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ISLAMIC BANKING AND AGRICULTURAL DEVELOPMENT IN ACEH: A STRATEGIC PARTNERSHIP MODEL USING ANP METHODOLOGY

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ABSTRACT - The persistent challenges to farmer welfare in Aceh, Indonesia, stem from interconnected internal and external constraints. Bank Aceh Syariah (BAS) has emerged as a pivotal institution in addressing these issues through partnership-driven empowerment models. This study develops a comprehensive empowerment framework leveraging BAS strategic role to enhance agricultural sustainability and farmer livelihoods. Employing a mixed-methods approach, it integrated qualitative interviews with multi-stakeholder perspectives (academics, government agencies, farming communities, and BAS policymakers) into an Analytic Network Process (ANP) analysis using Super Decisions Software 3.10. The findings identify significant internal barriers, such as knowledge deficits, limited access to technology, and innovation stagnation, alongside external challenges like climate risks, market volatility, and restricted access to Islamic financial services. The study highlights the interdependent dynamics of socioeconomic, environmental, and institutional factors shaping agricultural development. The proposed strategic framework emphasizes coordinated actions in resource distribution, policy alignment, and market integration, facilitated through strengthened BAS-farmer partnerships. This research contributes to the discourse on sustainable agricultural ecosystems by offering actionable recommendations for policymakers, emphasizing the critical role of integrated financial and institutional strategies in fostering resilience and development.
Keywords: Agricultural empowerment, Islamic finance, Stakeholder partnerships, Sustainable development, Analytic Network Process.

***ABSTRAK** - **Perbankan Syariah dan Pembangunan Pertanian: Model Kemitraan Strategis dengan Metode ANP.** Kesejahteraan petani di Aceh, Indonesia, terus menghadapi tantangan yang kompleks akibat berbagai hambatan internal dan eksternal yang saling terkait. Bank Aceh Syariah (BAS) telah berperan sebagai institusi strategis dalam upaya mengatasi permasalahan tersebut melalui implementasi model pemberdayaan berbasis kemitraan. Penelitian ini merumuskan sebuah kerangka pemberdayaan yang komprehensif dengan memanfaatkan peran strategis BAS untuk meningkatkan keberlanjutan sektor pertanian sekaligus kesejahteraan petani. Dengan menerapkan pendekatan metode campuran, penelitian ini mengintegrasikan wawancara kualitatif dari berbagai pemangku kepentingan—meliputi akademisi, instansi pemerintah, komunitas petani, dan pembuat kebijakan BAS—ke dalam analisis Analytic Network Process (ANP) menggunakan perangkat lunak Super Decisions 3.10. Hasil analisis mengidentifikasi hambatan internal utama, seperti kesenjangan pengetahuan, keterbatasan akses terhadap teknologi, dan minimnya inovasi, serta tantangan eksternal berupa kerentanan terhadap perubahan iklim, ketidakstabilan pasar, dan akses yang terbatas ke layanan keuangan syariah. Temuan penelitian ini mengungkapkan adanya keterkaitan yang erat antara faktor sosial-ekonomi, lingkungan, dan kelembagaan yang memengaruhi pembangunan sektor pertanian. Kerangka strategis yang dihasilkan menekankan pentingnya intervensi terkoordinasi dalam alokasi sumber daya, harmonisasi kebijakan, dan penguatan akses pasar melalui kemitraan yang diperkuat antara BAS dan petani. Penelitian ini menegaskan urgensi pendekatan finansial-kelembagaan yang terintegrasi untuk menciptakan ekosistem pertanian yang tangguh serta memberikan rekomendasi strategis yang relevan bagi pembuat kebijakan dalam mendukung inisiatif pembangunan berkelanjutan.*
***Kata Kunci:** Pemberdayaan pertanian, Keuangan syariah, Kemitraan pemangku kepentingan, Pembangunan berkelanjutan, Analytic Network Process.*

INTRODUCTION

The agricultural sector continues to be the cornerstone of Indonesia's economy, providing the primary means of livelihood for a substantial portion of the population. A significant majority of Indonesians are engaged in farming, with micro-enterprises predominantly centered in agriculture, underscoring the sector's prominence in individual and family-run businesses (Anggraini, Samri, & Sugianto, 2015). Despite its vital role, the agricultural sector has not received sufficient attention from financial institutions, particularly in rural areas where the majority of farmers reside. Empowering these farmers is crucial not only for enhancing their livelihoods but also for reducing poverty levels across the nation.

The development of Indonesia's agricultural sector over recent years can be assessed through key macroeconomic indicators, such as Gross Domestic Product (GDP) and labor absorption. These indicators underscore the sector's significance in driving economic growth, particularly in rural areas. According to Assad (2011), the agricultural sector's ability to absorb labor and its potential to alleviate poverty remain unparalleled. Furthermore, during economic crises, the sector has proven to be a resilient pillar in ensuring food security, emphasizing the need for sustained support to maximize its positive impact on Indonesia's economy.

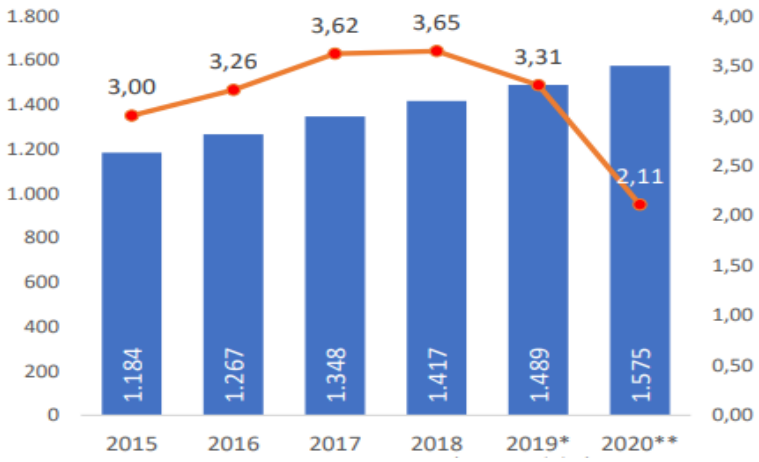

Figure 1. Gross Domestic Product Growth
(Source: BPS, 2021)

Between 2015 and 2020, the GDP of Indonesia's agricultural sector exhibited a consistent growth trend, with a notable increase of 3.3% in 2018 and 2019,

compared to only 3.0% in 2015. However, this growth slowed in 2020, with a decrease to 2.11%, attributed to the prolonged dry season, which negatively impacted food crop production. Similarly, the agricultural sector remains a significant source of employment. According to the Indonesia Statistics Agency (BPS), in 2020, the sector employed 24.96% of the total workforce, equating to 35 million people out of Indonesia's total workforce of 140.22 million (BPS, 2021).

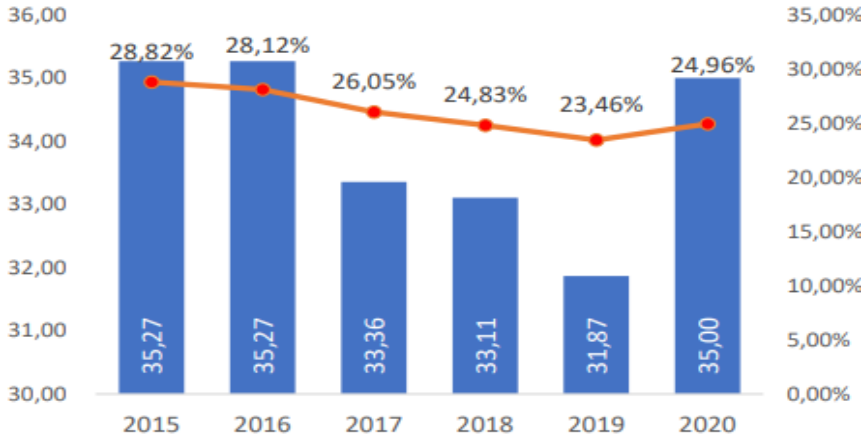

Figure 2. Narrow Agricultural Workforce 2015–2020
(Source: BPS, 2021)

Despite its importance, the agricultural sector faces persistent challenges, particularly in financing. Access to adequate financing remains a critical issue for farmers, stemming from limited awareness of financing schemes and a lack of support from financial institutions, which often perceive the sector as high-risk due to its dependency on seasonal factors and fluctuating market prices. The collateral and interest payment requirements of conventional loan systems further exacerbate this issue, making it difficult for farmers, especially those with limited cash flow prior to harvest, to access necessary capital.

This challenge is further compounded by rising poverty rates, particularly in rural areas. In 2020, the poverty rate increased to 10.19%, up from 9.22% the previous year. This corresponds to approximately 27.54 million poor individuals, an increase of 2.76 million compared to 2019 (bps.go.id, 2021). Rural areas bear a disproportionate burden, with poverty levels rising from 12.60% in 2019 to 13.2% in 2020, as compared to urban poverty rates of 7.88% in 2020. Aceh Province, for instance, is one of Indonesia's ten poorest provinces, ranking fifth in September 2021, with rural farmers comprising

46.30% of poor households (detik.com, 2022; antaranews.com, 2005). Despite its abundant natural resources and significant contribution to the Regional Gross Domestic Product (RGDP), the agricultural sector in Aceh faces persistent issues such as limited access to capital and inadequate investment in working capital (Gatra, 2018). For instance, the plantation sub-sector alone contributed 20.39% to the RGDP of Bener Meriah Regency in 2020, underscoring the sector's potential for economic development (Arifah et al., 2022).

Table 1. Main Source of Income of the Rural Population

Main Source of Income	Number of Villages	Percentage
Agriculture	73,007	87%
Mining and Quarrying	479	1%
Manufacturing Industry	2,730	3%
Wholesale/Retail Trade	4,020	5%
Transportation, Warehousing, Communication	92	0%
Services	2,877	2%
Others	726	1%

(Source: BPS, 2021)

Nationally, 87% of Indonesia's 73,000 villages rely on agriculture as their primary source of income, reinforcing the sector's role in addressing poverty, unemployment, and food insecurity (BPS, 2021). However, financing from financial institutions remains insufficient, with the agricultural sector receiving only a small share of total national banking credit. This is largely due to the sector's perceived high risk and the collateral requirements imposed by conventional banking systems (Maulida, 2017). In this context, Islamic banking, with its profit-sharing and risk-sharing principles, offers a more suitable alternative for meeting farmers' financial needs.

Despite the increasing distribution of Islamic banking financing to the agricultural sector, its share remains relatively low. The Financial Services Authority (OJK) has recognized the sector's resilience, particularly during the COVID-19 pandemic, when agriculture was the only sector to experience positive growth, expanding by 2.15% in the third quarter of 2020 (Mardiah, 2018). This underscores the need for greater financial support to unlock the sector's full potential.

Bank Aceh Syariah, as a regional Islamic bank, plays a pivotal role in fostering economic growth in Aceh's agricultural sector. Although the bank has

increased its financing distribution in recent years, only 10% of its funds are allocated to productive sectors, including agriculture (Bankaceh.co.id, 2019). Given Aceh's significant agricultural potential, there is a pressing need to enhance Islamic banking's role in providing accessible and sustainable financing to farmers. This research focuses on Bank Aceh Syariah as a case study, given its responsibility as the only regional Islamic commercial bank in Aceh, to explore strategies for empowering farmers and addressing poverty through innovative financial models.

The remainder of this paper is organized as follows: Section 2 reviews the literature on the role of Islamic financial institutions in agricultural financing and empowerment. Section 3 outlines the methodology used in this study. Section 4 discusses the findings and results, while Section 5 concludes with policy implications and recommendations for future research.

LITERATURE REVIEW

The Concept of Empowerment

The concept of empowerment has evolved significantly since its emergence in European society during the 1970s. In Indonesian context, the term derives from the word "*daya*" (power), with the prefix "*ber-*" forming "*berdaya*," signifying the possession of power or strength (Widiastuti, 2015). This corresponds to the English term "empowerment," which fundamentally refers to the process of enhancing power among disadvantaged or marginalized groups (Alfitri, 2011). Historically, empowerment in modern European society emerged as a response to religious totalitarianism, embodying principles of human emancipation and liberation. The concept has since expanded to encompass broader aspects of power restructuring and social control (Widiastuti, 2015).

Farmers and Agricultural Practices

Farmers are defined as individuals engaged in cultivating biological resources including crops, livestock, and fisheries to produce food, raw materials, and energy while managing ecosystems for sustainable livelihoods (Margono, 2003). The *Kamus Besar Bahasa Indonesia* (KBBI) specifies farming as a profession centered on land cultivation (Poewodarminto, 2002). Agriculturally, the term derives from the Latin ager (field) and cultiva (cultivation), reflecting its focus on land-based production systems (Hornby et al., 1974). In Aceh,

Indonesia, farmers often operate smallholder systems characterized by seasonal crop cultivation and subsistence livestock rearing, with limited integration of modern technologies (Margono, 2003).

The term *agriculture* derives from the Latin words *ager* (field or land) and *cultiva* (cultivation). In modern terminology, agriculture refers to the science and practice of farming, encompassing the cultivation of crops and the rearing of livestock for sustenance and economic purposes. The *Oxford Advanced Learner's Dictionary* defines agriculture as the practice of farming, while farming is described as the business of managing a farm, which includes land and buildings used for crop cultivation and animal husbandry. Anwar Adiwilaga, as cited by Tati Nurmala, emphasizes that agriculture involves the sustainable use of land for plant and animal production without degrading its productive capacity.

Asset-Based Community Development (ABCD) Concept

The Asset-Based Community Development (ABCD) concept emphasizes community empowerment by leveraging existing assets within the community, such as knowledge, skills, natural resources, and social networks. This approach focuses on identifying and utilizing these assets to address challenges and foster sustainable development (Harianto, 2024). In the context of partnership-based farmer empowerment at Bank Aceh Syariah, the ABCD approach is operationalized through five key strategies:

1. Innovation in Technology-Based Financing. Utilizing existing technologies within the community to facilitate accessible and efficient financial services for farmers.
2. Knowledge and Skills Enhancement. Empowering farmers through training, mentoring, and collaborations with academic institutions to enhance their knowledge and skills.
3. Collaboration and Synergy with Stakeholders. Fostering partnerships between Bank Aceh Syariah, government agencies like the Department of Agriculture, and farmers themselves to maximize resource utilization and impact.
4. Digitalization of Distribution and Marketing. Leveraging digital technologies to expand market access for farmers and streamline the distribution of agricultural products.

5. Improving Production Quality and Applying Modern Technology. Encouraging the adoption of modern technologies and best practices to enhance the quality and competitiveness of agricultural products.

The ABCD framework underscores the importance of community-driven development, ensuring that empowerment initiatives are rooted in the strengths and capabilities of local populations. Within the context of Bank Aceh Syariah, this approach maximizes the utilization of community resources to achieve sustainable growth and development in the agricultural sector.

Previous Studies

A systematic review using the Publish or Perish (PoP) application reveals three distinct models of partnership-based farmer empowerment:

1. Social Model. This model involves government agencies, non-governmental organizations (NGOs), and philanthropic institutions in efforts to improve farmers' welfare.
2. Commercial Model. This approach focuses on collaboration between financial institutions, private companies, and farmers to enhance agricultural productivity and market access.
3. Hybrid Model. A combination of social and commercial elements, this model involves cooperative institutions or multi-stakeholder partnerships that integrate government, private sector, and farmers' efforts.

The literature identifies two primary categories of challenges facing farmer empowerment in Aceh:

1. Internal Challenges
    a. Limited knowledge and skills (Zayanie et al., 2019; Appiah-Twumasi et al., 2020)
    b. Restricted access to capital and technology (World Bank, 2020; Sen, 1987)
    c. Suboptimal agricultural product quality (Ministry of Agriculture, 2021)
    d. Insufficient innovation and risk management practices (FAO, 2019)
2. External Challenges

a. Environmental factors, including climate change impacts (Kunimitsu et al., 2020)
b. Regulatory and market constraints (Kessler, 2006; Ansell & Gash, 2008)
c. Limited access to Sharia-compliant financial services (Ascarya, 2020)

Recent studies by Bebbington, A. (1999) emphasize the critical role of market information access and agricultural finance in supporting farmer development. The innovative approach of Micro Waqf Banks, as discussed by Harianto et al. (2024), presents a promising solution for addressing financial inclusion in Aceh's agricultural sector.

This comprehensive review of literature demonstrates the complex interplay of factors affecting farmer empowerment and highlights the need for integrated approaches combining financial, technological, and capacity-building interventions. The ABCD framework, particularly when implemented through Islamic financial institutions like Bank Aceh Syariah, offers a promising pathway for sustainable agricultural development in the region.

METHODOLOGY

This study employs a mixed-methods approach, integrating qualitative data collection with the Analytic Network Process (ANP)—a robust decision-making framework—to analyze interdependent factors influencing farmer empowerment strategies. Below, we elaborate on the research design, sampling strategy, data sources, and analytical procedures.

Research Design

The research employs an explanatory sequential design, wherein qualitative insights inform the structuring and weighting of criteria within the quantitative Analytic Network Process (ANP) framework. Developed by Saaty (2005), ANP is a mathematical tool within the Multiple Criteria Decision Making (MCDM) paradigm that extends the Analytic Hierarchy Process (AHP) by incorporating feedback loops and non-linear interdependencies among criteria (Ascarya, 2005). Unlike AHP, which assumes unidirectional hierarchical relationships, ANP models complex systems where factors mutually influence each other, making it particularly effective for analyzing intricate socio-economic issues such as farmer empowerment.

Rationale for ANP

The selection of the Analytic Network Process (ANP) is justified by its ability to model interdependencies, integrate both qualitative and quantitative data, and prioritize strategies. ANP effectively captures bidirectional relationships between criteria, such as the mutual influence between access to financing and technological adoption. It also synthesizes qualitative stakeholder perspectives with quantitative pairwise comparisons, and generates weighted rankings of interventions based on systemic feedback.

The ANP process involves five stages:

1. Problem Structuring - Identify criteria (e.g., financial access, technological adoption) and sub-criteria through literature review and stakeholder consultations.
2. Network Formation - Map dependencies between criteria using influence matrices.
3. Pairwise Comparisons - Stakeholders rate the relative importance of criteria on a 1–9 scale (Saaty, 2008).
4. Supermatrix Construction - Compile comparison results into a supermatrix to compute global weights.
5. Sensitivity Analysis - Test the stability of results under varying assumptions.

Sampling Strategy

A purposive sampling technique was employed to select informants with specialized knowledge or experiential expertise relevant to farmer empowerment (M. Ulwan, 2014). This non-probabilistic approach prioritizes information richness over statistical representativeness, ensuring alignment with the research's exploratory and context-specific objectives. Participants were chosen based on:

1. Relevance: Direct involvement in agricultural policy, finance, or practice.
2. Depth of Expertise: Ability to provide nuanced insights into systemic challenges.
3. Diversity: Representation across stakeholder groups to mitigate bias.

The study engaged 27 informants across six stakeholder categories:

1. Academic Experts (*n=4*). Scholars in agricultural economics, Islamic finance, and rural development.
2. Government Authorities (*n=5*). Representatives from the Regional Agriculture Office and the Financial Services Authority (OJK).
3. Farming Communities (*n=6*). Smallholder farmers and cooperative leaders from Aceh Province.
4. Bank Aceh Syariah Policy Makers (*n=4*). Directors and senior managers overseeing agricultural financing programs.
5. Operational Divisions (*n=5*). Staff from the Product Development and Marketing divisions of Bank Aceh Syariah.
6. Farmer Customers (*n=3*). Beneficiaries of Bank Aceh Syariah's financing schemes.

Data Collection

Data collection was conducted through three primary methods. Firstly, semi-structured interviews were held with academic experts, policymakers, and bank representatives. These interviews, which averaged 45–60 minutes and were transcribed verbatim, focused on identifying key challenges, success factors, and interdependencies in farmer empowerment. Secondly, focus group discussions (FGDs) were organized with farming communities to explore grassroots perspectives on financing, technology, and market access. These sessions followed a moderated guide to ensure coverage of pre-identified themes while allowing for emergent topics. Lastly, document analysis was performed by reviewing policy documents, annual reports from Bank Aceh Syariah, and academic literature to triangulate the findings.

Data Analysis

Qualitative Analysis

Interview and FGD transcripts were analyzed using thematic analysis (Heeks, 2017):

1. Coding - Open coding identified recurring themes (e.g., "capital constraints," "technology gaps").

2. Categorization- Axial coding grouped themes into criteria (e.g., "Financial Access," "Technical Capacity").
3. Network Mapping - Criteria and sub-criteria were organized into an ANP network diagram using SuperDecisions software.

Quantitative ANP Implementation

1. Pairwise Comparisons - Participants rated the relative importance of criteria using Saaty's scale. Example: "How much more critical is *access to capital* compared to *market linkages* for farmer empowerment?"
2. Supermatrix Computation - Local weights from pairwise comparisons were aggregated into a weighted supermatrix.
3. Limit Matrix Derivation - The supermatrix was raised to powers until convergence, yielding global priority weights.

Validation

Validation was conducted using two primary methods. First, member checking involved sharing preliminary results with participants to ensure their accuracy. Second, sensitivity analysis was carried out by adjusting weightings to evaluate the robustness of the results under ±20% changes in criterion priority.

Ethical Considerations and Limitations

Participants received written explanations of the study's purpose and their rights as part of the informed consent process. Identifiable data were anonymized in transcripts and reports to ensure anonymity. Additionally, Bank Aceh Syariah staff were assured that critiques would not affect institutional relationships, addressing potential conflicts of interest.

There are some limitations to the study. Firstly, the findings are tailored to Aceh's socio-agrarian context and may not generalize to other regions. Secondly, purposive sampling risks overrepresenting institutional perspectives, with fewer farmer voices included.

RESULTS AND DISCUSSION

Results

Sampling Framework and Data Collection

The study employed a purposive sampling technique to select informants based on their expertise in partnership-based farmer empowerment and Islamic finance, rather than demographic representativeness. This approach aligns with the principles of qualitative research in complex, context-specific decision-making contexts (Bryman, 2016; Ibrahim, 2023). Five key informants were selected: practitioners, regulators, and academics engaged with Bank Aceh Syariah's agricultural financing initiatives. The emphasis on expert judgment over sample size is consistent with the Analytic Network Process (ANP) methodology, where the validity of results depends on the qualifications of respondents rather than their quantity (Saaty, 2005).

Data collection involved semi-structured interviews and synthesis of secondary literature. The ANP method was applied using Super Decision Software to model interdependencies among challenges and strategies, following Saaty's (2005) framework for multi-criteria decision-making. The analysis yielded a hierarchy of strategic priorities for agricultural empowerment, validated by a Kendall's Concordance Coefficient ($W = 0.82$), indicating strong consensus among respondents ($p < 0.01$).

Strategic Priority Synthesis

The Analytic Network Process (ANP) was employed to analyze the data and determine the priority strategies for partnership-based farmer empowerment. The results, synthesized using Super Decision software, are presented in Table 1. The strategies were ranked based on their weighted importance, as determined by the informants' evaluations.

The ANP analysis in Table 2 yielded a clear prioritization of strategies for partnership-based farmer empowerment at Bank Aceh Syariah, with the following weighted priorities:

a. Innovation in Technology-Based Financing: 42%
b. Increasing Knowledge and Skills through Training and Mentoring: 26%
c. Collaboration and Synergy with Various Related Parties: 16%

d. Digitalization of Distribution and Marketing of Agricultural Products: 10%
e. Enhancing Production Quality and Application of Modern Technology: 6%

Table 2. Strategic Priority Synthesis Results

Strategy	CTF	D.P	FSA	AK	BASS	Total	
						Gmean	R
Increasing Production Quality and Application of Modern Technology	0.15732	0.0632	0.06391	0.06322	0.06392	0.08231	5
Innovation in Technology-Based Financing	0.06371	0.41726	0.41662	0.41727	0.41675	0.34632	1
Increasing Knowledge and Skills through Training and mentoring	0.4168	0.26102	0.26027	0.26084	0.26043	0.29187	2
Collaboration and Synergy with Various Related Parties	0.26048	0.15801	0.15705	0.158	0.15583	0.17787	3
Digitalization of Distribution and Marketing of Agricultural Products	0.10169	0.10052	0.10215	0.10066	0.10306	0.10162	4
Kendall's Concordance (W)						0.82	

The high degree of consensus among informants is reflected in a Kendall's Concordance Coefficient of 0.82, demonstrating strong agreement on the strategic priorities.

Discussion

The problem decomposition in this study reveals a dual-dimensional challenge in farmer empowerment: internal challenges such as limited resources, quality deficiencies, and lack of innovation and external challenges encompassing environmental, regulatory, and market-related factors. This duality echoes the resource-based view (RBV) theory (Barney, 1991), which asserts that internal capabilities are crucial in mitigating external uncertainties and enhancing competitive advantage. Similarly, the findings resonate with social capital theory (Putnam, 2000), which emphasizes that robust networks and collaborative partnerships can enhance resource access and facilitate knowledge transfer.

The prioritization of innovation in technology-based financing as the foremost strategy aligns with previous research emphasizing financial innovation as a

key driver in overcoming traditional barriers to agricultural finance (Maulida, 2017; Mardiah, 2018). The infusion of technological solutions in financing can mitigate issues such as information asymmetry and high-risk perceptions among financial institutions, thereby enhancing credit accessibility for farmers. This finding is further supported by the ANP methodology, which effectively captures the interdependencies among various factors influencing financial decision-making.

The second-highest priority, increasing knowledge and skills through training and mentoring, underscores the central role of human capital development in agricultural advancement. Prior studies have highlighted that capacity building is essential for the adoption of modern practices and sustainable agricultural development (Zayanie et al., 2019). Enhancing the competencies of farmers through targeted training programs can facilitate better management of resources and adoption of innovative practices, ultimately contributing to improved productivity.

The strategic emphasis on collaboration and synergy with various related parties is indicative of the Asset-Based Community Development (ABCD) approach. ABCD posits that leveraging the existing assets such as local expertise, networks, and natural resources within a community can foster sustainable development (Harianto et al., 2024). This collaborative framework is particularly relevant in the context of rural development, where multi-stakeholder partnerships can bridge the gap between policy initiatives and on-the-ground implementation.

Interestingly, digitalization of distribution and marketing was assigned a moderate priority (10%), highlighting the growing recognition of digital technologies in expanding market reach and enhancing operational efficiency. However, the relatively lower priority assigned to enhancing production quality and applying modern technology (6%) suggests that technological advancements in production are seen as secondary to establishing a robust financial and knowledge infrastructure. This finding implies that before significant technological upgrades in production processes can be effectively implemented, the foundational issues of financial innovation and capacity building must be addressed an observation that aligns with previous findings by Appiah-Twumasi, Donkoh, and Ansah (2020).

Overall, the integrated ANP model employed in this study provides a systematic framework that captures the complex interplay between internal capabilities and external pressures. The high level of informant agreement (Kendall's W = 0.82) not only validates the strategic priorities identified but also supports the robustness of the model as a decision-making tool for policymakers and practitioners. These findings contribute to the growing body of literature on rural development and agricultural finance by offering empirical evidence on the effectiveness of partnership-based farmer empowerment strategies.

Implications for Policy and Practice

To address the identified challenges, it is crucial to develop Sharia-compliant digital platforms that facilitate crowdfunding and peer-to-peer lending, thereby mitigating collateral requirements (Maulida, 2017). Additionally, partnering with universities to deliver context-specific training on agri-tech and financial literacy, following the FAO's (2019) Farmer Field School model, will enhance capacity building. Furthermore, establishing a multi-stakeholder taskforce, including entities such as Bank Aceh Syariah, OJK, and farmers' associations, will help harmonize policies and resource allocation through collaborative governance.

CONCLUSION

This study reveals that partnership-based farmer empowerment at Bank Aceh Syariah is influenced by both internal and external challenges. Internal challenges include limited resources, suboptimal production quality, and a lack of innovation, while external challenges encompass environmental uncertainties and regulatory and market constraints. The Analytic Network Process (ANP) results indicate that innovation in technology-based financing has the highest impact, with a Gmean of 0.34632 (suggesting a potential 34.64% improvement in farmer welfare), followed by increasing knowledge and skills through training and mentoring (G_{mean} = 0.29187, or 29.18%), collaboration and synergy with related parties (G_{mean} = 0.17787, or 17.78%), digitalization of distribution and marketing (G_{mean} = 0.10162, or 10.16%), and enhancing production quality and application of modern technology (Gmean = 0.08231, or 8.23%).

These findings carry significant implications for policy and practice. The results underscore the need for a dual approach that addresses both the internal

limitations and external pressures faced by farmers. By drawing on the Resource-Based View and Social Capital Theory, this study suggests that leveraging internal capabilities through financial innovation and capacity building, alongside strengthening external partnerships and digital infrastructures, can substantially elevate farmer welfare and drive sustainable rural development. The strategic framework developed through the ANP offers a robust guide for stakeholders to design interventions that are both systematic and evidence-based.

Notwithstanding these contributions, the study has several limitations. The purposive sampling approach, involving only five informants, may constrain the generalizability of the findings, and the reliance on expert judgment in the ANP introduces an element of subjectivity. Additionally, the cross-sectional design of the study limits insights into the long-term dynamics of the proposed strategies. Future research should aim to expand the sample size, incorporate longitudinal methods to capture temporal changes, and undertake comparative studies across diverse regions to further validate and refine the partnership-based empowerment model.

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