

# IMPACT OF EDUCATION HUB DEVELOPMENT ON SOCIO-ECONOMIC TRANSFORMATION OF RURAL COMMUNITY

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## ABSTRACT

*The establishment of an education hub represents an effective initiative aimed at expanding access to higher education for both local and international students. Besides education, it positively affects nearby rural communities in various ways like education, income, livelihood, and jobs. But for these benefits to happen, it is crucial to consider the broader context and the needs of the community when planning and developing an education hub. Sometimes, if the focus remains only on internal planning without considering the community's socio-economic dynamics, the positive impact might be limited. Hence, this paper aims to investigate the impact of education hub on the socioeconomic transformation of rural communities. To understand the full impact of an education hub on rural communities, a survey was conducted at the Pagoh Education Hub (PEH) in Johor, Malaysia. The study sample comprised 61 respondents from three villages situated within the education hub area. Quantitative data analysis was employed to identify key factors affecting the socio-economic landscape, including livelihood, education, employment, and income. The findings show the development of the Pagoh Education Hub created more job opportunities, better access to education, improved infrastructure, and a cleaner environment as well as high safety level despite having more non-*



*local people, like foreign workers and students coming to the area. These findings help assess how the Pagoh Education Hub has transformed the livelihoods of the nearby communities.*

**Keywords:** *Education hub development, Rural transformation, Community planning, Rural livelihood, Socioeconomic impact*

## INTRODUCTION

It is well-known that transformation is a change that can shape a situation for the better. Transformation can explain a change that occurs from a situation to a new and better situation (Preston & Ngah, 2012; Rashid et al., 2023). The transformation of society requires a long process as a highlight of human change or even the physical environment as well as social culture, which is a patterned change in quantity and quality of life. With that, a development aims to raise a more stable economic standard for a large group of people in terms of many ways including socioeconomic aspects. Socio-economic development is one of the main pillars of any rural development initiative (Razali & Rashid, 2021; Yusoff et al., 2021).

Rural development is an important aspect of the national development agenda. It is also a pillar in helping to improve the country's economy (Rashid et al., 2019; Sulaiman et al., 2022). Until now, there have been various efforts of economic growth and infrastructure development that have been channelled to improve the rural areas, especially the rural population in Malaysia (Ngah, 2010; KPLB, 2018; Masamuddin & Rashid, 2022). The Malaysian government has pledged its role in ensuring that every rural development must be in line with the efforts of the Government to ensure that development in Malaysia is balanced between urban and rural areas and to further ensure the well-being of the community regardless of place and economic function as mentioned in the Rural Development Policy 2030 and National Rural Physical Planning Policy 2030 (PLANMalaysia, 2017; KPLB, 2018).

The transformation of rural development is a process to develop rural areas and help in improving the economy of the rural population (Krimi et al., 2010). This is because the transformation of rural areas can provide

all basic infrastructure facilities as well as quality social services. The development of new areas includes various aspects of development such as educational development hubs that can directly or indirectly affect the local population in terms of types of jobs, income levels, and others (Tu & Long, 2017; Rashid et al., 2020). Hence, this paper aims to investigate the impact of education hub development on the socioeconomic transformation of rural communities in Malaysia. Pagoh Education Hub (PEH) in Johor is a suitable case study in examining the socioeconomic transformation of rural communities living within the proximity of this new development hub.

## **LITERATURE REVIEW**

The prosperity and well-being of a developing country are not only measured by economic achievements, but it is also measured by the quality of life and well-being of the people in general (Weimann et al., 2015; Rashid et al., 2023). Effective rural development needs to consider the well-being and quality of life of the rural population (Preston & Ngah, 2012; KPLB, 2018; Tanyanyiwa, 2018). However, if the desired development progress does not consider aspects of the well-being and socioeconomics of the community, then the development will ignore the quality of life and the level of well-being of a community group.

The concept of socioeconomics explains the transformation process that involves the combination of two variables, namely social and economic, to achieve progress in a place, whether in the city or the countryside (Yusoff et al., 2021; Rashid et al., 2023). The socioeconomic level of people living in rural areas is measured based on several main factors under the social and economic elements. Among the factors that become benchmarks for socioeconomic factors in rural areas are education level, income level, and type of employment (Rabe et al., 2014; Rashid et al., 2019). The socioeconomic factor of an individual is displayed through several components of social variables, namely livelihood and education aspects, while economic variables are divided into employment and income aspects (Razali & Rashid, 2021; Yusoff et.al., 2021).

Any type of development has a direct and indirect impact on the socioeconomics of the surrounding population including education hub

development. The concept of education hub development is to provide a quality and integrated education infrastructure with a catalyst for local economic growth and improving job opportunities, business, prospects, and the quality of life of the local community (Harris & Holley, 2016). This concept is also able to generate physical growth in the nearby areas with population growth and new communities, residential, commercial, recreational, industrial, and public facilities in line with the latest needs.

As an example, for the Malaysian context, the education hub development in Pagoh, Johor is one example to be examined as this education hub was developed in the rural area known as Panchor, a small town in Muar District, Johor located next to Muar River where agricultural and plantation activities as the main economic sector for the rural population. Based on the literature review, several factors under the economic and social variables might affect the socio-economic transformation of the rural population, specifically the new and existing population within the proximity of the education hub development area (Table 1):

**Table 1. Factors Impacting the Socioeconomic Transformation**

Factors	Indicators	References
Employment	Type of Employment	Ngah & Kamarudin (2015); Tanyanyiwa (2018); Rashid et al. (2019); Vorodam et al. (2022)
Income	Level of Income	Rabe et al. (2014); Tanyanyiwa (2018); Rezayee et al. (2020); Rashid et al. (2023)
Education	Formal Education	Ngah & Kamarudin (2015); Talmizi et al. (2021); Razali & Rashid (2021); Yusoff et.al. (2021); Rashid et al. (2023)
Livelihood	Livelihood Quality	Musinguzi et al. (2017); Iglehart (2018); Mohd Sakip et al. (2016); Razali & Rashid (2021); Yusoff et.al. (2021)

Source: Authors

These four factors namely employment, income, education, and livelihood within the development of education hub may impact the socioeconomic transformation of rural communities and are elaborated as follows:

- Employment and Income Factors with the Impact of Job Creation for Local Communities

The development of education hubs in rural areas has become a source of employment opportunities and earnings for the local community. The socio-economic transformation factors of rural communities towards the development of education hubs are influenced by the type of employment. Employment is one of the main factors under the economic capital of the socioeconomic transformation (Ngah & Kamarudin, 2015; Rashid et al., 2019). The existence of various job opportunities in the development of education hubs might help to improve the socioeconomic level of rural communities through the business sectors, especially in terms of services, food and beverages, and others (Tanyanyiwa, 2018; Vorodam et al., 2022). Besides that, the employment opportunities offered by the education hubs development through the establishment of public and private institutions were able to transform the socioeconomic level of rural communities through various types of jobs.

Income is one of the main factors under the economic capital for the socioeconomic transformation of rural communities as it is one of the indicators that can be measured through the level of income (Rabe et al., 2014; Rezayee et al., 2020). The level of income was reflected based on the type of employment that the individual was involved in, and this level of income might vary between the individuals and family groups (Rashid et al., 2023). The development of education hubs offered various types of employment with various levels of income based on economic sectors either within from the education hub itself or from the development spillover within the proximity of this education hub development (Tanyanyiwa, 2018). With a good source of income obtained because of the development of the education hub, the rural communities were able to support their families well and be free from the shackles of poverty due to no proper source of income.

•**Education Factor with the Impact of Access to Educational Institution and Impact of Infrastructure Development**

Education is one of the factors under the social capital for the socioeconomic transformation of rural communities (Razali & Rashid, 2021). The socioeconomic level of rural communities is measured based on the level of education which might relate to the economic background of individuals or family groups (Ngah & Kamarudin, 2015; Rashid et al., 2023). The strong influence of education level through formal education will enable the individual or family groups to transform their life through

proper employment with the appropriate income. With the new development of an education hub in the rural areas, more educational infrastructures and institutions were developed to cater to the demands of new and existing populations from primary schools to higher education (Mohd Talmizi et al., 2021; Yusoff et.al., 2021). Thus, the local community living within the proximity of this area were able to obtain high quality education without facing the possibility of dropping out.

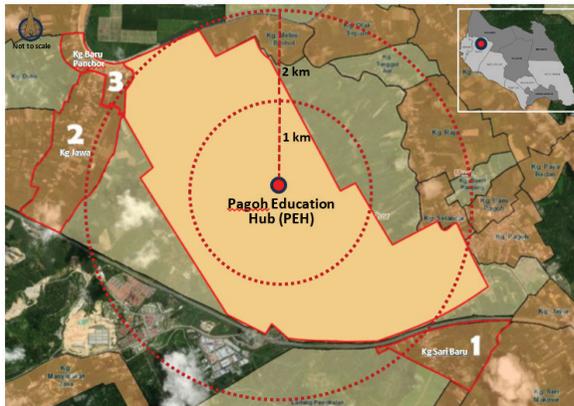
•**Livelihood Factor with the Impact of Environmental Quality and Safety Concerns**

In terms of livelihood, the level of livelihood of an individual might affect their employment and level of income. Livelihood is one of the factors under the social capital for the socio-economic transformation of rural communities (Sakip et al., 2016; Razali & Rashid, 2021; Yusoff et.al., 2021). An individual with a stable income is more likely to have the opportunity to have good livelihood services, such as health and safety facilities. With the new development of education hubs, various service facilities need to be provided based on the development and planning requirements from local authorities as well as the demand of the population for important service facilities, especially health services such as clinic, and hospital as well as safety facilities like guard house, and police station (Musinguzi et al., 2017; Iglehart, 2018). Hence, the good quality of health and safety services provided within this education hub can cater to new and existing populations, especially to the rural communities living within the proximity of this education hub and it might influence them with proper livelihood quality.

## **STUDY AREA**

The Pagoh Education Hub (PEH) is an example of an educational institution located in a rural area which was launched in 2011 and started operating in mid-2016. The development of the Pagoh Education Hub is one of the initiatives of the government to make Pagoh a developed city equipped with various types of educational institutions (Sengupta, 2015). This Pagoh Education Hub currently houses four higher educational institutions namely Universiti Teknologi Malaysia, Universiti Islam Antarabangsa Malaysia, Universiti Tun Hussien Onn, and Politeknik Tun Syed Nasir.

The Pagoh Education Hub is under the jurisdiction of Muar Municipal Council (MPM), and it is located approximately 25 kilometres from Muar city centre and 2 kilometres from the North-South Expressway exit (Pagoh exit), and it will be a catalyst and a positive change to the socioeconomics of the locals, especially to the rural communities in Pagoh and Panchor areas. The Pagoh Education Hub is located within the sub-district of Jorak and there are 34 villages located surrounding the education hub area and within the Jorak sub-district.



**Figure 1. Location of Pagoh Education Hub (PEH) and Three (3) Villages Selected as Study cases.**

Source: Authors

Out of 34 villages within the proximity of Pagoh Higher Education Hub (5-kilometre radius with average of 15 minutes' drive), three villages were selected as a case study in examining the socioeconomic transformation of the rural community within the proximity of the Pagoh Education Hub namely Kampung Sari Baru, Kampung Jawa, and Kampung Baru Panchor which are located within a distance 2-kilometre radius with less than 5 minutes' drive through the main road (Figure 1). The proximity of these villages to the Pagoh Higher Education Hub provides a good opportunity to analyse the direct and indirect impact experienced by the communities in these villages. With a total population of 2,555 people and 511 families from these three villages, their main economic activities are business, civil and private servants, and agriculture (Table 2).

**Table 2: Study Area Information and Respondents**

Village	Population	Family or Occupied Houses
Kampung Sari Baru	460	92
Kampung Jawa	1,255	251
Kampung Baru Panchor	840	168
Total	2,555	511

Source: PLANMalaysia (2023)

## METHODOLOGY

In this study, the quantitative method was used for data collection and analysis. The quantitative method approach was deemed suitable for the study to gain a complete understanding of a problem statement and research aim (Brannen, 2017). The researchers used a questionnaire instrument that was distributed to respondents consisting of heads of households in all three villages. The sampling frame was determined based on stratified random sampling whereby the number of respondents was calculated and distributed among each stratum (each village). Each village received a different number of respondents depending on the number of occupied houses. This is to ensure all villages have enough representatives for the questionnaire survey later.

This study meticulously selected a sample comprising 61 respondents (confidence level of 90 per cent with 10 per cent margin of error) consisting of heads of households in all three villages, with a breakdown of 11 respondents from Kampung Sari Baru, 30 respondents from Kampung Jawa, and 20 respondents from Kampung Baru Panchor. The deliberate focus of this respondent selection was solely on the heads of households from each respective village. Table 3 presents an overview of the sample distribution across villages in the study area.

**Table 3. Distribution of Respondents According to the Village**

Village	Num. of Houses	Percentage (%)	Targeted Sample	Achievement of Sample
Kampung Sari Baru	92	18	11	11
Kampung Jawa	251	49	30	30

Kampung Baru Panchor	168	33	20	20
Total	511	100	61	61

Source: Research Fieldwork in 2023

The data collection procedure involved conducting in-person surveys through door-to-door visits, where the researcher engaged in interviews with the respective heads of households for three weeks particularly during the weekend. The survey questionnaire encompasses two primary sections. The first section delves into background information regarding the respondent, encompassing demographic details and the current socioeconomic status of the respondent's family. Following this, the second section explores factors influencing the socioeconomic transformation of residents residing in proximity to the Pagoh education hub, as well as the socioeconomic impacts resulting from the presence of the Pagoh education hub.

For the data analysis, the researcher employed the descriptive statistical analysis method, utilising the SPSS software to extract essential statistical parameters such as percentage values, and mean scores from the collected data. Descriptive statistical analysis serves the purpose of characterising variables and facilitating conclusions drawn from numerical data. The mean or average score analysis involves computing the average value from a given score distribution. This calculation aims to ascertain the typical performance level or achievement attained by an individual or group in a particular measurement or assessment. It provides an overall overview of performance levels. Additionally, the analysis encompassed mode score identification, which entails pinpointing the scores that exhibit the highest frequency within the score distribution. The mode score represents the value that occurs most frequently in the dataset, offering insights into the most prevalent outcomes within the data (Kosnin & Lee, 2008).

**Table 4. Mean Score Range**

Mean Score Range	Category / Level
1.0 – 2.0	Low
2.1 – 3.0	Medium
3.1 – 4.0	High

Source: Kosnin & Lee (2008)

In this study, a few questions were subjected to mean score analysis to gauge the influence of the development of the Pagoh Education Hub on the socioeconomic status of rural residents residing in its vicinity. Mean score analysis was conducted to compute both the cumulative score and the average score, thereby providing a comprehensive record of the perspectives of the respondents regarding their perception of the impact of this substantial development project. The mean score analysis has been categorised into three distinct scale classifications, namely high, medium, and low, as detailed in Table 4. This categorisation serves as a valuable tool for evaluating the perceived fairness and equity in the development process.

## ANALYSIS AND FINDINGS

### Socioeconomic Factors of Rural Communities within the Pagoh Education Hub Development Area

This section investigates the influence and impact of various identified factors on the socioeconomic status of rural communities residing in the vicinity of the Pagoh Education Hub development. These factors encompass the respondent's livelihood status, educational attainment, income level, and employment type. The primary objective of this analysis is to determine potential associations between these influential factors and the income levels of the respondents. This examination is crucial for discerning disparities in socioeconomic status and income across different respondent groups. Therefore, it might offer a more profound insight into the influence of the development of the Pagoh Education Hub on the social and economic fabric of these rural communities. Results from the analysis are presented in Table 5.

**Table 5. Assessment of Socioeconomic Factors of Rural Community (all villages, n=61)**

Study cases (village)	Kampung Sari Baru (%)				Kampung Baru Panchor (%)				Kampung Jawa (%)			
	HD	D	A	HA	HD	D	A	HA	HD	D	A	HA
Factor 1: Employment												
Income differences according to type of jobs	0	9.1	36.4	54.5	0	5.3	36.8	57.9	0	3.2	32.3	64.5
PEH created various job opportunity	0	27.3	36.4	36.4	5.3	21.1	21.1	52.6	0	12.9	41.9	45.2

Job suitability highly dependent on the age and health condition of a person	0	18.2	54.5	27.3	0	10.5	36.8	52.6	0	3.2	38.7	58.1
Factor 2: Income												
Job creation during and after PEH completed	0	18.2	27.3	54.5	0	21.1	21.1	57.9	3.2	6.5	25.8	64.5
Better opportunity for part-time jobs (operating stalls, e-hailing, etc.)	0	18.2	27.3	54.5	0	21.1	26.3	52.6	3.2	3.2	29.0	64.5
Stable income would secure household economic status	0	0	45.5	54.5	0	0	31.6	74.2	0	0	25.8	74.2
Factor 3: Education												
Higher education level will lead to a better job opportunity	0	0	27.3	72.7	0	10.5	15.8	73.7	0	0	22.6	77.4
Quality education will create better health awareness	0	9.1	18.2	72.7	0	5.3	15.8	78.9	0	0	22.6	77.4
Factor 4: Livelihood												
Good livelihood will contribute towards higher productivity	0	0	36.4	63.6	0	0	21.1	78.9	0	0	12.9	87.1
Good livelihood offers better chances of getting a job	0	0	36.4	63.6	0	5.3	21.1	73.7	0	0	16.1	83.9
Livelihood problems will negatively affect household income	0	0	63.6	36.4	0	5.3	21.1	73.7	0	0	16.1	83.9

\*HD (Highly Disagree); D (Disagree); A (Agree); HA (Highly Agree)

Source: Authors

This study has summarised findings from data analysis as presented in Table 5 into the following statements:

1. All respondents from all villages (100%) agreed with the statement that good livelihood affects work productivity and the statement that good livelihood offers more opportunities to get a job. This conclusion is drawn by combining the percentages obtained for the "agree" and "highly agree" categories, as these two responses are at the same level (i.e., agree/support). All respondents (100%) from two villages, namely Kampung Sari Baru and Kampung Jawa, agreed with the statement that "livelihood problems will affect household income." Only 5.3% of respondents from Kampung Baru Panchor disagreed with the statement. This is because some respondents receive assistance from their working children.

2. The analysis is related to the education factor which found that all

respondents (100%) from two villages, namely Kampung Sari Baru and Kampung Jawa, agreed with the statement that "higher education will lead to better jobs." Only 10.5% of respondents from Kampung Baru Panchor disagreed with the statement because the level of education is not a guarantee that a person will obtain a better job. Even individuals with low education but technical skills can secure jobs with attractive salaries. Regarding the second statement, "Quality education can increase awareness of the importance of health," it was found that all the villages showed a high level of agreement, with percentages exceeding 90%. Kampung Jawa had 100% agreement, followed by Kampung Baru Panchor (94.7%) and Kampung Sari Baru (90.9%).

3. From the three statements which are related to income status, only the statement "stable income guarantees the economic status of the household" received 100% agreement from all three villages. Meanwhile, for the statement "the existence of jobs during and after the PEH project is completed," the three villages gave mixed responses, with 21.1% disagreeing (Kampung Baru Panchor), followed by 18.2% (Kampung Sari Baru). In Kampung Jawa, 6.5% of respondents disagreed, and 3.2% strongly disagreed with the statement given. This result may be related to the residents' observation that employment in the PEH construction area is dominated by foreign and non-local workers. As for the statement "the opportunity to do side work," it was found that 93.6% of respondents who agreed were from Kampung Jawa, 81.8% (Kampung Sari Baru), and 78.9% (Kampung Baru Panchor).

4. For the last two questions related to the type of job, the analysis revealed mixed responses between those who agreed and disagreed. For the statement "PEH creates various job opportunities," approximately 72.7% of respondents in Kampung Sari Baru agreed, compared to 27.3% who disagreed. In Kampung Baru Panchor, around 73.6% of respondents agreed, while 21.1% disagreed, and 5.3% strongly disagreed. In Kampung Jawa, 87.1% agreed, and the remaining 12.9% disagreed. For the statement "work suitability depends on the age and health condition of the individual," approximately 96.8% agreed (Kampung Jawa), followed by 89.5% (Kampung Baru Panchor) and 81.8% (Kampung Sari Baru).

## Impact of Pagoh Education Hub Development on Socioeconomic Transformation of Rural Communities

This section delves into the socioeconomic transformation brought about by the development of the Pagoh Education Hub within the surrounding rural communities. To assess this transformation, mean score analysis was applied. The impact of the hub's development encompasses various dimensions, including the creation of employment opportunities, improved access to educational institutions, enhancements in infrastructure facilities, shifts in environmental quality, and considerations regarding resident safety levels (Table 6).

**Table 6. Impacts of Pagoh Education Hub (PEH) on Socioeconomic Transformation of Rural Communities (all villages, n=61)**

Impact assessment	Highly Disagree	Disagree	Agree	Highly Agree	Mean score
<b>Impact 1: Job creation for local communities</b>					
The PEH provided many job opportunities	2 (3.3%)	8 (13.1%)	18 (29.5%)	33 (54.1%)	3.34 (High)
Job creation gives priority to the local people	3 (4.9%)	11 (18.0%)	17 (27.9%)	30 (49.2%)	3.21 (High)
New jobs created were compatible with people's level of education	2 (3.3%)	8 (13.1%)	20 (32.8%)	31 (50.8%)	3.31 (High)
<b>Impact 2: Access to educational institution</b>					
Family members were given a chance to enrol in PEH	3 (4.9%)	12 (19.7%)	23 (37.7%)	23 (37.7%)	3.08 (Medium)
Better access to higher learning education for the local community	3 (4.9%)	11 (18.0%)	22 (36.1%)	25 (41.0%)	3.13 (High)
<b>Impact 3: Infrastructure development</b>					
The basic infrastructure is in good condition	14 (23.0%)	11 (18.0%)	13 (21.3%)	23 (37.7%)	2.74 (Medium)
The developers have conducted regular maintenance works on the infrastructure	15 (24.6%)	9 (14.8%)	17 (27.9%)	20 (32.8%)	2.69 (Medium)
<b>Impact 4: Quality of the environment</b>					
Reported incidents of possible water, air and/or noise pollution	2 (3.3%)	31 (50.8%)	16 (26.2%)	12 (19.7%)	2.62 (Medium)
Soil erosion and fertility decline	12 (19.7%)	31 (50.8%)	15 (24.69%)	3 (4.9%)	2.15 (Medium)
<b>Impact 5: Safety concern</b>					

Reported incidents of breaking into homes, shoplifting, theft, etc.	11 (18.0%)	30 (49.2%)	19 (31.1%)	1 (1.6%)	2.16 (Medium)
Residents are very concerned about crime and their safety	10 (16.4%)	33 (54.1%)	17 (27.9%)	1 (1.6%)	2.15 (Medium)

Source: Authors

Table 6 highlights the highly favourable impact of job opportunities resulting from the Pagoh Education Hub Development. Notable aspects include the "number of job opportunities provided" with a mean score of 3.34 and "job opportunities aligned with individual education levels" (mean score of 3.31). Additionally, "prioritizing local residents" in job placements achieved a mean score of 3.21. These findings underscore the abundant employment opportunities available, which provide rural communities around the Pagoh Higher Education Hub a path to enhance their socio-economic statuses and foster economic stability.

In terms of local community access to educational institutions, the analysis indicates a high level of accessibility. "The ability of family members to pursue higher education at the Pagoh Education Hub" received a mean score of 3.08, slightly below the second component, "the Pagoh Education Hub's development providing easily accessible educational opportunities" (mean score of 3.13). These findings suggest that the Pagoh Education Hub's development could motivate eligible individuals in rural communities to pursue higher education, such as diplomas, degrees, or specialized studies, tailored to their interests and the offerings at the Pagoh Education Hub. Respondents also expressed agreement that the hub's development positively impacts access to educational institutions, raising awareness that they need not relocate or choose distant locations, ultimately encouraging the pursuit of quality education.

The analysis of the impact of infrastructure facility development yielded a lower level of impact, as indicated by both evaluation components scoring below 3.0. Specifically, the component "basic infrastructure in good condition" obtained an average mean score of 2.74, while "the developers' regular maintenance of infrastructure" received a slightly lower mean score of 2.69. The outcome aligns with respondents' opinions, indicating that infrastructure issues, such as damaged or poorly maintained sections of the main road by the involved developers, lead to inconveniences and pose safety threats to the rural communities residing in the vicinity of the

Pagoh Education Hub development.

The assessment of changes in environmental quality reveals a relatively low level of impact. The mean score for the first component, "occurrence of water, noise, or air pollution problems," stands at 2.62 (indicating a moderate level). Conversely, the second component, "the development of the Pagoh Education Hub affecting soil fertility in the surrounding area," receives a mean score of 2.15. This score indicates that respondents are not convinced that pollution issues, such as water, noise, or air pollution, are prevalent, nor do they perceive problems related to declining soil fertility due to the development of the Pagoh Education Hub. In essence, the hub's development does not appear to result in pollution, disruption of soil fertility, or significant livelihood concerns in the surrounding area.

Meanwhile, the analysis of mean scores for security risks associated with the development of PEH indicates a low level of concern, suggesting that there are no major security issues. For the component "there are crimes that occur, such as grazing, housebreaking, theft, and others", it received a mean score of 2.16, indicating a low level of occurrence. Similarly, the second component, "respondents' concern about security threats" also received a low mean score of 2.15. These mean scores indicate that the development of PEH is unlikely to lead to serious crimes and has the potential to enhance security and reduce the threat of crime, especially with the presence of more staff and students in the area.

## **CONCLUSION**

The findings indicate that the four factors examined in the analysis, namely livelihood, education, income, and employment type, exert a significant influence on the socio-economic development of the rural communities surrounding the Pagoh Education Hub development area. As mentioned in Table 5, most of the respondents also concurred that good livelihood enhances job productivity and provides greater employment opportunities for the community, subsequently generating income for households. This is because individuals with good livelihood can contribute to the labour market and stimulate economic activities such as trade and agriculture.

Furthermore, the findings reveal that the development of the Pagoh Education Hub has brought about various positive impact to the socio-economic well-being of the surrounding rural communities. Based on the data presented in Table 6, it can be concluded that most respondents agree that the Pagoh Education Hub's development offers diverse job opportunities and prioritises local residents. Additionally, respondents also agree to improved access to educational institutions, including higher education.

In summary, the implementation of the Pagoh Education Hub in rural areas holds the potential to continue benefiting the sustainable socioeconomic transformation of nearby rural communities. Given these positive effects, authorities and relevant stakeholders must maintain vigilant monitoring and ensure the proper implementation of this development, with a focus on the welfare of the community, environmental considerations, and safety.

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## **AUTHOR CONTRIBUTIONS**

All three authors were involved in the research design, administration of survey questionnaire, data collection and analysis, and the write-up of this manuscript. All authors have thoroughly reviewed and given their approval for the final manuscript, indicating their collective agreement on its content and findings.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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