The Role of Social Networks and Skills in Economic Activities: A Study of Extreme Poverty in Perlis

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Abstract

This study examines the role of social and human capital on the economic activities of the extremely poor in Perlis, Malaysia, particularly in the context of the COVID-19 pandemic and subsequent government interventions. The pandemic exacerbated global poverty, severely affecting middle- and lower-income groups. In Malaysia, the government responded with the Eradication of Extreme Poverty Program for Malaysian Families (BMTKM), targeting the extreme poor to enhance their economic activities through comprehensive support. This research focuses on the extremely poor households in Perlis, using primary data collected through face-to-face surveys. The study analyzes the role of social capital—measured through networks and empowerment and human capital, including education and skills, in income generation. The findings reveal that both forms of capital significantly influence income levels, with the impact intensifying after the introduction of the BMT program. The research highlights the importance of combining social and human capital to improve economic outcomes for the extremely poor, emphasizing the need for targeted government interventions that leverage these assets to achieve sustainable income growth. The study's results underscore the critical role of social networks, decision-making capabilities, and training in enhancing economic resilience among Malaysia's most vulnerable populations.

Keywords: Social capital, Human capital, Extreme poor, BMTKM and Economic activities

1.0 Introduction

Poverty has long been a global issue, but it has worsened significantly in the aftermath of the COVID-19 pandemic. The pandemic's unexpected spread severely disrupted economic activities, leading to the disappearance of some industries and plunging many middle- and lower-income groups into deeper hardship. In response, governments implemented various measures to revive the economy and provide relief to these vulnerable groups, ensuring a basic standard of living. In Malaysia, the lower-income group, known as the B40, includes households classified as poor or extremely poor. Those considered "extremely poor" have household incomes below the Poverty Line Income (PLI), set at RM1,169 or less. The PLI represents the minimum monthly income

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required for a household to meet basic needs for food and non-food items, ensuring a healthy and active life.

To address extreme poverty, the Malaysian government introduced the Eradication of Extreme Poverty Program for Malaysian Families (BMTKM) as part of the 12th Malaysia Plan (12MP) in 2022. This program provides comprehensive support, including mental and motivational development, financial management, marketing, entrepreneurship, technical skills, agriculture, and job matching. The BMTKM program is being rolled out in three phases, with the first phase targeting 80 pilot localities nationwide. The program aims to eliminate extreme poverty among heads of households (KIR) and their family members (AIR) by the end of 2025. Despite changes in national leadership in 2023, the commitment to reducing extreme poverty continues under the MADANI economic framework. As part of this framework, the government has become more aggressive in its efforts, as outlined in the 2023 budget, targeting 130,000 people in the extreme poverty category through the People's Income Initiative (IPR), which focuses on empowering the poor to achieve sustainable income levels.

In Malaysia, poverty is often understood in terms of a prosperous life, encompassing both material and spiritual well-being (Mohd Shaladdi et al., 2006). This broader understanding includes social capital, which refers to community relationships, and human capital, which relates to an individual's skills and training. A lack of these forms of capital can prevent individuals from enjoying a prosperous life. Within the MADANI economic framework, societal well-being is prioritized, with a focus on developing social and human capital based on core development principles.

Empirical studies have consistently shown that social capital—defined by trust, social norms, and networks—plays a crucial role in social and economic development (Roslan et al., 2012; Putnam, 1995; Narayan & Cassidy, 2001). The World Bank classifies social capital into five dimensions: groups and networks, trust, collective action, social inclusion, and information and communication. Social capital operates at three levels: the micro-level (individual or household networks), the institutional level (relationships within and between organizations), and the macro-level (broad social structures and norms influenced by political environments) (World Bank, 2002).

Social capital significantly influences a group's or nation's social and economic development (Putnam et al., 1993). For example, Roslan et al. (2012) found that social capital at the household level increases income and quality of life. In economic development, social capital can reduce transaction or bureaucratic costs, enhance GDP growth, improve labor market efficiency, lower crime rates, and increase the effectiveness of government institutions (Putnam et al., 1993; Narayan & Pritchett, 1999; Bhatt & Tang, 2002). It also helps explain variations in economic development performance across individuals, groups, and nations (Putnam et al., 1993), as socio-cultural factors influence social capital (Fukuyama, 1995; Putnam et al., 1993). In the context of extreme poverty, social capital reflects the socio-cultural life of individuals and groups.

Therefore, combining social and human capital can enhance individuals' and groups' ability to improve their economic activities. This study aims to identify the potential sources of social and human capital among the extremely poor based on baseline and post-program data. These forms

of capital represent the natural strengths that can help these groups initiate or sustain economic activities. For instance, the advantages of human capital, such as skills, can be amplified when combined with financial capital provided by the government. Similarly, the social capital of the extremely poor can be leveraged to support economic activities, ensuring that government assistance under the BMT program is effectively utilized. This study seeks to assess the impact of social and human capital, supported by physical capital provided by the government, on income generation through the BMT program. The following sections will cover a review of previous studies, research methodology, research findings, and policy implications and conclusions.

2.0 Literature Review

For urban poor communities, social networks play a vital role and are a key driver of socio-economic advancement (Jannick et al., 2023). Churchill and Mishra (2017) conducted a study in China to explore the relationship between trust, social networks, and the well-being of residents. Their findings revealed that social capital, which includes social relationships and trust, is positively correlated with well-being. They found that trust fosters social networks, and in turn, these networks further reinforce trust. Trust in both family members and non-family members like friends and neighbors significantly enhanced well-being.

Social capital also allows the poor to participate in collective actions, thereby accessing opportunities for income diversification. Research in rural China highlighted that social capital helped poor communities engage in land transfer and diversification of income sources, which significantly improved their income levels (Zhao & Lan, 2023). By relying on social networks, the poor can also reduce transaction costs and improve their access to resources and markets (Collier, 2002). This underscores the importance of strong social ties in empowering marginalized communities.

In the context of entrepreneurship or business, entrepreneurs rely heavily on a wide network of connections, both familial and non-familial, to navigate their dealings, especially during challenging economic times, such as during a recession. The support of family, friends, and organizations becomes crucial, representing a dimension of social capital known as social networks. These networks are examined through the lenses of the Communitarian View[2] and the Networks View[3]. According to Woolcock and Narayan (2000), the interaction between individuals and organizations in forming networks, building trust, and fulfilling obligations based on societal values and norms is a critical aspect of social capital in global economic transactions.

[2] This perspective equates local social capital at the organizational level with individual involvement in associations, clubs, and community groups. This perspective is an important contributor to the analysis of poverty by emphasizing the importance of social relationships in helping the poor manage risk and vulnerability (Woolcock & Narayan, 2000)
[3] This perspective refers to both vertical and horizontal relationships within community groups or between community groups and firms. These relationships can provide various meaningful services for the benefit of community members, such as reducing transaction costs in economic activities and so on. Entrepreneurs, for example, sometimes rely on their neighbors and friends (i.e., their 'bonding' social capital) to obtain insurance, credit, and support, requiring access to broader products and market factors for their businesses to grow. Economic development, from this perspective, occurs when social mechanisms of 'mutual cooperation or assistance' continue to take place in a particular area (Woolcock & Narayan, 2000)

In the field of microeconomic development, numerous studies underscore the importance of social capital in the growth of micro and small enterprises (MSEs) or self-employment activities. The interplay of social capital, physical capital, human capital, and financial capital is essential in determining a business's performance and competitiveness (Sulaiman & Saukani, 2007). Many studies emphasize the pivotal role of social capital in enterprise and business development. For instance, research by Sulaiman and Saukani (2007) found that social capital significantly influences a firm's competitiveness, highlighting the need for support networks from other firms or individuals to survive in the market. Roslan et al. (2010) also observed that social capital could increase income and subsequently reduce poverty in households. Cooke and Wills (1999) evaluated government programs that promoted cooperation among small and medium-sized enterprises (SMEs) to enhance innovation capacity by increasing social capital through networking. Their study showed that for many firms funded by schemes in Denmark, Ireland, and Wales (UK), social capital development was linked to improved knowledge, business performance, and innovation. These firms were given opportunities to form relationships with external innovation networks and to build institutional foundations for increasing social capital.

3.0 The Interplay of Social Capital and Human Capital in Economic Activities

In the context of developing economic activities, social capital and human capital are directly linked to physical capital. The Eradication of Extreme Poverty Program (BMT) program provides physical capital to the extremely poor to support their economic activities. This physical capital enables the activation of the existing social and human capital potential among the extremely poor, allowing them to overcome financial challenges and engage in or expand economic activities. As Fasorantini et al. (2006) and Rweyemamu et al. (2003) noted, extreme poor households often lack collateral and face high transaction costs, which hinder them from borrowing from financial institutions.

With the assistance of physical capital, these households can start new economic activities or expand existing ones. The BMT program also includes monitoring to ensure that physical capital is utilized effectively in economic activities and to address any challenges faced by the participants. Some households that received assistance were already engaged in economic activities, whether full-time, part-time, or were previously unemployed. The BMT program targets these groups to enhance their socio-economic status by combining social and human capital with the physical capital provided by the government. For those who are unemployed, the program offers an opportunity to initiate economic activities and increase household income. The diverse social networks that the extreme poor possess can streamline their economic activities and improve their welfare. The social capital within these networks can be utilized more efficiently and effectively, suggesting that the existing stock of social capital can be further developed and formalized through the BMT program.

4.0 Methodology

4.1 Data

This study uses primary data collected through a survey method, involving face-to-face interviews with respondents. The respondents consist of extreme poor individuals from Perlis who

participated in the BMT program. The sampling frame was based on *e-Kasih* data obtained from the Perlis Implementation Coordination Unit (ICU), and a total of 60 head-of-household (KIR) samples who were engaged in income-generating activities were analyzed. The study areas include three parliamentary in Perlis: Kangar, Arau, and Padang Besar (Table 1).

Table 1: Sample size and study area

Parliamentary	Sample
Kangar	20 (33.3%)
Arau	22 (36.7%)
Padang Besar	18 (30.0%)

4.2 Measurement of Social Capital and Human Capital

In previous studies, there have been disagreements about the foundations of social capital formation. Additionally, there are differing opinions on how social capital should be measured (Roslan et al., 2012; Stone & Hughes, 2002). However, in this study, social capital among the extreme poor only measures the dimensions of relationships/networks and empowerment. The network dimension is measured in more detail, covering three sub-dimensions: (i) Family & neighborhood relationships, (ii) Relationships outside the community with individuals, and (iii) Relationships outside the community with organizations. Meanwhile, empowerment consists of four dimensions: (i) Vision, (ii) Capabilities, (iii) Dependency, and (iv) Decision-making (Table 2). The items of the social capital dimension are surveyed on a five-point Likert scale and transferred into an index form via Principal Component Analysis (PCA).
Human capital is measured based on (i) Length of education (years), (ii) Digital skills (in the form of an index), and (iii) Training attended (1=Yes; 0=No).

Table 2.: Social Capital Dimensions

Dimension: Networks	Items
Family & neighborhood relationships	Frequency of access to parents
	Frequency of access to spouse
	Frequency of access to children
	Frequency of access to siblings
	Frequency of access to neighbors
Relationships outside the community with individuals	Frequency of access to village head/community leader
	Frequency of access to state legislative members (DUN)
	Frequency of access to members of Parliament
	Frequency of access to village committees (MPKK)
	Frequency of access to mosque/surau committee members
	Frequency of access to coworkers
Relationships outside the community with organizations	Frequency of access to government party members
	Frequency of access to opposition party members
	Frequency of access to federal government departments/agencies
	Frequency of access to state government departments/agencies

	Frequency of access to NGOs
	Frequency of access to district/city councils
	Frequency of access to schools
Dimension: Empowerment	Items
Vision	Has clear goals
	Has a life plan
	Feels life is meaningful
	Potential like others
	Proud of oneself
	Successful individual
Capabilities	Changes life without influence from others
	Changes with self-determination
	Helps others to change
Dependency	Needs guidance
	Needs support
	Needs assistance
Decision-making	Free to make decisions
	Makes decisions without influence from others
	Allowed to make decisions

4.3 Analysis and Estimation

The data is analyzed descriptively and inferentially. Descriptive analysis is presented in the form of tables using average and percentage statistics. Inferential analysis uses the ordinary least squares (OLS) regression analysis. Before analysis, this study takes into account various constructs of social capital based on definitions from literature reviews. The social capital construct variables are analyzed through factor analysis procedures to determine validity and sample adequacy (KMO statistics) and reliability analysis (Cronbach's alpha) to determine the internal consistency of the items studied before forming the index. The study that uses data comparison before (baseline data) and after (post-intervention data) is known as a pre-post study or a before-after study. This study is used to evaluate the impact social and human capital of a program or project intervention by comparing the conditions before and after its implementation. Therefore, two estimation models have been formed: the baseline regression model and the ongoing activity regression model. To ensure model goodness, issues of normality, multicollinearity, and heteroscedasticity are also tested. Below is the regression model measuring the impact of social capital and human capital on the income of economic activities among the extreme poor.

$$PP\ before\_i = \beta 0 + \beta 1SCi + \beta 2HCi + \beta 3Xi + ui \ldots\ldots\ldots\ldots\ldots (1)$$

$$PP\ after\_i = \alpha 0 + \alpha 1SCi + \alpha 2HCi + \alpha 3Xi + vi \ldots\ldots\ldots\ldots\ldots (2)$$

Where:

PP before_i = income before project to i
PP after_i = income after project to i
SCi = social capital to i
HCi = human capital to i
Xi = vector of household characteristics
α and β = coefficient
ui and vi = error terms

5.0 Finding

5.1 Reliability and Validity

As previously explained, internal consistency methods were used to determine the reliability of the instrument. Validity of the construct was obtained through factor analysis. Overall, the reliability level of social capital and human capital showed a Cronbach's Alpha exceeding 0.70. This value indicates that the reliability is good (Fauzi H, et al., 2014 & Hair et al., 2010). For determining validity, the Principal Component Analysis (PCA) procedure was used, referencing Bartlett's Test of Sphericity at a significance level (sig = 0.000) and a Kaiser-Meyer-Olkin (KMO) value exceeding 0.80. This indicates that the sample adequacy is reasonable (Hair et al., 2010).

5.2 Demographics, Social Capital and Human Capital

Tables 3a and 3b show the demographics of the respondents. They consist of gender, marital status, education level, BMT project, and average age. Most of the respondents are 80% male and 20% female. The majority of them are 78.3% married and 21.7% single. As for the highest educational achievement, the majority are 38.3% with SRP/PMR/LCE, followed by the second majority with SPM/SPMV/SMA/MCE. On average, they received formal education for 9 years. Their average age is within the productive age range, with an average of 47.8 years.

Business of food and beverage shops is their top choice, with approximately 25%, followed by carpentry/automotive workshops at 20%. They also engage in providing village services and processing traditional foods. These activities are supported by the government to be strengthened for generating higher income. For instance, they are provided with durable and high-quality grass-cutting and wood-cutting machines. Those skilled in sewing are given complete sewing machines to diversify their sewing products. Food and beverage outlets have been are supplied with or given additional assets to improve market access. This table provides a breakdown of respondent demographics, including gender, marital status, educational background, and involvement in BMT projects.

Table 3a: Respondent Demographics - Category Data

Characteristics	n	Percent
Gender		
Female	12	20.0%
Male	48	80.0%
Marital Status		
Single	13	21.7%
Married	47	78.3%

Characteristics	n	Percent
Education		
None	4	6.7%
UPSR/Penilaian D5	10	16.7%
SRP/PMR/LCE	23	38.3%
SPM/SPMV/SMA/MCE	21	35.0%
STU/STAM/STPM/Diploma	2	3.3%
BMT Project		
Miscellaneous village Services	11	18.3%
Miscellaneous village Services & Sewing/ Roti Canai & Food	10	16.7%
Food Processing & Sales (bread/ shrimp paste/ pancakes/ cakes)	9	15.0%
Food & Beverage Shop	15	25.0%
Carpentry/Auto Workshop	12	20.0%
Selling Machine Parts & Fruits	2	5.0%

Table 3b: Respondent Demography - Continuous data

	Mean	Std. Deviation
Age Head Households (Years)	47.8	8.32
Experience Education (Years)	9.2	2.12

Table 4 outlines the mean scores of two categories of social capital: empowerment and network dimensions. In the empowerment category, the "Index Vision" has the highest mean score of 0.75, suggesting that individuals or groups within this context have a strong sense of future direction or goals. The "Index Decision-making" follows with a score of 0.69, indicating a moderate level of involvement in decision-making processes. The "Index Dependency" has a mean score of 0.68, reflecting a relatively lower reliance on external support. Finally, the "Index Capabilities" has the lowest score of 0.64, indicating that the perceived or actual abilities within the group are less developed compared to the other empowerment dimensions.

In the network dimensions, the "Index in family and neighbor relationships" shows the highest mean score of 0.83, highlighting the strong bonds and connections among family members and neighbors. The "Index relationship with influential individuals" has a mean score of 0.41, which suggests moderate interaction or influence from key individuals in the community. Lastly, the "Index relationship with organizations/agencies" has the lowest score of 0.18, indicating minimal engagement or connection with formal organizations or agencies within the network dimensions. This low score could imply limited access to external resources or institutional support.

Table 4: Score Mean Dimensions of Social Capital

Social capital	Score Mean	Std. Deviation
Dimensions Empowerment		
Index Vision	0.75	0.17
Index Dependency	0.68	0.14
Index Decision-making	0.69	0.15
Index Capability	0.64	0.18
Index Digital of Business	0.41	0.28
Network dimensions:		
Index in family and neighbor relationships	0.83	0.19
Index relationship with influential individuals	0.41	0.30
Index relationship with organizations/agencies	0.18	0.24

Scale index Benchmarking:
0.75 < FI ≤ 1 – High level of community-individual relationships
0.5 ≤ FI < 0.75 – above the level of contact in the community- moderate access
0.25 ≤ FI < 0.5 - Level of contact in the community- moderate access
0 ≤ FI < 0.25 - Level of contact in the community - low access

Table 5 provides an overview of the skills and training status of a particular group extreme poor. It reveals that a significant majority, 63.3%, are unskilled, with only 36.7% possessing skills. Additionally, 80% of the individuals have never received any training, leaving just 20% who have had some form of training. This data highlights a potential gap in human capital development within the group, particularly in terms of skill acquisition and training opportunities.

Table 5: Human Capital

Human Capital	n	Percent
Skills:		
Unskilled	38	63.3
Skilled	22	36.7
Received Training:		
No	48	80
Yes	12	20

Table 6 summarizes the goodness of fit and diagnostic tests for the final Ordinal Least Squares (OLS) estimation model, demonstrating a satisfactory fit for the data. The R-Square values of 0.452 and 0.535 suggest that the models explain 45.2% and 53.5% of the variance in the dependent variable, respectively. The F-values of 2.613 and 3.838, along with significant P-values of 0.012 and 0.001, indicate that the models are statistically significant, meaning the independent variables collectively have a significant impact on the dependent variable. The sample size for both models is 60. The results from the Gleser heteroskedasticity test show that the P-values for all independent variables (IV) are greater than 0.05, indicating no evidence of heteroskedasticity. The Kolmogorov-Smirnov normality test results, with statistics of 0.076 and 0.068 and P-values of 0.200, confirm that the residuals are normally distributed. Lastly, the collinearity diagnostics

indicate that all Variance Inflation Factor (VIF) values are below 10, and tolerance levels are below 1, suggesting no significant multi-collinearity among the independent variables. Overall, these diagnostics support the robustness and reliability of the final OLS models .

This table provides the results of income equation estimates before and after project, showing the impact of various factors on income. Each factor's influence is represented by a coefficient and its corresponding t-value. The analysis helps to identify which factors significantly affect income and how these impacts change after the project.

Table 6. Results of Income Equation Estimation

	Before project		After project	
Variables	Coefficient	t-value	Coefficient	t-value
(Constant)	664.97	.751	671.12	.593
Gender	554.10*	1.723	570.81*	1.716
Marital Status	195.30	.650	312.33	.904
Age (Years)	-6.74	-.671	-.11	-.008
Experience of Education (Years)	-16.96	-.482	-9.87	-.217
Training	427.95**	2.621	637.59***	3.022
Index in family and neighbor relationships	-128.76	-.291	44.44	.080
Index relationship with influential individuals	329.51*	1.483	675.13**	2.423
Index relationship with organizations/agencies	83.58	.272	46.85	.122
Vision	806.54*	1.814	1284.58***	2.355
Index Dependency	-696.66	-1.260	-1619.30**	-2.280
Index Decision-making	1559.18***	2.922	1922.38***	2.336
Index Capabilities	-719.25	-1.393	-122.66	-.207
Index Digital of Business	147.06	.547	759.85**	2.251
R Square	0.452		0.535	
F value	2.613		3.838	
P value	0.012		0.001	
Sample size	60		60	
Hetro test: Gleser statistics	P value for all IV > 0.05		P value for all IV > 0.05	
Normality test: Kolmogorov-Smirnov statistics	0.076 & p=0.200		0.068 & p = 0.200	
Colinearity test:				
VIF statistics	<10.0		<10.0	
Tolerance	<1.0		<1.0	

***significant level = 0.01, **sig. = 0.05, and * sig. = 0.10.

Before the project, several factors showed a significant impact on income at different levels of significance. Gender had a positive and marginally significant effect on income, indicating that gender might play a role in income determination, though the influence is somewhat weak. Training emerged as a significant factor, positively impacting income at the 0.05 level, suggesting that individuals with more training tend to earn higher incomes. Similarly, relationships with

influential individuals and vision had positive effects, significant at the 0.10 level, indicating that these social capital aspects slightly contribute to income generation. The most substantial impact was seen in decision-making, which was significant at the 0.01 level, showing that the ability to make decisions strongly correlates with higher income.

After the project, the influence of these factors generally intensified. Training became even more significant (at the 0.01 level), reflecting its increased importance in income generation post-project. The effect of relationships with influential individuals also strengthened, becoming significant at the 0.05 level, indicating that social networks gained more importance. The impact of vision and decision-making also increased, with both becoming significant at the 0.01 level, highlighting their critical roles in determining income after the project. Nevertheless, the Dependency Index has a considerable negative influence on post-project income, demonstrating that relying on others might impair the project's potential to be self-sustaining. However, we realise that the extreme poor require assistance during the early stage of BMT implementation until they can be self-sufficient. The introduction of the Index Digital of Business as a significant factor post-project further underscores the growing importance of digital business skills in influencing income, showing a positive and significant effect at the 0.05 level. These changes reflect a shift in the key determinants of income, emphasizing the increasing importance of skills, social networks, and decision-making in the post-project period.

6.0 Discussion and Conclusion

The study identifies key factors influencing income and economic development, focusing on social capital, skills, training, and external networks. These findings align with research on human capital, social capital, and institutional support in poverty reduction.

Social capital—networks, norms, and trust facilitating group cooperation (Putnam, 2000) is crucial for economic development. Strong ties with family and neighbors enhance resource-sharing and cooperation (Granovetter, 1973). However, weak ties with influential individuals and organizations limit access to broader resources, reducing income and skill development opportunities (Bourdieu, 1986).

Training significantly impacts income, especially post-project, supporting human capital theory, which states that education and training boost productivity and earnings (Schultz, 1961). The study reveals that 63.3% of respondents are unskilled, and 80% lack training, highlighting a critical gap in human capital (Becker, 1994). Targeted training programs are essential to improve employability and entrepreneurship.

Higher decision-making capacity correlates with increased income, underscoring the importance of empowerment—the ability to make and implement choices (Kabeer, 1999). Empowerment enhances control over resources and opportunities, directly affecting economic outcomes (Alsop, Heinsohn, & Somma, 2005). Integrating human capital, social capital, and empowerment in policy is vital for improving income and reducing poverty. Training, network expansion, and digital literacy initiatives are essential for uplifting underserved communities.

Acknowledgment

This research was funded by the Ministry of Economy through the research title *Basmi Miskin Tegar Keluarga Malaysia* 2022-2025 (S/O Code 21306).

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