

Research Article

Rural Tourism in Kiulu, Sabah, Malaysia: A Critical Examination through The Lens of The Host Community

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ABSTRACT

Local communities often face a number of challenges when seeking to participate in rural tourism including participation in decision making, the level of empowerment the community enjoys and other factors including knowledge of tourists and local culture and the role governments play in supporting rural tourism development. To investigate these issues, a mixed methods approach was used to collect data from 118 residents of Kiulu, a rural destination in Sabah, Malaysia through questionnaires and in-depth interviews. The results show that successful rural tourism in Kiulu is driven by strategies that promote local participation in decision-making, community empowerment and better knowledge of the tourism industry. However, the study also shows that there is a lack of positive correlation between rural tourism growth and knowledge sharing, a challenge that appears to be rooted in strained relationships between tourism stakeholders. Other barriers include financial constraints, inadequate road access and the need for specialised training in tourism services. Addressing these barriers through targeted government interventions such as financial support and capacity building programmes may help distribute the benefits of rural tourism more equitably and ultimately promote sustainable development within the community.

Keywords: rural tourism; community involvement; decision-making; empowerment; community knowledge; role of women.

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INTRODUCTION

Effective rural tourism development benefits local communities by generating job opportunities and local investment, enhancing local prosperity, safeguarding the environment and conservation of cultural resources (Li et al., 2024). However, achieving these benefits requires relevant community stakeholders to have a strong understanding of tourism as a service business, the opportunity to actively participate in and benefit from tourism as well as opportunities to manage the development and implementation of tourism activities (Mendoza-Ramos & Prideaux, 2014). Knowledge is also an important prerequisite for successful rural tourism through its ability to empower communities to participate in the benefits that tourism can provide (Riyanto et al., 2023). Karthik (2023) and Tong et al. (2024) observed that communities in rural areas with a deep understanding of visitors and of their own local culture had the most success with tourism. Nevertheless, challenges persist, such as inadequate knowledge about how to operate a tourism business and an understanding of the tools required to adequately engage locals in tourism projects (Dogra & Gupta, 2012; Tong et al., 2024).

Local communities often face a number of other challenges when seeking to participate in rural tourism including racism, paternalism, and patronage (Fong & Lo, 2015; Arismayanti & Suwena, 2022). Dogra and Gupta (2012) and Sood et al. (2017) both note that a lack of knowledge and resources are other indicators of ineffective participation. As Rasoolimanesh et al. (2018) observed, it is important to involve the community in decision-making and encourage their active involvement. Using local knowledge and expertise also enables stakeholders to develop unique tourism experiences (Carneiro et al., 2015). The aim of this research was to evaluate the attitudes and the extent of involvement of the local community in Kiulu, Sabah, towards rural tourism development. By examining how community members perceive tourism and participate in related activities, the study seeks to generate insights that can inform policy decisions aimed at enhancing community engagement, fostering inclusive tourism planning, and supporting the long-term sustainability of rural tourism in Sabah. Specifically, this study aimed to assess the attitudes of the Kiulu community towards rural tourism and to determine the level and forms of their involvement in tourism-related activities. It also sought to identify the key factors that influence community participation in rural tourism initiatives. In doing so, the research intended to offer policy-relevant recommendations that could help strengthen local engagement, empower communities, and contribute to the formulation of more effective and sustainable rural tourism strategies in Sabah.

METHODOLOGY

Study area

Kiulu is a municipality of 17,565 residents (Department of Statistics Malaysia, 2022) located in Sabah's Tuaran District that is 47 kilometres from Kota Kinabalu, the state capital of Sabah (Fig. 1). In 2019, prior to COVID-19, the district generated about RM5.45 million in income, welcomed around 54,000 visitors and supported 300 tourism related jobs (Chuah, 2022). Initial development of the region's tourism industry in the first decade of the 21st century focused on homestays and was supported by the Sabah Tourism Board. Key tourism products include white water rafting, wildlife tourism and homestays. Kiulu has a dedicated tourism management body known as the Kiulu Tourism Association (KTA) which was established in 2014. At that time, a number of outside tour operators were actively involved in Kiulu.

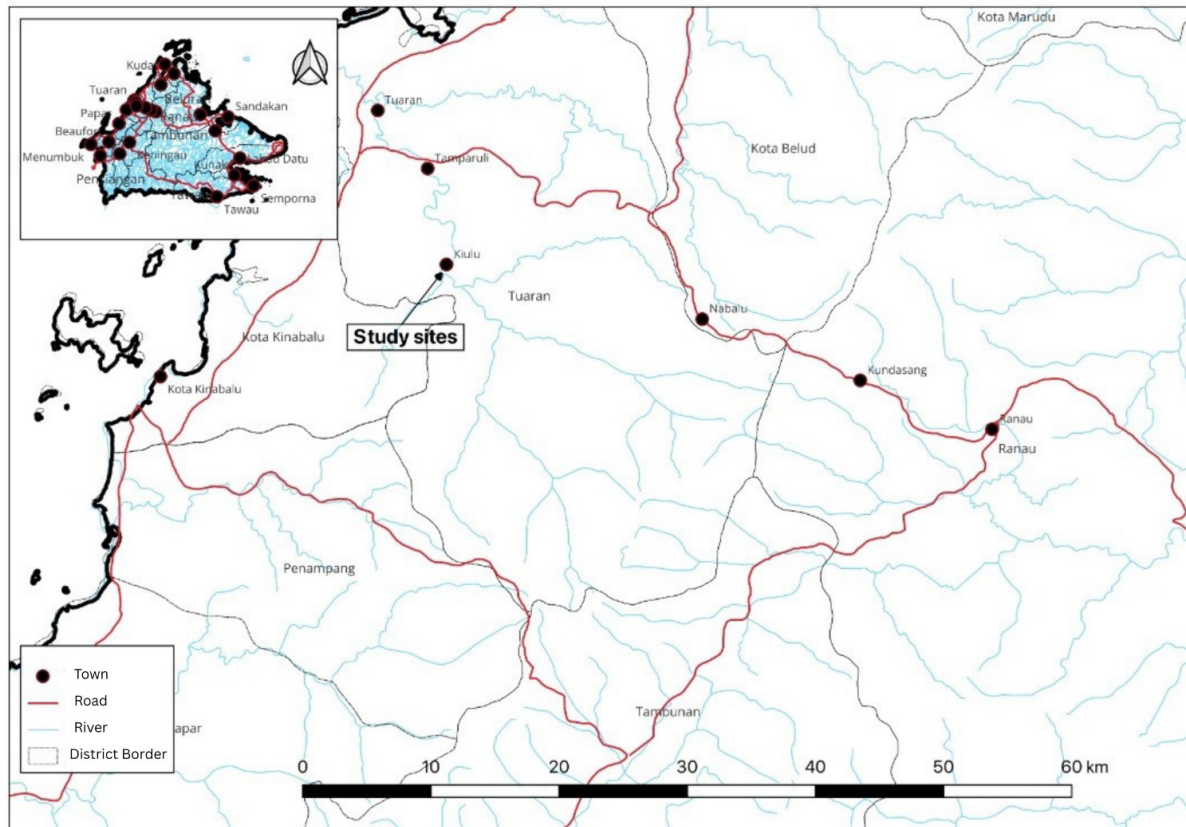


Figure 1: Map indicating the location of Kiulu, Sabah, Malaysia where questionnaires regarding rural tourism development were distributed in the local community. Inset shows a map of Sabah.

Establishment of the KTA has encouraged greater participation by members of the local community. The KTA (<https://www.facebook.com/KiuluTourismAssociation/>) actively promotes local tourism products and initiatives under its banner. As of 2024, the KTA had 78 members with 90% being members of the Kiulu community involved in tourism. Non-members of the KTA can express their views but are not able to vote on issues related to decisions made by the KTA board. The association is supported by the Sabah Tourism Board (STB) which aims to position Kiulu as a world-class rural tourism destination.

Kiulu's popularity as a rural tourism destination has led to ongoing year-on-year growth in tourism arrivals. While the significant economic impact of tourism is readily observable, the impact that increasing tourist arrivals is having on the Kiulu community is less observable. Some concerns have been raised about the impact of fast tourism growth on the local community and on the district's long-term environmental sustainability. Therefore, it is important to understand how the community is involved in Kiulu's rural tourism development and management, and how local issues related to tourism development are dealt with. Ensuring that the economic benefits of tourism do not negatively impact the community and its environment is important, and this issue is investigated in this paper. Given the rapid growth of interest in rural tourism not only in Kiulu, but also in other parts of Sabah and in other countries, there is a pressing need to understand how the impact of tourism affects community beliefs and attitudes and how these impacts are able to be balanced against the economic advantages generated by tourism (Harrill, 2004; Wang et al., 2010).

As the aim of this research was to investigate the attitude and level of involvement of the local Kiulu community in rural tourism development, we adopted stakeholder theory as the theoretical framework that could best assist the research team to identify positive and negative views of participants. Wondirad and Ewnetu (2019) described stakeholder analysis as a tool for understanding ‘the diverse relationships amongst all relevant parties who have a stake in tourism development and their respective interest on the stake at hand’ and on this basis is a useful tool for assessing if the community supports development. In a tourism context, achieving a successful and sustainable tourism sector requires an equitable balance of power between all stakeholders to ensure that social equality, economic balance and ecological integrity are achieved (Wondirad & Ewnetu, 2019). Other scholars have supported this view. For example, Lepp (2008) argued that genuine community participation is required to ensure local people are able to participate in the benefits of development as well as have the ability to exercise some level of control over decision making and management. Adoption of stakeholder theory as the theoretical framework for this research enabled the research team to develop a survey instrument that was able to evaluate the four indicators of community engagement suggested by Utama et al. (2021). These were community involvement in decision-making, empowerment, dissemination of information and community awareness of rural tourism.

Three-stage data collection

A three-stage data collection and analysis approach were adopted for this study. In stage one, locals were asked to complete a 30-item survey followed by an in-depth interview to develop an understanding of their views on rural tourism and to discover if they were involved with the management of tourism in their community. Prior to undertaking data collection, the Sabah Tourism Board Research Ethics Committee granted ethical approval for the research (Ethical Code: STG-RT Kiulu). All participants were asked to provide their informed consent after the study’s goals, methods and risks were explained to them.

Simple random sampling was employed to ensure that every individual in the Kiulu community had an equal chance of being selected for the study. The population consisted of all residents in the Kiulu community, totaling 17,565 people according to the 2022 household census report (Department of Statistics Malaysia, 2022). Using Krejcie and Morgan’s (1970) sample size determination table, a target sample size of 375 was established. A comprehensive list of community members was prepared with the assistance of local leaders and administrative records. Each individual on the list was assigned a unique identification number, and a random number generator was used to select participants. While this method was designed to produce a representative sample and ensure objectivity in selection, unforeseen challenges—such as heavy rainfall and landslides that cut off access to certain areas of the village during the sampling process—resulted in the final compilation of only 195 participants for the study.

The questionnaire was structured into six sections to comprehensively assess various aspects of the study. The first section focused on the demographic profile of respondents, followed by section two that focused on community participation in decision-making, section three that focused on community participation in sharing knowledge, and community participation in empowerment, section four that explored community knowledge about rural tourism and the final section that concluded with a section on perspectives regarding rural tourism in Kiulu.

The questionnaire items were developed through consultation with experts from the Sabah Tourism Board and a review of relevant literature (Paimin et al., 2014; Rasoolimanesh et al., 2018; Dasan et al., 2022). To ensure the clarity, relevance, and comprehensibility of the items, the survey instrument was pilot-tested with 15 respondents. Feedback from the pilot test led to several minor adjustments, improving the overall quality and usability of the questionnaire.

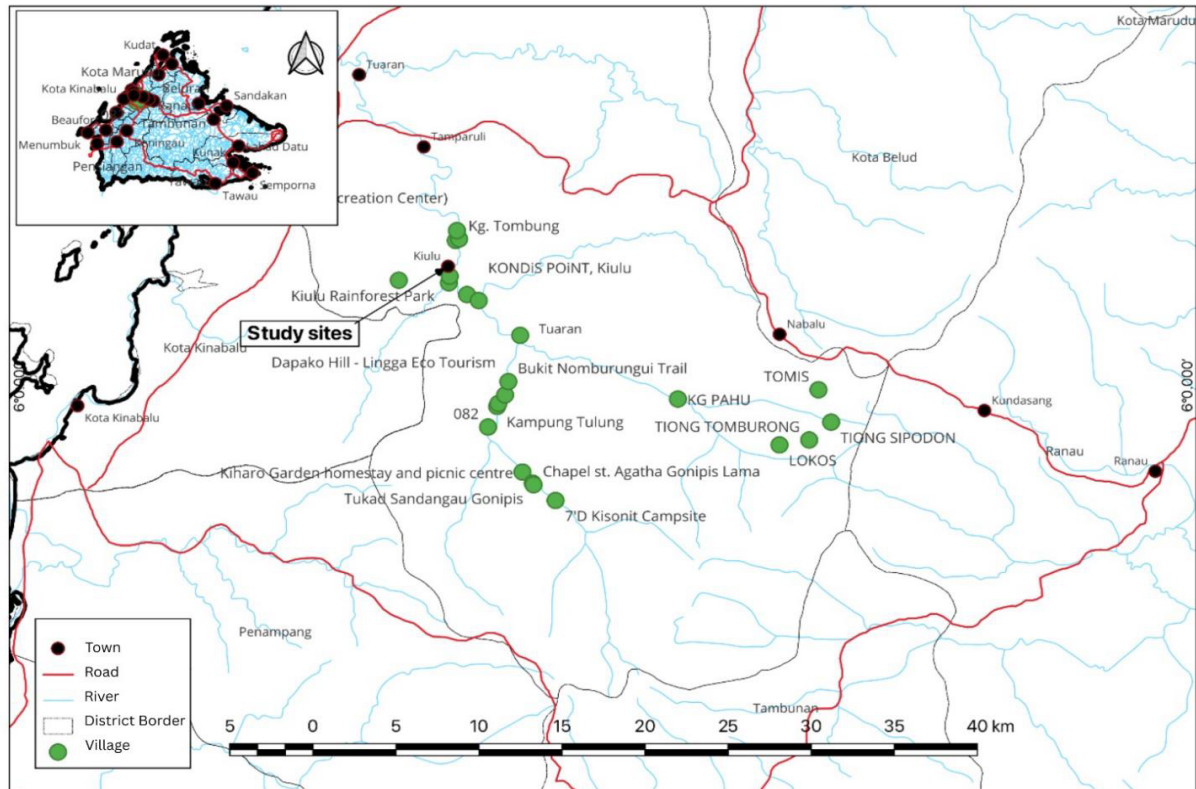


Figure 2: Villages in Kiulu, Sabah, Malaysia where questionnaires regarding rural tourism development were distributed in the local community. Inset shows a map of Sabah.

To ensure consistent and trustworthy data collection, the questionnaires were distributed by qualified research specialists. A key element of the research was to first establish a good relationship with the community which we achieved through direct engagement. A mixed-methods approach was adopted, combining both quantitative and qualitative data collection techniques. The survey and semi-structured interviews were conducted concurrently with 195 individuals invited to participate. Respondents were first asked to complete the six-section structured questionnaire, which was designed to gather quantitative data on the study's key themes. Following the completion of the questionnaire, semi-structured interviews were conducted using a pre-determined interview guide. These interviews allowed research staff to explore participants' perspectives in greater depth and capture qualitative insights to complement the survey data. To accurately capture detailed responses, all interviews were tape recorded with the respondents' permission. To ensure all of the communities in the Kiulu were able to participate in the survey and ensure a variety of viewpoints and experiences pertaining to the growth of rural tourism were captured, 22 locations in the study region were selected as interview sites. These are indicated in Fig. 2.

In Stage 2, qualitative data collection based on researcher observations of visitors, residents, and the environmental dynamics within Kiulu's rural tourism sites was employed to understand visitor behaviour, interactions, and dynamics. Observations were recorded in note books by survey staff. This choice of data collection allowed for the capture of events as they happened and the identification of subtle patterns that other data collection approaches may have missed.

In Stage 3, we systematically assessed the quantitative data collected via surveys and qualitative data gained from interviews. Thematic analysis was used to find patterns and themes

in the qualitative data collected from interviews and observations. To discover commonalities or patterns among respondents' opinions, views, and preferences about various aspects of rural tourism in Kiulu, statistical analysis was performed on quantitative data collected from surveys that contained Likert scale items.

A Likert scale of 1 to 5 was employed to measure variables. The opinions, attitudes, and perceptions of individuals or groups on a social issue can be evaluated using the Likert scale, as stated by Sugiyono (2016). To calculate the position on the Likert scale, each respondent was asked to answer a series of questions. Each question had a weighted value from 1 to 5, and the response options ranged from "strongly agree" to "strongly disagree" (Sugiyono, 2016) (Table 1). Descriptive statistics was used to describe the data without drawing any broad conclusions. To establish the size of the interval of the survey's findings, the following formula was used:

Table 1: Likert-scale used in questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

Criteria	Positive	Negative
Very Low	5	1
Low	4	2
Medium	3	3
High	2	4
Very High	1	5

Based on Table 1, the ideal score scale for each answer can be obtained as follows:

$$\begin{aligned}
 \text{Highest Score} &= \text{Highest Weight} \times \text{Number of Respondents} \\
 &= 5 \times 118 \\
 &= 590
 \end{aligned}$$

$$\begin{aligned}
 \text{Lowest Score} &= \text{Lowest Weight} \times \text{Number of Respondents} \\
 &= 1 \times 118 \\
 &= 118
 \end{aligned}$$

After the highest and lowest scores are obtained, the scale range (RS) is calculated based on Likert (1932) and Jamshed (2014):

$$RS = n(m-1)/m$$

Information:

RS = Scale Range
 N = Number of Respondents
 M = Number of Alternative Answers

$$\begin{aligned}
 RS &= (118(5-1))/5 \\
 &= (118(4))/5 \\
 &= 472/5 \\
 &= 94.4
 \end{aligned}$$

To determine the intervals, the calculation starts with the lowest value, 118. The interval size is 94.4, which is added to 118 to determine the upper limit of the first category. Beginning with

the Very Low criterion, the calculation adds 94.4 to 118, resulting in an upper limit of 212.4 for this category (Table 2).

Table 2: Answer criteria scale range for questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

No.	Criteria Classification	Intervals
1	Very Low	118.0–212.4
2	Low	212.5–306.9
3	Medium	307.0–401.4
4	High	401.5–495.9
5	Very High	496.0–590.4

To calculate the classification score as a percent of respondents, it is necessary to find the minimum score, maximum score and interval obtained from the quotient of maximum score – minimum score divided by the number of choice weights, which can be described as follows:

$$\begin{aligned}
 \text{Minimum Score} &= \text{Number of Items} \times \text{Lowest Weight} \\
 &= 25 \times 1 \\
 &= 25
 \end{aligned}$$

$$\begin{aligned}
 \text{Maximum Score} &= \text{Number of Items} \times \text{Highest Weight} \\
 &= 25 \times 5 \\
 &= 125
 \end{aligned}$$

$$\begin{aligned}
 \text{Intervals} &= \frac{\text{Max Score} - \text{Min Score}}{\text{Scale}} \\
 &= (125 - 25) / 5 \\
 &= 20
 \end{aligned}$$

To convert it into a percentage, the upper limit of the lowest scale range (45) is divided by the maximum score (125) multiplied by 100 for each classification (Table 3).

Table 3: Score category classification based on percentage for respondents to questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

No.	Criteria Classification	Intervals	Percentage
1	Very Low	25 – 45	0%–36%
2	Low	46 – 66	37%–53%
3	Medium	67 – 87	54%–70%
4	High	88 – 108	71%–87%
5	Very High	109 – 125	88%–100%

An Importance-Performance Analysis (IPA) was conducted in this study based on the framework of Martilla & James' (1977) original design and its subsequent use in leisure and tourism research (Boley et al., 2017). Thirty attributes that relate to rural tourism in Kiulu, encompassing several forms of rural tourism, were presented in the survey instrument, namely farm visit, nature uniqueness, traditional cuisines, traditional culture and traditions, community history, landscape and scenery, religious heritage, peaceful and serene, meeting with new people, adventure activities, personal safety and security, destination can be reached, clear road

signs and maps, easy transportation access, cultural sights and offers, Internet connection, entertainment offers, recreational activities, local festivals, accommodation quality, tour guide service, access to public infrastructure, size of destination, quality of destination, cleanliness of destination, quality of infrastructure, involvement of local community, variety and linkage of ecotourism destinations, management of tourism destination, and total travel cost. The importance of each attribute was measured using a five-point Likert scale from one "not at all important" to five "extremely important". Performance was measured using a five-point Likert scale where one is "poor" to five "excellent", with a 'not applicable' (n/a) response option for attributes that were not present in each of the rural tourism attributes in Kiulu. These 'n/a' responses on the performance scale were recorded as poor performance. For example, if a road was considered extremely important by ecotourists, but a village did not have a proper road, the 'N/A' responses on the performance scale were coded as one "poor", resulting in the attribute falling in the 'concentrate here' quadrant.

For this study, thematic exploration of the interview transcripts was conducted using Leximancer, a text analytics tool capable of detecting patterns and conceptual linkages within qualitative data. Rather than relying on manual coding alone, the software analysed the transcripts by identifying frequently co-occurring words and clustering them into emergent themes (Angus et al., 2013). These themes were presented visually on a concept map, where each was represented by a coloured node or "bubble." The colour scheme followed a gradient system, warmer tones (e.g., red and orange) highlighted themes that appeared more frequently or held greater centrality in the discourse, whereas cooler tones (e.g., green and blue) pointed to those with less emphasis but still meaningful presence. Additionally, the relative size of each bubble reflected the prominence or connectivity of the theme across the data. By allowing themes to surface directly from the language used by participants, this method helped preserve the authenticity of their responses and provided a more organic view of the key issues raised (Harwood et al., 2015).

RESULTS

Demography profile of respondents

The response rate for the survey was 61% (118 out of 195). Several factors affected the level of participation. In the first instance, heavy rain during the period of the survey reduced the number of participants agreeing to take part in the survey. Second, many women declined to participate in the survey. This reluctance can be attributed to a number of factors. Firstly, time constraints played a significant role, as women in rural areas often shoulder primary responsibility for household chores and caregiving duties. These responsibilities can consume a substantial portion of their time, leaving little opportunity to engage in external activities such as surveys. Secondly, cultural norms rooted in traditional gender roles may reinforce the prioritization of domestic responsibilities over external engagements. Women may feel obligated to uphold these roles, limiting their willingness or ability to participate in surveys or interviews (Hirschman, 2016). Additionally, a lack of awareness about the purpose or benefits of the survey may have contributed to the reluctance of some rural women to participate. Limited access to information or communication channels, coupled with language barriers, may also have hindered their understanding of the survey's relevance or potential impact. Importantly, while these factors may influence women's participation rates, it is essential to note that the survey questions themselves did not directly relate to gender, thereby minimizing the potential for bias in survey responses.

Fig. 3 illustrates the demographic profile of the respondents, highlighting the diverse characteristics of the community. The majority of respondents were male (71%), while females made up 29% of the sample. Age distribution showed that most respondents were 60 years and above, followed by those aged 36–40 and 31–35 years. Educational attainment was largely at the secondary level (50%), with fewer respondents having completed primary or tertiary education, and only a small proportion reporting no formal education. In terms of occupation, a notable number of respondents were unemployed (13%), followed by those working in the private sector, tourism, and self-employment. Income classification revealed that most respondents fell within the B40 income group (low-income households), with minimal representation in the M40 and T20 income brackets. These income brackets are based solely on the household income level with B40 to RM4,850, M40 from RM4,851 to RM10,970 and T20 more than RM10,971 (Ministry of Finance Malaysia, 2024). Residency duration varied, with the largest group having lived in Kiulu for more than 50 years, while smaller groups reported shorter periods of residence.

Community participation in Kiulu's rural tourism industry

The participation level of the Kiulu community in tourism development is high, as shown in Table 4. The research data collected indicates that all 118 respondents completed the questionnaire, which consisted of 25 statement items. This resulted in a total of 2,950 responses, representing a 100% response rate for the questionnaire items. The data was further analyzed by calculating the percentage value answer, yielding a value level of 75.36%, categorized as "High." This percentage was derived by comparing the total score obtained with the total ideal score. The total score recorded was 11,115 points, while the ideal score was 14,750 points. The detailed calculation to determine the total score, ideal score and percentage value answer is presented below:

$$\begin{aligned}\text{Variable 1: Item}_1 &= n_5(5) + n_4(4) + n_3(3) + n_2(2) + n_1(1) \\ &= 76(5) + 28(4) + 8(3) + 4(2) + 2(1) \\ &= 380 + 112 + 24 + 8 + 2 \\ &= 526\end{aligned}$$

*Where n_x is the number of respondents based on Likert scale.

$$\begin{aligned}\text{Total Score for Variable 1 (TSV}_1) &= \text{Item}_1 + \text{Item}_2 + \text{Item}_3 + \text{Item}_4 + \text{Item}_5 \\ &= 526 + 545 + \dots + \dots \\ &= 2615\end{aligned}$$

$$\begin{aligned}\text{Total Score} &= \text{TSV}_1 + \text{TSV}_2 + \text{TSV}_3 + \text{TSV}_4 \\ &= 2615 + 1498 + 2522 + 4480 \\ &= 11,115\end{aligned}$$

$$\begin{aligned}\text{Ideal Score for Variable 1 (ISV}_1) &= n_{\text{total}} \times 5\text{-point Likert scale} \times \text{statement items} \\ &= 118 \times 5 \times 5 \\ &= 2950\end{aligned}$$

$$\begin{aligned}\text{Ideal Score} &= \text{ISV}_1 + \text{ISV}_2 + \text{ISV}_3 + \text{ISV}_4 \\ &= 2950 + 2950 + 2950 + 5900 \\ &= 14,750\end{aligned}$$

$$\begin{aligned}\text{Percentage Value Answer} &= \text{Total Score} / \text{Ideal Score} \times 100\% \\ &= (11,115 / 14,750) \times 100\% \\ &= 75.36\%\end{aligned}$$

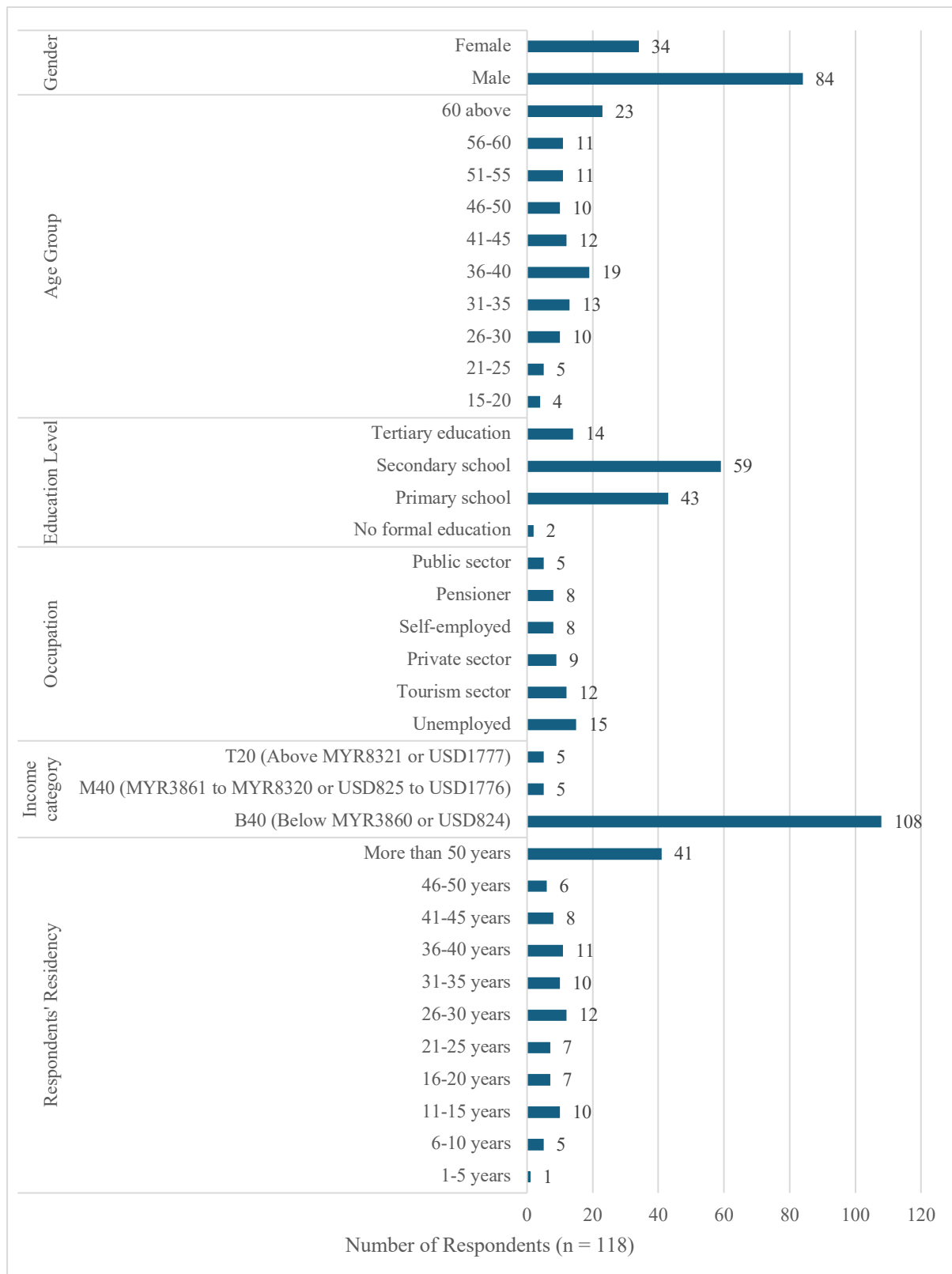


Figure 3: Demography profile of respondents to questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

Table 4: Community participation in rural tourism based on questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

Variable	Item	Indicator	Total Score	Ideal Score	Percentage Value Answer	Classification
Community participation in decision-making.	1	Tourism policy	2615	2950	88.64%	Very High
	2	Have voice				
	3	Opinion asked				
	4	Consulted issues				
	5	Active involvement				
Community participation in sharing knowledge.	6	Happy to share	1498	2950	50.78%	Low
	7	Share with stakeholders				
	8	Share new lesson				
	9	Share information				
Community participation in empowerment.	10	Share skills	2522	2950	85.49%	High
	11	Proud resident				
	12	Feel connected				
	13	Have voice				
	14	Access decision making				
Community knowledge about rural tourism.	15	Voice makes different	4480	5900	75.93%	High
	16	Farm visit				
	17	Traditional Cultures and Heritage				
	18	Nature's beauty and serenity				
	19	Community history				
	20	Adventure excursion				
	21	Traditional cuisines				
	22	Religious heritage				
	23	Meeting new people				
	24	Rewarding jobs				
	25	Rural settings				
TOTAL		25 items	11,115	14,750	75.36%	High

Based on Table 4, the Kiulu community's participation in rural tourism development shows notable variations across different aspects. Their involvement in decision-making is exceptionally high (88.64%), demonstrating active engagement in shaping tourism initiatives and advocating for sustainable practices that align with community values. Similarly, their participation in empowerment is also significant (85.49%), indicating a strong sense of involvement and influence in tourism-related activities.

In contrast, participation in sharing knowledge is notably low (50.78%), highlighting limited opportunities or platforms for the community to contribute their expertise to tourism stakeholders. On the other hand, community knowledge about rural tourism is relatively high (75.93%), reflecting an informed awareness of potential of tourism and related practices. Overall, the community's strong role in decision-making underscores a collaborative and inclusive approach to rural tourism development in Kiulu, emphasizing the value of local perspectives while fostering empowerment and active participation.

The Importance-Performance Analysis (IPA) of respondents' perspectives on rural tourism in Kiulu

Table 5 shows the results of the IPA classification which reveal that the majority of attributes assessed by respondents fall into Quadrant 1: *Keep Up the Good Work*, indicating high importance and high performance. These attributes include farm visits, nature uniqueness, traditional cuisines, traditional culture and traditions, community history, landscape and scenery, religious heritage, peaceful and serene environment, meeting new people, adventure activities, personal safety and security, accessibility of the destination, clear road signs and maps, cultural sights and offers, recreational activities, local festivals, accommodation quality, tour guide services, access to public infrastructure, size and quality of the destination, cleanliness, quality of infrastructure, involvement of the local community, variety and linkage of ecotourism destinations, tourism destination management, and total travel cost.

Conversely, Quadrant 2: *Concentrate Here* highlights two attributes—easy transportation access and Internet connection—that require immediate attention due to their high importance but relatively low performance. Finally, Quadrant 3: *Low Priority* includes only one attribute, entertainment offers, which is perceived as less critical by respondents and performs at a satisfactory level. These findings emphasize the strengths and areas for improvement in the Kiulu tourism experience. There were no attributes in Quadrant 4.

Table 5: Importance Performance Analysis (IPA) classification of respondents' attributes based on questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

Quadrant	Indicator	Variables
Q1	Keep up the good work	V1 (Farm visits) V2 (Nature uniqueness) V3 (Traditional cuisines) V4 (Traditional culture and traditions) V5 (Community history) V6 (Landscape and scenery) V7 (Religious heritage) V8 (Peaceful and serene) V9 (Meeting with new people) V10 (Adventure activities) V11 (Personal safety and security) V12 (Destination can be reached) V13 (Clear road signs and maps) V15 (Cultural sights and offers) V18 (Recreational activities) V19 (Local festivals) V20 (Accommodation quality) V21 (Tour guide service) V22 (Access to public infrastructure) V23 (Size of destination) V24 (Quality of destination) V25 (Cleanliness of destination) V26 (Quality of infrastructure) V27 (Involvement of local community) V28 (Variety and linkage of ecotourism destinations) V29 (Management of tourism destination) V30 (Total travel cost)
Q2	Concentrate here	V14 (Easy transportation access) V16 (Internet connection)

Q3	Low priority	V17 (Entertainment offers)
Q4	Possible overkill	None

The majority of Kiulu rural tourism attributes, however, were positioned above the iso-priority diagonal line, meaning the importance of these attributes currently exceeds their performance. Of the 30 attributes, only seven (V2 nature uniqueness, V3 traditional cuisines, V8 peaceful and serene, V9 meeting with new people, V11 personal safety and security, V2 quality of destination and V25 cleanliness of destination) were positioned below the iso-priority diagonal, meaning they were the only seven attributes whose performance exceeded the importance respondents expressed concerning them (Fig. 4).

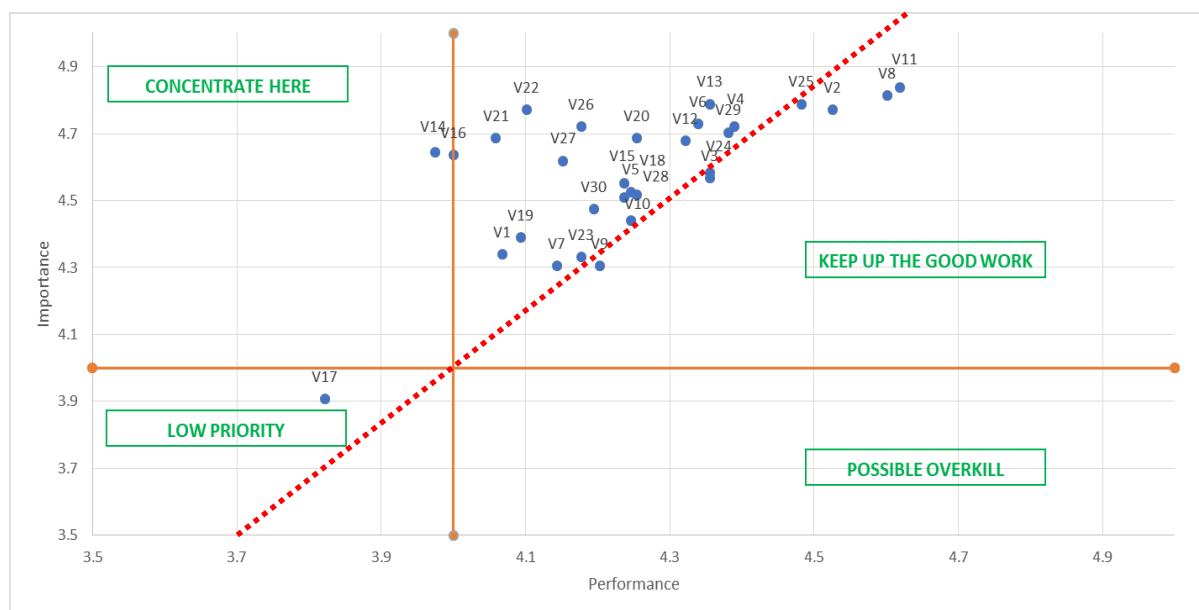


Figure 4: Importance-Performance Analysis (IPA) quadrants based on questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia. V1: Farm visit, V2: Nature uniqueness, V3: Traditional cuisines, V4: Traditional culture and traditions, V5: Community history, V6: Landscape and scenery, V7: Religious heritage, V8: Peaceful and serene, V9: Meeting with new people, V10: Adventure activities, V11: Personal safety and security, V12: Destination can be reached, V13: Clear road signs and maps, V14: Easy transportation access, V15: Cultural sights and offers, V16: Internet connection, V17: Entertainment offers, V18: Recreational activities, V19: Local festivals, V20: Accommodation quality, V21: Tour guide service, V22: Access to public infrastructure, V23: Size of destination, V24: Quality of destination, V25: Cleanliness of destination, V26: Quality of infrastructure, V27: Involvement of local community, V28: Variety and linkage of ecotourism destinations, V29: Management of tourism destination, V30: Total travel cost.

Issues and challenges faced by the respondents

Fig. 5 illustrates problems and challenges faced by respondents in the Kiulu rural tourism industry. Respondents were presented with a set of 18 items related to issues and challenges encountered in operating tourism in the Kiulu region, and were asked to indicate their views using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The spider-web figuration shows three major problems and challenges were identified by respondents. Financial problems were the most significant problem (45 respondents), followed by problems with road access (11 respondents) and the need for tourism services and management training (11 respondents).

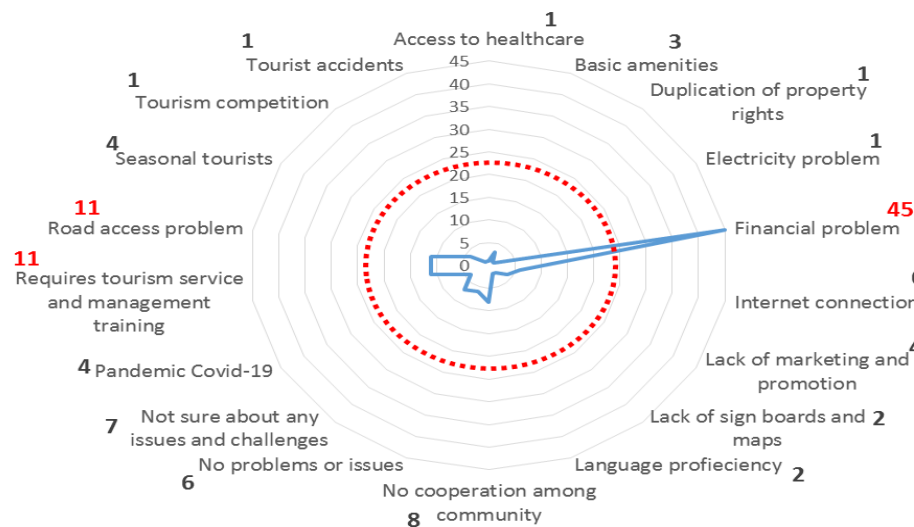


Figure 5: Issues and challenges faced by the respondents in the tourism industry based on questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

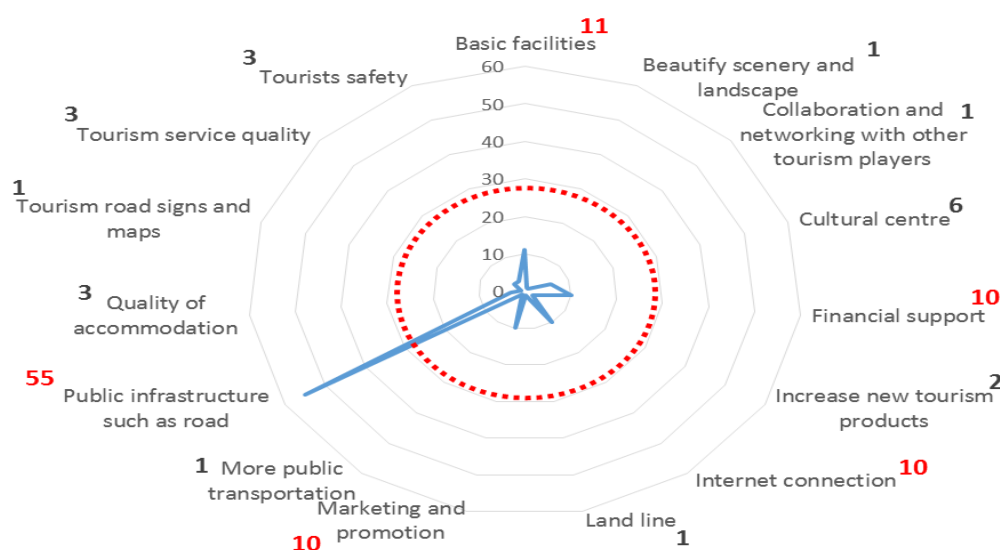


Figure 6: Improvement suggested and required by respondents based on questionnaires regarding rural tourism development that were distributed in the local community of Kiulu, Sabah, Malaysia.

Recommendations suggested by the respondents as mitigation measures for the problems and challenges faced

The spider web configuration depicted in Fig. 6 illustrates the predominant sentiment among respondents—based on their responses to 15 specific items—regarding the crucial role of government agencies in bolstering the rural tourism industry in Kiulu. Respondents were asked

to indicate their views using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." A majority of respondents (55 respondents) believed that additional government support was needed to enhance public infrastructure (particularly roads) to facilitate seamless access to rural tourism sites across Kiulu villages. Additionally, respondents identified various other essential improvements vital for the sustainability of the rural tourism industry in Kiulu. These encompassed the provision of basic amenities such as public toilets (11 respondents), intensified efforts in marketing and promotion (10 respondents), improved Internet connectivity (10 responses), and increased financial support (10 respondents).

Respondents' perceptions about Kiulu as Sabah's rural tourism destination

Fig. 7 presents the Leximancer concept map illustrating respondents' perceptions of Kiulu as a rural tourism destination in Sabah. This map includes 46 concepts (represented as small grey nodes) grouped into nine themes (depicted by larger coloured circles). The themes are colour-coded, with hot colours (red, orange) indicating the most relevant themes and cool colours (blue, green) indicating the least relevant. The themes and their corresponding connectivity rates are: "rural" (100%), "residents" (47%), "destination" (37%), "tourists" (20%), "quality" (18%), "economic" (5%), "model" (3%), "Malaysia" (2%), and "competitiveness" (1%).

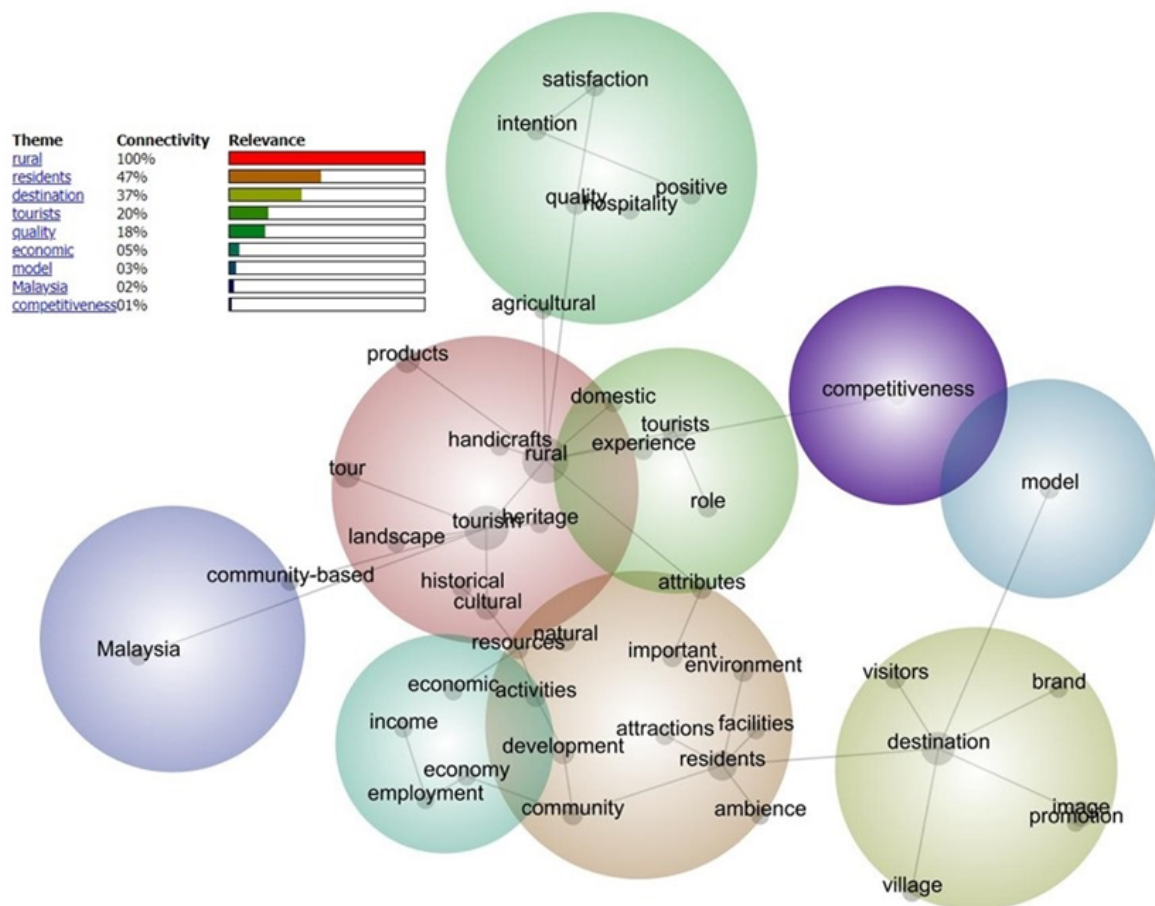


Figure 7: Concept map derived from Leximancer analysis about the local community's perception of the rural tourism industry in Sabah, Malaysia.

In the Leximancer analysis, connectivity rates indicate how often the concepts within a theme are mentioned together, reflecting the relative importance of each theme. The most essential theme is assigned a connectivity rate of 100%. These rates were calculated based on the connectedness of concepts within the themes, showcasing their relative importance within the dataset (Leximancer, 2025). The theme “rural” emerged as the most significant among respondents' perceptions of Kiulu, with the term ‘rural’ mentioned 475 times across the 46 concepts identified. This indicates strong community support for Kiulu as a rural tourism destination in Sabah. Supporting concepts included “tourism,” “handicrafts,” “products,” “tour,” “heritage,” “landscape,” “historical,” “cultural,” and “resources.” The findings illustrated in the Leximancer analysis suggest that community attitudes towards rural tourism have significantly enhanced Kiulu's performance as a tourism destination.

The responses to the semi-structured survey indicated that from the respondents’ perspective, there is consensus that Kiulu possesses all the essential components of an ideal rural tourism destination—an observation that strongly aligns with the dominant “rural” theme identified in the Leximancer analysis. This is illustrated by the following responses.

- | | |
|---------------|---|
| Respondent 5 | <i>In Kiulu, examples of rural community-based tourism include traditional culture, customs, local cuisine, wildlife, locally grown produce, homestays, rural landscape, and others. We have whatever you need!</i> |
| Respondent 46 | <i>There are a lot of historical backgrounds in Kiulu that nobody knows. Therefore, it's a perfect product to be highlighted in tourism.</i> |
| Respondent 78 | <i>Kiulu is the best place for rural tourism destinations. We got the river, the hills, the food, culture, music, handicrafts from bamboo...</i> |

Fig. 7 also shows that the theme 'residents' has a significant connection with the theme 'tourism' with connectivity of 47%. This indicates that respondents believed that the Kiulu community is very supportive of the development of Kiulu as a rural tourism destination.

- | | |
|---------------|---|
| Respondent 13 | <i>I am not a local here. I married a local and reside here after that. For almost 10 years living here, I can see that there is a potential for Kiulu to be a touristic destination. We have the attractions such as the river. I saw a lot of people coming here for the white-water rafting. The environment here is very peaceful and safe.</i> |
| Respondent 22 | <i>I have been living here for 25 years. There is potential for tourism. Facilities are there but need upgrades though. I love the ambience here. I guess I made the right choice moving here 25 years ago.</i> |
| Respondent 47 | <i>Kiulu is the best place for tourism! All the important tourism attributes are here. We have the river, the hills, the culture, aaaahhh there are a lot of activities you can do it here. I came from Tamparuli. Married a local here by the way. I decided to reside in Kiulu as I see potential for community development especially in tourism. Resources are there, we just need someone to guide us.</i> |

The theme 'destination' with 37% connectivity was also related to the concept of 'model' at 3%, indicating that the respondents agreed that Kiulu can be a model area for rural tourism development and industry. However, the theme ‘destination’ in the data sets refers to strategies that the villages in Kiulu need to focus on. Hence, the concepts “visitors”, “image”, “promotion” and “brand” emerged from the analysis.

- Respondent 27 *I do agree that Kiulu has the potential but more works need to be done. Me, I need to be guided about the way how to manage a tourism destination especially if it concerns the visitors coming to Kiulu.*
- Respondent 52 *For important of all, the image... Kiulu needs to be developed as an image for rural tourism... Naaaaa... Then, people will come here!*
- Respondent 69 *Image is important. It's like promotional branding for Kiulu. If Kiulu is going towards rural tourism, works toward it. If we mix everything in one pot, nobody knows us. We need to showcase our strength in this tourism industry. Must champion one thing, to create that brand image.*

Moreover, with support and proper training in rural tourism management, the majority of the respondents stated that Kiulu has the potential to become a model for rural tourism destinations in Sabah. This sentiment is reflected in the “model” (3%) theme identified in the Leximancer analysis, which—although less prominent—highlights the aspiration among community members to see Kiulu serve as an example for other rural tourism sites.

- Respondent 73 *If guided well, Kiulu can be a model rural tourism village.*
- Respondent 81 *I agree that, if there's support from the government, especially in providing and upgrading the infrastructure here in Kiulu, Kiulu can be a role model for other rural tourism players.*
- Respondent 101 *Oh, yes! Kiulu should become a rural tourism destination model for others. We had successfully created a branding for Kiulu, thanks to the YB.*

The theme “tourists” with 20% connectivity in the data sets show a direct connection to the theme “competitiveness” with 1% connectivity. This illustrates that the respondents do understand the important roles that they should play in terms of tourists’ experiences when participating the domestic tourism in Kiulu, especially after Covid19.

- Respondent 4 *I guess we must start all over again in this post-Covid19 situation. With all the new norms, SOPs, face masks... Well, what's important is that the tourists shouldn't be declined their rights to experience quality domestic tourism.*
- Respondent 100 *Our domestic tourism will open soon. I hope we can be prepared with all SOPs.*
- Respondent 117 *I don't know if I am prepared for tourists coming to Kiulu for domestic tourism purposes But I guess, we all know what to do by the time they come.*

“Quality” with 18% connectivity shows the important attributes that the respondents thought could help boost the rural tourism industry in Kiulu. Based on the analysis, it shows that the concept of “hospitality”, “positive”, “intention” and “satisfaction” emerged from the data set. These concepts signified that the respondents think that to become a successful rural tourism destination, the most important attribute is that visitors have a high level of satisfaction when visiting Kiulu. These respondents believe that a satisfied tourist is always related to quality hospitality and thus provides a positive vibe and has the intention of revisiting the destination.

- Respondent 12 *The most important thing about managing a tourism destination is of course tourists' satisfaction. We must ensure they are happy! When they are happy, we are also happy. Sometimes, they come again to us. If not them, their friends, or their families.*
- Respondent 67 *Hospitality is important. The way how we treat our visitors will determine their satisfaction.*

Respondent 89 *A beautiful destination sometimes does not reflect a quality experience. A satisfied tourist will put a good word about you and the services you provide for them. So, being nice to people is important. What do you call that....? Aaaahhh... Hospitality...*

Finally, the theme “Malaysia” with 2% connectivity is linked to the theme “tourism”, indicating that rural tourism is perceived as another mechanism to support the country’s economy.

Respondent 9 *Tourism has been an important pillar of the Malaysian economy. It was already shown to be a resilient sector despite economic and political uncertainty... Just look at us, during the Covid-19 pandemic. Once the MCO is uplifted, everyone just goes travelling.*

Respondent 30 *If our government helps in facilitating rural tourism development by giving allocation of budget, let us be part of the policy and gives us guidance to manage this tourism, Kiulu can become a powerful rural tourism destination that can contribute to Malaysia’s economy.*

Respondent 91 *Tourism has always been an important pillar of the Malaysian economy. I guess, we should just take this opportunity.*

DISCUSSION

This study aimed to evaluate the attitudes and level of involvement of the Kiulu community in rural tourism development, focusing on four critical dimensions: participation in decision-making, empowerment, knowledge sharing, and rural tourism awareness. The research findings reveal a nuanced picture of a community that is actively engaged and optimistic about its tourism potential but is also constrained by infrastructural, financial, and knowledge-related challenges.

High engagement in decision-making and empowerment

One of the key findings of this study is the very high level of community participation in decision-making (88.64%) and high level of empowerment (85.49%), indicating that the local community in Kiulu is not merely a passive recipient of tourism development but an active contributor to its direction and management. These findings reflect the theoretical underpinnings of stakeholder theory, which posits that successful and sustainable tourism outcomes depend on balanced and inclusive participation of all stakeholders (Wondirad & Ewnetu, 2019). In the context of rural tourism, community inclusion in decision-making not only fosters legitimacy and social acceptance but also ensures that tourism development aligns with local values, needs, and aspirations (Lepp, 2008).

The concept of empowerment has been widely recognized in tourism studies as a key element in achieving sustainable and inclusive development. As Rasoolimanesh et al. (2018) highlighted, community empowerment encompasses not only participation in decisions but also the ability to influence outcomes, develop self-confidence, and build the capacity to manage tourism initiatives. Empowerment in rural tourism goes beyond economic gain—it involves strengthening local voices, fostering pride in cultural identity, and ensuring equitable access to opportunities. In Kiulu, respondents expressed pride in being part of a community that is increasingly seen as a rural tourism hub, which suggests that psychological and social empowerment are as important as material benefits. Such empowerment also increases the community’s resilience to external shocks and supports long-term stewardship of local resources.

Knowledge awareness versus knowledge sharing

Despite high levels of awareness and understanding of rural tourism concepts (75.93%), the findings highlight a notably low level of knowledge sharing (50.78%) among the Kiulu community. This discrepancy suggests that while community members may be informed about rural tourism practices, there may be limited mechanisms or opportunities to exchange this knowledge with peers, stakeholders, and institutional actors.

This finding supports the arguments made by Dogra & Gupta (2012) and Sood et al. (2017) that knowledge without effective platforms for sharing can undermine inclusive participation. In the case of Kiulu, the lack of formal channels for horizontal learning and collaboration—such as community forums, peer learning groups, or structured training programmes—may hinder the community’s ability to co-create tourism strategies and innovate collectively. Closing this gap could significantly enhance the collective capacity of the community, particularly in areas like service quality, visitor experience design, and sustainable resource use.

Infrastructure, training, and financial barriers

The study also identified financial constraints, inadequate road access, and lack of training in tourism management as major challenges faced by the local community. These findings echo the broader literature on rural tourism development in Southeast Asia, where infrastructural deficits and limited access to capital are commonly cited as barriers to inclusive growth (Arismayanti & Suwena, 2022). In Kiulu’s case, these issues are not only logistical in nature but are deeply intertwined with questions of equity and long-term sustainability.

Importantly, respondents emphasized the need for government support in addressing these challenges. This includes improvements in road infrastructure, digital connectivity, basic amenities, and the provision of training and financial assistance. These calls for intervention suggest a community that is ready and willing to participate but is in need of enabling conditions. If addressed effectively, these improvements could unlock a wider distribution of tourism benefits, prevent marginalization, and catalyze innovation in community-based tourism products.

Strengths and opportunities identified through IPA

The Importance-Performance Analysis (IPA) reinforced many of these findings. A majority of tourism attributes—such as traditional cuisine, cultural experiences, scenic landscapes, and farm visits—were found to be both highly important and performing well, falling into the "Keep Up the Good Work" quadrant. This suggests that the foundation for rural tourism excellence already exists in Kiulu, and that current efforts by the Kiulu Tourism Association (KTA) and other local actors have been effective in promoting these core experiences.

However, two critical attributes—transportation access and Internet connectivity—fell into the "Concentrate Here" quadrant, indicating urgent attention is required to improve these essential services. These issues not only affect visitor satisfaction but also limit local entrepreneurs’ ability to market their products, communicate with tourists, and engage in digital tourism ecosystems.

Community aspirations and identity

The Leximancer concept map analysis revealed that the most dominant theme emerging from interview data was “rural” (connectivity rate: 100%), reflecting strong community identification with rural heritage, traditions, and landscapes. This supports the notion that rural

identity is not just a branding label but a lived experience and a shared value system among residents. Concepts like handicrafts, heritage, landscape, and resources further affirm the role of cultural and natural capital as core components of Kiulu's tourism appeal.

Themes such as “model”, “destination”, and “quality” provide deeper insights into community aspirations. Many respondents see Kiulu as a potential benchmark for rural tourism in Sabah, provided there is strategic guidance, targeted investment, and sustained collaboration with government agencies. The community's emphasis on visitor satisfaction, hospitality, and branding underscores a sophisticated understanding of the tourism value chain and the importance of creating memorable, high-quality experiences.

The “residents” theme (connectivity rate: 47%) also indicates that residents see themselves as active custodians and beneficiaries of tourism, which is a critical mindset for fostering sustainable tourism development. Meanwhile, the “Malaysia” theme, although less dominant, points to a broader awareness that rural tourism is part of the national economic strategy and that local communities play a vital role in realizing its potential.

Post-pandemic readiness and sustainability

An interesting sub-theme that emerged was the community's reflection on post-COVID-19 tourism and their readiness to adapt to new norms, especially with regard to SOPs, health protocols, and service expectations. This awareness illustrates resilience and adaptability—traits that are essential in the post-pandemic tourism landscape.

Importantly, the findings suggest that community-based tourism in Kiulu is both socially and environmentally sustainable, as long as growth is managed carefully and inclusively. The community's emphasis on preserving nature, heritage, and quality over mass commercialization aligns with global best practices in sustainable tourism and should be maintained as tourism in Kiulu continues to expand.

Study limitations and future directions

A key limitation of this study lies in the limited participation of women, which resulted in a gender imbalance in the dataset. This underrepresentation is likely due to traditional gender roles and time constraints, which restricted women's availability to participate in surveys and interviews. As women play an important role in rural livelihoods and cultural continuity, their voices are essential in shaping a comprehensive understanding of rural tourism development. The absence of these perspectives may have led to an incomplete portrayal of community dynamics, particularly in areas related to informal hospitality, household-based tourism, and cultural knowledge transmission.

To address this gap, future research must adopt more inclusive engagement strategies, such as targeted interviews, gender-sensitive facilitation, and flexible scheduling that accommodates women's domestic responsibilities. Incorporating Participatory Rural Appraisal (PRA) techniques or women-only focus group discussions could ensure a more balanced representation. In doing so, future studies can capture a fuller range of local experiences and enhance the validity of rural tourism research. Such approaches will also contribute to more equitable and gender-responsive tourism policies that empower all segments of rural communities.

CONCLUSIONS

This study has demonstrated that the Kiulu community exhibits a high degree of involvement and a positive attitude toward rural tourism development, particularly in areas of decision-making and community empowerment. The findings confirm that local residents recognize the value of rural tourism not only as a driver of economic benefits, but also as a means to preserve cultural heritage and promote environmental stewardship. However, the study also revealed critical gaps, particularly in knowledge sharing, access to infrastructure, and capacity development, which require immediate policy attention to ensure the long-term sustainability and inclusiveness of rural tourism in Kiulu.

Despite limitations such as the underrepresentation of women and access challenges during data collection, the research has provided a grounded and community-driven understanding of the factors shaping rural tourism in Sabah. Moving forward, more inclusive engagement strategies, particularly to amplify marginalized voices, will be essential. Likewise, coordinated interventions by government agencies, tourism boards, and community-based organizations are needed to improve infrastructure, enhance digital connectivity, and expand training opportunities. With the right support, Kiulu holds the potential to serve as a model for community-based rural tourism in Malaysia, contributing meaningfully to national economic growth, cultural resilience, and sustainable development.

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DECLARATIONS

Research permit(s). Not applicable.

Ethical approval/statement. This study was conducted with the approval from Sabah Tourism Board and questionnaires were checked and endorsed under the project code: STG-RT Kiulu.

Generative AI use. The author(s) declare that generative AI has been used in compliance with the JTBC policies, and that we have reviewed and edited the content after using this tool and we take full responsibility for the content of the publication.

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