

The Influence of Demographic Factors on Agricultural Entrepreneurial Skills among Rural Youth in Sabah: A Mixed-Methods Study

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Abstract

Agricultural entrepreneurship has increasingly been recognised as a critical driver of rural socioeconomic development, particularly among youth who often face limited employment opportunities. This study aims to examine the influence of demographic factors on agricultural entrepreneurial skills among rural youth in Sabah using a mixed-methods approach. The quantitative phase involved 361 rural youths aged between 18 and 40 years, selected through purposive sampling. Data were collected using a structured questionnaire measuring youth knowledge and agricultural entrepreneurial skills and analysed using inferential statistics in SPSS. The findings revealed a strong and significant positive relationship between youth knowledge and agricultural entrepreneurial skills. Occupational background, both at the individual and family levels, was found to significantly influence skill

development, with youths from self-employed or business-oriented families demonstrating higher levels of initiative, adaptability, and market awareness. The qualitative phase, which involved semi-structured interviews with six rural youths engaged in agricultural entrepreneurship, further revealed that socioeconomic classifications (B40, M40, and T20) play a substantial role in shaping entrepreneurial skills through differential access to capital, training, and networks. The integration of quantitative and qualitative findings provides a nuanced understanding of how demographic and socioeconomic factors jointly shape agricultural entrepreneurial competencies. These findings offer important implications for policymakers, training institutions, and development agencies in designing targeted, inclusive, and sustainable rural youth entrepreneurship programmes aligned with local realities.

Keywords: Demographic Factors, Family Occupational Background, Agricultural Entrepreneurship, Youth Skills, Rural Sabah

Introduction

Agricultural entrepreneurship is increasingly recognised as a crucial engine for rural socio-economic development, particularly among youth who often face constrained employment opportunities in non-urban settings (Shaari et al., 2025). Beyond its role in enhancing food security and promoting sustainable resource management, agricultural entrepreneurship has been shown to contribute significantly to poverty alleviation and long-term economic resilience in rural communities (Abu Bakar et al., 2022). In the context of Sabah, agriculture remains a central pillar of the state's economy and rural livelihood systems, supported by abundant natural resources and extensive land areas suitable for agro-commercial activities. For rural youth, engagement in agricultural entrepreneurship represents not only a viable source of income but also an important pathway for developing innovation, leadership, and self-sufficiency. However, the extent to which young people can successfully participate in this sector is largely influenced by the entrepreneurial skills they possess.

In Malaysia, socio-economic conditions are commonly understood through household income classification, which categorises households into three main groups: the Bottom 40 per cent (B40), Middle 40 per cent (M40), and Top 20 per cent (T20), based on national income distribution. This classification framework is widely used as a policy instrument to assess inequality, target development programmes, and guide socio-economic planning. Rural youth, particularly those from B40 and lower M40 households, often face structural disadvantages such as limited access to quality education, financial capital, and entrepreneurial exposure, which may constrain their ability to acquire and develop entrepreneurial skills. Consequently, household income status is increasingly recognised as an important contextual factor shaping youth participation and performance in agricultural entrepreneurship.

Empirical studies consistently demonstrate that entrepreneurial skills do not develop in isolation but are strongly shaped by demographic and socio-economic backgrounds. Factors such as educational attainment, family occupational history, gender, and place of residence have been found to significantly influence entrepreneurial inclination, intention, and skill development (Silva et al., 2010). More recent research further indicates that socio-economic characteristics, including income level, age, and farming systems, play a decisive role in shaping youth attitudes towards agricultural entrepreneurship, while persistent barriers such

as limited financial resources, inadequate infrastructure, and socio-cultural norms continue to hinder meaningful engagement, particularly among lower-income groups (Shaari et al., 2025).

In addition, demographic variables have been shown to significantly influence technology readiness and adoption, which has become an increasingly important component of modern agricultural entrepreneurship. Recent empirical evidence from East Malaysia suggests that characteristics such as gender, age, and educational attainment affect farmers' motivations and behavioural intentions to adopt digital and financial agricultural technologies (Yap et al., 2023). These findings highlight that demographic and income-related characteristics do not merely describe rural youth populations but actively shape their entrepreneurial capacities, technological engagement, and competitiveness within the agricultural sector

Against this backdrop, the present study seeks to examine the influence of demographic factors, including household income classification (B40, M40, and T20), on the agricultural entrepreneurial skills of rural youth in Sabah. By focusing on socio-economic and demographic variables, this study aims to provide a nuanced understanding of how differences in background shape entrepreneurial competencies among rural youth. The findings are expected to contribute empirically to the existing literature while offering practical insights for policymakers, training institutions, and development agencies in designing targeted, income-sensitive interventions that support inclusive and sustainable rural development in Sabah.

Background of the Study

Agricultural entrepreneurship in rural areas, particularly among youth, plays a vital role as a driver of economic growth and poverty reduction. In Sabah, this sector holds significant potential due to its abundant natural resources and vast land areas suitable for agro-commercial activities. However, the participation rate of youth in agricultural entrepreneurship remains relatively low, raising important questions about the factors that influence their skills and level of involvement (Rahman et al., 2021). Among the critical factors frequently associated with this issue are demographic dimensions such as educational attainment, socioeconomic status, work experience, and exposure to modern technologies (Kasim & Ahmad, 2022).

A study by Idris and Samad (2020) revealed that although agricultural entrepreneurship opportunities are expanding, many rural youth fail to fully capitalize on this potential due to constraints such as limited access to capital, insufficient technical knowledge, and inadequate business management skills. This situation is consistent with the findings of Mohd Noor et al. (2023), who emphasized that the inability to adopt and apply modern agricultural technologies constitutes a major barrier for young people to remain competitive in the market. The lack of such skills not only reduces productivity but also limits the capacity of rural youth to improve their socioeconomic well-being.

Socio-cultural factors also play a decisive role. Tan et al. (2021) found that the perception of agricultural entrepreneurship as a less attractive career path has led many young people to prefer employment in urban sectors. This is further reinforced by Abdullah and Hassan (2022), who reported that youth migration to urban areas has directly contributed to the

shortage of skilled labor in the rural agricultural sector. The declining interest in agriculture is also linked to the lack of early exposure and limited educational programs focusing on agricultural entrepreneurship at both school and higher education levels

Within the specific context of Sabah, geographical challenges such as remote locations, inadequate infrastructure, and limited market access represent major obstacles to the development of agricultural entrepreneurial skills (Yusof et al., 2023). The absence of strong marketing networks makes it difficult for rural youth agricultural products to penetrate wider markets. Consequently, this reduces their motivation to actively participate in the sector. Addressing these issues requires strategic interventions that combine skill development, technological support, and improved market access.

Given these challenges, investigating the influence of demographic factors on agricultural entrepreneurial skills among rural youth in Sabah is both timely and necessary. The findings of this study are expected to contribute to the formulation of more targeted, relevant, and impactful youth development policies and programs. By deepening the understanding of the relationship between demographic factors and entrepreneurial skill levels, stakeholders will be better positioned to design effective strategies aimed at empowering young people in the agricultural sector

Problem Statement

Sabah possesses substantial potential to contribute to national food security and rural economic development; however, youth participation in the agricultural sector remains persistently low. This paradox reflects a broader concern within the social sciences regarding the declining engagement of young people in primary sectors, despite increasing policy emphasis on agriculture as a pathway for inclusive and sustainable development. Recent empirical evidence from Sabah indicates that structural barriers such as high production costs, inefficient infrastructure, and limited exposure to modern agricultural technologies continue to discourage youth involvement in agricultural entrepreneurship (Musa et al., 2024). These constraints undermine the sector's attractiveness and weaken its capacity to function as a viable long-term income-generating avenue for rural youth.

Beyond structural challenges, social science debates increasingly highlight the importance of family and social environments in shaping entrepreneurial skills and orientations among youth. Nevertheless, the influence of family occupational background remains underexplored within the context of agricultural entrepreneurship in Sabah. While prior studies suggest that exposure to family self-employment or business activities can foster confidence, resilience, and entrepreneurial orientation among young people (Abu Bakar et al., 2020; Che Embi & Rahman, 2023), empirical research examining how such backgrounds translate into concrete agricultural entrepreneurial skills is limited. This gap restricts the ability of policymakers and practitioners to design youth development interventions that adequately account for intergenerational and social capital influences on skills formation.

In addition, demographic factors such as geographical location, educational attainment, and gender have been widely acknowledged in the literature as significant determinants of entrepreneurial intention and skill development. Studies by Shaari et al. (2025) and Hussin and Ismail (2021) demonstrate that rural locality, lower levels of education, and gender

disparities continue to shape unequal access to entrepreneurial opportunities. However, existing studies often examine these factors in isolation or within broader national contexts, with limited attention given to their combined and context-specific effects on agricultural entrepreneurial skills among rural youth in Sabah. This lack of integrated analysis limits the explanatory power of current research and reduces the effectiveness of locally tailored policy responses.

Furthermore, contemporary discussions in rural development and youth studies increasingly emphasise the role of technological capability and institutional support in enhancing entrepreneurial competitiveness. In Sabah, limited access to training programmes, smart farming technologies, and digital marketing platforms further exacerbates existing inequalities faced by rural youth. Empirical findings indicate that young farmers who lack exposure to digital training and technological support are less able to compete in open markets and are consequently constrained in their entrepreneurial skill development (Musa et al., 2024; Kim et al., 2025). These limitations reflect broader structural and institutional gaps that disproportionately affect youth in peripheral and rural regions.

Taken together, the existing literature points to a critical research gap, the absence of a comprehensive empirical examination that integrates demographic factors, such as family occupational background, location, education, and gender, with enabling and constraining conditions, including access to training, technology, and community support. As highlighted by Abu Bakar et al. (2022) and Shaari et al. (2025), addressing this gap is essential for advancing scholarly debates on youth entrepreneurship and rural inequality, as well as for informing the design of inclusive, evidence based policies. Without such an integrated understanding, efforts to strengthen agricultural entrepreneurial skills among rural youth in Sabah risk remaining fragmented, inefficient, and insufficiently responsive to local realities.

Research Objectives

1. To determine the relationship of the independent variables of Youth Knowledge (YK) with Agricultural Entrepreneurship Skills (AES).
2. To examine how demographic factors, particularly within the framework of socioeconomic classifications, shape the development of agricultural entrepreneurial skills in rural Sabah
3. To construct a model of agricultural entrepreneurial skills based on the socioeconomic classifications of high-income, middle-income, and low-income

Research Questions

1. Is there a relationship between the independent variables of Youth Knowledge (YK) and Agricultural Entrepreneurship Skills (AES)?
2. In what ways do demographic differences, within the context of socioeconomic classifications, influence the development of agricultural entrepreneurial skills among rural communities in Sabah?
3. How can a model of agricultural entrepreneurial skills be developed based on the socioeconomic classifications of high-income, middle-income, and low-income?

Research Hypothesis

To address the research objectives and questions stated above, the researcher formulated the following null hypothesis:

H0¹: There is no relationship between the independent variables of Youth Knowledge (YK) and Agricultural Entrepreneurship Skills (AES).

Literature Review

Differences in agricultural entrepreneurial skills among rural youth across B40, M40, and T20 households are closely linked to unequal access to social and human resources. From a social capital perspective, youth from T20 and higher M40 backgrounds are more likely to grow up in environments that expose them to business networks, entrepreneurial role models, and supportive institutional connections, which collectively strengthen confidence and perceived control over entrepreneurial activities. In contrast, B40 youth often operate within more limited social and institutional networks, making it more challenging for positive attitudes toward agriculture to be translated into active entrepreneurial engagement. At the same time, insights from human capital theory suggest that education, skills, knowledge, and technological competence are essential for entrepreneurial development; however, the benefits of these investments are not equally realized across income groups. Socioeconomic status, therefore, shapes not only access to education and training but also the extent to which such opportunities can be effectively utilised. This suggests that the B40, M40, and T20 stratification serves as a structural influence, rather than a simple demographic characteristic, in shaping the development of agricultural entrepreneurial skills among rural youth.

Occupational Background

A study by Abu Bakar et al. (2020) on the influence of entrepreneurial family background on entrepreneurial intention found that perceived behavioral control significantly mediates the relationship between individual attitudes and subjective norms in shaping entrepreneurial intentions. This reinforces the theory that youth from self-employed or business-oriented families may possess greater confidence and resilience to engage in agricultural entrepreneurship. This relationship directly aligns with the present study, as it supports the assumption that family occupational background has a meaningful impact on the development of entrepreneurial skills.

Education and Academic Institutions

Abu Bakar et al. (2022) examined the role of academic institutions in fostering interest in agro-entrepreneurship and discovered that comprehensive curricula and hands-on training within agricultural programs positively influence entrepreneurial intentions among young students. This highlights that not only formal educational attainment but also the design of academic programs plays a crucial role in strengthening agro-entrepreneurial skills.

Community Ecosystem and Contextual Factors

A recent study by Shaari et al. (2025) revealed that the agricultural community ecosystem, career prospects, and profitability of the sector serve as key motivational factors driving youth participation in agro-related careers. Conversely, financial barriers, limited resources, cultural demographics, and inadequate infrastructure were identified as significant demotivating factors.

Attitudes and Knowledge of Rural Gen Y

In the context of agro-entrepreneurship among the Gen Y Bidayuh community in Sarawak, research has shown that agricultural knowledge and positive attitudes strongly influence their involvement in agro-enterprise. This underscores the importance of both cognitive and affective dimensions in shaping youth participation in agriculture.

Technology and Training Support

A study conducted in South Korea (2025) on factors influencing the adoption of smart farming technologies found that young farmers under the age of 30, particularly those with higher educational attainment and strong government support in the form of financial assistance and digital training, were more inclined to adopt modern agricultural technologies. This finding highlights that technological readiness, when reinforced by structured institutional support, plays a pivotal role in strengthening agricultural entrepreneurial skills among youth. In the Malaysian context, this implication is particularly relevant across the B40, M40, and T20 income classifications, as youth from the B40 group often face greater constraints in accessing technology and formal training, while M40 and T20 youths tend to benefit from better digital exposure and financial capacity. Therefore, targeted technology and training support interventions are essential to reduce socio-economic disparities, ensuring that rural youth from lower-income households are not excluded from technology-driven agricultural entrepreneurship development.

The Concept of B40, M40, and T20 Income Classifications in Malaysia

In Malaysia, household income classification is commonly categorised into three main groups, namely the Bottom 40% (B40), Middle 40% (M40), and Top 20% (T20), based on national income distribution. The B40 group represents households within the lowest income bracket and is generally characterised by greater vulnerability to economic shocks, limited access to resources, and higher exposure to poverty-related risks. The M40 group comprises households with moderate income levels who are typically able to meet basic needs but may experience financial pressure due to rising living costs and economic uncertainty. In contrast, the T20 group consists of high-income households with relatively stable financial capacity and greater economic resilience (DOSM, 2022).

Integrating Income Classification into the study utilizes these national classifications to explain the varying levels of entrepreneurial skills found across different rural demographics. This classification framework is widely utilised by the Malaysian government as a policy instrument to guide socio-economic planning, target welfare assistance, and design development programmes aimed at reducing income inequality and promoting inclusive growth. Understanding this income stratification is essential for interpreting socio-economic dynamics in Malaysia and for contextualising empirical analyses that examine disparities in opportunities, skills development, and economic outcomes across different income groups. This classification framework as well, is pivotal to the study as it determines the level of capital, technology, and training accessible to rural youth. It justifies how income status dictates entrepreneurial capacity, ranging from basic subsistence in B40 groups to high-level, innovation-driven ventures within the T20 category.

Social Capital Theory

The Social Capital Theory, as introduced by Bourdieu (1986) and further developed by Coleman (1988), emphasizes the role of networks, relationships, and social ties in shaping individual opportunities and skill development. Social capital represents the resources individuals can access through their connections with family, peers, and the wider community. In the context of rural youth in Sabah, social capital becomes a critical determinant in the development of agricultural entrepreneurial skills, as young people often acquire farming knowledge, technical skills, and business practices through informal interactions with family members, neighbors, and local farming groups. These social networks act as channels for knowledge transfer, providing a form of collective support that strengthens entrepreneurial capabilities.

Demographic factors such as family occupation, community background, and cultural traditions strongly influence the level and quality of social capital available to rural youth. For example, youth from farming families are often embedded within agricultural networks where mentorship, skill-sharing, and cooperative activities are prevalent. Similarly, those living in close-knit rural communities benefit from collective practices such as communal farming, cooperative marketing, or shared access to resources, which reinforce their entrepreneurial learning. On the other hand, youth from non-agricultural family backgrounds may have limited exposure to such networks, resulting in weaker access to agricultural entrepreneurial skills despite residing in the same rural environment.

By applying Social Capital Theory, this study can better explain the link between demographic contexts and entrepreneurial skill development. Social capital highlights that beyond education and economic resources, the relational and community-based environment significantly shapes rural youths' entrepreneurial trajectories. In Sabah, where strong cultural traditions and community ties exist, social networks often function as both a safety net and a platform for entrepreneurial growth. This perspective enriches the study by demonstrating that demographic factors influence not only individual resources but also the extent to which rural youth can leverage social connections to build and sustain agricultural entrepreneurship.

Conceptual Framework

The conceptual framework, as highlighted by Ghazali and Sufean (2016), provides the structural foundation that guides the research by clarifying the relationship between variables. In this study, the independent variable (IV) is youth knowledge, while the dependent variable (DV) is agricultural entrepreneurial skills. This relationship suggests that the level of knowledge possessed by rural youth—ranging from agricultural techniques, financial literacy, to marketing strategies—directly influences their ability to develop and apply entrepreneurial skills in agriculture. Knowledge is, therefore, not only an individual asset but also a key driver that enhances problem-solving, innovation, and decision-making in agricultural entrepreneurship.

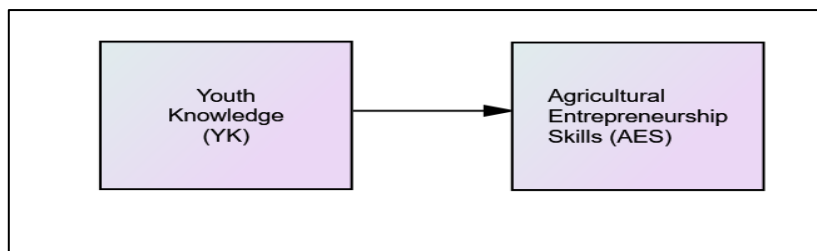


Figure 1: Conceptual Framework

However, this relationship cannot be fully understood without considering the role of demographic factors as an underlying influence. Demographics such as family background, education level, household income, and exposure to agricultural practices significantly shape how knowledge is accessed, acquired, and applied. For example, rural youth from farming families may gain practical agricultural knowledge informally through parental guidance, while those with higher levels of formal education may acquire more advanced knowledge related to agribusiness or technology-driven farming. Similarly, economic background may determine access to training, workshops, and information sources that build agricultural knowledge, thereby influencing the development of entrepreneurial skills.

Thus, demographic factors act as the contextual enablers or barriers in the relationship between youth knowledge and agricultural entrepreneurial skills. A young person's demographic profile influences the type, quality, and extent of knowledge they possess, which in turn shapes their entrepreneurial abilities. In rural Sabah, where communities often rely heavily on agriculture for livelihoods, demographic characteristics determine whether youth can effectively transform knowledge into viable agricultural businesses. By integrating these factors into the conceptual framework, the study achieves a more comprehensive understanding of how knowledge and demographics collectively contribute to strengthening agricultural entrepreneurial skills among rural youth.

Methodology

The methodology of this study employed a mixed-methods approach to comprehensively examine the influence of demographic factors on agricultural entrepreneurial skills among rural youth in Sabah. The quantitative phase involved the administration of a structured questionnaire to a purposive sample of rural youth, capturing data on demographic characteristics such as family occupational background, alongside measures of entrepreneurial skills, including innovation, risk-taking, financial management, and market adaptability. Quantitative data were analyzed using descriptive statistics and inferential techniques. To complement and enrich these findings, the qualitative phase employed semi-structured interviews with selected participants to gain deeper insights into their lived experiences, perceptions, and challenges in developing agricultural entrepreneurial skills. Data triangulation was applied to ensure validity and reliability, while the integration of both data sets provided a holistic understanding of how demographic backgrounds shape entrepreneurial capabilities among rural youth in the agricultural sector.

Inferential Analysis

Inferential analysis was conducted to test the research hypotheses based on the data collected. There is one research hypothesis formulated in the form of a null hypothesis to be

tested in this study in the form of null hypothesis study. The following section presents the detailed findings of the hypothesis testing.

Hypothesis Testing for H01

Research hypothesis H01 was formulated to examine the existence of a significant relationship between youth knowledge and agricultural entrepreneurial skills. The strength of the relationship was interpreted in accordance with the correlation coefficient guidelines proposed by Evans (1996), whereby coefficients ranging from .80 to .99 indicate a very strong relationship, .60 to .79 indicate a strong relationship, .40 to .59 indicate a moderate relationship, .20 to .39 indicate a weak relationship, and coefficients below .20 suggest little to no correlation.

The null hypotheses to be tested in this study are stated as follows :

H0¹: There is no significant relationship between the knowledge of rural youth (YK) and Agricultural Entrepreneurial Skills (AES).

Table 1

Correlation Between Youth Knowledge With Agricultural Entrepreneurial Skills

		YK	AES
YK	Pearson Correlation	1	.729**
	Sig. (2-tailed)		.000
	N	361	361
AES	Pearson Correlation	.729**	1
	Sig. (2-tailed)	.000	
	N	361	

Table 1 shows a significant relationship between the knowledge of rural youth (YK) and Agricultural Entrepreneurial Skills (AES), with a correlation coefficient of $r=0.729$ ($p < 0.01$). Since r is positive, this indicates a positive relationship between youth knowledge and AES. This substantial correlation suggests that increased knowledge among rural youth is closely linked to more effective entrepreneurship management in rural agricultural contexts. The statistical analysis supports a very strong positive correlation between the level of knowledge among rural youth, and this significant correlation affirms the importance of knowledge in influencing entrepreneurial success in rural agriculture. Consequently, hypothesis H1, which posits no significant relationship between YK and AES, is rejected based on the statistical evidence demonstrating a significant correlation.

Findings from the Interviews

Agricultural entrepreneurship has emerged as a significant phenomenon that plays a vital role in driving economic progress and fostering sustainable development through transformative growth. It is regarded as a branch of the resilience economy, operating across three levels: individual, organizational, and industrial. At the individual level, agricultural entrepreneurship contributes to job creation, income generation, work ethic, and community vitality, highlighting its role in strengthening both personal livelihoods and collective well-being.

Fundamentally, socioeconomic background plays a crucial role in shaping agricultural entrepreneurial skills. It influences how individuals perceive opportunities, manage risks, and develop their businesses. Nonetheless, agricultural entrepreneurial skills are not solely innate; they can be cultivated and enhanced through education, training, and practical experience. In line with this perspective, the findings of this study reveal three distinct socioeconomic structures that influence the development of agricultural entrepreneurial skills. These structures are presented in detail below.

Socioeconomic Profile of High-Income Rural Groups

Participants in this category represented individuals with a monthly income exceeding RM10,000, primarily engaged in rural agricultural entrepreneurship in Sabah. This group demonstrated strong financial stability and greater access to economic opportunities, investment avenues, and premium services, enabling them to maintain a sustainable and prosperous lifestyle in rural settings. Their substantial financial capacity allowed them to manage living costs with ease while securing better access to facilities and growth opportunities. Most of them came from family backgrounds in banking, medicine, and successful agribusiness. Thus, the socioeconomic profile of the high-income group reflects entrepreneurs with strong financial capital and stable livelihoods.

Interview Findings

Participant 1 stated:

"At present, we are progressing well because we have sufficient capital to operate our agricultural business. This makes it easier for us to expand into large-scale agricultural ventures, which also yield higher returns. We also integrate modern technologies and fertilizers to multiply productivity. In my view, financial resources are crucial to starting and enhancing agricultural enterprises. From our experience, we not only grow our businesses but also collaborate with smaller-scale village farmers by purchasing their produce to sustain our economic activities."

Participant 2 reinforced this perspective:

"Since we have higher incomes, we plan to establish large scale agricultural enterprises. With financial capacity, any venture that promises potential returns can be pursued because we already have the required capital. This allows us to seize opportunities more readily."

These findings indicate that participants from financially stable backgrounds are more capable and prepared to take calculated risks in agricultural entrepreneurship. Their financial resources facilitate diversification, innovation, and scaling of enterprises, while those with limited resources face greater constraints. Consequently, the study interprets that higher socioeconomic status is strongly correlated with stronger entrepreneurial capacity, whereas middle-income participants operate at a moderate level, and lower-income participants remain at a basic level of entrepreneurial engagement.

Socioeconomic Profile of Middle-Income Groups

In this study, the middle-income group largely comprised individuals employed in government or private sectors, who simultaneously engaged in agricultural activities to supplement household income due to rising living costs. Their involvement in rural agriculture functioned primarily as an additional economic resource rather than the main livelihood.

Interview Findings

Participant 3 shared:

"In rural areas, economic status significantly influences the acquisition and application of entrepreneurial skills. Our family is relatively stable financially, and we therefore have more opportunities to invest in skill development, which leads to more successful ventures. Agriculture in our family, such as crop cultivation, contributes to household income. Since some of us work in government or private sectors, we can still invest more than those with fewer resources. Those with less capacity, however, must continue with traditional forms of agriculture."

Participant 4 added:

"From a middle-income background, we sometimes face limitations in accessing formal education or vocational training that would provide critical business skills such as financial management, marketing, and strategic planning. Our salaries are often just enough to cover basic expenses, leaving little for skill enhancement. Profit and loss are part of business, but nowadays, the risks feel heavier."

Participant 5 reflected further:

"Some of us do possess entrepreneurial skills in agriculture, but due to budget limitations, many ideas and opportunities cannot be implemented. Sometimes delays cost us potential ventures. Our entrepreneurial skills, therefore, remain at a moderate level. While some dare to borrow from banks, others fail, creating hesitation. It is not about being unwilling to take risks, but our capacity is limited. We survive with moderate entrepreneurial abilities, only expanding when financial surpluses occur."

Overall, middle-income participants displayed moderate entrepreneurial skills. Although they demonstrated potential, financial constraints limited their confidence and willingness to engage in larger-scale ventures. Consequently, their skills remained at an intermediate level, with opportunities for growth constrained by budgetary limitations.

Socioeconomic Profile of Low-Income Groups

Participants from low-income backgrounds typically engaged in subsistence or traditional farming. Their agricultural activities are primarily aimed at sustaining household consumption rather than generating significant profit. This group faced major constraints in terms of capital, skills, and education, which limited entrepreneurial advancement.

Interview Findings

Participant 6 highlighted

"In all rural settlements, the main economic activities involve extracting or producing raw materials from the natural environment, such as farming, fishing, and forestry. For those of us who work independently, entrepreneurial capacity is confined to traditional practices. As ordinary villagers, our lives revolve around basic subsistence farming. Farmers continue subsistence production, with minimal capacity to move beyond traditional economic activities."

The findings suggest that low-income groups lack sufficient resources to develop entrepreneurial capacity in agriculture. Budget constraints, limited access to training, and

lower levels of education prevent them from adopting modern practices or scaling operations. As such, their agricultural entrepreneurship remains basic, focusing more on survival than on innovation or expansion.

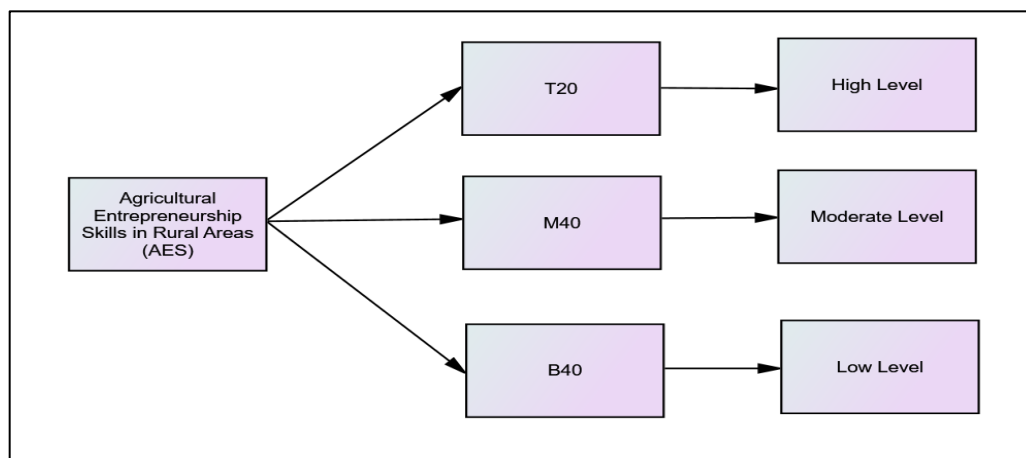


Figure 2: A Model of Agricultural Entrepreneurship Skills Based on Rural Socioeconomic Demographic Factors

The findings from the six interviews demonstrate a strong and consistent association between socioeconomic status and the level of agricultural entrepreneurial skills among rural communities in Sabah. Participants from the high-income group exhibited robust financial capacity, enabling them to invest in large-scale agricultural ventures and adopt modern technologies that enhanced productivity. Their strong economic standing provided both security and flexibility, allowing them to take calculated risks, diversify their business operations, and explore innovative approaches in agricultural entrepreneurship. This group clearly reflected high-level entrepreneurial skills that were nurtured by their ability to access capital, markets, and networks.

In contrast, participants from the middle-income and low-income groups faced a variety of constraints that limited the full development of their entrepreneurial potential. The middle-income group, while relatively more stable, typically engaged in agricultural activities as supplementary income to offset rising living costs. Their entrepreneurial development was moderate, often hindered by budgetary restrictions and limited access to formal training or resources. Meanwhile, the low-income group relied heavily on traditional and subsistence-based agriculture, with activities focused primarily on meeting household needs rather than generating profit. Severe financial, educational, and technological limitations curtailed their ability to expand or innovate, resulting in a low level of entrepreneurial skills. Collectively, these findings underscore how socioeconomic background directly influences not only the capacity to engage in agricultural entrepreneurship but also the extent to which individuals can sustain and advance their ventures in rural contexts.

Conclusion

This study demonstrates that demographic and socioeconomic factors play a crucial role in shaping the agricultural entrepreneurial skills of rural youth in Sabah. Youth knowledge emerged as a strong predictor of entrepreneurial capability, while socioeconomic background significantly influenced access to resources, training, and opportunities. High-income groups

displayed advanced entrepreneurial skills, middle-income groups exhibited moderate capabilities, and low-income groups remained largely constrained to subsistence-level entrepreneurship. By adopting a mixed-methods approach, the study provides a comprehensive understanding of how demographic contexts shape entrepreneurial development. These findings offer important implications for policymakers, training providers, and development agencies in designing inclusive, targeted, and sustainable rural youth entrepreneurship initiatives aligned with local realities in Sabah.

Ethical Consideration Statement

This study was conducted in accordance with the principles of ethical research involving human participants. Informed consent was obtained from all participants before data collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic and research purposes.

Conflict of Interest Statement

The authors declare no conflict of interest regarding the publication of this manuscript.

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