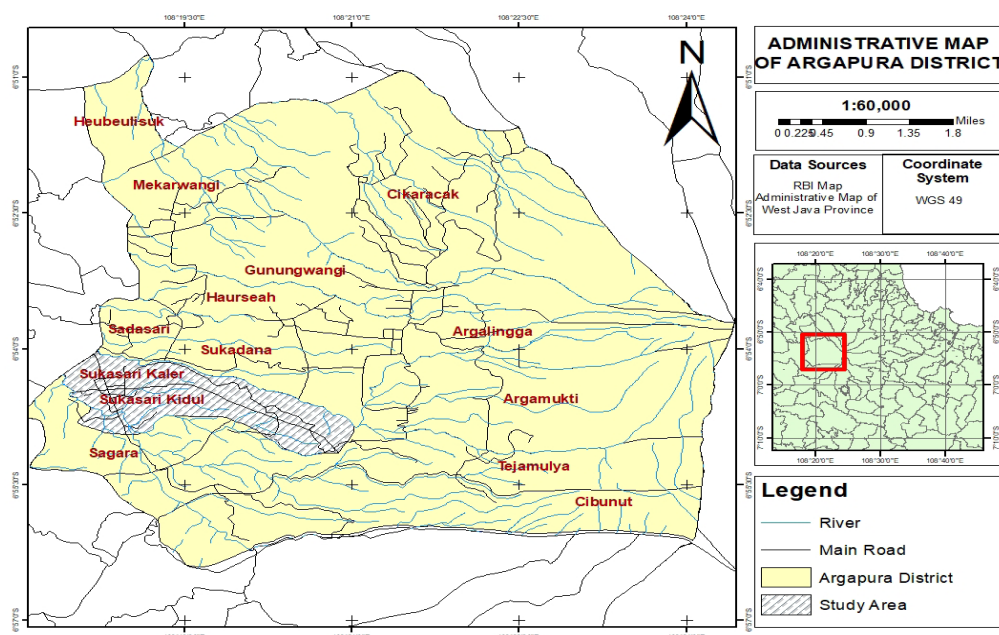


Figure 1. Administrative Map of the Research Location in Argapura District, Majalengka, Indonesia

Village was 593, and 504 in Sukasari Kaler Village, leading to a total of 1,097 farmers, respectively (Monografi Desa Sukasari Kaler, 2023; Monografi Desa Sukasari Kidul, 2023). The sample size was determined using Slovin formula with an error level of 10%. Based on the calculation, sample size of 92 farmers was obtained, which was rounded up to 100 farmers and selected proportionally. The number of samples from both villages was 54 and 46 farmers. During the analysis, the sampling method used in the field was simple random sampling.

The data collected in this research consisted of two types, namely primary and secondary data. Primary data was directly collected in the field through structured interviews with farmers using questionnaires. In addition, primary data was gathered through in-depth interviews with 8 major informants, including 2 heads of Pokdarwis, 2 community leaders, 2 heads of farmers groups, and 2 village heads/village officials. The purpose of the in-depth interviews was to strengthen the analysis related to both the positive and negative impact of Panyaweuyan terrace tourism activities.

The research variables analyzed included social, economic, and demographic variables of farmers, consisting of age, education, income, farming experience, land ownership size, and others, as well as perception of farmers concerning the positive/negative impact related to socio-cultural, economic, and environmental aspects. The measurement of perception of farmers concerning these impact of tourism activities was conducted using a Likert scale and analyzed using quartile method. Following the process, the quartile analysis (Q) was performed by calculating Q1, Q2, and Q3 values derived from the calculations of lower boundary (B) and upper boundary (A) values, respectively. The formula for calculating the quartile values Q1, Q2, and Q3 was as follows.

$$Q1 = (B+n)/4 \dots\dots\dots(1)$$

$$Q1 = (B+n)/2 \dots\dots\dots(2)$$

$$Q1 = (B+n)3/4 \dots\dots\dots(3)$$

Description:

n = the range between the lower boundary (B) and upper boundary (A), where the value of n was determined by the following equation.
 $n = A \text{ value} - B$

$$\text{value} \dots\dots\dots(4)$$

The calculated quartile values (Q) were grouped into 4 categories as follows.

1. **Lower boundary** (B) up to Q1
2. $\geq Q1$ up to Q2
3. $\geq Q2$ up to Q3
4. $\geq Q3$ up to Upper Boundary (A)

The values of the lower boundary (B), Q1, Q2, Q3, and the upper boundary (A) were compared with the total Likert scale score obtained from the field survey to observe the trend of perception of farmers concerning the positive and negative impact of tourism activities. The results of the quartile measurement (Q) were then analyzed descriptively and qualitatively, further supported by the results from the in-depth interviews.

3. Result and Discussion

Description of Research Location and Socio-Economic Condition of Farmers

The development of Panyaweuyan terrace tourism in Argapura District, Majalengka Regency, Indonesia, had been continuously increasing in line with its growing popularity on social media. This development could be observed from the increasing number of tourist visits year by year. When the number of visitors to Panyaweuyan tourism area was only recorded at 11,826 visitors in 2017, then in 2018 it was recorded at 26,623 visitors. Additionally, the number was recorded at 57,261 in 2019, and after the Covid-19 pandemic in 2023, it reached 1,050,505 visitors (Kulsum & Mardiana, 2023; Radar Cirebon, 2024). The increase in the number of visitors affected changes in the socio-cultural, economic, and environmental conditions of farmers living in the area surrounding Panyaweuyan terrace tourism site.

The socio-economic conditions of farmers living in the Panyaweuyan terrace tourism area were quite varied. The results of data analysis found that 91% of farmers in the research location were still aged ≤ 65 years, while those aged > 65 years were only 9%. This condition showed that most farmers around the area were still classified as productive, with an average age of 49.3 years. In terms of education level, 68% of farmers were still in elementary school (SD), while those who were educated in junior high school (SLTP) were only 14% and 18% in senior high school (SLTA). The dominance of farmers with elementary school education in the research location reflected that agricultural activities were still the mainstay for community with low education. This happened because agricultural activities were considered not to require higher education, but required the ability to work hard and learn farming. The analysis found that 84% of farmers had farming experience > 15 years, while farmers who had less than 15 years of experience were only 16% as observed from the long experience of being a farmer. A long period of experience in farming could reflect the duration of the career of a farmers in agriculture. On the other hand, the time could reflect the presence or absence of a generational renewal process in farming in a region. When the average farming experience was relatively short, it showed that there was farmers regeneration in the area. Consequently, a long average farming experience could imply a lack of regeneration.

Another aspect of the socio-economic conditions of farmers that was quite interesting to analyze was the income of farmers from agricultural products and the area of agricultural land ownership. The results of the research found that the average income of farmers from agricultural products was only 2,982,000 per month, while the average area of land ownership was only 0.39 ha. When the income from agricultural products was compared with the regional minimum wage (UMR/ Upah Minimum Regional) of Majalengka Regency in 2023, which was 2,257,871 per month, the revenue was above UMR (Keputusan Gubernur Jawa Barat, 2023). Since most farmers had family members who were not employed, the income from agricultural products was not enough to meet family needs, leading to pursuing additional job opportunities. Therefore, some farmers participated in the most frequent tourism activities in Panyaweuyan as food and beverage sellers, parking attendants, and in other activities that were considered capable of generating income without interfering with agricultural pursuits.

Perception of Farmers Concerning Impact of Panyaweuyan Terrace Tourism

Tourism development could provide both positive and negative impact on the environment and socio-economic conditions of community living near tourism area. Positive impact occurred because the development of tourism could have positive implications on the livelihood of community. Negative impact lead to adverse effects on community and environment compared to the situation before tourism activities (Hantari & Nareswari, 2021). According to Cooper (2008), the occurrence of impact from tourism activities happened due to the interaction between tourists and community. The level of participation of community living around tourism area led to different perceptions concerning impact being experienced. When community benefited from tourism, community had a positive perception of it. However, when community perceived tourism as disadvantageous, community had a negative perception of its development.

Perception of farmers concerning impact of Panyaweuyan terrace tourism on the socio-cultural aspects of community, both positive and negative in this research were measured using a Likert scale. The results of the scale measurement on the positive impact of Panyaweuyan terrace tourism on the socio-cultural aspect were analyzed using quartile method (Q), as shown in Figure 2. During the process, quartile analysis (Q) produced lower boundary (B) value of 400, upper boundary (A) value of 2,000, Q1 of 800, Q2 of 1,200, Q3 of 1,600, and the survey result score was 1,627, respectively. Based on these values, the outcome showed that the survey result score was between Q3 and upper boundary (A).

Explanation:

- Lower boundary (B) up to <Q1 = Tourism had no positive impact on the socio-cultural aspects of community.
- $\geq Q1$ up to Q2 = Tourism had a slight positive impact on the socio-cultural aspects of community.
- $\geq Q2$ up to Q3 = Tourism had a positive impact on the socio-cultural aspects of community.
- $\geq Q3$ up to Upper Boundary (A) = Tourism had a very positive impact on the socio-cultural aspects of community.

Quartile (Q) analysis in Figure 2 showed that Panyaweuyan terrace tourism was perceived as having a highly positive impact on the socio-cultural aspects of community. This impact was reflected in increased community knowledge and awareness, greater recognition of natural resources as tourism assets, increased appreciation of local traditions and socio-cultural identity, and improved socio-economic status. The results of this research were consistent with the results from an in-depth interview with Mr. OS, Head of Sukasari Kaler Village, who stated:

".....Alhamdulillah, the increasing number of tourists visiting the Panyaweuyan terrace tourist site, has made our community aware of the importance of developing local cultural potential through various cultural attractions. In addition, community has acquired a lot of understanding and knowledge from the tourists, as well as increased awareness in supporting tourism activities....."

A similar result was obtained from an in-depth interview with S, Head of Sukasari Kidul Village, who stated:

".....Panyaweuyan terrace tourism has now become a pride for our community, as it has been able to elevate the social-cultural image of our community as a friendly community toward visitors. Our community has also experienced significant changes in social-cultural life, particularly with the increased participation and active role of community in using local resources to support tourism activities....."

The results of this research supported those of Kartika (2016), who stated that tourism activities could have a positive impact on social and cultural aspects, particularly in terms of improving community knowledge and awareness, increasing recognition of local resource potential, developing socio-economic status, and advancing a positive image of community that changed alongside the growth of tourism. Similarly, Swesti (2019) argued that the positive impact of tourism development on social and cultural conditions was evident in the preservation of local culture, such as religious activities, customs, and traditions, as well as the acceptance of tourism development and the arrival of tourists by local community.

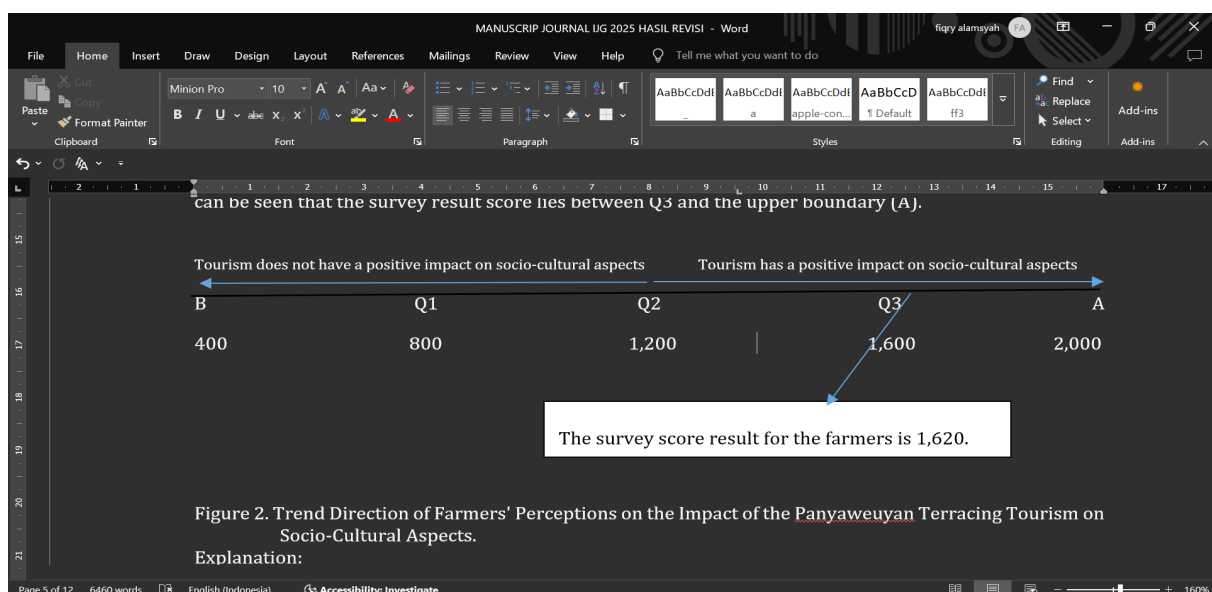


Figure 2. Trend Direction of Perception of Farmers on Impact of the Panyaweuyan Terrace Tourism on Socio-Cultural Aspects.

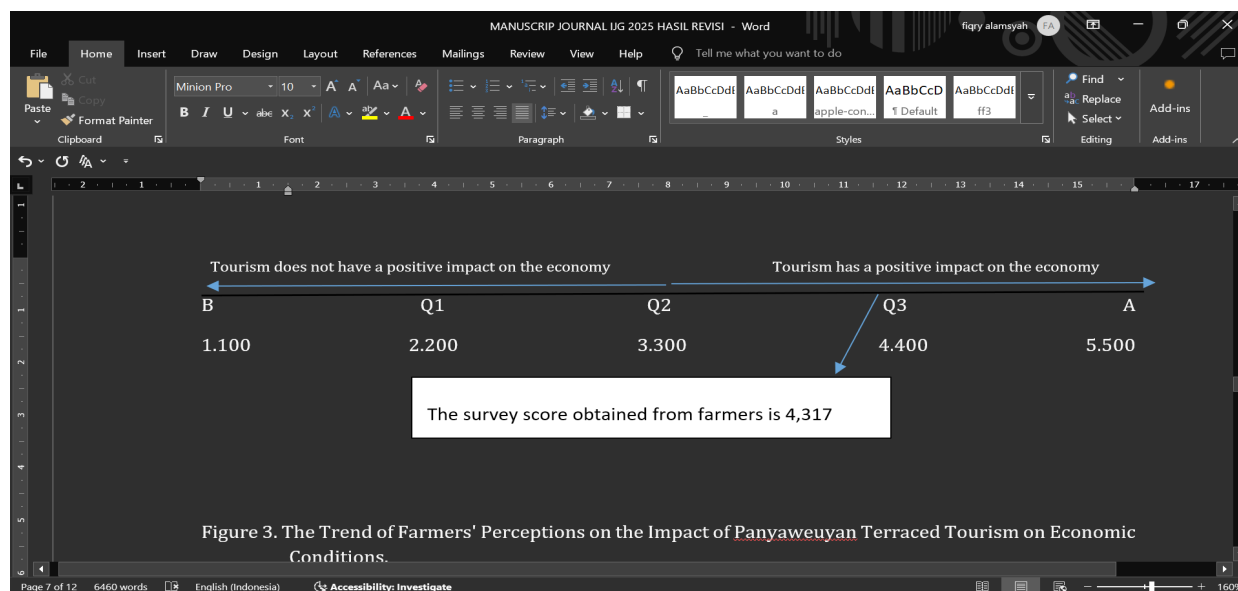


Figure 3. The Trend of Perception of Farmers on Impact of Panyaweuyan Terrace Tourism on Economic Conditions.

Lausiry and Tumuka (2019) showed that tourism had a positive impact on both social-cultural and economic aspects, reflected in changes in the social status of community, shifts in employment, income increases, and changes in ownership as well as control of assets. Szczepańska-Woszczyna & Kurowska (2016) also showed that tourism activities brought positive effects on economic, social-cultural, and environmental aspects of local community.

Concerning perception of farmers on economic impact of tourism, the results measured using a Likert scale showed interesting results. Based on quartile (Q) analysis, as shown in Figure 3, lower bound (B) was 1,100, upper bound (A) was 5,500, Q1 was 2,200, Q2 was 3,300, Q3 was 4,400, and the survey score obtained in the field was 3,317, respectively. According to these calculations, the survey score fell between Q2 and upper bound of Q3, showing that the majority of farmers had a positive perception of economic impact generated by Panyaweuyan terrace tourism.

Explanation:

- Lower boundary (B) up to $<Q1$ = Tourism did not have a positive impact on economy of farmers.
- $\geq Q1$ up to $Q2$ = Tourism had a moderate positive impact on economy of farmers.
- $\geq Q2$ up to $Q3$ = Tourism had a positive impact on economy of farmers.
- $\geq Q3$ up to upper boundary (A) = Tourism had a very positive impact on economy of farmers.

The results of Quartile (Q) analysis in Figure 3 showed that Panyaweuyan Terrace Tourism was perceived to have a positive impact on economic aspects of farmers. This occurred because Panyaweuyan Terrace Tourism had provided job opportunities in trade and services, sources of income from ticket sales, motor/car parking, and other transactions according to perception of farmers. The process had also opened opportunities for homestay/guesthouse businesses and reduced the urbanization of youth to the city, which led to an increase in land prices, land rent, as well as house rentals. In addition, the action inspired farmers to diversify agricultural products, increased the number of MSMEs (Micro, Small, and Medium Enterprises) in community, and improved

village income from tourism activities. The process also urged Village-Owned Enterprises (BUMDes) in effectively managing tourism and allowing farmers to sell various agricultural products directly to tourists. The results of this research were consistent with the results from an in-depth interview with Mr. MS, Chairman of the Tourism Awareness Group (Pokdarwis) in Sukasari Kaler, who stated:

".....Panyaweuyan Terrace Tourism has opened additional job opportunities for farmers in both Sukasari Kidul and Kaler Villages by allowing community to open food and beverage stalls around the car and motorcycle parking areas. Furthermore, many farmers can sell agricultural products directly to visitors at higher prices compared to what would be received from middlemen. Many young generations are included in tourism management, providing the set with employment opportunities....."

A similar result was obtained from an in-depth interview with AS, Chairman of the Tourism Awareness Group (Pokdarwis) in Sukasari Kidul Village, who stated:

".....before the development of Panyaweuyan Terrace Tourism, community here only earned income from agriculture. However, now that this tourism has developed, many farmers are earning additional income from activities such as selling, renting out houses (homestays), selling processed food as souvenirs, and others....."

These results supported the research conducted by Pratama & Mandaasari (2020) in Canggu Village, discovering that tourism activities had a positive impact on economic growth, preservation of local culture, and the environment. Similarly, Swesti (2019) showed that tourism activities improved informal interactions between local community and tourism entrepreneurs, turning into commercial transactions. When tourists and locals interacted directly, there was a strong possibility of exchanging information or ideas, leading to the occurrence of new concepts or innovations. According to Kumar (2020), tourism development had a positive impact by

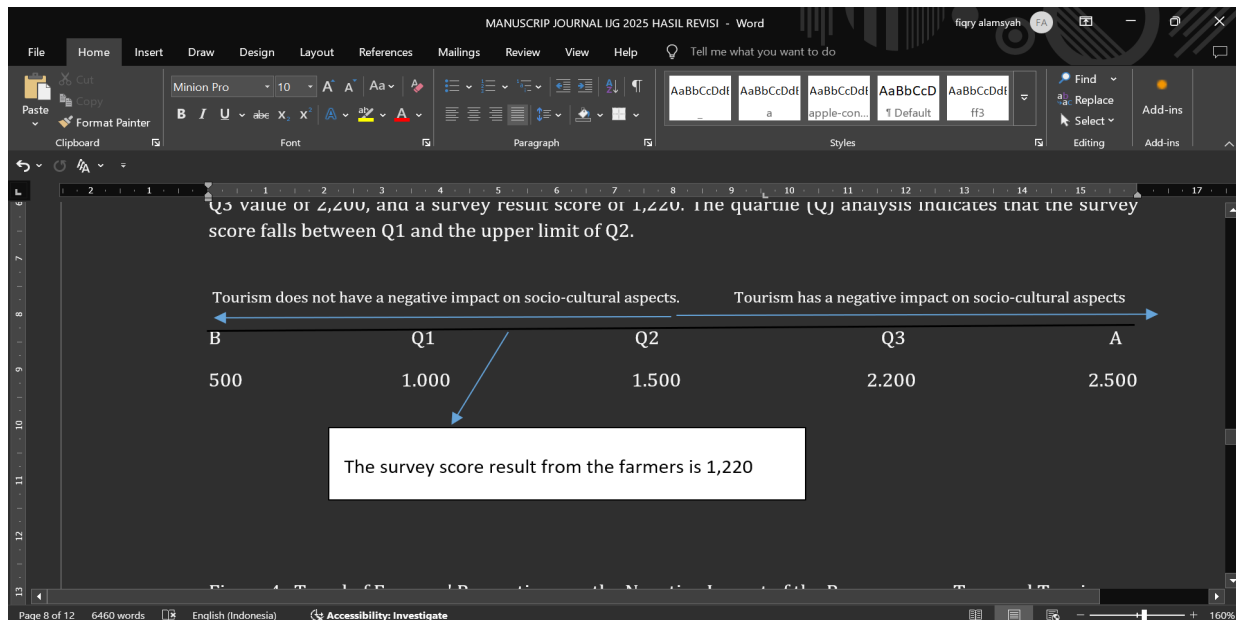


Figure 4. Trend of Perception of Farmers on the Negative Impact of Panyaweuyan Terrace Tourism on the Social-Cultural Aspects of community

driving growth and serving as a substantial source of income, contributing significantly to national income (GDP). This implied that these activities had provided economic benefits both directly and indirectly to the surrounding community as well as to local or national revenues from an economic standpoint.

Tourism activities could have negative effects on socio-cultural aspects, economy of community, and the environment in addition to having a positive impact. The measurement of the negative impact of Panyaweuyan tourism activities on socio-cultural aspects was conducted using a Likert scale and analyzed using quartile method. The results of quartile (Q) analysis in Figure 4 showed lower limit (B) of 500, upper limit (A) of 2,500, Q1 value of 1,000, Q2 value of 1,500, Q3 value of 2,200, and survey result score of 1,220, respectively. In addition, quartile (Q) analysis showed that the survey score fell between Q1 and upper limit of Q2.

Explanation:

- Lower boundary (B) up to $<Q1$ = Tourism did not negatively affect the social-culture of community.
- $\geq Q1$ up to $Q2$ = Tourism negatively affected the social-culture of community slightly.
- $\geq Q2$ up to $Q3$ = Tourism negatively affected the social-culture of community.
- $\geq Q3$ up to upper boundary (A) = Tourism negatively affected the social-culture of community strongly.

The results of Quartile (Q) analysis in Figure 4 showed that the activities of Panyaweuyan Terrace Tourism were perceived to have a slight negative impact on the socio-cultural aspects. This occurred because farmers who lived in Panyaweuyan Terrace Tourism area felt disturbed by the large number of visitors. In some cases, small social conflicts arose between visitors and locals due to misunderstandings. Social conflicts had occurred in community, including disputes over land for business, parking spaces and other issues, though these were resolved amicably. Relating to the discussion, there had also been reports of certain places being used for inappropriate

behavior by young couples, causing discomfort among the local community when young couples were observed acting intimately. The results of this research were consistent with the results from an in-depth interview with Mr. TM, community leader from Sukasari Kaler Village, who said:

"..... after many visitors started coming here, some neighbors began competing for space to sell in the areas that were considered busy. I also saw many young couples being affectionate, which formed discomfort in me. Additionally, I felt slightly disturbed by the increasing number of tourists, specifically during long holidays or Eid al-Fitr and Eid al-Adha, when the roads became crowded. This disrupted the transportation of agricultural products or fertilizers to the farmland....."

A similar result was obtained from an in-depth interview with Mr.DN, community leader from Sukasari Kidul Village, who said:

".....I have noticed a change in the behavior of young community for imitating the social interactions of city dwellers who visit here. I am concerned that in the future, the more modern lifestyle of the visitors could influence the social and cultural life of the village community. Additionally, I have also witnessed an argument between a visitor and a community because the visitor was reprimanded for blocking the road and throwing trash onto the farmland....."

This result supported the research by Mbaiwa (2024), who found that tourism activities could have a negative impact on social and cultural aspects. Both features activated the occurrence of enclave tourism, racism, the relocation of local community, the breakdown of traditional family structures, increased crime, prostitution, the adoption of more vulgar dressing styles by youth, and social conflicts with visitors due to cultural as well as traditional differences. A similar perspective was shared by Goeldner and Ritchie (2011), who stated that

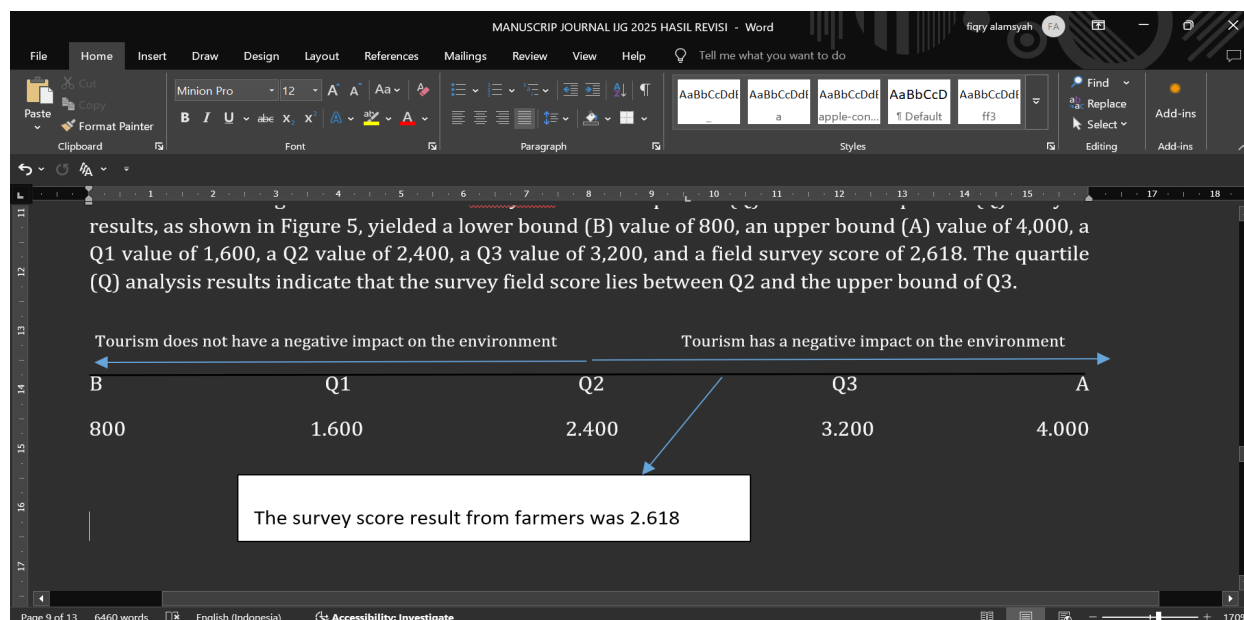


Figure 5. Trend of Perception of Farmers towards the Negative Impact of Panyaweuyan Terrace Tourism on the Environment.

the differences in social/cultural conditions between tourists and local community often led to tensions, and social conflicts. In some extreme cases, these cultural differences threatened the traditional family structure. Similarly, Wang et al. (2020) argued that tourism activities could have a negative impact on the social and cultural structure of local community, due to the strong influence of tourists who came from diverse social/cultural backgrounds. This phenomenon showed that tourism could negatively affect the social and cultural life of local community, necessitating policies to minimize the negative impact.

The development of Panyaweuyan terrace tourism, according to perception of farmers had a negative impact on the socio-cultural and environmental aspects. Perception of farmers on the negative environmental impact of Panyaweuyan terrace tourism activities were also measured using a Likert scale and analyzed with quartile (Q) method. Moreover, quartile (Q) analysis results, as shown in Figure 5, produced lower bound (B) value of 800, upper bound (A) value of 4,000, Q1 value of 1,600, Q2 value of 2,400, Q3 value of 3,200, and field survey score of 2,618, respectively. These results showed that the survey field score was between Q2 and upper bound of Q3.

Description:

- Lower Bound (B) to $<Q1$ = Tourism had no negative impact on the environment
- $\geq Q1$ to $Q2$ = Tourism had a moderate negative impact on the environment
- $\geq Q2$ to $Q3$ = Tourism had a negative impact on the environment
- $\geq Q3$ to Upper Bound (A) = Tourism had a very negative impact on the environment

The results of Quartile (Q) analysis in Figure 5 showed that the development of Panyaweuyan Terrace Tourism had a negative impact on the environment according to perception of farmers. Tourism activities at Panyaweuyan terrace have caused traffic congestion during peak visitor times, disrupted the transportation of agricultural products, interfered with the transport of production factors (such as fertilizers, pesticides,

farming tools, etc.), and led to littering by visitors on agricultural lands. Additionally, tourism activities contributed to noise pollution from heavy vehicle traffic, air pollution from tourist transportation, water pollution from waste left by vendors and visitors, and damage to agricultural land caused by trampling. The results of this research were consistent with the results from an in-depth interview with Mr. NS, a group leader in Sukasari Kidul Village, who said:

".....since the increase in tourist visits, many tourists continue to throw litter carelessly on agricultural land, even though trash bins have been provided. I also feel that the large number of visitors coming here has caused traffic congestion towards the Panyaweuyan terrace tourist site and has led to air pollution from both two-wheeled and four-wheeled vehicles. Additionally, I have observed that waste from food stalls is still carelessly disposed of on agricultural land, which raises concerns about water and land pollution. I have even seen some plants being trampled by visitors when the number of tourists is overwhelming....."

A similar result was obtained from an in-depth interview with Mr. DD, a group leader in Sukasari Kaler village, who said:

".....during the Eid holidays or long vacations, I feel disturbed by the noise of both two-wheeled and four-wheeled vehicles. The large number of vehicles coming here causes air pollution. Additionally, I feel disturbed by the traffic jams caused by the influx of visitors, making it difficult for me to transport my agricultural products or fertilizer....."

These results were consistent with Kartika (2016), who signified that tourism activities could have a negative impact on the physical environment, such as water pollution, reduced soil fertility, accumulation of trash in inappropriate locations, noise, and air pollution from a large number of tourist vehicles, as well as damage to agricultural land. Research by Fandeli (2008) inside the Merapi Mountain National Park (TMGM) in Kaliurang, Yogyakarta, found that the increase in the number

of visitors to nature-based tourist attractions had impacted the environment. This included an increase in microbial bacteria and actinomycetes, degradation of infiltration rates, noise pollution, damage to trees, and instances of vandalism, particularly in Kalikuning, Tlogomuncar, and Tlogonirmolo areas. Similarly, research by Khrisnamurti et al. (2016) on Tidung Island in the Thousand Islands found that tourism activities had negatively affected environmental quality. The impact included waste management issues, poor land-use planning from building construction, coral reef degradation caused by tourist diving activities, and a decline in both the quality and quantity of water due to increased groundwater extraction, which activated seawater intrusion.

The research by Nofriya et al. (2019) in Bukittinggi City found that concentrated tourism in the city center led to traffic congestion, parking difficulties for both two-wheeled and four-wheeled vehicles, waste accumulation, increased energy use, CO₂ emissions, and higher water consumption. Similarly, the research by Semara & Saputra (2015) in Petitenget Village, North Kuta, Badung, showed that tourism activities caused a decrease in the area of rice fields due to land conversion for the construction of hotels, villas, restaurants, and other businesses. Tourism activities led to the clogging of irrigation channels due to the influx of waste. These phenomena showed that tourism activities also had both negative and positive consequences on the environment. Therefore, implementing more environmentally friendly and sustainable tourism management practices was essential to prevent these environmental issues. This supported the conclusions of Kawuryan et al. (2022), whose literature review showed the need for tourism research to indicate the importance of sustainably managing tourism potential.

4. Conclusion

In conclusion, farmers around Panyaweuyan Terrace Tourism area were mostly still in the productive age group, but education level was relatively low. Based on the average experience of being a farmer, most had more than 15 years, with an average area of agricultural land under control of 0.39 ha and an income of 2,982,000 per month. According to perception of farmers, the activities of Panyaweuyan Terrace Tourism caused both positive and negative impact, particularly on the socio-cultural aspects, economy of farmers, and the environment. Therefore, it was essential for Majalengka Regency Government together with the village authorities and local community, to implement policies aimed at minimizing the negative impact to mitigate the negative effects.

5. Acknowledgement

The authors are grateful to the Faculty of Geography, Universitas Gadjah Mada (UGM), for providing the Independent Lecturer Grant Batch 1 in 2024. The authors are also grateful to the research assistants who assisted in the field data collection, enabling the publication of this work in an accredited national journal.

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