

A quality of life and socioeconomic assessment of the Redang Island community

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ABSTRACT

Redang Island has experienced rapid economic growth and an abundance of visitors; however, there is limited evidence to determine whether this financial success has genuinely improved the quality of life of local residents. It is essential to examine whether the community has equitable access to opportunities, resources, and overall well-being during this period of transformation. This study investigates the quality of life of the Redang Island community based on socioeconomic conditions within the context of rapid tourism development. The primary objective is to assess residents' quality of life and their perceptions of how tourism influences their economic opportunities. A quantitative approach was employed using a structured questionnaire covering five main domains: income and employment, cost of living, access to basic services, education and economic awareness, and overall wellbeing. Data were collected from 48 respondents using convenience sampling due to accessibility constraints and the availability of participants within the Redang Island community. The data were analyzed using descriptive statistics, Pearson correlation, and mean score analysis. The Pearson correlation results indicate that quality of life is significantly and positively associated with education ($r = 0.556, p < .001$), social contribution ($r = 0.638, p < .001$), health ($r = 0.455, p < .01$), asset ownership ($r = 0.373, p < .01$), and access to services ($r = 0.494, p < .01$). However, income ($r = 0.249, p > .05$) and self-reliance ($r = 0.196, p > .05$) demonstrated weak and statistically insignificant relationships with quality of life. In terms of perception, mean scores show most respondents (74%) agreed that tourism has brought economic benefits and expressed a desire to engage in tourism-related activities. The PLS regression further reveals that social interactions, education, perceived quality of life, and asset ownership are the most significant factors influencing residents' perceptions of economic development in Redang Island. These findings suggest that although tourism offers opportunities, its benefits are not yet equitably distributed across the community. The study concludes that inclusive policies, skills training, and improved access to microfinancing are essential to ensure long-term well-being and sustainable development for the Redang Island community.

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1. INTRODUCTION

Quality of life reflects the progress of a society and the capacity of a nation to ensure the well-being of its people. It covers not only material aspects such as income, education, and health, but also spiritual, social, and psychological elements that influence individual and communal satisfaction and life meaning (Acelandu, 2012). Figure 1 shows Maslow's Theory introduced by Abraham (1954), to measure an individual's quality of life. The theory outlines five levels or a hierarchy of needs that must be fulfilled in life, namely basic needs, safety needs, love and belonging, esteem needs, and self-actualization. The stages outlined and structured by Maslow are aligned with the essential needs and desires of human beings. If any of these stages are not met, it may negatively affect an individual's well-being and overall quality of life. These needs must be fulfilled in a specific order so that

the individual can progress to the next level and ultimately reach their full potential (Nor Nazimi et al., 2017).

Understanding Maslow's Theory is regarded as crucial for this study, as it provides a comprehensive framework for evaluating the quality of life within the Redang Island community. By assessing the extent to which residents' basic needs, safety, social connections, esteem, and opportunities for self-actualization are being met, valuable insights into their overall well-being and socio-economic status can be derived. This approach enables a more in-depth examination of the challenges faced by the community, particularly with regard to the impacts of tourism on residents' lives, and identifies areas requiring improvement to enhance the overall quality of life for all community members. Maslow's theory is particularly relevant to this study as it provides a structured framework to assess the socio-economic and

emotional dimensions of life among Redang Island residents. By evaluating whether their fundamental needs are being met, such as access to clean water, safe housing, income stability, education, and a sense of community, we gain insight into both the strengths and gaps in their current living conditions.

In Malaysia, the quality of life is measured using the *Indeks Kualiti Hidup*. According to the *Indeks Kualiti Hidup Malaysia 1999* (IKHM 1999), the concept of quality of life refers to improvements in a society and social system, moving from less satisfactory conditions to those that are better and more fulfilling. This concept goes beyond just economic growth. It also includes personal development, a healthy lifestyle, access to knowledge and the freedom to pursue it, and environmental aspects (Shafii & Miskam, 2011).



Figure 1: Maslow's Law Theory (Einstein et al., 2016).

The Malaysian government has introduced numerous policies aimed at improving the standard of living of its population. The New Economic Policy (*Dasar Ekonomi Baru*) introduced in 1970, followed by the National Development Policy (*Dasar Pembangunan Negara*) and Vision 2020 (*Wawasan 2020*), have served as key frameworks focusing on poverty eradication and societal restructuring. Currently, the government seeks to enhance quality of life through investments in education, healthcare, housing, and household income growth, as outlined in the *Pelan Strategik Pembinaan 4.0 (2021–2025)* introduced by the Construction Industry Development Board (CIDB) Malaysia. However, the attainment of a good quality of life is not uniform across all segments of society, particularly for populations residing in rural or remote areas such as island communities. Access to basic needs, including clean water, healthcare, education, and stable income, remains more limited in comparison to urban areas. In recent years, increasing attention has been directed toward the issue of uneven development experienced by remote and island communities in Malaysia. While urban and

mainland regions have experienced rapid infrastructure growth and improved access to essential services, many island communities continue to face socio-economic exclusion.

In Malaysia, island and rural communities continue to face development gaps compared to urban areas, particularly in terms of infrastructure, employment opportunities, and access to public services (Manggat et al., 2018). Consequently, there is a lack of empirical evidence assessing whether tourism growth in Redang Island has translated into meaningful improvements in residents' quality of life, particularly across socio-economic and psychosocial dimensions. The actual impact of tourism development on the overall quality of life of Redang Island residents remains inadequately understood, underscoring the need for a systematic assessment grounded in a comprehensive quality of life framework. These challenges influence how residents perceive their well-being and overall life satisfaction.

Therefore, the application of the Quality of Life (QoL) framework enables this study to move beyond a narrow focus on livelihood indicators alone. It facilitates a more holistic assessment of residents' perceptions of their life satisfaction and opportunities in the context of tourism growth. Accordingly, the main objective of this study is to evaluate the quality of life of residents in Redang Island, by examining key socio-economic factors and the ways in which these factors shape their perceptions of development. Based on the aforementioned objective, this study is guided by the following research questions:

- 1) What is the current level of quality of life among the residents of Redang Island?
- 2) How do socio-economic factors such as income, employment, access to basic services, and education influence the quality of life of Redang Island residents?
- 3) How do residents observe the impact of tourism development on their quality of life?

2. METHODOLOGY

2.1 Study site

Redang Island, situated in the Kuala Nerus district of Terengganu, illustrates the existing development gap. Despite Redang Island's status as a popular tourist destination, the benefits of such development not been fully experienced by local residents particularly with regard to basic service provision, employment opportunities, and overall well-being. The Terengganu State Economic Planning Unit (UPEN) reports that island areas, including Redang Island, continue to experience limited access to basic services such as clean water, healthcare, and housing. According to Ramdas and

Mohamed (2017), deficiencies in infrastructure, particularly inadequately treated sewage, negatively impact daily living conditions and access to clean water. Healthcare services are often inadequate due to logistical challenges and staff shortages, with clinics operating only once every three to four months (Ibrahim, 2007). Similarly, poor housing quality and overcrowding are prevalent issues in island settlements (Ghani et al., 2011), and although schools and training centres are provided by the government, access to education and skill development remains limited for island populations (Ghani, 2003). Furthermore, local residents are frequently excluded from the benefits of the booming tourism industry and are sometimes displaced due to land acquisitions and resettlement. Collectively, these challenges highlight the need for a systematic assessment of residents' quality of life, considering socio-economic factors and perceptions of tourism development.

Previous studies conducted in Redang Island have primarily focused on environmental conservation (Jia et al., 2023) and the ecological impacts of tourism development (Abd Hamid et al., 2024). Despite the growing attention on tourism development, research that systematically explores the socio-economic conditions and quality of life of local residents remains insufficient. Furthermore, assessments of quality of life have often concentrated solely on objective dimensions such as income and physical infrastructure, while neglecting the subjective dimension, which encompasses individual perceptions and life satisfaction. This represents a clear gap in the literature that warrants further investigation. To address this, the present study employs a chemometric analytical approach, combining Pearson correlation and Partial Least Squares (PLS) Regression with Leave-One-Out (LOO) cross-validation, to identify and prioritize the key factors influencing quality of life among the local residents. This method facilitates the simultaneous comparison of multiple socio-economic parameters and the identification of the most influential factors shaping community perceptions of development. It is particularly suitable when the primary objective is not only prediction but also the determination of the relative strength of each parameter within a multivariate framework (Palermo et al., 2009). This quantitative method provides deeper statistical insight compared to earlier descriptive studies, thereby contributing novel evidence and a comparative framework for understanding socio-environmental interactions in small island communities.

Figure 2 illustrates the study location in Redang Island, highlighting the main village areas - Pantai Teluk Dalam, Kampung Baru, and the fishermen's settlement areas - which function as the core residential zones and centres of daily social and economic activities for the local community. This study is important to ensure that island populations are

not marginalised within the national development agenda. Accordingly, the research was initiated to address this gap, with the primary aim of evaluating the quality of life among residents of Redang Island. Specifically, the objectives of the study are to identify the key factors contributing to quality of life and to assess residents' perceptions and satisfaction with their lives.

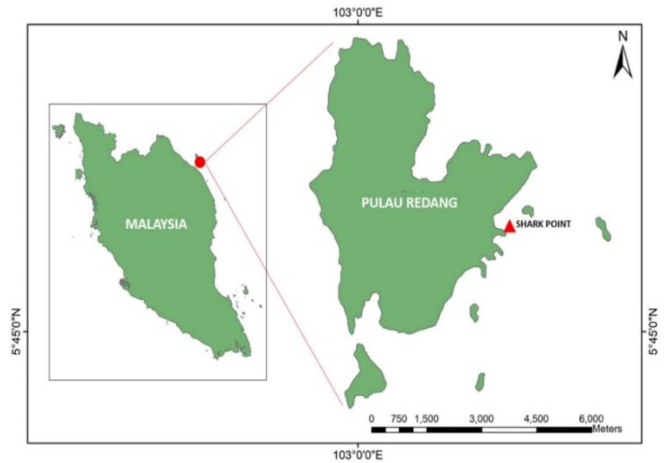


Figure 2: The Illustration of study location (Jaafar et al., 2023).

2.2 Sampling

This study focuses on Redang Island due to the rapid growth of the tourism sector on this and nearby islands, which has had a notable impact on the quality of life of the local community. A total of 48 respondents from Redang Island participated in this study. Respondents were selected using a convenience sampling method, which is appropriate for geographically limited and small island communities where access to participants is often constrained. This number was considered adequate to represent the study's objectives and to capture meaningful trends across demographic groups. The main aim was to identify patterns and key influencing factors rather than to generalize statistically to the entire population.

The data were collected through face-to-face interviews using a structured questionnaire, which aimed to assess respondents' socio-economic background, perceived challenges and opportunities, as well as their overall well-being and quality of life.

The survey instrument employed in this study consisted of three main parts. Part A gathered demographic information such as age, gender, education level, employment status, and household income. Part B focused on eight socio-economic factors: income, self-sustainability, access to basic services, education, assets, health, social relationships, and quality of life. These were measured using multiple items on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Part C measured perception of development, opportunities in tourism, and socio-economic challenges encountered by the community. This study did not

involve any medical or sensitive experimental procedures. All respondents participated voluntarily after being informed about the research objectives. The questionnaire data were collected anonymously and treated with strict confidentiality. The responses were used solely for academic and analytical purposes, ensuring that no personal or identifiable information was disclosed throughout the study.

2.3 Data analysis

The collected data were analysed using descriptive statistics, including frequency, percentage, and mean scores, to summarise the overall trends among the respondents. Additionally, Pearson correlation analysis was also conducted to explore the relationships between key variables such as socio-economic status, livelihood opportunities, and perceived quality of life. Mean score analysis further enabled the categorization of responses into levels—low, moderate, and high—to facilitate interpretation of the findings. The Partial Least Squares (PLS) regression with Leave-One-Out (LOO) cross-validation was also applied to assess the influence of eight socio-economic factors on the perception of economic development among the Redang Island community.

3. RESULT AND DISCUSSION

3.1 Demographic profile

Table 1 presents the socio-demographic characteristics of respondents based on data collected from the Redang Island community. The findings provide an overview of key respondent attributes, including age, gender, religion, educational level, employment status, and household income.

A total of 48 community members from Redang Island participated as respondents in this study. Figure 2 presents the gender distribution of respondents, indicating a higher proportion of male respondents (n = 28) compared to female respondents (n = 20). The higher proportion of male respondents is attributed to the fact that the majority of household heads on Redang Island are men. Women are less likely to be employed and are predominantly engaged as housewives.

Regarding age, Figure 3 presents the distribution of respondents, with the mean age falling within the 15–24 age group. Respondents aged 55 and above recorded the highest percentage, followed by those aged 25–34 and 45–54. This pattern indicates that the majority of household heads belong to the older age groups.

Figure 4 shows that the educational attainment of respondents in this study was relatively good. Only three respondents had not received any formal education, while more than half (n = 24) had completed upper secondary education (SPM). Other levels of education included primary

school (n = 11), PMR (n = 3), and STPM (n = 2). In addition, four respondents had successfully pursued higher education, comprising two diploma holders and one respondent with a bachelor's degree in tourism.

Overall, these findings indicate an improvement compared to a study conducted ten years earlier, which reported a considerably lower level of educational attainment among respondents. Although there were respondents with bachelor's degrees, their participation in the formal sector remained limited. This suggests that educational attainment does not necessarily translate into social mobility or broader economic opportunities. As noted by Abdullah et al. (2022), island communities often do not fully benefit from formal education due to the lack of quality employment opportunities within their local contexts.

Table 1: Sociodemographic profile of respondents.

Variable	Categories	Frequency	Percentage (%)
Age	15 – 24 years old	6	12.50
	25 – 34 years old	11	22.91
	35 – 44 years old	8	16.66
	45 – 54 years old	10	20.83
	55 years old and above	13	27.08
Gender	Male	28	58.33
	Female	20	41.66
Religion	Islam	48	100
Level of education	No Formal Education	3	6.38
	Primary School	11	23.40
	Lower Secondary School (PMR/PT3)	3	6.38
	Upper Secondary School (SPM/SPVM)	23	11.3
	STPM	2	4.25
	Diploma	2	4.25
	Bachelor's Degree	3	6.38
	Occupation	Self-employed	3
Business owner		13	27.66
Government employee		3	6.38
Fisherman		5	10.63
Housewife		2	4.25
Tourism sector unemployed		13	27.66
Cook		7	14.89
Policeman		1	2.12
Side job		Business	1
	Fisherman	13	27.08
	Tourism package services	2	4.25
	No	1	2.08
	Tailoring service	31	64.58
Estimated income	RM 0 – 500	1	2.08
	RM 1,001 – 1,500	3	6.25
	RM 1,501 – 2,000	12	25.000
	RM 501 – 1000	20	41.667
	No income	7	14.583
		6	12.500

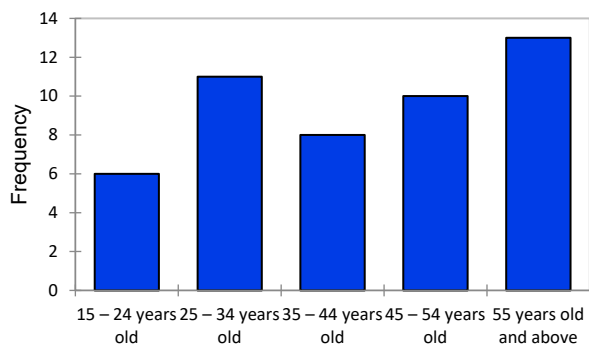


Figure 3: Age of respondents of the respondents.

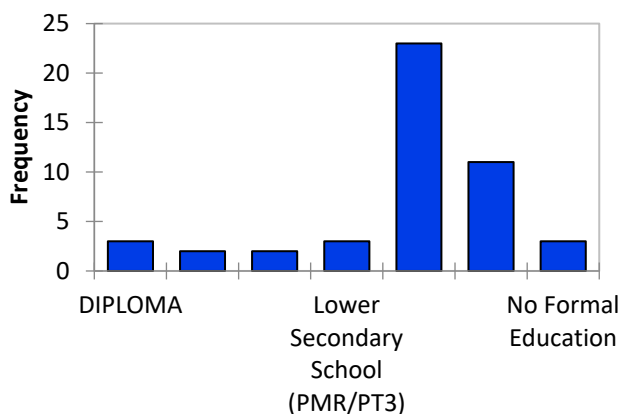


Figure 4: Level of education of respondents.

Based on Maslow’s Hierarchy of Needs, education contributes to the fulfilment of higher-level needs, such as self-esteem and self-actualisation, and is commonly regarded as a pathway to improved living conditions. However, in the context of Redang Island, despite some respondents attaining higher levels of education, employment opportunities remain limited, particularly within the formal sector.

This situation demonstrates that education alone is insufficient to guarantee higher income or an improved standard of living. When individuals are unable to translate educational attainment into tangible socio-economic benefits, they may experience frustration or a sense of stagnation, which can negatively affect their overall quality of life (QoL). Therefore, while education is a critical component of QoL enhancement, it must be complemented by improved access to suitable employment and broader economic opportunities in order to generate meaningful impacts.

The relatively high proportion of parents who were either uneducated or had only completed primary education has had a notable influence on the quality and level of education attained by the second generation. Some parents did not encourage their children to continue schooling, based on the perception that higher education is unnecessary for island residents, as employment opportunities in the tourism sector are readily available.

Figure 5 illustrates the types of occupations among the Redang Island community. The analysis shows that out of 48 respondents, 81.25% were actively employed, while 18.75% (n = 9) were not working; of these, two respondents were housewives. Most non-working respondents were either elderly or engaged in part-time employment. Employment opportunities in the tourism sector have made it one of the most preferred fields among the island community, with a total of 13 respondents employed in this sector. In addition, three respondents were employed in the government sector, including positions in law enforcement. Five respondents worked as fishermen, while 13 respondents were self-employed or involved in small-scale business activities. From a quality of life (QoL) perspective, the findings indicate an increasing diversification of employment opportunities, particularly through tourism-related activities and small enterprises. This shift has contributed to improved income opportunities for a substantial proportion of the community.

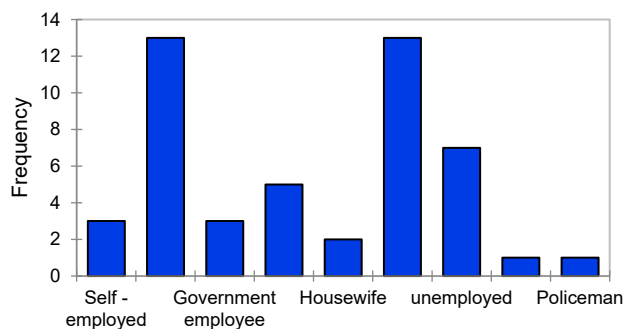


Figure 5: Occupations of respondents.

Figure 6 presents the estimated monthly household income of respondents, with the majority of households earning between RM1,501 and RM2,000. Six respondents reported having no income, while the second-lowest income group (RM500–RM1,001) comprised seven respondents. Overall, the distribution indicates that most residents of Redang Island fall within the low-income category.

Findings from the questionnaire conducted among the Redang Island community indicate that the majority of respondents rely on the informal sector as their primary source of income. A substantial proportion are self-employed or engaged in tourism-related activities, such as tour guiding, boat operations, and small-scale trading. These findings underscore the pivotal role of tourism in shaping the local economic structure, consistent with the study by Ghani et al. (2013), which highlighted the island community’s reliance on tourism as a primary source of livelihood.

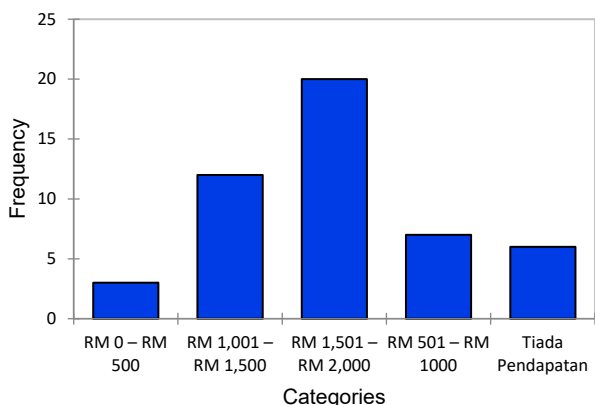


Figure 6: Estimated income of respondents.

Although tourism development has generated employment opportunities, a substantial segment of the community continues to experience income instability and capital constraints. Approximately 40% of respondents reported monthly household incomes below RM2,000, placing them within the B40 (Bottom 40%) income group. This indicates that the economic benefits of tourism are not equitably distributed across the community.

Consistent with this finding, Shah et al. (2022) observed that rapid tourism growth does not necessarily translate into improved living standards for all segments of society unless inclusive and equitable participation mechanisms are established. Moreover, while tourism development has contributed to economic gains, it has also introduced social and cultural costs, including increased crime rates, cultural conflicts, congestion, and discomfort among local residents. Similarly, Shafikullah et al. (2021) reported that high-cost tourism development in Pulau Langkawi led to rising living expenses, while local communities experienced only modest improvements in income.

In conclusion, the growth of tourism in Redang Island has the potential to create better economic opportunities for residents, but it also highlights serious challenges that need to be addressed to truly improve quality of life.

3.2 Socioeconomic factor that contributes to quality of life of Redang Island communities

A Pearson correlation analysis was conducted to identify the relationship between the Quality-of-Life Score and six independent variables: Income, Education, Contribution, Health, Ownership, Access, and Self-Sufficiency. The correlation table illustrates the strength and direction of relationships between the variables, tested at a significance level of $\alpha = 0.05$.

The results from Table 2 and Figure 7 revealed a significant positive relationship between the Quality-of-Life (QoL) Score and the following variables: Education ($r = 0.556$,

$p < 0.0001$), Contribution ($r = 0.638$, $p < 0.0001$), Health ($r = 0.455$, $p < 0.001$), Ownership ($r = 0.373$, $p < 0.009$), and Access ($r = 0.494$, $p < 0.001$). The highest correlation was observed between Quality of Life and Contribution ($r = 0.638$), indicating a strong positive relationship.

Table 2: Pearson correlation analysis of 7 variables with quality of life.

Variables	Quality of Life	Sig. T
Income	0.249	0.088
Education	0.556*	< 0.0001
Social and community contribution	0.638*	< 0.0001
Health	0.455*	0.001
Asset Ownership	0.373*	0.009
Access to basic necessities	0.494*	0.001
Self-sufficiency	0.196	0.182

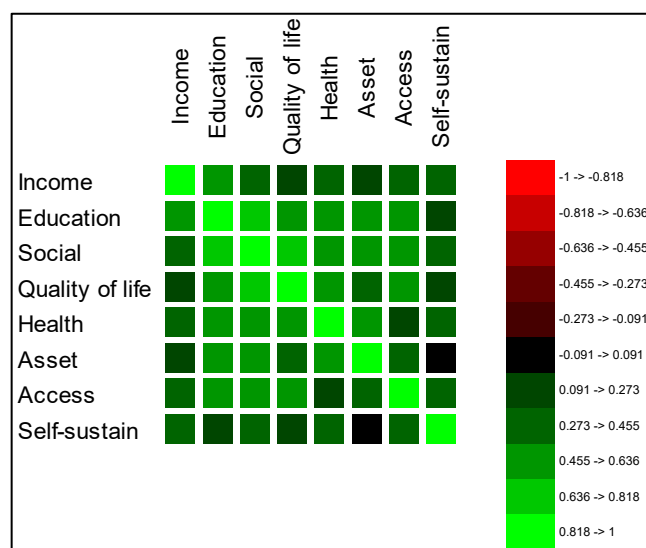


Figure 7: Correlation matrix maps.

However, the variables Income ($r = 0.249$, $p > 0.05$) and Self-Sufficiency ($r = 0.196$, $p > 0.05$) exhibited positive but statistically insignificant correlations, indicating that these variables do not have a strong association with the respondents' quality of life in this study. These findings are consistent with Ghani et al. (2011), who argue that education, social networks, and access to resources are more fundamental determinants of well-being and life. The results indicate that in tourism-dependent island communities, subjective and structural factors such as community engagement and asset ownership that have a stronger influence on perceived quality of life than direct economic measures, such as income. This finding challenges the common assumption that higher income necessarily leads to greater life satisfaction.

Residents reported concerns regarding the rising cost of living, particularly during peak tourism seasons, while economic returns remained unstable throughout the year. Studies on Perhentian Island indicate that although tourism

contributes to increases in household income, residents continue to face higher living costs including rent and utilities that do not correspond with income growth, especially during peak periods. Consequently, the economic benefits of tourism remain unstable and are not widely experienced by the local community (Norizan et al., 2012; Sharif & Lonik, 2018).

The highest correlation was observed between community contribution and quality of life, suggesting that a strong sense of social support and communal engagement greatly enhances life satisfaction. Previous studies have also found that family life variables including marital status, household size, and number of children—exhibit significant positive correlations with quality of life. Specifically, married respondents and those with fewer children were associated with higher life satisfaction and QoL. Education also emerged as a key factor, highlighting the importance of human capital development in small island communities. Ghani et al. (2011) reported that education within the Redang Island community had a significant positive correlation with both objective ($r = +0.429$) and subjective ($r = +0.333$) quality of life, indicating that higher levels of education were linked to better well-being and greater social mobility among island residents.

However, some respondents also expressed concerns regarding job security and the future prospects of their children, particularly given the limited education and employment opportunities available on the island. Many perceived that the jobs accessible were largely temporary and lacked long-term social protection. Similarly, Adanan et al. (2010) observed that although communities on Tioman Island may report high levels of life satisfaction, concerns regarding economic stability and youth mobility remain unresolved core issues.

Furthermore, some respondents indicated that they lacked adequate access to financial facilities and microloans to expand their small businesses, particularly those connected to tourism. This highlights the presence of institutional barriers and a lack of supportive policies for the local economy. Ghani et al. (2011) reported that most residents of Redang Island (62.3%) had no savings, while only a small proportion managed to save even half of their income. Many stated that their savings were limited to emergencies, school expenses, or festive occasions. These findings suggest that stronger support and more stable income are necessary to meaningfully improve their livelihoods. Similarly, Ibrahim et al. (2018) emphasized that local entrepreneurs often rely on personal savings and face difficulties in obtaining external financing, underscoring the need for more supportive frameworks and collaboration with government agencies.

Overall, the findings indicate that factors such as education, community contribution, health, asset ownership, and access to facilities exert a greater influence on quality of

life than income and self-sufficiency alone. While income and self-sufficiency did not exhibit statistically significant relationships with quality of life, variables such as education, social and community engagement, access to basic necessities, health, and asset ownership played a more prominent role in shaping the overall well-being of the community.

The findings also highlight that the Redang Island community exists within a complex socio-economic context, caught between the opportunities provided by tourism and the risks of economic marginalization. This imbalance underscores the need for a more inclusive and locally sensitive development approach. Strategic measures such as skills training, enhanced access to microfinance, and active community participation in tourism management are essential to support the long-term well-being of this island community.

3.3 Redang community's perception of tourism development

Based on the analysis of mean scores, the respondents' levels were categorized into three levels: low (1.00–2.33), moderate (2.34–3.66), and high (3.67–5.00). This classification provided a clearer understanding of the overall trend in responses.

3.3.1 Opportunities and participation in tourism

The findings from Figure 8 showed that the majority of respondents ($n=35$, 73%) were at the high level, while 8 respondents (17%) were at the moderate level, and only 5 respondents (10%) were categorized as low. The result shows that the majority of respondents have a positive perception of the opportunities created through tourism activities. Respondents agreed that the presence of tourists positively impacts their household income and provides opportunities for them to engage in tourism-related activities such as becoming traders, boat operators, or tour guides. This underscores the importance of local engagement in planning and decision-making, which can enhance both economic benefits and social well-being. The results suggest that while tourism provides tangible economic opportunities, its full potential to improve quality of life is moderated by access to resources, skills, and inclusive participation mechanisms. Thus, this study helps to address a gap in the literature by demonstrating that the perceived benefits of tourism depend not merely on exposure to tourism activities, but on social capital and community empowerment. These findings highlight the importance of locally sensitive and participatory development policies.

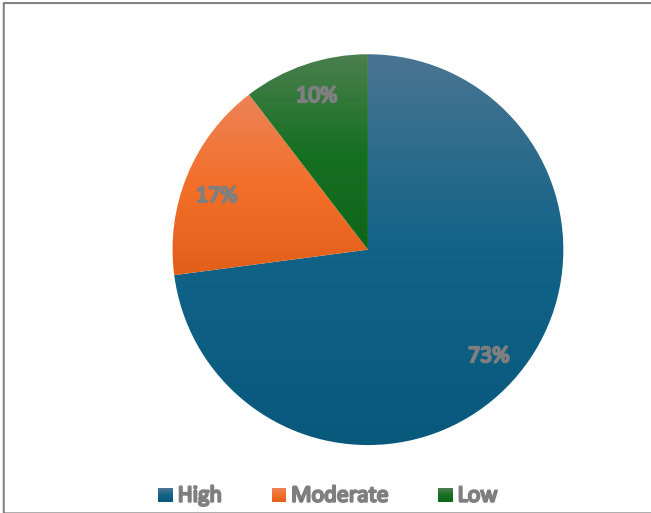


Figure 8: Perception of opportunities and participation in tourism.

3.3.2 Perception of development impacts

Figure 9 showed the results on perception of tourism development impact, which revealed that the majority of respondents demonstrated a high level of perception. Out of the 48 participants, 39 respondents (81.3%) were categorized under the high level, while the remaining 9 respondents (18.8%) fell within the moderate level. Notably, none of the respondents were classified as having a low perception.

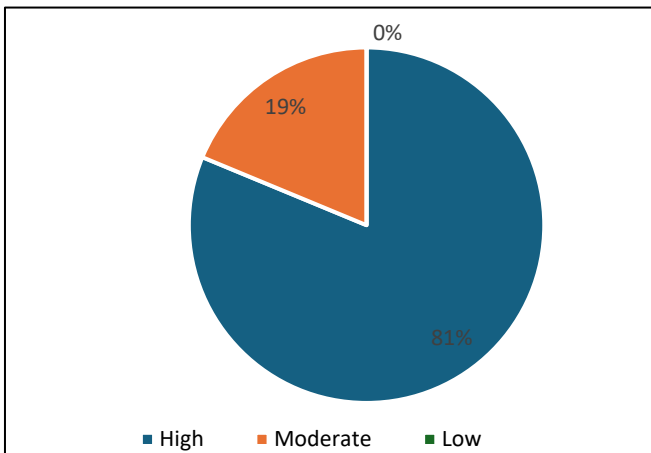


Figure 9: Perception of tourism development impact.

The high mean scores indicate a general consensus that tourism has brought visible benefits or changes, possibly in terms of economic opportunities, infrastructure development, or increased community exposure to outsiders. Most respondents agreed that development has improved the standard of living on the island, particularly with regard to basic facilities and infrastructure. However, there remains a perception that outsiders derive greater benefits from economic opportunities than the local residents. These findings suggest that the community holds mixed views regarding the impacts of development. While positive perceptions are linked to the belief that development can

enhance overall community well-being, concerns persist about unequal access to these opportunities.

3.3.3 Challenges and potential in enhancing the economy

In terms of challenges and potential for economic enhancement, the analysis from Figure 10 indicates that a significant portion of respondents face high levels of challenges in improving their economic conditions. A total of 32 respondents (66.7%) were categorized at the high level, while 15 respondents (31.3%) fell within the moderate level. The key challenges identified include limited capital, restricted job opportunities throughout the year, and reliance on seasonal tourism.

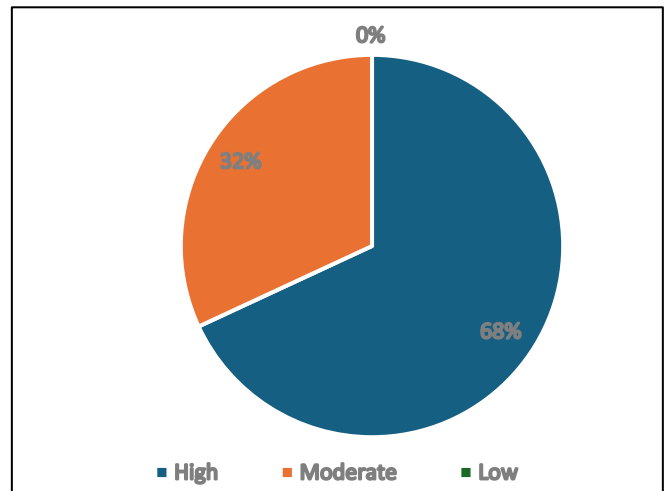


Figure 10: Challenges and potential in enhancing the economy.

Most respondents acknowledged that financial assistance is essential to stimulate economic activities. They also stated that the market for local products such as food, seafood, and handicrafts should be expanded to help increase household income. This is in line with Ghani et al. (2011), who emphasized the importance of active community involvement in the local tourism ecosystem.

Overall, the findings of this study conclude that the Redang Island community is highly dependent on the tourism sector as their primary source of income. Although they exhibit strong resilience in adapting to a challenging socio-economic environment, they continue to face several critical issues, including income instability, limited access to education and business capital, and concerns about future stability. These findings highlight the pressing need for more inclusive, community-based tourism development policies to safeguard the long-term well-being of the island's residents.

3.4 PLS-Regression Leave-one-out (LOO) Method

The LOO cross-validation approach was selected to ensure a more robust and reliable model, minimizing overfitting by validating the model on each individual observation. This method also provided Variable Importance in Projection (VIP) scores, which indicate the contribution of each independent variable to the prediction of the dependent variable. Table 3 and Figure 11 present the VIP analysis, in which four variables recorded VIP values above the threshold of 1.0, indicating a strong influence. Social interactions had the highest VIP value (1.254), suggesting that social connections and participation in the community play a significant role in shaping how residents perceive changes brought about by development. Dung et al. (2022) also highlighted those strong social principles, such as trust, cooperation, and community networks, significantly enhance residents' support for and positive perceptions of development, particularly within community-based tourism contexts.

Meanwhile, education (VIP = 1.247) and quality of life (VIP = 1.062) also recorded high VIP values, indicating that communities with higher education levels and better quality of life were more supportive of development initiatives.) These findings are consistent with Noordin et al. (2020) and Nor Nazimi et al. (2017), which demonstrate that educational background and perceived quality of life are key drivers in shaping community perceptions of development. Finally, asset ownership (VIP = 1.017) indicates that ownership of assets such as land, boats, homes, or small businesses can influence how secure and empowered residents feel when faced with change. Individuals with greater asset ownership may perceive development more positively, as they feel better equipped to benefit from it (Ganon et al., 2016). These results suggest that social interactions, education, quality of life, and asset ownership are the most significant factors influencing how residents perceive economic development on Redang Island.

Table 3: Variable Importance for the Projection (VIPs) for each variable.

Variable	VIP	Standard deviation	Lower bound(95%)	Upper bound(95%)
Social	1.254	0.173	0.907	1.601
Education	1.247	0.194	0.858	1.637
Quality of life	1.062	0.211	0.638	1.486
Asset	1.017	0.312	0.390	1.645
Access	0.951	0.194	0.559	1.342
Health	0.912	0.218	0.473	1.351
Income	0.755	0.267	0.217	1.293
Self-sustain	0.634	0.338	-0.046	1.315

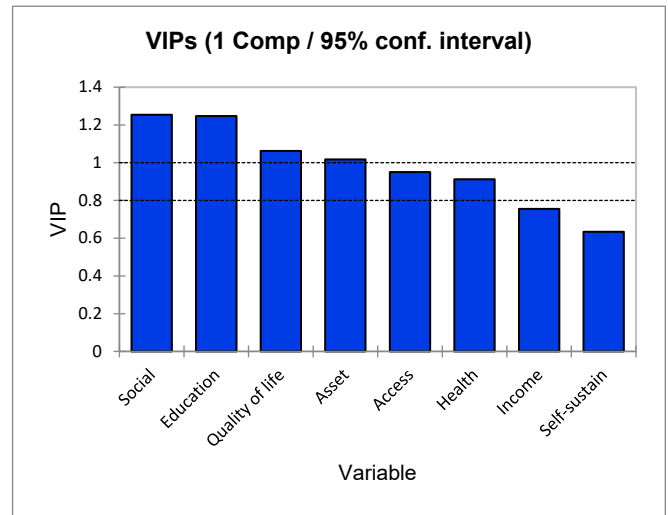


Figure 11: Variable Importance for the Projection (VIPs) for each variable.

Meanwhile, variables such as Access (VIP = 0.951), Health (VIP = 0.912), Income (VIP = 0.755), and Self-sustainability (VIP = 0.634) had VIP values below 1.0, indicating a weaker predictive influence in the model. Particularly, self-sustainability recorded the lowest VIP score, suggesting it may be less relevant to the current perceptions of economic development among the respondents. Interestingly, income and self-sustainability, while important in theory, had lower VIP values, reflecting earlier findings that economic benefits from tourism are often unevenly distributed and do not guarantee empowerment. A study in Pangkor Island highlighted that tourism can sometimes increase the cost of living more substantially than it generates employment benefits, leading to unequal economic outcomes (Noor et al., 2022). This suggests that subjective and structural factors, such as asset ownership and social capital, may be more influential than direct income in shaping residents' perceptions of development.

Overall, the use of the LOO method in PLS regression has allowed for a more nuanced understanding of which socio-economic dimensions are most relevant to local perceptions. These insights can inform targeted development initiatives that prioritize the most impactful areas, especially in strengthening social networks, educational opportunities, and overall life satisfaction.

4. CONCLUSION

In conclusion, the results of this study indicate that the communities of Redang Island demonstrate a strong ability to adapt and cope with the challenges posed by their socio-economic environment. The Pearson correlation analysis revealed that education, social and community engagement, access to basic needs, health, and asset ownership are strongly associated with the quality of life of the communities. The analysis of mean scores also indicated that most respondents held a favourable view of tourism

opportunities and the impacts of development. Many believed that tourism contributed to improved infrastructure and provided opportunities to generate income. However, challenges such as unstable income, limited capital, and seasonal employment continue to affect long-term economic stability. Despite these challenges, the community demonstrated a willingness to engage more actively in tourism and local economic activities if adequate support is provided. These findings highlight the need for inclusive development strategies that focus on skills training, improved access to financial resources, and active community participation in tourism planning. Thus, tourism and economic growth must truly benefit the Redang Island community, and maintain its sustainability, for a better quality of life in the long run. This research contributes to a comprehensive understanding of quality of life by incorporating both objective QoL indicators, such as income, housing, and access to healthcare, and subjective QoL indicators, such as satisfaction, happiness, and social inclusion. These insights are crucial for guiding policymakers, development agencies, and local authorities in designing context-sensitive policies and programs that not only conserve the environment or promote tourism but also enhance the well-being of the island's residents.

Nonetheless, this study is limited by its relatively small sample size and its focus on a single island community, which may restrict the generalizability of the findings. Future research could address these limitations by incorporating larger and more diverse samples, employing longitudinal approaches to examine changes in quality of life over time, and integrating qualitative methods to gain deeper insights into community experiences. Comparative studies involving other island or coastal tourism destinations would also be valuable in enhancing understanding of tourism-driven quality of life outcomes.

REFERENCES

- Abd Hamid, A. H., Aziz, Y. A., Abdullah, N. H., Hanafiah, M. H., & Abd Rahman, A. (2024). Tourism development impact in Redang Island, Malaysia: A stakeholder's view. *International Journal of Business and Society*, 25(2), 613-638.
- Abdullah, M. S., Hashim, N. N. M., Zain, S. A. M., & Ramli, M. R. (2022). Mobiliti sosial dan kualiti hidup komuniti nelayan pulau: Kajian kes di Pulau Aman, Pulau Pinang. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 7(3), 1-13. <https://doi.org/10.35631/JTHEM.729013>
- Abraham, H. M. (1954). *Motivation and Personality*. Harper's Psychological Series. Harper & Row Publishers, Inc., 411 pages.
- Aceleanu, M. I. (2012). Links between education, employment and quality of life. The case of Romania. *Management & Marketing*, 7(4).
- Adanan, A., Radzi, S. M., Hanafiah, M. H., & Abd Hamid, Z. (2010, November). Tourism development and its impact on residents' quality of life: The case of Tioman Island, *Tourism Outlook & 3rd ITSA Conference, Malaysia*.
- Dung, N. T. T., Kim, L. M., Nhan, T. T. T., & Thang, D. Q. (2022). Impacts of social capital on community-based tourism development: a case study in Binh Dinh Province, Vietnam. *Business Management and Strategy*, 13(2), 236-247.
- Einstein, A., Addams, J., & Roosevelt, E. (2016). Maslow's hierarchy of needs.
- Gannon, M., Rasoolimanesh, S. M., & Taheri, B. (2021). Assessing the mediating role of residents' perceptions toward tourism development. *Journal of Travel Research*, 60(1), 149-171. <https://doi.org/10.1177/0047287519890926>
- Ghani, N. A. (2003). *Kualiti hidup penduduk pulau Negeri Terengganu: Satu kajian di Pulau. Redang dan Pulau Perhentian*. Tesis Ph. D.
- Ghani, N. A., Azmi, N. H., & Puteh, D. A. H. A. (2013). The impact of the tourism industry on the community's well-being on Langkawi and Redang Islands, Malaysia. *Advances in Natural and Applied Sciences*, 7(3), 276-283.
- Ghani, N. A., Yassin, S. M., Ahmad, W. I. W., & Abdullah, W. S. W. (2011). The quality of life (QoL) of the island people in the State of Terengganu, Malaysia: A study on Redang Island and Pulau Perhentian. *Canadian Social Science*, 7(3), pp. 59-70.
- Ibrahim, M. R., Shuib, A., Ramachandran, S., & Afandi, S. H. M. (2018). Community participation in tourism microenterprises among Amanah Ikhtiar Malaysia borrowers in Semporna, Malaysia. *International Journal of Business and Society*, 19(S1), 88-102.
- Ibrahim, Y. (2007). Komuniti pulau dalam era pembangunan: Terpinggir atau meminggir. *Akademika*, 70(2007), 57-76.
- Jaafar, S. N. T., Suhaimi, M. N. A., Maznan, N. A., Safuan, C. D. M., Tan, C. H., Yucharoen, M., Saidin, J., & Bachok, Z. (2023). Isolation and identification of bacterial communities from coral tissue affected by black band disease at Redang Island, Terengganu, Malaysia. *Applied Ecology & Environmental Research*, 21(2). https://doi.org/10.15666/aeer/2102_18231835
- Jia, J., Hu, W., Tan, C. H., Zainudin, B., Zheng, X., & Zhang, J. (2023). Ecological vulnerability assessment of coral reefs in tropical tourist islands: A case study of Pulau Redang and Pulau Perhentian in Malaysia. *Chinese Journal of Ecology*, 42(10), 2526-2535. <https://doi.org/10.13292/j.1000-4890.202310.019>
- Manggat, I., Zain, R., & Jamaluddin, Z. (2018). The impact of infrastructure development on rural communities: A literature review. *International Journal of Academic Research in Business and Social Sciences*, 8(1), 637-648. <https://doi.org/10.6007/IJARBS/v8-i1/3837>
- Noor, N. M., Zain, N. M., & Zain, M. H. M. (2022). The local community perception of the impacts of tourism on the economy in Pangkor Island, Malaysia. *Malaysian Journal of Tropical Geography (MJTG)*, 48(1), 1-18.
- Nor Nazimi, M.M., Jaffary, A., & Aminudin, B. (2017). Teori Maslow dan Kaitannya Dengan Kehidupan Muslim. *Jurnal Hadhari*, 9(2), 275-285.
- Nordin, A.O.S. Ismail, F. & Jamal, N.Y.M. (2020). Impact of tourism on the quality of life: A case study of Perhentian Island, Malaysia. *African Journal of Hospitality, Tourism and Leisure*, 9(3), 22. <https://doi.org/10.46222/ajhtl.19770720-2>
- Norizan, A. G., Nurdina Iman, Z., & Che Siti Noradliza, M. (2012). The influence of income and expenses to the well-being of islanders on Perhentian Island, Terengganu, Malaysia. *Advances In Natural and Applied Sciences*, 335-340.
- Palermo, G., Piraino, P., & Zucht, H. D. (2009). Performance of PLS regression coefficients in selecting variables for each response of a multivariate PLS for omics-type data. *Advances and Applications in Bioinformatics and Chemistry*, 57-70. <https://doi.org/10.2147/aabc.s3619>
- Ramdas, M., & Mohamed, B. (2017). Perceptions of visitors and residents on impact of tourism activities towards quality of water in Redang and Perhentian Islands, Malaysia. *Asian Journal of Technical Vocational Education and Training*, 2, 1-7.
- Shafii, H., & Miskam, N. (2011). Pembentukan penunjuk dan indeks kualiti hidup bagi mengukur kesejahteraan hidup masyarakat di Pekan Parit Raja, Johor. *Persidangan Kebangsaan Geografi dan Alam Sekitar, Universiti Pendidikan Sultan Idris*.
- Shafikhullah, S. N. A., & Nayan, N. (2021). Impact of tourism activities on the economy of the community in the coastal area of Langkawi Island, Malaysia. *Forum Ilmu Sosial*, 48(1), 11-24. <https://doi.org/10.15294/fis.v48i1.30781>
- Shah, A. O., Ismail, F., & Mohd Jamal, N. Y. (2020). Impact of tourism development on the quality of life: A case study of Perhentian Island, Malaysia. *African Journal of Hospitality, Tourism and Leisure*, 9(4), 1-14. <https://doi.org/10.46222/ajhtl.19770720-2>
- Sharif, N. M., & Lonik, K. A. T. (2017). Community involvement in tourism entrepreneurship: A Case Study in Tioman Island, Malaysia. *International Journal of Multicultural and Multireligious Understanding*, 4(5), 42-56. <https://doi.org/10.18415/ijmmu.v4i5.103>