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MEGA PROJECTS AS A BIG PUSH FOR RURAL DEVELOPMENT AND TRANSFORMATION: A CASE STUDY OF TANJUNG KUPANG, JOHOR

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Abstract

Mega projects are currently seen as a catalyst for Malaysia's development as they can provide various benefits both in the city and the countryside. However, if the desired progress does not consider the socio-economic aspects of the community, the development will ignore their quality of life. Therefore, the impact of a mega project development in the Tanjung Kupang subdistrict became a research medium. This study examines the impact of a mega project development on the rural communities of the Tanjung Kupang subdistrict. A quantitative approach method was adopted, employing a questionnaire survey involving 61 heads of households as the study sample. Descriptive and inferential statistics were used to analyse the data collected. The findings identified several factors that greatly affected the socio-economic level of Tanjung Kupang rural communities, such as employment, income, and development location. The findings also indicate that the mega project in Tanjung Kupang has had an impact on the rural community in the subdistrict in terms of increased side income (4.48), increased communication and infrastructure networks (4.43), loss of income from agricultural source activities (4.33), and competition of foreign workers with local people (4.23). Therefore, this study may serve as a reference for assessing the impact of a mega project and giving awareness to the construction sector on the importance of social community involvement in any development planning.

Keywords: Mega Project, Rural Community, Rural Development, Socio-economic

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INTRODUCTION

In recent years, there has been a resurgence of interest in researching rural development and transformation to understand how mega projects influence urbanisation in rural areas. Projects have undeniably delivered various benefits to both urban and rural communities; they contribute to economic growth and improve infrastructure, thus enhancing the overall standard of living (Preston & Ngah, 2012; Ahmad et al., 2022). As a result, the significant disparity between urban and rural communities has been reduced. Malaysia has set ambitious strategic directions in its development plan, aiming to become a developed and competitive nation. The 12th Malaysia Plan (2021–2025) emphasises the promotion of high-impact development through industries and strategic activities as catalysts for economic growth (Rashid et al., 2023). The National Rural Physical Planning Policy 2030 recognises the importance of high-impact development in rural areas. The focus is empowering the rural economy and generating profitable and sustainable income opportunities for the rural community (PLANMalaysia, 2017).

The tenth pillar of the National Rural Development Policy 2030 emphasises the significance of housing, regional development, and rural settlement planning in alignment with the Sustainable Development Goals (SDGs). This includes prioritising the equality of quality of life and well-being between urban and rural areas, as well as within rural areas, by strengthening the roles of various development sectors (Ministry of Rural Development, 2018). Overall, research on rural development and the influence of mega projects on rural urbanisation has underscored the importance of strategic planning and sustainable development to create balanced growth and bridge the gaps between different communities in Malaysia.

The acceleration of local economic development and physical transformation through mega projects has had a profound impact on rural life, bringing about various changes. On one hand, these mega projects have acted as catalysts, creating opportunities for rural communities and stakeholders. They have led to the creation of local jobs, improved income levels, and facilitated better access for local products and services to both internal and external markets. These positive aspects have contributed to the overall upliftment of rural areas (Rashid et al., 2019a; Sieng & Kamarudin, 2021). However, along with the benefits, mega projects have also introduced new challenges and risks. One significant concern is the potential for an imbalanced development focus, where the needs of rural communities might be overlooked in favour of prioritising the interests of investors and clients associated with the mega projects. Such imbalances can lead to neglecting the socio-economic needs of the local population, raising questions about the sustainability and inclusivity of the development (Masamuddin & Rashid, 2022).

This article specifically examines the impacts of mega projects on the development and transformation of rural communities in Tanjung Kupang, Johor, shedding light on the complexities of this evolving rural-urban landscape. By considering both the positive advancements and potential challenges, it aims to provide a comprehensive understanding of the implications of mega projects on rural areas and their inhabitants.

LITERATURE REVIEW

Regional Development in Malaysia

Under the New Economic Policy (NEP) (1971–1990), regional development planning was formulated to become one of the channels to achieve the goal of poverty eradication and the restructuring of society in terms of social, economic and spatial components before the racial riot in Mei 1969. Among the strategies adopted by the Malaysian government was to introduce new land development in border areas. Apart from the main goal of poverty eradication and social restructuring, the Regional Development Authority (RDA) was given the following mandates: to correct economic and structural imbalances between regions, utilise the resource strength of underdeveloped states towards national economic development, strengthen agricultural and industrial development in less developed areas, shifting new development and growth to less developed areas and finally, urbanising rural agricultural areas (Quazi, 1987; Ngah, 2010; Sieng & Kamarudin, 2021; Masamuddin & Rashid, 2022).

Even after NEP ended in 1990, the focus towards regional development and transformation of rural and less developed regions remained as central attention to both the federal and state governments. During the 9th Malaysia Plan (MP) (2006–2010), the idea of corridor development as a vehicle to achieve balanced growth was proposed and launched in 2006. In the Mid-Term Review of the 9th MP, five economic corridors were announced including the Northern Regional Economic Corridor (NCER) covering the states of Perlis, Kedah, Penang and Perak in the north of Peninsular Malaysia, Iskandar Malaysia (IM) in the south of Johor, the East Coast Economic Region (ECER) covering Kelantan, Terengganu, Pahang and Mersing district in Johor. The remaining two corridors were located in East Malaysia i.e., the Sarawak Corridor of Renewable Energy (SCORE), and the Sabah Development Corridor (SDC) (Krimi et al., 2010; Ngah, 2011) (Figure 1).

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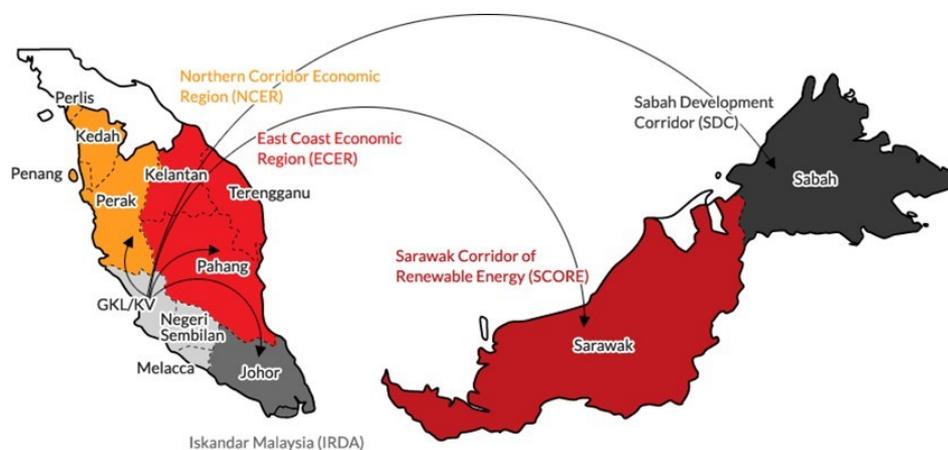


Figure 1: Regional Development Corridors in Malaysia
 Source: Economic Planning Unit (2021)

Committed investment from all corridors is encouraging despite the investments having been much lower and much work needed to lure the investors. Comparing the five investment corridors, the IM region is far ahead in terms of cumulative investment, and this can be expected as IM is close to Singapore and its developments are concentrated in several areas in Nusajaya, near the existing conurbation of Johor Bahru (Ngah, 2011; Sieng & Kamarudin, 2021). IM is also supported by vast and strategic land area and abundant resources and infrastructure, which, in turn, have boosted nine economic sectors namely Electricity and Electronics, Petroleum and Oleo-Chemical, Food and Agri-processing, Logistics, Tourism, Creative Industry, Healthcare, Education and Finance business.

Mega Projects as a Big Push for Rural Development

In simple terms, a mega project is a large-scale investment project. Siemiatycki (2017) defined mega projects as initiatives that are physical, very expensive, and for public interest. This type of project can reach more than a thousand million value of investment and attract public attention because of their enormous impact on society, the environment, and the development budget. Tanyanyiwa (2018) and Müller-Mahn et al. (2021) highlighted two main drivers for mega project development. First, for recognition that mega infrastructure projects are essential for the economic development of the country. Therefore, the Malaysian government has continuously developed infrastructure to cater for the growing demand for upgraded infrastructure resulting from economic growth and transformation. The second driver of mega project development is to meet socio-economic needs, including promoting the development of less developed regions

and rural areas in the country. Improvement and provision of infrastructure and public amenities caused by mega projects might increase the accessibility of regional development to the market to bring more balanced national development and overcome economic disparities (Rashid et al., 2019b).

Over the years, many mega projects have been developed. The 869-kilometre North-South Expressway (PLUS) from Johor Baru (south of Peninsular Malaysia) to Padang Besar (on the Thailand border in the north) is a dual-lane road project. PLUS highway is an example of major improvements to the country's road network. Many intercity highways have been developed by the private sector as mega projects and are toll roads (Solak, 2022). A more recent example is the Pan Borneo Highway (PBH) which stretches for 1,073 kilometres from Miri to Sematan, Kuching, and is equipped with four road lanes, including an overtaking lane at every kilometre to deal with frequent accident areas and improve accessibility (Rose & Imau, 2020).

Not only that, Malaysia has also developed mega projects for port areas, such as Tanjung Pelepas Port (PTP) in Johor. PTP is Malaysia's premier transshipment port, equipped with the latest facilities, equipment, and information technology systems that integrate all port users. In the Iskandar Malaysia region, there is also a mega project called Rapid Pengerang (Pengerang Integrated Petroleum Complex) which was planned under the National Major Economy of Malaysia Region (NKEA) (Rabe et al., 2014; Ngah & Saad, 2015). The overall development should generate a total investment of approximately RM 120 billion and is expected to increase the country's gross national income (GNI) by an additional RM 20 billion by 2020 (Rezayee et al., 2020). This project is also expected to create 50,000 new jobs during its construction and 4,000 jobs upon its completion.

The development of Forest City is also one of the mega projects in the Iskandar Malaysia region aimed at creating a smart eco-city that targets foreign investors, particularly from Singapore and China. Known for its artificial islands, Forest City aims to provide an integrated industrial activity hence providing employment opportunities and transforming the socio-economic status of the surrounding rural communities (Moser, 2020). Most of the mega projects were developed in the greenfield development in the rural areas. The direct and indirect benefits or impacts on the rural areas and their communities can be visualised into a spillover development coming from these mega projects, such as employment opportunities, establishment of new businesses, physical infrastructures and amenities, and accessibility improvements. These impacts were the catalyst for the rural developments.

Rural Socio-economic as Indicator for Rural Development

Razali and Rashid (2021) proposed two components to measure rural communities' socio-economic performance in development. Concerning the presence of a mega project, the focus of this article is on economic components (income and employment) and social components (health and education) (Rashid et al., 2019a; Yusoff et al., 2021) (Table 1). Figure 2 depicts the conceptual framework for examining the impact of mega projects on the socio-economic of rural communities.

Table 1: Socio-economic Variables of Rural Community

Variable	Indicators	Sources / References
1. Education	Education level	Ngah & Kamarudin (2015); Rashid et al. (2019b); Gustin & Abd Rahim (2020); Yusoff et.al. (2021)
2. Health	Health level	Rashid et al. (2019b); Gustin, & Abd. Rahim (2020); Rose & Imau (2020); Yusoff et.al. (2021)
	Ability to carry out the job	Gustin & Abd Rahim (2020); Razali & Rashid. (2021); Rashid et al. (2020); Yusoff et.al. (2021)
3. Income	Total household income	Rabe et al. (2014); Ngah & Kamarudin (2015); Tanyanyiwa (2018); Rashid et al. (2023)
	Side income	Rabe et al. (2014); Rezayee et al. (2020); Razali & Rashid (2021); Rashid et al. (2023)
4. Employment	Types of job	Ngah & Saad (2015); Tanyanyiwa (2018); Rashid et al. (2019a); Vorodam et al. (2022)

Based on Table 1 and Figure 2, the social and economic components of rural communities are divided into four variables: education, health, household income, and employment. Detailed descriptions of each component are as follows:

- a) Education: The rural communities' socio-economy is measured based on educational variables, which could relate to the economic background of individuals or family groups. Past studies have demonstrated the strong influence of education and household income level. A higher household income is said to be able to affect education, such as having a good level of education for an individual or family (Gustin & Abd Rahim, 2020; Yusoff et al., 2021).
- b) Health: A person's health level affects their income level. An individual with a stable income is closely related to his/her ability to obtain good health services, such as at a private clinic or hospital. A person's health affects his/her ability to work (Gustin & Abd Rahim, 2020; Yusoff et al., 2021).
- c) Income: This indicator refers to households in the socio-economic background that will be focused on in this research. Several factors influence socio-economic backgrounds and the income variable, including

the ability to support one’s own family and the monthly income rate (Razali & Rashid, 2021; Rashid et al., 2023).

- d) **Employment:** This indicator refers to the type of household job, the job sector, and the ability to carry out a given task/job effectively. This variable is important for measuring a family’s level of income in an area (Razali & Rashid, 2021; Rashid et al., 2023).

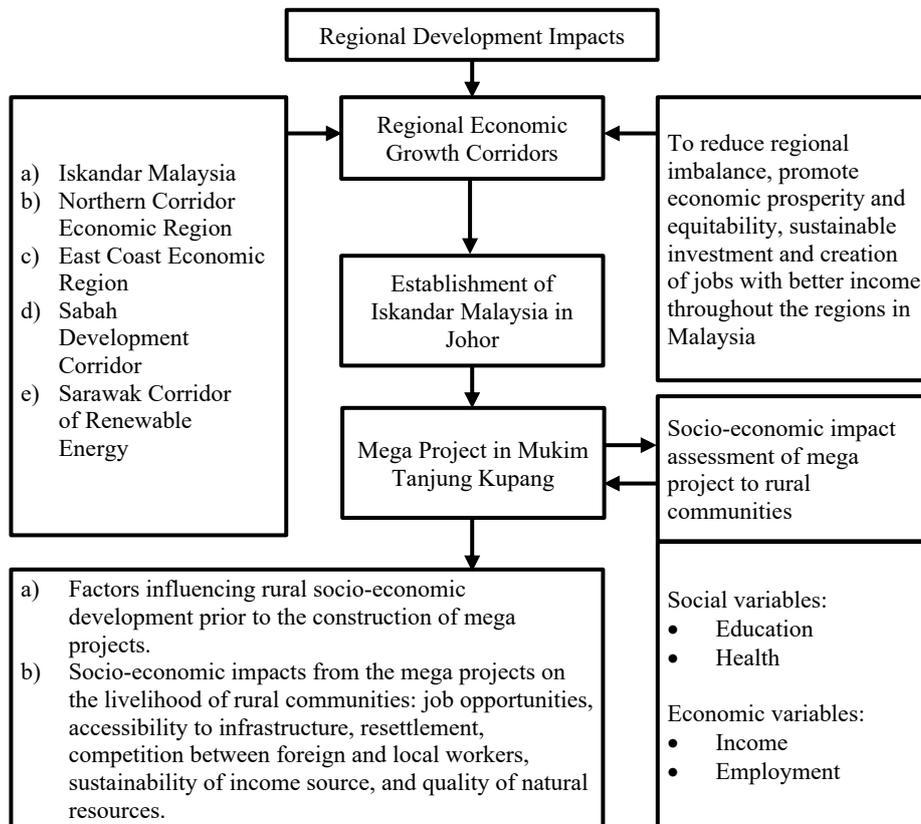


Figure 2: Proposed Conceptual Framework
Source: Author (2023)

RESEARCH METHODOLOGY

Study Method

The quantitative method is suitable for impact-related studies (Brannen, 2017). This study employed the quantitative method to collect opinions on the impact of mega project development on rural communities. The head of each household was selected as the sample size using a stratified sampling method. A total of 61 respondents were selected from 545 families in two villages, namely Kampung

Pok (44 respondents) and Kampung Tiram Duku (17 respondents), which are located in proximity to two mega projects nearby, namely Forest City and Tanjung Pelepas Port.

The data gathered through the questionnaire survey included background information on rural households and views on the impact of mega project development on rural communities. The impacts were assessed using a Likert scale appropriate for the impact study (Alabi & Jelili, 2023). Descriptive analysis using a mean score analysis and inferential analysis (t-test analysis) were performed. The mean score analysis was used to examine the impact of the mega project developments on rural communities in terms of six identified impacts: job opportunities, accessibility to infrastructure, resettlement, competition between foreign and local workers, sustainability of income source, and quality of natural resources. Meanwhile, the t-test analysis determined whether there was a significant correlation between the impact of mega projects (as independent variables) and the four socio-economic components of rural communities: education, health, income, and employment (as dependent variables).

Study Area

The study area selected for this research is situated near a cluster of two significant development projects, namely Forest City and Tanjung Pelepas Port, which have emerged around the Tanjung Kupang subdistrict. One of the primary reasons for these mega projects' appeal to domestic and foreign investments is the strategic location of Tanjung Kupang, which offers proximity to Singapore, hence the accessibility. Forest City and Tanjung Pelepas Port have played a crucial role in bolstering the national economy, particularly in terms of the socio-economic well-being of the local community. The positive contributions made by these projects to the overall growth of the economy cannot be overlooked.

In addition to their economic impact, it is noteworthy that these two mega projects are situated near several traditional villages, including Kampung Pok and Kampung Tiram Duku (Figure 3). These two villages have their own administration, namely *Jawatankuasa Pembangunan dan Keselamatan Kampung* (JPKK). There is a total population of 1575 and 610 residents, respectively. Their location is only within a one-kilometre radius of the mega projects. Therefore, the developments of Forest City and Tanjung Pelepas Port are expected to affect the communities of Kampung Pok and Kampung Tiram Duku directly and indirectly. Understanding the implications of these effects on the residents is an essential aspect of this study.



Figure 3: Location of Two Study Areas in Majlis Bandaraya Iskandar Puteri, Johor
Source: Author (2023)

ANALYSIS AND DISCUSSION

Finding on Economic Sectoral Occupation of Rural Communities

The study showed that rural communities in Tanjung Kupang subdistrict are involved in three job sectors which are their main source of income. Among the main employment sectors are the industrial sector (47.5%), the business sector (19.7%) followed by the service sector (18.0%). In terms of income level, this study found that most of the rural communities in Tanjung Kupang subdistrict are B40 group where their average monthly income is RM2,550 even though they are involved in the industrial sector as operators. Based on Figure 4 it can be concluded that the majority of household heads are working in the industrial sector in these two villages, which are 29 people (47.5%). It is due to a large industrial area, namely Port of Tanjung Pelepas (PTP), within the proximity radius of one kilometre from these two villages.

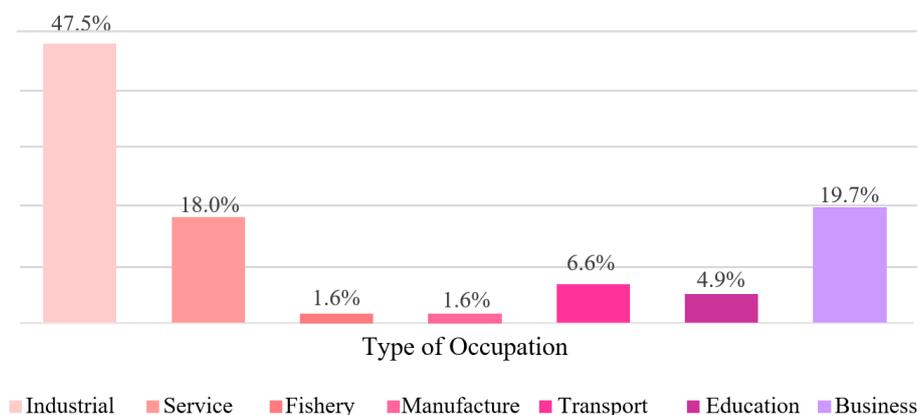


Figure 4: Background of Head of Households

The study found that the business sector with a total of 12 people (19.7%) and the service sector with a total of 11 people (18.0%) also contributed to the change in the type of occupations available within these two villages. However, only one head of household (1.6%) works in the fisheries sector. With regard to the rural community’s employment sector, most of the heads of households in the two villages are not involved in rural economic activities (such as the agricultural sector). This is because most of them prefer to work in the industrial sector for a more stable income.

Impact of Mega Project Development Towards Rural Development and Transformation

Six impacts were analysed to assess the significance of the mega project development, specifically Tanjung Pelepas Port and Forest City, on the rural development and livelihood of communities in the Tanjung Kupang subdistrict. The mega projects were found to have diverse effects on the rural communities in terms of job opportunities, accessibility to infrastructure, resettlement, competition between foreign and local workers, sustainability of income sources, and the quality of natural resources (refer to Table 2).

Table 2: Mega Project Development Impact on Rural Areas and Its Community

Impact	Mean Score*	Socio-economic Components Dependent Variable (t-test)**			
		1	2	3	4
Job Opportunities					
Mega projects have provided opportunities to venture into various job sectors	1.64	0.024*	0.000*	0.176	0.277
Accessibility to Infrastructure					
Basic infrastructure in the village is complete	4.03	0.014*	0.456	0.010*	0.028*

Impact	Mean Score*	Socio-economic Components Dependent Variable (t-test)**			
		1	2	3	4
and good					
Resettlement					
More villagers were moved to a new settlement	1.82	0.098	0.013*	0.025*	0.312
Level of satisfaction with the compensation received	2.00	0.042*	0.120	0.410	0.292
Competition between Foreign and Local Workers					
Foreign workers live in the village because the place of work is near the village	4.23	0.017*	0.388	0.133	0.015*
Communication competition between foreign workers and local people in key sectors in mega projects	4.43	0.000*	0.000*	0.000*	0.226
Sustainability of Income Source					
Mega project developments have improved villagers' income from specific sectors like industrial	4.48	0.008*	0.029*	0.008*	0.169
Yield from rural economic activities (agriculture) is decreasing	4.33	0.000*	0.022*	0.187	0.390
Quality of Natural Resources					
Natural resources in the village are not affected	3.20	0.365	0.299	0.410	0.013*
Natural disasters do not occur	3.33	0.038*	0.165	0.034*	0.009*
Villages often have problems with pollution, such as water, air, etc.	2.52	0.296	0.282	0.355	0.000*

Note*: Interpretation level (1.0-2.0) very low; (2.1-3.0) low; (3.1-4.0) high; (4.1-5.0) very high

Note**: Dependent Variables (1) Income; (2) Employment; (3) Education; (4) Health

*Significant value at 0.05

The impact on job opportunities reveals a concerning low level (mean score of 1.64) as the majority of rural communities in the Tanjung Kupang subdistrict lack the necessary startup capital to venture into the business sector. Consequently, they are unable to harness additional economic activities from the development of mega projects in their vicinity. The absence of financial resources poses a significant barrier to tapping into the potential employment opportunities these projects might bring. On the other hand, the impact on accessibility to infrastructure exhibits a commendable high level (mean score of 4.03). The multiplier effects of the mega project development have led to substantial improvements in basic infrastructure, particularly roads, which are now properly maintained. Furthermore, the rural subdistrict has experienced enhanced access to public transportation, facilitating smoother travel to the city centre of Johor Bahru, thereby fostering better connectivity and convenience for the local population. This finding is related to the Rashid et al. (2023) research, which

highlights the importance of rural-urban connectivity in improving the socio-economic performance of rural populations.

Regarding resettlement, the impact is considerably low (mean score of 1.82). The majority of the rural community in Tanjung Kupang subdistrict staunchly opposes the idea of relocating their settlement areas. This resistance may stem from their deep-rooted connections to their ancestral lands and cultural heritage, making them unwilling to uproot their lives and livelihoods for the sake of development projects. The competition between foreign and local workers, as indicated by most household heads (75.7%), has resulted in a significantly high impact (mean score of 4.43). The development of mega projects appears to prioritise workers fluent in English, and there is a notable influx of foreign workers imported from China. Consequently, the locals face fierce competition for employment opportunities in certain sectors, like construction and industry, leaving them at a disadvantage in securing jobs within the mega projects. Yusoff et al. (2021) proved that competition for employment opportunities is one of the main challenges for rural communities when big development projects take place within their proximity.

In terms of income source sustainability, the impact is impressively high (mean score of 4.48). Many household heads are involved in the industrial sector and secure stable monthly incomes. The completion of mega project developments, such as Tanjung Pelepas Port, has prompted a transition from traditional agricultural and fishery activities to more lucrative opportunities in the industrial sector, thereby boosting the financial well-being of the local population. Lastly, the impact on the quality of natural resources is relatively high (mean score of 3.20). The villages largely rely on the Sungai Perpal as their primary natural resource; fortunately, water pollution is not a regular occurrence. However, monitoring and conservation efforts are necessary to safeguard the sustainability of this vital natural resource and prevent potential environmental degradation in the future.

In addition, the correlation between the identified six impacts and socio-economic components can also be observed in Table 2. It was found that most of the impacts have a significant relationship to income. However, only selected impacts correlate with employment, education, and health.

CONCLUSION

In conclusion, this study successfully sheds light on the importance of considering the socio-economic impact on the surrounding communities when undertaking development projects. The objective of this research was achieved by identifying and analysing the impact of mega project development on the socio-economics of rural communities in the Tanjung Kupang subdistrict, with a particular focus on two selected study areas, Kampung Pok and Kampung Tiram

Duku. This study showed that high-impact or large-scale developments in rural areas can lead to positive and negative consequences for the local population. Consequently, it is imperative for all planning and development processes to thoroughly account for the potential impacts that rural communities may experience. Further research may cover different types of rural settlements in Malaysia, such as fishery villages, water villages, land settlement scheme villages, aboriginal villages, new villages, estate settlements, and planned villages, where the nature of economic activities and physical structure are different from that of a traditional village.

In addition, this study serves as an essential tool for measuring the real impact of mega projects' development and emphasises the significance of community involvement, particularly in sectors with high impact, such as industrial and real estate sectors. By actively engaging the community in the planning and development processes, developers can ensure that the resulting impact is positive and beneficial for everyone, particularly the surrounding communities. This awareness will foster a more inclusive and sustainable approach to development, where the well-being of the community remains at the forefront of decision-making.

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DISCLOSURE STATEMENT

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare absence of conflicting interests with the funders.

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