

Strengthening Rural Resilience: Socio-Economic Adaptation in Post-Crisis North Malaysia

Azlyn Ahmad Zawawi¹, Intan Syahriza Azizan^{2*}, Junaida Ismail³, Mahadzir Ismail⁴, Ida Normaya Mohd Nasir⁵ & Mohd. Saifullah Alhany Abd Halim⁵

^{1,2,3}Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, Cawangan Kedah

⁴Faculty of Business and Management, Universiti Teknologi MARA, Cawangan Kedah

⁵College of Computing, Informatics and Mathematics, Universiti Teknologi MARA, Cawangan Kedah

⁶Malaysian Relief Agency, 2685, Jalan Joget 1, Taman Ria Jaya, 08000 Sungai Petani, Kedah.

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.9020060>

Received: 16 January 2025; Accepted: 22 January 2025; Published: 03 March 2025

ABSTRACT

The COVID-19 pandemic disrupted societies and economies worldwide, with rural communities facing unique challenges. North Malaysia is home to a significant rural population that has been significantly impacted by the pandemic. Thus, understanding the socio-economic factors that contribute to rural resilience in this context is crucial for developing effective policies and strategies for the region's post-COVID recovery. This paper aims to explore these factors by conducting a survey among 289 households in the poorest districts of North Malaysia, collecting data on household information, socio-economic status, lifestyle, and mental health effects of COVID-19. The study found that this study examines the resilience mechanisms adopted on the socio-economic activities, finance, and mental health of rural residents in North Malaysia. While these factors may be faced in other states due to the government's inclusive policies related to COVID-19, the impact on rural residents in North Malaysia may be more severe than residents in cities and high-income states. Overall, this study offers insights into rural adaptation strategies about rural residents in Kedah due to the COVID-19 pandemic and highlights the need for continued efforts to support rural resilience in the region.

Keywords— Covid-19, North, Malaysia, rural resilience, Socio economic

INTRODUCTION

Rural communities worldwide are continuously challenged by economic uncertainties, environmental disruptions, and shifts in social structures. These factors necessitate strong resilience mechanisms to ensure long-term sustainability and stability. This study examines the socio-economic resilience of rural households in North Malaysia, focusing on their capacity to adapt to economic shifts, mental health stressors, and evolving livelihood strategies. By analyzing the case of Kedah, this research identifies key drivers that strengthen community resilience and contribute to sustainable rural development. Rural areas are particularly susceptible to rapid changes in agricultural, forestry, and landscape services, all of which significantly influence their long-term viability (Heijman et al., 2007). Despite increasing recognition of resilience in various disciplines, rural resilience remains an underexplored concept. It is broadly defined as the ability of rural communities to anticipate, withstand, and recover from external pressures while safeguarding their economic and social well-being. This adaptability involves navigating evolving circumstances, absorbing shocks, and implementing transformations that uphold the community's core values and social fabric.

Despite the growing recognition of resilience in other contexts, rural resilience has received limited attention. The concept of rural resilience encompasses a rural region's capability to respond and adapt to evolving external circumstances while retaining a satisfactory quality of life for its inhabitants (Heijman et al., 2007; 2019). This capacity is influenced by various factors, including social, economic, environmental, and

institutional dimensions (Jie et al., 2023). Strengthening rural resilience requires a comprehensive approach that addresses these interconnected dimensions. Several recent studies have highlighted the importance of rural resilience in the face of global challenges such as climate change, urbanization, and natural disasters (Adger, 2000; Walker et al., 2006). These studies have shown that rural communities that are more resilient are better able to withstand and recover from shocks and stresses and are more likely to thrive in the face of change. One of the key factors that contributes to rural resilience is social cohesion (Lei & Wang, 2020). Strong social ties and networks provide support and assistance during times of crisis and help to build a sense of community that can foster resilience. Additionally, social cohesion can promote the sharing of knowledge and resources, which can be essential for adapting to new challenges. Economic resilience is also important for rural communities (Heijman et al., 2007). Communities that have diversified economies and strong local businesses are more likely to be able to weather economic downturns and maintain a satisfactory standard of living. Strengthening rural resilience requires a holistic approach that addresses all these dimensions. Governments, policymakers, and development organizations can play a crucial role in fostering rural resilience by investing in social infrastructure, promoting economic diversification, protecting ecosystems, and strengthening governance institutions.

LITERATURE REVIEW: RURAL RESILIENCE A COMPREHENSIVE OVERVIEW

Rural resilience can be defined as the ability of a rural region to adapt to changing external circumstances while maintaining a satisfactory standard of living (Heijman et al., 2007). This capacity is influenced by various factors, including social, economic, environmental, and institutional dimensions (Jie et al., 2023). Strengthening rural resilience requires a comprehensive approach that addresses these interconnected dimensions. The concept of resilience has gained prominence in various disciplines, including ecology, psychology, and disaster management (Gardner & Dekens, 2007). In the context of rural areas, resilience refers to the ability of rural communities and their ecosystems to adapt and recover from changes, disturbances, and shocks, while maintaining their social, economic, and environmental sustainability (Jie et al., 2023). It involves strengthening the capacity of rural areas to withstand and recover from various stresses and shocks, particularly in the face of global challenges such as climate change and the COVID-19 pandemic.

Li (2023) defines rural resilience as the ability of rural communities to adapt to risks and disturbances while maintaining system stability and minimizing losses. Rural resilience encompasses three key components: resistance, adaptation, and transformation. There are three primary approaches to measuring rural resilience (Li, 2023). Single-indicator approach relies on a single indicator, such as per capita income or poverty rate, to assess rural resilience. Multiple-indicator approach employs multiple indicators, encompassing economic, social, environmental, and institutional dimensions, to measure rural resilience. Meanwhile, a comprehensive approach integrates both quantitative and qualitative data to evaluate rural resilience, considering the complex interactions between various factors.

Unlike traditional rural development models that often focus on singular sectors, rural resilience takes a multidimensional approach. Payne et al. (2021) identified five key dimensions in measuring rural resilience: social, economic, environmental, institutional, and cultural. This comprehensive framework emphasizes the interconnectedness of these factors, underscoring the importance of regional specialization, adaptive transformations, landscape planning, and participatory decision-making (Heijman et al., 2019). Rural resilience offers a structured pathway for communities to not only withstand disruptions but also proactively strengthen their economic and social systems in response to evolving challenges.

The onset of the coronavirus disease (COVID-19) has initiated the most extensive global health emergency, leading to profound repercussions for economies across the globe (Gupta et al., 2021). The implementation of lockdowns and restrictions aimed at curbing the virus's transmission has compelled numerous businesses and economic sectors to cease operations. Malaysia, like many other countries, has implemented a series of lockdowns to control the pandemic's spread, leading to significant socioeconomic hardships for its citizens. Evaluating the pandemic's impact on household livelihoods is crucial, as the severity of the impact varies based on socioeconomic status and livelihood strategies. An individual household's resilience capacity is determined by its financial, social, physical, natural, and human capital (Wang et al., 2020). Therefore, this study primarily aims to investigate the factors influencing the impact of COVID-19 on rural livelihoods.

The Poverty Line Income (PLI) is employed in Malaysia for the purpose of monitoring poverty through the utilization of an income-based metric. The PLI has been revised accordingly to determine and monitor the poverty level of Malaysians. As stated by Economic Planning Unit (EPU, 2019), the average of PLI at national level is RM2,208 (USD499) per month. Kedah ranks among the states with the highest poverty rates in Malaysia. (Majid, et al., 2016). Kedah is located in the north-western corner of Peninsular Malaysia composed by 12 districts which are Baling, Bandar Baharu, Kota Setar, Kuala Muda, Kubang Pasu, Kulim, Langkawi, Padang Terap, Pendang, Pokok Sena, Sik dan Yan. In Kedah, the poverty is characterized as hard-core poor and poor. The average income value of the poverty line in 2016 was RM2,113 and increased to RM2,254 in 2019. The COVID-19 pandemic outbreak has substantially influenced household income and consequently altered the composition of household formations. Many households shifted from higher income decile group to lower income groups where 20 percent from the middle-income group (M40) with income between RM4,850 to RM10,959 have moved to the lower-income group (B40). Not only that, the higher-income group (T20) also was affected by COVID-19 pandemic where 12.8 percent have shifted to the middle-income group. Income distribution for B40 and M40 declined to 15.9 percent (2019: 16 percent) and 36.9 percent (2019: 37.2 percent). Meanwhile, T20 group increased 0.4 percent from 2019 to 47.2 percent of income (Department of Statistics Malaysia, 2020).

This paper serves as a preliminary exploration, shedding light on the factors affecting rural residents in North Malaysia amid the COVID-19 pandemic. The findings accentuate the urgency of sustained and targeted efforts to fortify rural resilience in the region, emphasizing the imperative for ongoing support initiatives to mitigate the profound and lasting impacts of the pandemic on this vulnerable demographic.

MATERIALS AND METHODS

A cross-sectional survey design was employed to gather comprehensive data, incorporating both questionnaire distribution and follow-up interviews. Secondary data was also collected through a thorough review of library resources, printed materials, public reports, and relevant journal articles to support the analysis. This mixed-methods approach ensured a robust understanding of rural resilience in Kedah.

Case Study Area: Kedah's Socio-Economic Context

Kedah, located in the northwestern region of Peninsular Malaysia, is among the states with the highest poverty rates in the country. In 2020, the poverty rate in Kedah was reported at 12.7 percent, an increase from 8.8 percent in 2019 (Mohamad et al., 2021). The state has a predominantly rural landscape, with a population of approximately 2.2 million people (Department of Statistics Malaysia, 2020). A significant proportion of its residents are engaged in agriculture, small-scale trade, and informal economic activities. Kedah's economy is heavily reliant on rice cultivation, earning it the title of "Rice Bowl of Malaysia." The state contributes up to almost 70 percent of the country's rice production, driven by vast paddy fields covering nearly 82,968 hectares of its land. Fishing, rubber plantations, and small-scale entrepreneurship form additional sources of livelihood. Despite these economic activities, limited diversification, seasonal employment, and inadequate access to financial resources contribute to the socio-economic vulnerability of its rural communities. Beyond economic factors, Kedah's social and cultural structure plays a crucial role in shaping community resilience. Strong communal ties, traditional leadership structures, and informal support systems are integral to rural life. The practice of *gotong-royong*, which emphasizes collective cooperation, remains a key mechanism for navigating economic and social challenges. These factors make Kedah an ideal case study for understanding rural resilience in the face of socio-economic uncertainties.

Sampling and Data Collection

A purposive sampling technique was employed to select 289 households from some of the most economically vulnerable districts in Kedah. The selection process considered the income levels and economic challenges of rural communities, ensuring that the study captured a representative sample of households facing financial hardship and social instability. The survey questionnaire was carefully designed to explore six core domains: demographic characteristics, economic resilience, financial stress, financial literacy, social resilience, and mental well-being. It examined household composition, employment patterns, adaptation strategies, financial

stability, debt management, and access to community support systems. The study also assessed the psychological impact of economic stressors, capturing the coping mechanisms adopted by rural households. To ensure the accuracy and reliability of responses, data collection was conducted through face-to-face interactions, allowing interviewers to clarify any ambiguities and enhance respondent understanding. The collected data was analyzed using the Statistical Package for Social Science (SPSS) Version 24.0 for Windows. Descriptive statistical methods, including frequency distributions and percentage analyses, were employed to examine demographic trends and resilience patterns.

Research Instruments

The survey instrument, consisting of six sections, extensively examined the impact of COVID-19 on respondents' lives. Section A covered demographic details, including education, employment, debt, and assets. Section B gauged the pandemic's influence on employment, income, financial situation, mental health, and daily activities. Section C focused on financial well-being, assessing habits, savings, and preparedness for emergencies. Sections D and E measured financial stress and literacy, respectively. Section F delved into mental health, evaluating symptoms of anxiety and depression. Overall, the survey provided a nuanced understanding of COVID-19's multifaceted effects on individuals and households, including financial well-being, stress, and mental health.

RESULTS AND DISCUSSION

Demographic Profile

Table 1 presents demographic data with frequencies and percentages for various categories. In terms of area, Kuala Kedah comprises 49.1 percent, Padang Terap 20.1 percent, and Wang Tepus 30.8 percent. The gender distribution shows 34.9 percent males and 65.1 percent females. Age distribution includes <25 years old (1.4 percent), 25-30 years old (3.8 percent), 31-40 years old (12.5 percent), 41-50 years old (21.2 percent), 51-60 years old (26.0 percent), and >60 years old (35.1 percent). Marital status consists of never married (4.2 percent), married (76.1 percent), divorced (4.9 percent), and widow/widower (14.7 percent). Regarding the number of households, 20.5 percent have <3 members, 65.7 percent have 3-5 members, and 13.8 percent have >5 members.

Table 1: Demographic profile of the respondents

	Frequency (n)	Percentage (percent)
<u>Gender</u>		
Male	101	34.9
Female	188	65.1
<u>Age</u>		
< 25 years old	4	1.4
25-30 years old	11	3.8
31-40 years old	36	12.5
41-50 years old	61	21.2
51-60 years old	75	26.0
>60 years old	101	35.1
<u>Marital Status</u>		

Never married	12	4.2
Married	217	76.1
Divorced	14	4.9
Widow/Widower	42	14.7
<i>No of household</i>		
<3	43	20.5
3-5	138	65.7
>5	29	13.8

Source: Researchers' data

Monthly Household Income

Table 2 shows the descriptive statistics of monthly household income of the respondents. On average, respondents earn RM750.15 (USD169) per month and this number falls below the national poverty line of monthly household income of RM2,208 (USD499) for households and RM1,169 (USD264) per household for the hard-core poor.

Table 2: Monthly household income

	N	Minimum	Maximum	Mean	Std. Deviation
Monthly house	260	0	3000	750.15	494.692
Valid N (listwise)	260				

Source: Researchers' data

Effect Of Covid-19 Towards Life And Mental Health

In this study, the effect of COVID-19 on life and mental health was measured using a 4-item Likert Scale ranging from 0 - no effect, 1 - little affected, 2 -moderately affected, and 3 -very affected. Respondents were required to answer 11 statements regarding life and 21 statements on mental health to assess the impact of COVID-19 on their well-being. These statements were provided in the Appendix. Table 3 indicates that COVID-19 had little effect on the mental health of the respondents (Mean = 0.5593, standard deviation = 0.662). However, the findings show that COVID-19 significantly impacted their daily lives, as evidenced by the highest mean score of 2.6159.

Table 3: Descriptive statistics for life and mental health

	N	Mean	Std. Deviation
Life	287	2.6159	.89658
Mental Health	287	.5593	.66248

Source: Researchers' data

The Relationship between the Effect of COVID-19 towards Life and Mental Health

In this paper, the relationship between the effect of COVID-19 on life and mental health was also examined. Table 4 indicates that a significant positive correlation was observed between these variables.

Table 4: Correlation between Life and Mental Health

		Life	Mental Health
Life	Pearson Correlation	1	.213**
	Sig. (2-tailed)		.000
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Researchers' data

The results presented in Table 4 indicate a significant positive correlation ($r = 0.213$, $p < 0.01$) between the impact of socio-economic disruptions on daily life and mental health outcomes among respondents. This finding suggests that individuals who experienced greater disruptions in their daily lives were also more likely to report adverse mental health effects.

DISCUSSION

The findings of this study provide insights into the resilience mechanisms employed by rural households in Kedah, Malaysia, in response to socio-economic disruptions. While the study initially examined the impact of external shocks, particularly those caused by the COVID-19 pandemic, the key focus remains on understanding how rural communities adapted to these challenges and what factors contributed to their resilience. The results indicate that a substantial proportion of respondents' households earned incomes below the national poverty line, reinforcing the persistent economic vulnerabilities faced by rural populations. However, rather than viewing this solely as an effect of the pandemic, the data suggests that households exhibited varying degrees of resilience by engaging in alternative income-generating activities, utilizing social support networks, and leveraging informal community resources to mitigate financial strain.

The study further highlights that while daily life was significantly affected by socio-economic disruptions, many households demonstrated resilience through adaptive strategies such as shifting to informal employment, participating in community-based economic initiatives, and modifying consumption habits to sustain financial stability. These findings align with previous research on rural resilience, which emphasizes the role of economic diversification, social capital, and access to local support systems in enhancing adaptive capacity. Although mental health was also impacted by external stressors, respondents generally reported a lower level of psychological distress compared to what might have been expected given the economic challenges. This outcome may be attributed to the presence of strong community ties and culturally embedded coping mechanisms, such as the practice of *gotong-royong*, which fosters mutual support and collective problem-solving.

A significant positive correlation between the disruptions in daily life and mental well-being was observed, reinforcing the importance of social and economic stability in maintaining psychological resilience. Households with greater access to economic resources, diversified income sources, and strong social support networks were better equipped to navigate uncertainties. These findings emphasize the necessity of policies and interventions that strengthen the resilience of rural communities, not just in response to past crises but in preparation for future economic and environmental challenges. By fostering financial literacy, expanding employment opportunities beyond agriculture, and promoting sustainable community-led initiatives, rural populations can enhance their capacity to withstand socio-economic shocks and sustain long-term well-being. This study emphasizes the need for resilience-focused strategies that integrate economic, social, and psychological dimensions. Moving beyond an impact-based analysis, future research should explore how

specific resilience-building measures; such as microfinance access, cooperative-based enterprises, and local governance participation, contribute to sustained rural development. These approaches will be instrumental in ensuring that rural communities in Kedah continue to adapt and thrive in an increasingly uncertain socio-economic landscape.

CONCLUSION

This study examined the socio-economic resilience of rural communities in Kedah, Malaysia, highlighting the factors that enable adaptation and sustainability in the face of socio-economic disruptions. The findings indicate that rural households faced significant financial instability and lifestyle changes due to external shocks. However, beyond simply experiencing the negative impacts of economic downturns, these communities demonstrated resilience through adaptive livelihood strategies, informal support networks, and economic diversification efforts. The study highlights the interconnected nature of economic resilience, social cohesion, and mental well-being in sustaining rural livelihoods. While financial instability posed challenges, many households mitigated its effects by engaging in alternative income sources, leveraging community-based support systems, and relying on traditional cooperative practices such as *gotong-royong*. Mental health outcomes were also influenced by these resilience mechanisms, as strong social ties helped buffer psychological distress despite economic uncertainties.

These findings provide valuable insights for policymakers and stakeholders seeking to enhance rural resilience beyond immediate crisis responses. Strengthening economic opportunities, expanding financial literacy programs, and fostering community-based initiatives can play a crucial role in ensuring long-term sustainability. Future policies should focus on empowering rural communities with access to diverse economic opportunities, social protection mechanisms, and mental health support to enhance their adaptive capacity in the face of future socio-economic challenges. By shifting the focus from short-term crisis mitigation to long-term resilience-building strategies, this study contributes to a broader understanding of rural sustainability. The insights gained can inform targeted interventions that promote rural prosperity, ensuring that communities in Kedah remain resilient, self-sufficient, and capable of navigating future uncertainties.

ACKNOWLEDGMENT

The authors wish to acknowledge the support provided by Universiti Teknologi MARA (Kedah) and the Malaysian Relief Agency Kedah for this study (Ref: MRA-KDH.100-12/1-[1]).

REFERENCES

1. Adger, W. N. (2000). Social and ecological resilience: Are they related? *Progress in Human Geography*, 24(3), 347-364.
2. Department of Statistics Malaysia [DOSM]. (2020). Laporan Sosioekonomi Negeri 2020. Retrieved 20th October 2023 from <https://www.dosm.gov.my/>
3. Economic Planning Unit [EPU]. (2019). Shared Prosperity Vision 2030: Towards a shared future for all Malaysians. Prime Minister's Department, Malaysia.
4. Gupta, D., Fischer, H., Shrestha, S., Ali, S. S., Chhatre, A., Devkota, K., ... & Rana, P. (2021). Dark and bright spots in the shadow of the pandemic: Rural livelihoods, social vulnerability, and local governance in India and Nepal. *World Development*, 141, 105370. Pp 1-12.
5. Hartwig, T., & Nguyen, T. T. (2023). Local infrastructure, rural households' resilience capacity and poverty: evidence from panel data for Southeast Asia. *Journal of Economics and Development*, 25(1), 2-21.
6. Heijman, W., Hagelaar, G., & Van der Heide, M. (2007). Rural resilience: A framework for conceptual analysis. In *Resilience, fragility, and vulnerability: Dynamics and governance* (pp. 49-68). Springer
7. Heijman, W., Hagelaar, G., & Van Der Heide, M. (2019). Rural resilience as a new development concept. *EU Bioeconomy Economics and Policies: Volume II*, 195-211.
8. Jie, W., Zhang, Y., Zhou, W., & Cai, B. (2023). Rural resilience in the new era of rural revitalization: A

- theoretical framework and research agenda. *Journal of Rural Studies*, 101, 118-129.
9. Lei, H., & Wang, J. (2020). Evaluation framework and influencing factors of rural resilience in China: A case study of Hubei Province. *Sustainability*, 12(14), 5912.
 10. Li, Y. (2023). A systematic review of rural resilience. *China Agricultural Economic Review*, 15(1), 66-77.
 11. Majid, M., Jaffar, A., Che Man, N., Vaziri, M., & Sulemana, M. (2016). Mapping Poverty Hot Spots in Peninsular Malaysia Using Spatial Autocorrelation Analysis. *Journal of the Malaysian Institute of Planner (IV)*, 1-16.
 12. Mohamad, N. A., Desa, N. H. M., & Kasim, M. M. (2021). Development of Poverty Index for Districts in Kedah by Using CRITIC and Simple Additive Weighting Methods. *Universal Journal of Accounting and Finance*, 9(4), 790-795.
 13. Payne, P. R., W. H. Kaye-Blake, A. Kelsey, M. Brown, and M. T. Niles. 2021. Measuring rural community resilience: case studies in New Zealand and Vermont, USA. *Ecology and Society* 26(1):2. <https://doi.org/10.5751/ES-12026-260102>
 14. Walker, B; Carpenter, S.R; Scheffer, M; Chapin, T; Rockstrom, J. & Folke, C. (2006). "The emergency of a Perspective for Social-ecological System Analyses. *Global Environment. Change*. Vol 16, 253-267
 15. Wang, Y., Zhang, Q., Bilsborrow, R., Tao, S., Chen, X., Sullivan-Wiley, K., ... & Song, C. (2020). Effects of payments for ecosystem services programs in China on rural household labor allocation and land use: Identifying complex pathways. *Land use policy*, 99, 105024.