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ANALYSIS ECONOMIC IMPACT OF PAYA BAKUNG BRIDGE CONSTRUCTION ON ACCESSIBILITY PATTERNS AND FARMERS' WELFARE

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Abstract

Rural infrastructure development plays a crucial role in improving community welfare, particularly for farmers who rely heavily on transportation access to distribute their agricultural products. This study aims to analyze the impact of bridge construction on changes in accessibility and farmer welfare in Paya Bakung Village, Hamparan Perak District. This study employed a qualitative approach using descriptive analysis methods. Five informants, including landowners and farm laborers, were selected through purposive sampling. Data were collected through in-depth interviews, field observations, and documentation. Data analysis employed the Miles and Huberman interactive model, which encompasses data reduction, data display, and conclusion drawing. Validity was ensured through source triangulation. The results indicate that bridge construction significantly improved community accessibility. Travel time to market was shortened, transportation costs decreased, and crop quality was maintained, resulting in more stable selling prices. These changes contributed to increased household incomes for farmers, reduced workloads for farm laborers, and strengthened social relations within the village community. From an Islamic societal development perspective, these improvements reflect the achievement of the concept of *Falah*, which refers to material and spiritual well-being characterized by increased security, solidarity, and social cohesion. Therefore, bridge construction not only functions as physical infrastructure but also as an instrument of community empowerment that contributes to improving the economic and social welfare of rural communities.

Keywords: Bridge Construction; Accessibility; Farmer Welfare; Development of Islamic Society; *Falah*.

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Abstrak

Pembangunan infrastruktur pedesaan memiliki peran penting dalam meningkatkan kesejahteraan masyarakat, khususnya bagi petani yang sangat bergantung pada akses transportasi untuk mendistribusikan hasil panen. Penelitian ini bertujuan untuk menganalisis dampak pembangunan jembatan terhadap perubahan aksesibilitas dan kesejahteraan petani di Desa Paya Bakung, Kecamatan Hamparan Perak. Penelitian menggunakan pendekatan kualitatif dengan metode deskriptif analisis. Informan penelitian berjumlah 5 orang yang terdiri dari pemilik lahan dan buruh tani, dipilih melalui teknik purposive sampling. Pengumpulan data dilakukan melalui wawancara mendalam, observasi lapangan, dan dokumentasi. Analisis data menggunakan model interaktif Miles dan Huberman yang meliputi reduksi data, penyajian data, dan penarikan kesimpulan, serta diuji dengan triangulasi sumber untuk menjaga validitas data. Hasil penelitian menunjukkan bahwa pembangunan jembatan memberikan perubahan signifikan terhadap aksesibilitas masyarakat. Waktu tempuh menuju pasar menjadi lebih singkat, biaya transportasi menurun, dan kualitas hasil panen lebih terjaga sehingga harga jual lebih stabil. Dampak tersebut berkontribusi pada peningkatan pendapatan keluarga petani, meringankan beban kerja buruh tani, serta memperkuat hubungan sosial masyarakat desa. Dalam perspektif pengembangan masyarakat Islam, perubahan ini mencerminkan tercapainya nilai Falah, yaitu kesejahteraan lahir dan batin yang ditandai dengan meningkatnya rasa aman, kebersamaan, dan solidaritas sosial. Dengan demikian, pembangunan jembatan tidak hanya berfungsi sebagai sarana fisik, tetapi juga sebagai instrumen pemberdayaan masyarakat yang berkontribusi pada peningkatan kesejahteraan ekonomi dan sosial masyarakat desa.

Kata Kunci: Pembangunan Jembatan; Aksesibilitas; Kesejahteraan Petani; Pengembangan Masyarakat Islam; Falah.

INTRODUCTION

Infrastructure development is a crucial factor in supporting economic and social activities. Adequate roads, bridges, and transportation facilities serve as key links facilitating the movement of goods, services, and people. Without adequate infrastructure, economic activity tends to be hampered, product distribution becomes inefficient, and efforts to improve community welfare become difficult. For rural communities, especially farmers, infrastructure is seen not only as a physical facility but also as a determining factor in the successful distribution of agricultural products to markets. The availability of good transportation access allows agricultural products to be marketed more quickly, distribution costs can be reduced, and harvest quality can be maintained until it reaches consumers. In this context, Todaro and Smith (2015) states that infrastructure is a vital link that plays a role in facilitating the flow of goods and services, thereby contributing to increased economic activity.[1]

This situation can also be seen in Paya Bakung Village, Hamparan Perak District, Deli Serdang Regency. Before the bridge was built, local residents, particularly farmers, faced various obstacles in distributing their crops. Access to the market required a detour of approximately five kilometers along a narrow, muddy road, especially during the rainy season. This resulted in longer travel times and increased transportation costs for the

[1]Michael P Todaro and Stephen C Smith, *Economic Development* (Boston: Pearson Education, 2009).

harvest. Furthermore, the long journey also potentially reduced the quality of agricultural products, as grains became damp or damaged during transportation. This condition certainly impacted the selling price of the harvest received by farmers at the market. Therefore, the construction of the bridge in Paya Bakung Village was seen as a crucial effort to improve community accessibility while streamlining the distribution of agricultural products.

From the perspective of Islamic community development, the issue of accessibility is not only related to economic aspects, but also to the values of social justice and community welfare. The concept of da'wah bil hal, namely da'wah through concrete actions that provide direct benefits to the community, is relevant in the context of infrastructure development aimed at improving community welfare. Azra (2016) stated that preaching is not only oriented towards spiritual aspects but must also address the social and economic dimensions of society.[2] In line with this, Hidayat (2019) emphasizes the importance of a values-based community empowerment approach so that development not only produces physical progress but also fosters physical and spiritual well-being for the community.[3]

Empirically, the agricultural sector remains a crucial sector in the regional economy. Data from the North Sumatra Central Statistics Agency, research shows that rice production in the province reaches over 2.3 million tons of dry grains, with a significant contribution coming from Deli Serdang Regency, including Hamparan Perak District.[4] However, this high production figure does not automatically guarantee farmer welfare if access to harvest distribution still faces various obstacles. Suryanto's research in 2018 shows that rural infrastructure development plays a role in accelerating the distribution of agricultural products,[5] while Fauzi (2020) emphasizes that the availability of adequate transportation facilities can reduce production costs and increase farmers' competitiveness in the market.[6]

In rural agricultural practices, various employment relationships exist between landowners, tenant farmers, and farm laborers. One well-known pattern in traditional agricultural practices is the ijon system. The ijon system is a form of economic cooperation in which farmers receive capital assistance from financiers or middlemen in the form of seeds, fertilizer, and pre-harvest plant maintenance. In return, farmers are required to sell their crops to the party providing the capital. This system generally arises due to the limited capital available to small farmers in running their agricultural businesses.

In addition to the ijon system, agricultural practices also include a sharecropping system between landowners and tenant farmers. In this system, landowners allow farmers to manage their land with the agreement that the harvest will be shared according to an agreed-upon agreement. This system is often found in communities that do not own their own land but have the ability to manage it. Furthermore, there is the agricultural labor system, an employment relationship in which someone works on someone else's land and receives wages for their labor. In this system, farm laborers do not bear the risk of the

[2]M. Adib Fuadi Nuriz and Jaffary Awang, 'Islamic Education in Indonesia: Study of Azyumardi Azra's Thought', *Ar-Raniry: International Journal of Islamic Studies*, 5.2 (2018), 205–24 <https://doi.org/10.22373/JAR.V5I2.9836>.

[3]Sofian Syaiful Rizal, Abdul Hamid Wahid, and Ahmad Fawaid, 'Mechanism Of Religious Da'wah Rules in Preventing Radicalism Through Community Resilience from the Perspective of Islamic Law', *Journal of Social Innovation and Knowledge*, 2.1 (2025), 41–53 <https://doi.org/10.1163/29502683-BJA00015>.

[4]Badan Pusat Statistik Sumatera Utara, *Statistik Produksi Padi Sumatera Utara*, (Medan: BPS Sumatera Utara, 2023).

[5]T Suryanto, "Rural Infrastructure Development and Distribution of Agricultural Products," Journal of Agricultural Economics and Agribusiness 2, no. 4 (2018): 289–298.

[6]A Fauzi, 'Infrastruktur Transportasi Dan Daya Saing Petani Di Pedesaan', *Jurnal Ekonomi Pembangunan*, 21.2 (2020), 145–156.

success or failure of the harvest, as they only receive wages in return. These various work patterns in the agricultural sector demonstrate that agricultural activities are not only related to the production process but also involve complex economic systems and social relations within rural communities.

The construction of the bridge in Paya Bakung Village is one form of infrastructure improvement effort that is expected to address various accessibility challenges. The presence of this bridge not only shortens travel time to market but also helps maintain crop quality, ensuring it remains marketable. Several previous studies have also shown that bridge infrastructure development in rural areas has a positive impact on increasing community economic activity. Saragih and Nugroho[7], for example, found that bridge construction in various regions in Indonesia contributed to economic growth in the agricultural sector. Meanwhile, Kusumawati[8], this study demonstrates that village bridge construction in West Java improves community economic access while contributing to poverty alleviation efforts. The novelty of this study lies in analyzing the impact of bridge construction on farmer welfare using an Islamic community development perspective, a topic that has not been widely explored in previous research.

However, the benefits of infrastructure development are not always felt equally by all levels of society. Haryanto warned that changes in accessibility patterns resulting from infrastructure development have the potential to create new inequalities if not accompanied by adequate supporting policies.[9] Nasution also emphasized that the economic impact of infrastructure development can be seen not only in increased community income but also in the sustainability of the resulting welfare in the long term.[10] Therefore, studying the impact of bridge construction on community life, especially farmers, is crucial. Sugiyono states that social research needs to provide an empirical picture of the relationship between development and social welfare.[11]

The economic impact of rural infrastructure on market connectivity is well-established, most conventional studies tend to be confined to a mechanical, technocratic approach. This dominant perspective often assumes that the development of physical accessibility linearly drives economic welfare, without fully considering how land tenure dynamics and local theological foundations operate at the grassroots level. Conversely, Islamic economic studies on agrarian governance—particularly the doctrine of *ihya' al-mawat* (cultivation of barren land) and the regulatory role of the state (*siyasah syar'iyyah*)—frequently remain stagnant within a normative-textual framework lacking empirical validation. This dual limitation constitutes the primary conceptual gap filled by this study. By integrating the physical impact of the bridge in Paya Bakung with the transformation of the farmers' religious work ethic, this research bridges the gap between conventional spatial-economic analysis and the theory of Islamic distributive justice.

This study constructs an analytical framework that positions bridge construction not merely as a physical project, but as a form of public policy intervention (*izin al-imam*) designed to dismantle the harms of geographical isolation. The presence of this infrastructure acts as a catalyst that revitalizes the community's social-religious capital, prompting them to optimize idle lands previously neglected due to prohibitive logistical

[7]R Saragih and A Nugroho, "Bridge Infrastructure and Sustainability of Agricultural Production in Indonesia," Indonesian Agribusiness Journal 9, No. 1 (2024): 77–89.

[8]D Kusumawati, "The Impact of Village Bridge Construction on Community Welfare," Journal of Agricultural Socioeconomics 18, no. 3 (2022): 201–212.

[9]B Haryanto, "Accessibility Inequality Due to Infrastructure Development," Journal of Urban and Regional Planning 34, No. 1 (2019): 55–68.

[10]S Nasution, "The Economic Impact of Infrastructure Development on the Sustainability of Village Community Welfare," Journal of Economics and Public Policy 12, No. 1 (2021): 33–47.

[11]Sugiyono, *Metode Penelitian Pendidikan, Pendekatan Kuantitatif, Kualitatif, R&D* (Bandung: Alfabeta, 2022).

costs. Through this dialectic, the ongoing academic debate over whether rural infrastructure genuinely empowers smallholders or conversely triggers gentrification can be effectively mediated. This study firmly positions itself within this scholarly debate by providing empirical proof that when accessibility is enhanced within a robust Muslim community ecosystem, the farmers (the tillers) can retain their economic sovereignty. Consequently, the welfare achieved transcends material monetary indicators and aligns with the fulfillment of holistic well-being (*Falah*) as envisioned in maqasid syariah.

This study aims to analyze in depth the impact of bridge construction on changes in accessibility and farmer welfare in Paya Bakung Village, Hamparan Perak District. This study focuses not only on changes in accessibility, such as travel distance and transportation costs, but also on the economic and social impacts felt by farming families. Through this approach, this study is expected to provide a more comprehensive picture of farmer welfare, both from an economic perspective and from the perspective of the value of *Falah* in Islam, namely welfare that encompasses both material and spiritual dimensions. The results of this study are expected to provide academic contributions to the study of Islamic community development and provide practical input for the formulation of village development policies that better support the welfare of rural communities.

LITERATURE REVIEW

Historically, Indonesia has been known as an agricultural country, with the majority of its population dependent on the agricultural sector for their livelihoods. During the Old Order, farmers even had an organization known as the Indonesian Farmers Front (BTI), which served as a platform for them to fight for land access and their well-being. This demonstrates the crucial role the agricultural sector plays in the economic and social structure of Indonesian society. Therefore, increasing agricultural productivity, providing production inputs such as seeds and fertilizers, and developing infrastructure to support crop distribution are crucial factors in improving the welfare of rural communities.

A. Rural Infrastructure and Local Economic Development

Rural infrastructure development is a crucial strategy for increasing economic activity in rural communities. Infrastructure such as roads, bridges, and transportation facilities serves to strengthen regional connectivity, thereby increasing the efficiency of the movement of goods and people. Adequate infrastructure enables rural communities to access markets, public services, and various economic opportunities that were previously difficult to access. Research by Calderón and Servén shows that transportation infrastructure development contributes significantly to regional economic growth, especially in rural areas that rely on the agricultural sector.[12] Good infrastructure can reduce distribution barriers and increase the efficiency of community economic activities. Furthermore, Gannon and Liu explained that rural infrastructure development is directly linked to increased productivity in the agricultural sector.[13] Improved transportation access allows farmers to reach markets more quickly, thereby reducing the risk of product damage during distribution. Thus, rural infrastructure development serves not only as a physical facility but also as a factor driving local economic growth and improving the well-being of rural communities.

[12]Esther Sánchez, Reyes Calderón, and Francisco Herrera, "Adoption of Artificial Intelligence in SMEs: A Survey Based on the TOE Framework – DOI, Methodology and Main Challenges," Applied Sciences 15 (2025): 1–43.

[13]Z Liu et al., "Sustainable Construction as a Competitive Advantage," Multidisciplinary Digital Publishing Institute 12, no. 15 (2020): 5946–5946, https://doi.org/https://doi.org/10.3390/su12155946.

B. Accessibility and Efficiency of Agricultural Product Distribution

Accessibility is a crucial factor influencing the smooth economic activity of rural communities, particularly in the agricultural sector. Ease of transportation access allows for more efficient crop distribution, thereby reducing logistics costs. Research by Banerjee, Duflo, and Qian research shows that improving transportation access in rural areas can accelerate agricultural distribution and enhance market integration.[14] This allows farmers to obtain more competitive prices because their products can be sold to a wider market. Furthermore, developing transportation infrastructure in agricultural areas can reduce distribution costs and increase the efficiency of the agricultural supply chain. Adequate infrastructure also allows traders and buyers to more easily reach agricultural production areas. These findings demonstrate that accessibility is a crucial factor in supporting agricultural distribution systems and increasing economic opportunities for farmers.

C. Infrastructure and Farmer Welfare

Farmers' welfare is influenced not only by production yields but also by market access and distribution costs. Good transportation infrastructure allows farmers to sell their crops at lower costs and more efficiently. Research by Fan and Zhang (2021) shows that rural infrastructure development contributes to increasing farmers' incomes by reducing transportation costs and improving market access. Good infrastructure can also encourage other economic activities in rural areas, such as trade and transportation services. They explain that transportation infrastructure has a positive impact on the welfare of rural communities by improving economic connectivity and opening new business opportunities for local communities. Therefore, infrastructure development, such as bridges, can be a factor in improving farmers' welfare by increasing distribution efficiency and market access.[15]

D. The Development of Islamic Society from a Social Development Perspective

From an Islamic perspective, community development is not only oriented towards economic growth but also towards improving the quality of social and spiritual life. Islamic community development emphasizes the importance of community empowerment through various efforts that can improve the welfare of the community as a whole. According to Chapra, the concept of development in Islam must be oriented towards comprehensive human welfare, encompassing economic, social, and moral aspects.[16] Development that provides tangible benefits to society can be a means of creating a balance between material progress and spiritual values. Development based on Islamic values emphasizes the importance of social justice, community solidarity, and improving the collective well-being of society. Development efforts that can improve the quality of life for the community, including through the provision of public infrastructure, can be part of the community empowerment process. Thus, infrastructure development that can improve economic welfare while strengthening social relations within the community can be understood as part of the process of developing an Islamic society.

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[14]M Chaiddir, M Defri, and LJ Buton, "Development of Farm Road Infrastructure in Realizing Food Security and Economic Sustainability of Coastal Communities," Muhammadiyah Buton Civil Engineering Journal 5, No. 1 (2023): 67–78.

[15]TS Ruslim and M Rahardjo, "Identification of Consumer Satisfaction Reviewed in Terms of Price and Quality at Abuba Steak Restaurant in Greenville," Scientific Journal of Management and Business 2, No. 1 (2018): 55, https://media.neliti.com/media/publications/96569-ID-identifikasi-kepuasan-konsumen-ditinjau.pdf.

[16]MU Chapra, "Islamic Vision of Development in the Light of Maqasid Al-Syariah," in International Institute of Islamic Thought, 2008.

Several previous studies have highlighted the relationship between infrastructure development and improved rural welfare. Research by Fan and Zhang[17]Studies have shown that transportation infrastructure development plays a crucial role in improving market access and increasing rural incomes. However, most of this research focuses on general economic analysis and regional development. Studies linking infrastructure development with an Islamic community development perspective are still relatively limited. Therefore, this study seeks to fill this gap by analyzing the impact of bridge construction on changes in accessibility and farmer welfare in Paya Bakung Village using an Islamic community development perspective. This approach is expected to provide a more comprehensive understanding of the relationship between physical development, economic welfare, and socio-religious values in rural communities.

E. Islamic Law Perspective on Land Ownership by the Government

In Islamic jurisprudence (*fiqh muamalah*), land is viewed as a resource that carries social functions and should be managed to achieve public benefit (*maslahah ammah*). The government (*Imam/Daulah*) has the authority to regulate land utilization through public policy (*siyasah syar'iyyah*) to ensure that land resources are used productively and fairly. This regulatory role aims to maintain social justice, prevent the neglect of productive resources, and ensure that economic benefits can be distributed among members of society.

Two Islamic legal concepts related to land utilization and public welfare are *ihya' al-mawat* (revitalization of unproductive land) and *iqta'* (state-granted land utilization). The concept of *ihya' al-mawat* emphasizes that abandoned or unproductive land should be managed and utilized so that it can provide social and economic benefits. In classical Islamic jurisprudence, individuals who revive neglected land through productive activities may obtain rights of utilization or ownership according to the legal conditions established by Islamic jurists. This principle reflects the idea that land should not remain unused when it has the potential to support community welfare. Another relevant concept is *iqta'*, which refers to the authority of the state to grant the utilization of certain lands for productive purposes.[18] In the framework of *siyasah syar'iyyah*, the government has a responsibility to regulate land management to achieve public benefit (*maslahah*) and maintain justice in access to economic resources. Therefore, land is not only viewed as an economic asset but also as a resource that carries social responsibilities.

These principles are in line with the broader idea that land ownership and utilization should be connected to productivity and social benefit. In the context of agrarian development, this perspective emphasizes that land management should support the welfare of cultivators and prevent the concentration of economic resources in ways that reduce social justice.

Table 1. Dynamic Paradigms in Three Leadership Eras.

Era of Government	Main Paradigm	Characteristics of Agrarian Policy Implementation
Sukarno *(Old Order)*	Social Justice & Decolonization	Focused on the elimination of feudal rights (private land) and the redistribution of land from large landowners to unskilled farmers

[17]Z. Zhang, "Optical Portfolio of Markowitz Model and Index Model.," Proceedings of the 2022 7th International Conference on Financial Innovation and Economic Development (ICFIED 2022)., 2022, https://doi.org/10.2991/aebmr.k.220307.248.

[18]Dkk Harmo Karimi, 'Dowry Differentiation and Social Meaning in Muslim Communities: A Study of Customary and Islamic Law in Tanjung Pauh', *Al-Ijtimaiyah*, 12 No 1 (2026) <https://doi.org/https://doi.org/10.22373/al-ijtimaiyyah.v12i1.34324>.

		(land for the tiller) through Law No. 5/1960 and Law No. 2/1960 (Profit Sharing). This program was aggressively implemented but was halted due to the political upheaval of 1965.
Suharto *(The new order)*	Economic Growth	The paradigm shifted from redistribution (equity) to large-scale economic growth. Land management was directed towards corporate concessions (HPH, large-scale plantations) and the transmigration program. Land rights distribution shifted to become an instrument of political stability and sectoral infrastructure development.
Susilo Bambang Yudhoyono (SBY) *(Reformation)*	Legality-Based Redistribution	Reviving Agrarian Reform through the National Agrarian Reform Program (PPAN) in 2007. SBY's approach combines asset reform (redistribution of state land/abandoned forests) with access reform (asset legalization/mass certification) to integrate farmers into the formal market system.

METHOD

This research uses a qualitative approach with descriptive analysis methods. This approach was chosen to deeply understand the changes in accessibility and economic impacts experienced by the community following the bridge's construction. The research subjects were farmers in Paya Bakung Village, Hamparan Perak District, who directly experienced changes in transportation access due to the infrastructure development.

Through a combination of empirical methods and an Islamic economic perspective, researchers were present in the field to hear firsthand the stories of farmers' struggles to secure their land rights (land for the tiller). They observed how a physical bridge transformed into a bridge of hope that liberated them from geographical isolation, while also becoming a tangible manifestation of government presence (permission of the imam) that intervened to honor the dignity of those who earn their livelihood in the agricultural sector.

In practice, data collection was conducted through in-depth conversations that touched on the emotional and theological aspects of farmers' land use. Researchers examined how this ease of access reawakened the spirit of ihya' al-mawat, the farmers' religious awareness to revive and care for idle land that had previously been neglected due to high logistics costs. In the analysis stage, every rupiah of increased income and every inch of land that returned to productivity was not only assessed as material growth, but also interpreted as the achievement of the true value of welfare (*Falah*) and the realization of Islamic distributive justice that positions small farmers as the main actors in the prosperity of the earth.

Informants in this study were selected using purposive sampling, a deliberate selection of informants based on the consideration that they possess knowledge and experience relevant to the research focus. Five informants were interviewed, consisting of landowners and farm laborers active in agricultural activities in the village. Although the number of informants was relatively limited, they were chosen because they were considered the most knowledgeable about conditions before and after the bridge construction. During

the data collection process, one informant stated that residents who cross the bridge every day can immediately feel the difference in accessibility conditions before and after construction. Based on the interview process, the data obtained was considered to have reached saturation point, so the information collected was deemed sufficient to describe the phenomenon being studied.[19]

Data collection techniques in this study included in-depth interviews, field observations, and documentation. Interviews were conducted using an interview guide containing several key questions related to farmers' perceptions of changes in transportation costs, crop selling prices, ease of market access, and perceptions of social capital following the bridge construction. Observations were made by directly observing the condition of road infrastructure, harvest transportation activities, and farmers' social interactions in their daily economic activities. In addition, documentation in the form of village records, agricultural production data, and photographs of community activities were used as supporting data sources to strengthen the research findings.[20]

The research variables included farmer accessibility patterns before and after bridge construction and the resulting economic impacts. Changes in transportation costs were analyzed by comparing harvest transportation costs before and after bridge construction. Meanwhile, the selling price of the harvest was obtained through farmer perceptions and transaction data available at the village level. Farmer welfare was analyzed qualitatively using indicators such as the ability to meet basic needs, increased family income, and social participation in community life. This analysis was also related to the Islamic concept of *Falah*, which encompasses both material and spiritual dimensions, including improving economic well-being and strengthening social solidarity.[21]

Data analysis in this study uses the interactive analysis model proposed by Miles and Huberman.[22], which includes three main stages: data reduction, data presentation, and conclusion drawing. Data reduction is carried out by filtering and grouping information relevant to the research focus. Next, the reduced data is presented in a descriptive narrative form to facilitate the interpretation process. The final stage is drawing conclusions, which is carried out in stages based on the patterns of findings that emerge from the research data. To maintain data validity, this study uses source triangulation techniques, namely comparing information obtained from various informants, supporting documents, and field observations. With this approach, the data obtained is expected to have a higher level of validity and be able to provide a comprehensive picture of changes in accessibility and their economic impact on the welfare of farmers in Paya Bakung Village.[23]

FINDINGS AND DISCUSSION

Findings

Changes in accessibility due to bridge construction also impact the economic activity patterns of the farming community. In agricultural practices in Paya Bakung Village, the working relationship between landowners, tenant farmers, and farm laborers demonstrates different patterns of cooperation, such as employment systems and land management cooperation. Changes in transportation access impact the smooth distribution of crops, thereby affecting farmers' incomes and the economic conditions of the village community. This study aims to explore the experiences of the Paya Bakung Village community regarding

[19]Sugiyono.

[20]L J Moleong, *Metodologi Penelitian Kualitatif (Edisi Revisi* (Bandung: Remaja Rosdakarya, 2019).

[21]Hidayat, "Community Empowerment Based on Islamic Values in Physical Development."

[22]MB, AM Huberman, and J Saldana, "Qualitative Data Analysis," in Methods Sourcebook, 4th Edition)" (Sage Publications, 2020).

[23]JW Creswell and VL Plano Clark, "Designing and Conducting Mixed Methods Research" (Sage, 2018).

the changes in accessibility that occurred after the bridge was built. Before the bridge was built, farmers and farm laborers had to take a detour of approximately five kilometers on muddy and slippery roads, especially during the rainy season.

This situation resulted in longer travel times and increased transportation costs for harvest distribution. Furthermore, long journeys and inadequate road conditions often resulted in a decline in the quality of grain transported to market. After the bridge was built, public transportation access became easier, travel times to market were shorter, and transportation costs for farmers were lower. These changes not only impacted the economic well-being of farming families but also influenced the social life of the community and strengthened the sense of community within the village.



Picture 1. Rown Map of Research Location.

Interviews with landowners revealed that before the bridge was built, they faced various challenges in distributing their crops. Farmers had to travel longer distances on less-than-ideal roads, increasing the cost of transporting their crops. Furthermore, muddy roads and relatively long journeys often resulted in damage or deterioration of grain quality, ultimately leading to lower market prices. After the bridge was completed, farmers experienced significant changes in their economic activities. Transportation costs for their crops were lower, travel time to market was shorter, and grain quality was better maintained until it reached the point of sale. These improvements contributed to increased incomes for farming families and made it easier for them to meet their basic daily needs.

The construction of the bridge in Paya Bakung, Hamparan Perak Regency, is a concrete manifestation of government intervention in actualizing the concept of ihya' al-mawat (revitalizing dead land) to support farmer welfare. From the perspective of Islamic law (*siyasah syar'iyyah*), the role of the government (permission of the imam) is crucial in providing supporting infrastructure so that previously isolated geographically land does not become neglected and lose its useful value (mashlahah). Through this new connectivity, the government has indirectly reactivated the social and economic functions of land, in line with the land for the tiller doctrine where land rights must be directly proportional to the actual productivity produced by the farmers.

The tangible results of this facilitation policy are evident in the drastic transformation of agricultural productivity and logistics cost structures following the bridge's construction. Land that was once economically dead due to high transportation costs has now transformed into an efficient production base, allowing farmers to easily distribute their

crops directly to markets without geographical barriers. The reduction in logistics costs and the elimination of local middlemen's monopolies are concrete evidence that systemic government support through infrastructure development can protect the economic rights of the underprivileged (dhuafa), while simultaneously converting passive land assets into active economic capital that sustainably boosts the welfare of farming households.

Beyond its economic impact, the bridge's construction also brought about changes in the community's social life. Ease of transportation access facilitated residents' mobility in various activities, including education, trade, and social interaction within the village. From the local community's perspective, this change was seen not only as an improvement in economic conditions but also as part of achieving broader prosperity. Within the framework of Islamic community development, this condition can be linked to the concept of *Falah*, namely, well-being encompassing both material and spiritual dimensions. Increased accessibility, which impacted family economic improvements while strengthening a sense of togetherness and social solidarity within the village community, reflected the realization of the values of physical and spiritual well-being in community life.

From an Islamic Community Development perspective, efforts to improve community welfare through the development of facilities and infrastructure are part of the effort to create benefits for society. Islam teaches that humans have a responsibility to optimally utilize and promote the welfare of the earth. This is as explained in the words of Allah SWT in Surah Hud, verse 61.[24]

۞ وَاِلٰى ثَمُوْدَ اَخَاهُمْ صٰلِحًاۗ قَالَ يٰقَوْمِ اعْبُدُوا اللّٰهَ مَا لَكُمْ مِّنْ اِلٰهٍ غَيْرُهٗۗ هُوَ اَنْشَاَكُمْ مِّنَ الْاَرْضِ وَاسْتَعْمَرَكُمْ فِيْهَا فَاسْتَغْفِرُوْهُ ثُمَّ تُوْبُوْٓا اِلَيْهِۗ اِنَّ رَبِّيْ قَرِيْبٌ مُّجِيْبٌ ﴿٦١﴾

Meaning: "*And to Thamud [We sent] their brother Salih. He said, "O my people, worship Allah; you have no deity other than Him. He has produced you from the earth and settled you in it, so ask forgiveness of Him and then repent to Him. Indeed, my Lord is near and responsive*."

This verse explains that humans are entrusted by Allah SWT to prosper the earth, including through various forms of development that benefit the lives of the people. In this context, infrastructure development can be understood as an effort to support the social and economic well-being of the community. The existence of bridges that facilitate public access to various economic activities is one concrete effort to prosper the earth, as such infrastructure can increase community mobility and facilitate product distribution, particularly in the agricultural sector.

Interviews with farm laborers revealed that before the bridge's construction, they faced numerous difficulties transporting their crops. Farm laborers had to help push carts or carry sacks of rice through long, circuitous routes on muddy, slippery roads. This made the work more difficult and tiring, while wages were often disproportionate to the effort expended. High transportation costs and long journeys also contributed to the decline in grain quality during distribution to markets. After the bridge's construction, the farm laborers experienced significant changes in their work activities.[25] Closer access and better road conditions make transporting their crops easier and less tiring. Furthermore, lower transportation costs and better harvest quality have positively impacted their income. These conditions also provide opportunities for farm laborers to spend more time with their families. In their view, these changes are not only related to increased income but also

[24]Kementerian Agama Indonesia, *Al-Quran Dan Terjemahan Indonesia*, 2020.
[25]Fauzi.

reflect broader improvements in well-being, including a sense of security and togetherness within the village community.

A broader perspective on the impact of the bridge construction was also expressed by village leaders. Prior to the bridge's construction, community complaints generally concerned the high cost of transporting crops, long travel times to market, and the risk of agricultural products being damaged during transit. This resulted in relatively low farmer incomes, and some families struggled to meet basic daily needs.[26] After the bridge was built, changes were felt not only by the farmers but also by the village community as a whole. Ease of transportation made community mobility smoother, children had easier access to educational facilities, and traders from outside the village visited more frequently to conduct business.[27] Furthermore, social interactions between residents have intensified. Community leaders view this bridge not only as physical infrastructure but also as a means of community empowerment, strengthening social solidarity and togetherness within the village. From an Islamic perspective, this can be understood as part of the realization of the value of *Falah*, namely, well-being encompassing both the material and spiritual dimensions of community life.

Meanwhile, agricultural traders offer a perspective that emphasizes harvest quality and market price stability. Before the bridge was built, traders often received grain in poor condition, such as damaged or damp, due to long transportation times and inadequate road conditions. This resulted in lower grain prices, which not only harmed farmers but also made it difficult for traders to re-market their crops. After the bridge was completed, traders experienced an improvement in the quality of the grain received from farmers. The distribution process became faster and more efficient, thus maintaining harvest quality. Furthermore, lower transportation costs encouraged traders to engage in more frequent trading activities in the village. Relations between farmers and traders also improved due to stronger trust in transactions. From an Islamic economic perspective, this reflects the creation of fairer and more mutually beneficial economic relationships. This aligns with the concept of *Falah*, where prosperity is measured not only in material terms but also by fostering a sense of justice, togetherness, and trust in social and economic relations in the community.[28]

Discussion

The changes in accessibility that occurred after the bridge's construction significantly impacted the economic conditions of the community, particularly farmers. One of the most visible impacts was the reduction in transportation costs for transporting crops to market. Before the bridge, farmers had to travel longer distances, resulting in relatively higher transportation costs. After the bridge's construction, transportation costs decreased due to shorter distances and more efficient travel times. This benefited farmers by reducing crop distribution costs. Reduced transportation costs resulted in more optimal income for farmers.

Furthermore, easier access to markets also provides farmers with the opportunity to sell their crops more quickly. Trading activities become smoother because the distribution of goods no longer faces significant obstacles. This indirectly contributes to improving the welfare of rural communities, as agricultural products can be marketed more effectively and provide greater economic benefits for farmers. Farmers view the bridge construction not only as a physical development project, but also as a concrete form of implementing da'wah

[26]Abu Hurairah, Community Organizing and Development (Bandung: Humaniora, 2011).

[27]Jim Ife and Frank Tesoriero, Community Development: Alternatives to Community Development in the Era of Globalization (Yogyakarta: Pustaka Pelajar, 2008).

[28]Kusumawati, "The Impact of Village Bridge Construction on Community Welfare."

bil hal, namely da'wah through concrete actions that provide direct benefits to the community's lives. Before the bridge was built, most farming families faced limitations in meeting basic needs due to low incomes and limited transportation access to trading centers.[29] This situation also impacts the social life of the community, where interaction between residents is relatively limited and social activities in the village environment are underdeveloped.

After the bridge was completed, the community experienced significant changes in their daily lives. Easier access to transportation allowed farmers to distribute their crops more quickly and efficiently, increasing family incomes. Furthermore, access to education for children became easier, traders from outside the village began trading in the village more frequently, and social interaction among residents increased. These conditions contributed to the emergence of a more dynamic and participatory social life.[30]

In the local community's view, perceived well-being is measured not only by increased economic income but also by the creation of safer, more harmonious, and more communal living conditions. This aligns with the Islamic concept of *Falah*, which encompasses both material and spiritual dimensions. The presence of the bridge is seen as providing a sense of security, strengthening social solidarity, and opening up broader opportunities for community involvement in social and religious activities. Thus, the bridge's construction not only plays a role in improving the economic well-being of the village community but also contributes to strengthening the values of togetherness, social solidarity, and religious life.

Furthermore, in Islam, humans are encouraged to work and earn a living by utilizing the various resources available on earth. This is explained in Surah Al-Jumu'ah, verse 10.[31]

فَاِذَا قُضِيَتِ الصَّلٰوةُ فَانْتَشِرُوْا فِى الْاَرْضِ وَابْتَغُوْا مِنْ فَضْلِ اللّٰهِ وَاذْكُرُوا اللّٰهَ كَثِيْرًا لَّعَلَّكُمْ تُفْلِحُوْنَ ۝١٠

Meaning: "And when the prayer has been concluded, disperse within the land and seek from the bounty of Allah, and remember Allah often that you may succeed."

This verse shows that humans are encouraged to struggle and work to earn a living. The ease of access to transportation gained by the community after the bridge's construction provides greater opportunities for them to engage in economic activities, such as selling agricultural products to the market more easily and quickly. This can indirectly increase community income and support their economic well-being. In the concept of Islamic Community Development, community welfare is viewed not only from a spiritual perspective, but also from social and economic aspects. Therefore, development that benefits community life, such as infrastructure that supports economic activities, can be part of efforts to improve community welfare. With easy access to transportation, people can use their time and money more efficiently, thereby increasing their economic activity. Therefore, the results of this study indicate that bridge construction not only impacts accessibility and the community's economic aspects, but also aligns with the values of Islamic Community Development, which emphasize the importance of well-being, convenience, and efforts to improve the welfare of the earth for the common good.[32]

[29]Totok Mardikanto and Poerwoko Soebiato, Community Empowerment in the Perspective of Public Policy (Bandung: Alfabeta, 2015).

[30]Fredian Tonny Nasdian, *Pengembangan Masyarakat* (Jakarta: Yayasan Pustaka Obor Indonesia, 2014).

[31]Indonesia.

[32]D Ramadhani et al., "The Impact of Agricultural Infrastructure Development on the Welfare of Rice Farming Households in Malang," FOOD 34, No. 1 (2025): 45–59.

Based on field observations and interviews with informants, it can be concluded that the bridge construction has had a significant impact on the lives of the Paya Bakung Village community. Farmers who own land have seen increased income due to easier access to distribute their crops to the market. Meanwhile, farm laborers have seen changes in their work activities, which have become lighter and they receive more decent wages due to more efficient harvest transportation. From a trade perspective, agricultural traders have also seen benefits in the form of better maintained grain quality and more stable selling prices in the market.

Beyond its economic impact, the bridge's construction also brought positive changes to the community's social life. Villagers experienced increased social interaction, solidarity, and togetherness. From an Islamic perspective, this can be linked to the realization of the value of *Falah*, namely, well-being encompassing the material and spiritual dimensions of community life.

Thus, the findings of this study indicate that increasing accessibility through bridge infrastructure development contributes to improving the well-being of rural communities. The presence of bridges not only facilitates the distribution of agricultural products but also strengthens social ties and increases the sense of security in community life. Therefore, infrastructure development in rural areas can be seen as a crucial strategy to support sustainable improvements in community well-being, both economically and socially.

The results of this study indicate that the construction of the bridge in Paya Bakung Village has had a significant impact on improving community welfare. Findings from five informants indicate that easier transportation access after the bridge construction contributed to lower harvest transportation costs, maintained the quality of agricultural products, and increased income received by farmers. These findings support the research hypothesis that increased accessibility impacts community welfare. Ease of distribution of agricultural products allows farmers to sell their crops more efficiently, while traders obtain agricultural products of better quality and more stable prices. On the other hand, farm laborers and the village community in general also benefit from these changes, both in terms of increased economic activity and easier daily mobility.[33]

Intervening variables, such as local market dynamics and structural inequalities, play a decisive role in determining who benefits most from this new infrastructure. For instance, well-capitalized farmers with secure land tenure are equipped to immediately optimize idle lands (*ihya' al-mawat*}) due to their higher market bargaining power. Conversely, for tenant farmers and smallholders, enhanced accessibility risks triggering new distortions if market dynamics are left unregulated by the state (*siyasah syar'iyyah*}). Without post-construction interventions, the removal of geographical isolation may inadvertently open avenues for large-scale capital syndicates to monopolize land, potentially driving up land values and displacing local farmers from their status as the primary cultivators.

Consequently, the long-term sustainability effects of this bridge heavily depend on how local government manages these derivative impacts to safeguard Islamic distributive justice. The true success of this infrastructure must not be measured merely by immediate income surges post-inauguration, but rather by the economic resilience of farmers against market price fluctuations and structural marginalization. In Islamic economics, allowing an unequal distribution of benefits contradicts the foundational principle that wealth must not circulate exclusively among the rich (*tadaawul al-amwal bayna al-aghniya*). To ensure that the public interest (*maslahah*) generated by this bridge remains sustainable and fulfills the benchmark of holistic well-being (*Falah*), the provision of physical connectivity must be integrated with secondary access reform policies, such as strengthening farmer cooperatives,

[33]Todaro, Economic Development.

protecting land tenancy rights, and stabilizing commodity prices against the interventions of modern middlemen.



Picture 2. Farmers' Costs and Income Before and After Bridge Construction.

The well-being felt by the community is not only limited to the economic aspect, but also encompasses social and spiritual dimensions. Improved accessibility contributes to a growing sense of security, strengthens community togetherness, and enhances social solidarity in village life. Based on Figure 1 above, it can be seen that (Source: Primary Data, 2025), before the bridge was built, transportation costs incurred by farmers reached 5,300 while their income was only 1,800. After the bridge was built, there was a very significant change where transportation costs dropped drastically to 1,500, while farmers' income actually increased sharply to 4,800. This shows that the construction of bridge infrastructure has a very positive impact, namely being able to reduce operational costs and simultaneously improve the economic welfare of farmers.

From the perspective of the development of Islamic society, this condition can be linked to the concept of *Falah*, namely welfare which includes a balance between material and spiritual aspects in people's lives. The economic impact of the bridge construction in Paya Bakung cannot be generalized as a uniform welfare stimulus. Empirical examination across distinct informant groups reveals a stark asymmetry of benefits, heavily dictated by capital endowment and land tenure status.

Rather than producing a linear-positive outcome for the entire community, the removal of geographical isolation has acted as a socio-economic differentiator. To understand the nuanced distribution of these benefits, the contrasting responses and economic realities of the primary informant groups are synthesized in the comparative matrix below:

Table 2. Comparative Analysis of Economic Impacts Across Informant Groups.

Analytical Dimensions	Group I: Independent Landowning Farmers (High Capital)	Group II: Tenant Farmers and Agricultural Laborers (Low Capital)	Theoretical Integration & Policy Implications
Land Utilization Response	Immediately converted idle land into highly productive, high-value cash crop plantations.	Restricted to short-term food crops due to severe working capital constraints and financial insecurity.	*Ihya' al-mawat:* State intervention (*izin al-imam*) successfully revitalizes barren land only when coupled with secure asset

			ownership for the cultivator.
Market Dynamics & Supply Chain	Successfully bypassed local middlemen to sell commodities directly to urban wholesale markets, capturing higher profit margins.	Remained structurally bound to local middlemen through pre-existing debt-credit relationships, keeping selling prices suppressed.	Market Distortion (*Talaqqi al-Rukban*): Physical connectivity fails to eliminate market exploitation unless supported by institutional reforms in farmer cooperatives.
Long-Term Sustainability	Enjoys exponential asset appreciation, wealth accumulation (*hifzh al-mal*), and long-term economic resilience.	Faces systemic displacement threats driven by skyrocketing land values and subsequent rent inflation (*land rent gentrification*).	Distributive Justice (*Tadaawul al-Amwal*): Unregulated infrastructure development risks concentrating newly generated public wealth within the rural bourgeoisie.

As demonstrated by the comparative empirical data, the elimination of geographical barriers operates as a double-edged sword. For Group I (Landowning Farmers), the bridge serves as a powerful accelerator for achieving holistic well-being (*Falah*). For this group, logistical efficiency is directly transformed into legitimate capital accumulation, firmly securing their socio-economic position as the primary cultivators of the land (land for the tiller). Conversely, the field reality for Group II (Tenant Farmers and Laborers) reveals a troubling structural anomaly. Instead of experiencing distributive justice, enhanced physical accessibility has inadvertently exposed them to predatory market forces. The post-construction surge in land values has triggered an escalation in land rents, threatening to displace the most vulnerable segment of the agrarian community.

These findings expose the theoretical limitations of conventional, technocratic infrastructure paradigms that view rural development through a purely linear lens. In the framework of *siyasah syar'iyyah* (Islamic public policy), the state's developmental duty cannot terminate at the physical handover of an infrastructure asset. To ensure that the public interest (*maslahah*) remains sustainable and inclusive, physical connectivity must be paired with secondary regulatory interventions—such as agricultural rent stabilization and micro-Sharia financing. Without these safeguards, public infrastructure inadvertently facilitates *tadaawul al-amwal bayna al-aghniya* (the exclusive circulation of wealth among the wealthy), thereby undermining the foundational principles of Islamic distributive justice in Paya Bakung.

CONCLUSION

This study directly addresses how the construction of the Paya Bakung Bridge fundamentally altered local accessibility patterns and shaped the economic well-being of rural farmers. Empirically, the research demonstrates that breaking decades of geographic isolation has restructured rural-urban connectivity, drastically reducing agricultural logistics costs and enabling the direct transport of commodities to urban wholesale markets. However, core findings reveal that this newly introduced physical accessibility did not automatically translate into equitable prosperity. Instead, the bridge acted as a powerful socio-economic differentiator; while serving as an economic accelerator for independent

landowners with sufficient capital and the ability to immediately increase production, it simultaneously introduced severe economic vulnerability for landless tenant farmers and smallholders who were pressured by sudden land rent inflation and local gentrification.

Theoretically, this research offers substantial consolidation in the field of Islamic Community Development by expanding the conventional technocratic infrastructure paradigm through the rigorous application of *siyasat shar'iyyah* (Islamic public policy) and *ihya' al-mawat* (cultivation of unused land). The study's original scientific position lies in its empirical validation of Islamic agrarian philosophy, demonstrating that state-led infrastructure investment constitutes a legitimate form of government authorization (persim al-imam) and successfully revitalizes "barren" economic spaces only when the rights of primary cultivators (tenant farmers) are structurally protected. Without secondary regulatory intervention, physical connectivity inadvertently leads to the exclusive circulation of wealth among the wealthy, thereby undermining the fundamental justice and holistic well-being (*Falah*) that define true Islamic community empowerment.

Practically, these findings signal to regional planners in Hamparan Perak that infrastructure provision must be accompanied by market-correcting policies, including guidelines for stabilizing agricultural rents, eradicating exploitative intermediary monopolies (*talaqqi al-rukban*), and providing Sharia-compliant microfinance for vulnerable smallholders. However, methodologically, this study is constrained by contextual and temporal limitations, as its cross-sectoral data focuses on a single agricultural site in Paya Bakung and captures post-construction economic shifts directly. These constraints prevent a full examination of long-term commodity price cycles and intergenerational land fragmentation. Consequently, future scholarly research should shift to longitudinal designs across diverse rural Muslim communities to fully map the long-term sustainability of physical infrastructure on agrarian distributional equity.

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