



## Farmers' Experiences with Eco-Friendly Innovations in Flood-Prone Regions

Elvina Afriani<sup>1\*</sup>, Ida Wahyuni<sup>2</sup>

<sup>1,2</sup>UIN Suska Riau, Indonesia

<sup>1</sup>[elvinaafriani@gmail.com](mailto:elvinaafriani@gmail.com), <sup>2</sup>[idawahyuni@gmail.com](mailto:idawahyuni@gmail.com)

### Article Info

#### Article history:

Received 30-08-2025

Revised 07-09-2025

Accepted 17-10-2025

#### Keyword:

Farmers' Experiences; Eco-Friendly Agricultural Innovations; Sustainable Agriculture; Climate Adaptation; Flood-Prone Regions; Lived Experiences

### ABSTRACT

Climate-related disasters, particularly recurring floods, increasingly threaten agricultural sustainability and rural livelihoods, making eco-friendly innovations essential for long-term resilience. Within this context, understanding how farmers perceive, interpret, and integrate sustainable agricultural practices in flood-prone regions has become a crucial yet underexplored area of research. This study aims to examine the lived experiences of farmers in adopting eco-friendly agricultural innovations and to identify the subjective factors that influence their decisions and adaptation strategies. Here, we apply a descriptive phenomenological approach to explore the essence of farmers' lived experiences, uncovering how they interpret environmental challenges and negotiate between traditional practices and innovative solutions. Data were collected through in-depth, semi-structured interviews with twelve smallholder farmers residing in flood-prone areas and analyzed using thematic reduction techniques to identify shared meanings and experiential patterns. The findings reveal five interconnected themes: (1) tension between tradition and innovation, (2) emotional distress triggered by recurring floods, (3) reliance on collective learning and peer-based knowledge, (4) negotiation of agency under institutional pressures, and (5) redefining sustainability through personal and cultural values. These results demonstrate that adopting eco-friendly practices is a dynamic meaning-making process rather than a purely technical decision. The study advances a context-sensitive understanding of innovation adoption by prioritizing subjective experiences, offering insights for designing policies and interventions that respect local knowledge and cultural identities. These findings provide a foundation for future research exploring diverse socio-ecological contexts and integrating mixed-methods approaches to strengthen links between personal narratives and measurable sustainability outcomes.



©2025 Authors. Published by PT Mukhlisina Revolution Center.. This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. (<https://creativecommons.org/licenses/by/4.0/>)

## INTRODUCTION

The increasing frequency and intensity of climate-related disasters, particularly flooding, has become one of the most pressing environmental challenges affecting agricultural communities worldwide (Johansson et al., 2024; Noble et al., 2019). Farmers living in flood-prone regions face growing uncertainties regarding their livelihoods, as recurrent environmental disruptions threaten food security, economic stability, and social well-being. Within this broader context, eco-friendly agricultural innovations have emerged as strategic responses to climate variability and environmental degradation, offering potential pathways to enhance resilience and promote sustainable land management practices. However, the adoption of such innovations is not merely a technical decision; it is deeply intertwined with personal meanings, cultural identities, and lived experiences that shape how individuals and communities navigate environmental and socio-economic transformations.

In many rural contexts, particularly within developing countries, farming is not only a source of income but also a central aspect of social identity, intergenerational heritage, and community belonging. For smallholder farmers, decisions about adopting eco-friendly agricultural innovations often extend beyond the practicalities of crop productivity or resource efficiency (Al Mamun et al.,

2024; Vercillo & Hird-Younger, 2019). These decisions involve deeply rooted values, collective memory, and personal aspirations, which influence how individuals perceive environmental change and their capacity to adapt. Recent studies have highlighted that farmers' responses to innovations are shaped not only by access to resources and knowledge but also by subjective perceptions of risk, trust, and agency within their social and cultural environments. This makes the exploration of farmers' personal narratives and meaning-making processes crucial for understanding the dynamics of innovation adoption in vulnerable regions.

Despite the growing body of literature on sustainable agricultural practices and climate adaptation strategies, there remains a significant gap in understanding how farmers experience and interpret eco-friendly innovations in flood-prone settings (Mukhlis, Arifin, Ridwan, & Zulbaidah, 2025; Mukhlis, Arifin, Ridwan, Zulbaidah, et al., 2025). Most existing studies focus on technical assessments, policy impacts, or quantitative measurements of innovation outcomes, often overlooking the emotional, cognitive, and social dimensions that underpin farmers' choices. By prioritizing numerical metrics over subjective meaning, much of the current scholarship risks missing the richness of lived realities, particularly the complex interplay between environmental challenges, cultural traditions, and personal aspirations. This study seeks to address this gap by adopting a phenomenological perspective that privileges farmers' voices, uncovering how they construct meaning from their experiences of adopting sustainable agricultural innovations amidst recurring environmental threats.

Through this lens, the present research emphasizes the necessity of exploring subjective experiences to understand how individuals and communities navigate uncertainty and transformation. By focusing on personal narratives and contextual interpretations, the study contributes to a deeper and more nuanced understanding of the lived realities of farmers in flood-prone regions. Such insights are essential for designing inclusive policies and community-based interventions that respect local values while promoting sustainable practices. This approach aligns with the phenomenological tradition, which seeks to illuminate the essence of human experiences as they are lived, perceived, and understood within specific socio-cultural and environmental contexts.

Research exploring individuals' lived experiences within specific environmental phenomena has become an increasingly significant field, particularly in the context of sustainable agriculture and climate adaptation (Mukhlis, 2025b; Mukhlis, Suradi, et al., 2023). Understanding how farmers interpret and respond to eco-friendly agricultural innovations in flood-prone regions requires an examination that goes beyond technical implementation and policy frameworks. While the scientific community has produced extensive studies on agricultural innovation, resilience strategies, and climate change adaptation, much of this scholarship relies on quantitative methodologies that primarily measure adoption rates, productivity outcomes, and environmental impact indicators. Although these contributions are valuable, they often fail to capture the subjective meanings, emotional responses, and personal narratives that shape farmers' decisions and adaptive behaviors.

The challenge lies in the methodological limitations of previous research, which has frequently relied on structured surveys, statistical models, and generalized frameworks that overlook the nuances of human experiences. For instance, studies employing large-scale datasets often assume uniform patterns of behavior across communities, thereby neglecting individual differences, local knowledge, and cultural values that profoundly influence decision-making processes (Kammerer et al., 2025a, 2025b). Similarly, research grounded in policy evaluations tends to prioritize macro-level outcomes while underrepresenting the lived realities of those directly affected by environmental and agricultural transformations. This gap in methodological sensitivity has resulted in an incomplete understanding of how farmers perceive, negotiate, and make sense of innovations within the dynamic context of recurring floods and socio-economic vulnerability.

These limitations underscore the inadequacy of conventional approaches in fully comprehending the essence of farmers' lived experiences. Quantitative frameworks, while valuable for identifying trends and correlations, are often ill-suited for uncovering the deeply personal, emotional, and symbolic dimensions of adopting eco-friendly agricultural practices in highly vulnerable environments. Given that farmers' decisions are not purely technical but also embedded in

cultural identities, social norms, and psychological responses, a more interpretive approach is necessary to illuminate these experiential layers.

By addressing this methodological gap, the present study adopts a phenomenological perspective to explore the subjective meaning-making processes of farmers who implement eco-friendly agricultural innovations in flood-prone regions. Through this lens, the research seeks to reveal the essence of their experiences, providing insights into how individuals interpret environmental challenges, negotiate competing priorities, and redefine sustainability within their specific social and ecological contexts. Such an approach contributes not only to a more holistic understanding of innovation adoption but also informs the development of policies and interventions that are culturally grounded, contextually relevant, and responsive to the lived realities of farming communities.

While numerous studies have investigated strategies for promoting eco-friendly agricultural innovations in flood-prone regions, the majority have relied on practical, outcome-driven approaches that emphasize technical efficiency, policy implementation, and measurable adoption rates (Heider et al., 2023; Taranov & Kawabata, 2024). These studies typically focus on assessing the success or failure of innovation programs through statistical indicators such as yield improvement, resource efficiency, and productivity enhancement. Although these quantitative frameworks have contributed valuable insights into the broader patterns of adoption, they provide only a partial understanding of the phenomenon by overlooking the subjective, emotional, and cultural dimensions of farmers' lived realities.

The limitation of these approaches lies in their inability to capture how farmers personally experience, interpret, and assign meaning to adopting sustainable practices within vulnerable environmental and socio-economic contexts. Existing research often treats farmers as passive beneficiaries of agricultural innovation rather than as active meaning-makers whose decisions are influenced by psychological states, cultural attachments, and collective identities (Khumalo et al., 2024). As a result, the current literature lacks an in-depth exploration of the inner processes through which farmers perceive environmental risks, negotiate institutional pressures, and integrate eco-friendly innovations into their daily lives and long-term aspirations.

To address this critical gap, a phenomenological approach offers an alternative framework for uncovering the essence of farmers' lived experiences. By prioritizing their narratives and exploring the subjective meanings underlying their decisions, this study seeks to move beyond surface-level descriptions and provide a holistic, context-rich understanding of how eco-friendly innovations are interpreted and adopted in flood-prone regions. Through this lens, the research aims to generate insights that are not only academically significant but also practically relevant for policymakers and practitioners seeking to design culturally grounded and community-centered strategies for sustainable agricultural transformation.

Previous research has highlighted the importance of understanding farmers' experiences in adopting eco-friendly agricultural innovations, particularly in environmentally vulnerable regions. Studies have examined climate adaptation strategies, socio-economic impacts, and institutional interventions, but they often emphasize measurable outcomes rather than subjective experiences (de Boon et al., 2023; Tröger & Braun, 2025). While existing frameworks provide valuable insights into adoption patterns and policy effectiveness, they rarely explore how individuals perceive, interpret, and find meaning in their decisions. This study builds on recent findings that call for a deeper understanding of farmers' lived realities by focusing on their narratives and personal interpretations within flood-prone contexts. The research integrates relevant theoretical perspectives on sustainability, adaptation, and social identity to provide a strong conceptual foundation.

To address the identified knowledge gap, this study employs a descriptive phenomenological approach to explore the essence of farmers' lived experiences. This approach was selected because it allows researchers to capture the meanings and interpretations participants attach to their actions, rather than limiting analysis to external indicators. By privileging farmers' voices, the study seeks to uncover how they experience, negotiate, and integrate eco-friendly agricultural innovations into their lives amidst recurring environmental challenges. Through this methodology, the study responds

directly to the limitations of previous research by prioritizing subjective perspectives over generalized assumptions. In doing so, it aims to provide richer, context-sensitive insights that can inform policy and practice.

The structure of this article reflects a systematic progression of ideas. The introduction outlines the context of the phenomenon, highlights the research problem, and defines the study objectives. The following section explains the phenomenological methodological approach, including participant selection, data collection, and thematic analysis. The results present emergent themes illustrating farmers' lived experiences and interpretations of adopting eco-friendly innovations. The discussion connects these findings with existing literature, theoretical frameworks, and practical implications. Finally, the conclusion summarizes the contributions, highlights policy relevance, and suggests avenues for future research.

## **RESEARCH METHODS**

### **Study Design**

This study adopted a descriptive phenomenological design to explore the lived experiences of farmers adopting eco-friendly agricultural innovations in flood-prone areas (Iosifides, 2016; Longhofer et al., 2012). The phenomenological approach was selected because it provides a robust framework for uncovering the essence of subjective experiences and understanding how individuals interpret, perceive, and assign meaning to specific phenomena (Bednarek-Gilland, 2015; Gibton, 2015). Grounded in the philosophical foundations of Husserl, this approach emphasizes epoché or bracketing, which allows the phenomenon to emerge naturally by setting aside preconceived assumptions and focusing on participants' authentic narratives. This design was particularly appropriate for the study as it facilitated a deep exploration of how farmers make sense of sustainable agricultural practices within the complex realities of recurring flooding, environmental vulnerability, and socio-cultural expectations.

### **Participants**

Participants consisted of twelve smallholder farmers residing in agricultural areas frequently affected by seasonal flooding (Carreiras & Castro, 2012; Migdal, 2018). They were selected using purposive sampling to ensure relevance to the phenomenon under investigation. Inclusion criteria required that participants had at least five years of farming experience, had direct engagement with eco-friendly agricultural innovations, and lived in regions classified as flood-prone. Farmers without direct involvement in adopting sustainable agricultural practices were excluded to maintain the study's focus on participants with relevant lived experiences. The final sample included eight men and four women, with ages ranging from 32 to 58 years and an average age of 44.6 years. Educational backgrounds varied, from primary-level schooling to secondary education, reflecting the heterogeneity of the farming community and enriching the diversity of perspectives captured in the study.

### **Data Collection**

Data were gathered through in-depth, semi-structured interviews designed to capture participants' personal experiences, emotions, and perceptions regarding the adoption of eco-friendly agricultural innovations (Hillman & Radel, 2018; Lutz & Knox, 2014). An interview protocol was developed to provide general guidance while allowing participants the freedom to elaborate on their narratives and share their stories in detail. Interviews were conducted face-to-face at participants' homes or farms to create a comfortable and familiar environment, encouraging open and authentic responses. Each interview lasted approximately 60 to 90 minutes, depending on the depth of participants' contributions and their willingness to elaborate. All sessions were conducted in quiet and private settings to ensure confidentiality and minimize distractions. With participants' informed consent, interviews were audio-recorded and subsequently transcribed verbatim to preserve the richness and authenticity of their voices. Efforts were made throughout the data collection process to foster trust and build rapport, enabling participants to express their thoughts and experiences freely.

**Data Analysis**

Data were analyzed using descriptive phenomenological thematic analysis, which aimed to uncover the essence of participants’ lived experiences through a systematic, stepwise process. Initially, the interview transcripts were read repeatedly to develop a comprehensive understanding of the narratives. Significant statements were then identified and segmented into meaning units, capturing expressions relevant to the phenomenon under study. These meaning units were coded and categorized into emerging themes based on conceptual similarities (Borcsa & Rober, 2015; McNabb, 2015). Through the process of eidetic reduction, extraneous details were set aside, allowing the essential structures of meaning to surface. NVivo 14 software was utilized to facilitate data organization, coding, and theme visualization; however, the interpretation of findings remained firmly grounded in participants’ authentic voices rather than being dictated by software-generated patterns. The resulting themes reflect shared experiences as well as unique perspectives, offering a nuanced understanding of farmers’ emotional, cognitive, and practical engagements with eco-friendly agricultural innovations.

**RESULTS**

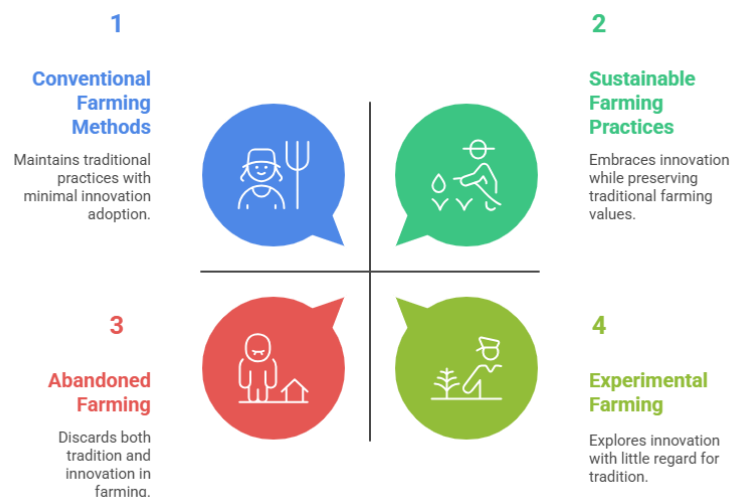
**Struggling Between Tradition and Innovation**

One of the most prominent themes that emerged was the internal conflict farmers faced between maintaining traditional practices and embracing eco-friendly innovations. While most participants acknowledged the potential benefits of adopting sustainable farming techniques, they struggled to depart from practices inherited across generations.

“For years, I have been using the same planting techniques taught by my father. Switching to these new methods feels risky... what if it fails and we lose everything?” (Participant 4)

The narrative reflects a sense of uncertainty rooted in cultural and generational attachment to conventional farming practices. For many, innovation was perceived as both an opportunity and a threat. Farmers reported feeling pressured by external stakeholders, including government extension officers and local NGOs, yet they also expressed personal hesitation, revealing a psychological tension between preserving tradition and pursuing ecological sustainability.

**Balancing Tradition and Innovation in Farming**



**Emotional Turmoil Triggered by Flooding Events**

Farmers’ experiences were deeply shaped by recurring flooding events. These natural disasters did not merely cause material losses but also generated emotional distress, anxiety, and feelings of vulnerability.

“Every time the water rises, I cannot sleep. I keep thinking about my crops, my family, and whether we will survive another season like this.” (Participant 7)

Beyond economic damages, participants expressed psychological exhaustion caused by uncertainty and recurring environmental threats. Interestingly, some farmers viewed eco-friendly innovations as a form of resilience-building a tool to mitigate future risks while others considered them inadequate in protecting livelihoods. The findings highlight how environmental stressors shape attitudes towards innovation adoption, intertwining survival strategies with emotional well-being.

### **Reconstructing Hope Through Community Knowledge Sharing**

Another significant finding revealed how farmers relied on collective learning and knowledge-sharing practices to navigate environmental challenges. Participants emphasized that adopting eco-friendly techniques became easier when community-led initiatives supported their learning.

“I wouldn’t have tried the new planting method if my neighbors hadn’t shown me their results. We discuss every step together so no one feels left behind.” (Participant 2)

This demonstrates the centrality of social capital in facilitating change. Trust among farmers and shared experiential learning played a critical role in overcoming skepticism towards innovation. Peer influence and community-driven experimentation emerged as effective strategies for enabling gradual behavioral shifts, making innovation adoption less intimidating and more inclusive.

### **Negotiating Agency Amid Institutional Pressures**

Participants frequently described experiencing conflicting pressures from institutional actors, including local governments, NGOs, and agricultural extension services. While some institutional programs promoted eco-friendly techniques, farmers expressed mixed feelings about the implementation process.

“The government says we should adopt these innovations, but they rarely ask us what we actually need. Sometimes it feels like they decide for us without understanding our situation.” (Participant 5)

This theme highlights power dynamics between farmers and policymakers, where top-down approaches occasionally undermined local agency. Although some innovations were seen as beneficial, participants emphasized the need for context-sensitive interventions that align with farmers’ realities and capacities.

### **Meaning-Making and Redefining Sustainability**

Beyond material and technical considerations, farmers engaged in meaning-making processes as they integrated eco-friendly practices into their lives. For many, sustainability was no longer viewed merely as a technical solution but as a personal and collective journey of adapting to environmental challenges.

“I used to think farming was only about planting and harvesting. Now, I realize it’s also about caring for the land so that my children can farm here too.” (Participant 9)

This shift indicates a transformation in environmental consciousness, where farmers began linking their personal identities, cultural values, and long-term aspirations to ecological stewardship. Such meaning-making not only reinforces the adoption of innovations but also shapes a more resilient community ethos.

## **DISCUSSION**

### **Contributions of Findings to the Research Question**

This study provides significant insights into how farmers experience, negotiate, and integrate eco-friendly agricultural innovations within the context of recurring flooding and environmental uncertainty (Mukhlis, Janwari, et al., 2023; Mukhlis & Abdullah, 2025). The results demonstrate that adoption is not a linear process driven solely by technical benefits or policy directives; rather, it is a

dynamic and meaning-making process influenced by personal emotions, collective knowledge, and cultural traditions. Farmers' narratives reveal that innovation represents both an opportunity and a source of tension on the one hand, a pathway to resilience and sustainability, and on the other, a potential threat to long-standing practices and social norms.

By uncovering these experiential layers, the study contributes to a deeper understanding of the phenomenon beyond surface-level indicators like adoption rates or yield improvement (Mukhlis, Maryam, et al., 2023; Mukhlis et al., 2024). It addresses the research gap by demonstrating that farmers are active agents who interpret environmental challenges and technological changes based on their lived realities, aspirations, and community dynamics. This interpretive perspective not only answers the central research question but also underscores the importance of prioritizing subjective meanings when designing agricultural innovation strategies for vulnerable regions.

### **Relation to Previous Literature and Theoretical Perspectives**

The findings resonate with and extend existing literature on sustainability, innovation adoption, and climate adaptation in rural communities. Consistent with Shams et al., (2024), this study confirms that farmers' responses to innovation are highly contextual, shaped by personal and collective experiences of environmental risk. Similar to Juliati et al., (2024), the results highlight the central role of social capital and peer-based knowledge-sharing in facilitating behavioral change and reducing perceived risks associated with adopting new practices. However, this study advances the discussion by demonstrating that farmers' decision-making also involves deep emotional negotiations balancing attachment to traditional practices with aspirations for long-term sustainability a nuance often overlooked in previous quantitative research.

From a theoretical perspective, the results align with phenomenological frameworks emphasizing that meaning arises from lived experience rather than from external observation alone. By applying Husserl's descriptive phenomenology, the study illuminates the essence of farmers' experiences without imposing prescriptive interpretations, thereby offering a richer, context-sensitive understanding of sustainability transitions in environmentally vulnerable regions. These findings challenge purely outcome-driven frameworks, suggesting that policies focusing solely on technical adoption targets risk underestimating the emotional, cultural, and social complexities underlying innovation processes.

### **Implications of the Findings**

The findings of this study have both theoretical and practical implications for understanding farmers' adoption of eco-friendly agricultural innovations in flood-prone regions (Prakash, 2025; Ragazou et al., 2022). From a theoretical perspective, the results deepen our understanding of how meaning-making processes shape decision-making within vulnerable environmental contexts. By adopting a phenomenological lens, this study illustrates that farmers' decisions cannot be fully explained by economic incentives or policy-driven interventions alone; instead, they are deeply influenced by cultural traditions, collective identities, and emotional negotiations. This highlights the importance of integrating subjective perspectives into agricultural innovation frameworks and sustainability studies.

Practically, these findings suggest that interventions aimed at promoting eco-friendly agricultural innovations should prioritize context-sensitive, community-driven strategies. Farmers' reliance on peer-based learning, local narratives, and collective experimentation underscores the need for policies and programs that empower local knowledge systems rather than imposing top-down solutions. Furthermore, recognizing the emotional and cultural dimensions of innovation adoption can improve engagement strategies, foster trust, and enhance long-term sustainability outcomes. These insights are relevant not only for flood-prone regions but also for other vulnerable communities where environmental risks intersect with socio-cultural identities and agricultural practices.

### **Limitations of the Study**

While this study provides valuable insights into the lived experiences of farmers adopting eco-friendly agricultural innovations, several limitations should be acknowledged (Mukhlis, 2025a;

Mukhlis & Saidah, 2025). First, the findings are based on a context-specific sample of twelve smallholder farmers in flood-prone regions, which limits the generalizability of the results to broader populations or different ecological settings. Second, the use of descriptive phenomenology places emphasis on subjective meaning and individual narratives, which, while enriching the depth of understanding, may not capture all possible external factors influencing adoption, such as policy structures or market dynamics.

Additionally, the data were collected within a specific cultural and geographical context, where social norms, institutional pressures, and environmental vulnerabilities are highly localized. Therefore, caution should be exercised when applying these findings to regions with different socio-ecological conditions. However, these limitations are not weaknesses but rather opportunities for future research to explore the phenomenon across diverse populations and settings, strengthening the theoretical and practical relevance of the insights obtained.

### **Prospective Directions for Future Research**

Building on the contributions of this study, future research should expand the exploration of farmers' experiences by incorporating diverse contexts, populations, and methodological triangulation. Comparative studies across different geographic regions could reveal variations in meaning-making processes, cultural influences, and adaptation strategies, providing a more comprehensive understanding of innovation adoption under climate stress. Furthermore, integrating phenomenological insights with mixed-methods approaches could enrich findings by combining subjective experiences with quantitative measures of environmental and economic outcomes.

Future studies might also investigate the role of social networks, institutional dynamics, and intergenerational knowledge transfer in shaping innovation practices. Such inquiries could strengthen the design of agricultural policies and interventions by grounding them in both empirical evidence and local realities. By deepening engagement with farmers' narratives while linking them to broader systemic factors, future research can contribute significantly to advancing sustainable agriculture and climate adaptation strategies, particularly within environmentally vulnerable communities.

### **CONCLUSION**

This study explored the lived experiences of farmers adopting eco-friendly agricultural innovations in flood-prone regions, addressing the research problem of understanding how subjective meanings shape adaptation decisions. The findings reveal that farmers' choices are influenced not only by technical and economic considerations but also by personal values, cultural traditions, emotional responses, and collective community practices. By employing a descriptive phenomenological approach, the study provides a deeper and more nuanced understanding of how farmers negotiate between traditional practices and innovative solutions, thus filling an important gap left by previous research dominated by quantitative analyses. These insights contribute to designing context-sensitive and community-driven strategies that support sustainable agricultural transformation while respecting local identities and lived realities. Furthermore, the results open opportunities for future studies to expand this investigation into diverse environmental and cultural settings to enrich comparative perspectives. Future research may also integrate mixed-methods approaches to strengthen connections between subjective narratives and measurable sustainability outcomes.

### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest regarding the publication of this article.

### **REFERENCES**

- Al Mamun, A., Li, J., Cui, A., Chowdhury, R., & Hossain, L. (2024). Climate-adaptive strategies for enhancing agricultural resilience in southeastern coastal Bangladesh: Insights from farmers and stakeholders. *PLoS ONE*, *19*(6). Scopus. <https://doi.org/10.1371/journal.pone.0305609>

- Bednarek-Gilland, A. (2015). *Researching values with qualitative methods: Empathy, moral boundaries and the politics of research* (p. 122). Ashgate Publishing Ltd; Scopus. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84938280606&partnerID=40&md5=9fe04cec3f08b662639e63bdf2de404d>
- Borcsa, M., & Rober, P. (2015). *Research perspectives in couple therapy: Discursive qualitative methods* (p. 176). Springer International Publishing; Scopus. <https://doi.org/10.1007/978-3-319-23306-2>
- Carreiras, H., & Castro, C. (2012). *Qualitative methods in military studies: Research experiences and challenges* (p. 194). Taylor and Francis; Scopus. <https://doi.org/10.4324/9780203099223>
- de Boon, A., Dressel, S., Sandström, C., & Rose, D. C. (2023). A psychometric approach to assess justice perceptions in support of the governance of agricultural sustainability transitions. *Environmental Innovation and Societal Transitions*, 46. Scopus. <https://doi.org/10.1016/j.eist.2023.100694>
- Gibton, D. (2015). *Researching education policy, public policy, and policymakers: Qualitative methods and ethical issues* (p. 226). Taylor and Francis; Scopus. <https://doi.org/10.4324/9781315775722>
- Heider, K., Rodriguez Lopez, J. M., Bischoff, A., Balbo, A. L., & Scheffran, J. (2023). Toward climate-resilient and biodiverse agriculture in the Mediterranean region: Experiences and perceptions of farmers engaged in sustainable food production. *Organic Agriculture*, 13(4), 513–529. Scopus. <https://doi.org/10.1007/s13165-023-00444-3>
- Hillman, W., & Radel, K. (2018). *Qualitative methods in tourism research: Theory and practice* (p. 294). Channel View Publications; Scopus. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050434848&partnerID=40&md5=7ea1e3f0b2027993b53f6a795804ee51>
- Iosifides, T. (2016). *Qualitative Methods in Migration Studies: A Critical Realist Perspective* (p. 266). Taylor and Francis; Scopus. <https://doi.org/10.4324/9781315603124>
- Johansson, E., Martin, R., & Mapunda, K. (2024). Climate vulnerability of agroecological and conventional smallholders in Mvomero district, Tanzania: Using mixed-methods to uncover local experiences and motivations of farming for the future. *Frontiers in Sustainable Food Systems*, 8. Scopus. <https://doi.org/10.3389/fsufs.2024.1423861>
- Juliati, Y., Hidayat, K., & Dwicahyono, E. (2024). Agricultural Extension Model based on Local Wisdom in Creating Household Welfare in the Dayak Tunjung Tribe Community, West Kutai Regency. *Journal of Global Innovations in Agricultural Sciences*, 12(1), 186–196. Scopus. <https://doi.org/10.22194/JGIAS/12.1237>
- Kammerer, C., Resurrección, B. P., & Manorom, K. (2025a). Flow, food, and flood: Embodied aquaculture in a climate-stressed world. *Gender and Development*, 33(1), 151–161. Scopus. <https://doi.org/10.1080/13552074.2025.2471223>
- Kammerer, C., Resurrección, B. P., & Manorom, K. (2025b). Flow, food, and flood: Embodied aquaculture in a climate-stressed world. *Gender and Development*, 33(1), 151–161. Scopus. <https://doi.org/10.1080/13552074.2025.2471223>
- Khumalo, N. Z., Mdoda, L., & Sibanda, M. (2024). Uptake and Level of Use of Climate-Smart Agricultural Practices by Small-Scale Urban Crop Farmers in eThekweni Municipality. *Sustainability (Switzerland)*, 16(13). Scopus. <https://doi.org/10.3390/su16135348>
- Longhofer, J., Floersch, J., & Hoy, J. (2012). *Qualitative Methods for Practice Research* (p. 224). Oxford University Press; Scopus. <https://doi.org/10.1093/acprof:oso/9780195398472.001.0001>
- Lutz, W., & Knox, S. (2014). *Quantitative and qualitative methods in psychotherapy research* (p. 448). Taylor and Francis; Scopus. <https://doi.org/10.4324/9780203386071>

- McNabb, D. E. (2015). *Research methods for political science: Quantitative and qualitative methods: Second edition* (p. 426). Taylor and Francis; Scopus. <https://doi.org/10.4324/9781315701141>
- Migdal, A. B. (2018). *Qualitative Methods in Quantum Theory* (p. 460). CRC Press; Scopus. <https://doi.org/10.1201/9780429497940>
- Mukhlis, L. (2025a). A Phenomenological Study of Personal Spiritual Experiences in Navigating Religious Pluralism within Interfaith Communities. *Irfana: Journal of Religious Studies*, 1(6), 212–220.
- Mukhlis, L. (2025b). Spiritual Grounds for Economic Growth: A Qualitative Exploration of Rural Indonesian Women's Transformative Journeys Through Mosque-Led Empowerment Programs. *Servina: Jurnal Pengabdian Kepada Masyarakat*, 1(8), 289–298.
- Mukhlis, L., & Abdullah, M. N. (2025). *Hukum Keluarga Islam di Indonesia* (1st ed.). Mukhlisina Revolution Center.
- Mukhlis, L., Arifin, T., Ridwan, A. H., & Zulbaidah. (2024). Integrating Artificial Intelligence and Maqāṣid al-Syarī'ah: Revolutionizing Indonesia's Sharia Online Trading System. *Computer Fraud and Security*, 2024(11), 301–309. <https://doi.org/10.52710/cfs.238>
- Mukhlis, L., Arifin, T., Ridwan, A. H., & Zulbaidah. (2025). Reorientation of Sharia Stock Regulations: Integrating Taṣarrufāt al-Rasūl and Maqāṣid al-Sharī'ah for Justice and Sustainability. *Journal of Information Systems Engineering and Management*, 10(10s), 58–66. <https://doi.org/10.52783/jisem.v10i10s.1341>
- Mukhlis, L., Arifin, T., Ridwan, A. H., Zulbaidah, Rosadi, A., & Solehudin, E. (2025). Reformulation of Islamic Stock Law: The Application of Taṣarrufāt al-Rasūl and Maqāṣid al-Syarī'ah to Develop a Dynamic and Sustainable Islamic Capital Market in Indonesia. *Journal of Posthumanism*, 5(3), 1–13. <https://doi.org/10.63332/joph.v5i3.913>
- Mukhlis, L., Janwari, Y., & Syafe'i, R. (2023). INDONESIA STOCK EXCHANGE: THEORETICAL AND PHILOSOPHICAL ANALYSIS OF MUDHARABAH AND MUSYARAKAH CONTRACTS. *Yurisprudencia: Jurnal Hukum Ekonomi*, 9(2), 243–264. <https://doi.org/10.24952/yurisprudencia.v9i2.8466>
- Mukhlis, L., Maryam, S., & Sormin, S. A. (2023). Model Pembelajaran Living History Berbasis PjBL Untuk Meningkatkan Keterampilan Histografi Mahasiswa. *Jurnal Educatio FKIP UNMA*, 9(4), 1800–1809. <https://doi.org/10.31949/educatio.v9i4.5595>
- Mukhlis, L., & Saidah, Y. (2025). Dynamics of Nature-Based learning in Developing Children's Motoric Skills: Teacher and Parent Perspectives. *HUMANISMA: Journal of Gender Studies*, 9(1), 64–79. <http://dx.doi.org/10.30983/humanisme.v4i2.9366>
- Mukhlis, L., Suradi, Janwari, Y., & Syafe'i, R. (2023). Sosialisasi Saham Syariah sebagai Instrumen Pengembangan Ekonomi Masyarakat di Badan Kontak Majelis Taklim (BKMT) Kabupaten Mandailing Natal. *Jurnal Pengabdian Multidisiplin*, 3(2), 2–9. <https://doi.org/10.51214/japamul.v3i2.604>
- Noble, K., Dennis, T., & Larkins, S. (2019). *Agriculture and Resilience in Australia's North: A Lived Experience* (p. 228). Springer Singapore; Scopus. <https://doi.org/10.1007/978-981-13-8355-7>
- Prakash, R. (2025). AI Robotics: Transforming Grassroots Innovation for Sustainable Development in Developing Economies. *Business Strategy and Development*, 8(2). Scopus. <https://doi.org/10.1002/bsd2.70143>
- Ragazou, K., Garefalakis, A., Zafeiriou, E., & Passas, I. (2022). Agriculture 5.0: A New Strategic Management Mode for a Cut Cost and an Energy Efficient Agriculture Sector. *Energies*, 15(9). Scopus. <https://doi.org/10.3390/en15093113>
- Shams, S. H., Sokout, S., Nakajima, H., Kumamoto, M., & Khan, G. D. (2024). Addressing Food Insecurity in South Sudan: Insights and Solutions from Young Entrepreneurs. *Sustainability (Switzerland)*, 16(12). Scopus. <https://doi.org/10.3390/su16125197>

- Taranov, I., & Kawabata, Y. (2024). Organic agriculture in Kyrgyzstan: Experiences with implementing participatory guarantee systems. *Frontiers in Sustainable Food Systems*, 8. Scopus. <https://doi.org/10.3389/fsufs.2024.1453850>
- Tröger, D., & Braun, A. C. (2025). A Trojan horse in the last of the wild? Pine trees, agroforestry, and land zoning assemble the landscape resilience dilemma in Patagonia. *Land Use Policy*, 157. Scopus. <https://doi.org/10.1016/j.landusepol.2025.107663>
- Vercillo, S., & Hird-Younger, M. (2019). Farmer resistance to agriculture commercialisation in northern Ghana. *Third World Quarterly*, 40(4), 763–779. Scopus. <https://doi.org/10.1080/01436597.2018.1552076>