

Original Article

Withering Fields: Voices of Loss, Adaptation, and Hope among Banana Farmers

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Abstract

Banana farmers are succumbed to socio-economic problem. I explored the perceptions of banana farmers in preparing for market changes, sustaining income, adapting strategies, and restoring livelihood stability. I interviewed 12 banana farmers from Alejal, Carmen, Davao del Norte, whom I selected through purposive sampling. The results showed that the farmers' anticipations of opportunities and threats in the banana market were characterized by diversifying buyers and market channels, market fluctuations, environmental threats, and banana diseases. The results showed that the farmers' anticipations of opportunities and threats in the banana market were characterized by diversifying buyers and market channels, market fluctuations, environmental threats, banana diseases, and seeking government assistance. The findings on the farmers' absorptive capacity to avail opportunities and confront threats revealed the use of low-cost and innovative farming methods, leveraging social and institutional linkages, and practicing sound financial management to sustain banana production and cope with market and environmental challenges. The farmers' adaptive capacities while availing opportunities or confronting threats were reflected in adopting new technologies and crop diversification, enabling them to adjust their farming practices and reduce risks. Lastly, the farmers' restorative capacity to ensure stability amid opportunities and threats was characterized by rehabilitating damaged farms, reinvesting in production, and rebuilding market connections, allowing them to recover from setbacks, restore productivity, and

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strengthen the long-term sustainability of their livelihoods.

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1. Introduction

Poor and unstable livelihood recovery among banana farmers remains a persistent global concern, particularly among vulnerable rural populations whose capacity to regain economic stability after disruptions remains limited. Recent studies emphasized that livelihood systems worldwide are increasingly exposed to instability, making recovery processes slow, uneven, and often insufficient to restore pre-disruption conditions (Baffoe et al., 2025). Furthermore, livelihood resilience is described as a dynamic process requiring sustained capacity to recover from shocks, yet many communities struggle to maintain long-term stability despite ongoing recovery efforts (Liu et al., 2025).

Across various countries, the challenge of poor and unstable livelihood recovery is clear in different contexts. In Ethiopia, smallholder farmers exhibited weak adaptive capacity, with livelihoods remaining partially dependent on external assistance and showing limited recovery progression (Tofu & Wolka, 2023). In China, studies have shown that while farmers attempt to rebuild their livelihoods, recovery outcomes vary significantly, with many households unable to achieve stable, sustained livelihood conditions (Liu et al., 2023). Similarly, in Greece, agricultural systems remain vulnerable, with recovery efforts insufficient to fully stabilize rural economies and ensure long-term livelihood security (Kalogiannidis et al., 2023).

In the Philippine context, poor and unstable livelihood recovery is likewise a pressing issue, particularly among farmers who remain economically vulnerable despite efforts to regain stability. Studies highlighted that farmers are often positioned in fragile market systems where instability persists even in the absence of immediate shocks, limiting their ability to achieve consistent recovery and long-term livelihood security (Nguyen-Trung et al., 2024). This reflects a broader condition in which recovery is not only slow but also highly uncertain, reinforcing the persistent vulnerability of agricultural livelihoods in the country.

The consequences of poor and unstable livelihood recovery are far-reaching, affecting both individuals and broader socio-economic systems. Continued instability leads to prolonged economic vulnerability, reduced productivity, and increased dependence on external support systems, particularly in disaster-prone and climate-sensitive areas (Tofu & Wolka, 2023). It also contributes to food insecurity, social inequality, and weakened rural economies, as households struggle to rebuild assets and sustain income over time (Baffoe et al., 2025). Recurring shocks further exacerbate limited access to resources and structural constraints, collectively hindering sustainable recovery and long-term livelihood resilience (Liu et al., 2025).

2. Methodology

2.1 Research Design

I utilized a qualitative descriptive research design in this study. I adopted a flexible approach to provide a detailed summary of my participants' perceptions of the phenomenon under investigation (Chand, 2025). I prioritized participants' narratives and firsthand accounts, allowing the voices of banana farmers to shape understanding of how unstable market prices influenced their resilience rather than relying on external interpretations (Creswell & Poth, 2018). A flexible, naturalistic approach was applied, emphasizing the firsthand narratives of banana farmers to understand how unstable market prices affect their resilience.

2.2 Sample and Sampling

The participants of this study consisted of twelve (12) banana farmers who had been actively engaged in banana farming for at least five years. They relied on banana production as their primary source of livelihood, had experienced fluctuations in banana market prices, and were residents of Alejal, Carmen, Davao del Norte.

I selected the participants using a purposive sampling technique. This nonprobability sampling method enabled me to intentionally select individuals who could provide rich, relevant information about the phenomenon under investigation (Palinkas et al., 2015). I used this method because it ensured that participants had direct experience with volatile market prices and could meaningfully articulate their perspectives, which was essential for capturing the essence of resilience in the context of banana farming.

2.3 Data Gathering Techniques

I conducted in-depth interviews (IDIs) and Focus Group Discussions (FGDs) to collect data from the selected participants. Specifically, four participants participated in the In-Depth Interviews (IDIs), while eight participated in the Focus Group Discussions (FGDs), allowing exploration of both individual experiences and shared perspectives related to the phenomenon under investigation. The in-depth interviews lasted approximately 30 to 45 minutes per participant, while the focus group discussions lasted approximately 60 to 90 minutes per session, providing sufficient time for participants to elaborate on their experiences and engage in meaningful discussion. These methods were chosen because in-depth interviews allow intensive, one-on-one interactions that enable participants to share their perspectives and the meanings they attach to the phenomenon, while focus group discussions provide opportunities for shared insights and collective reflection (Kvale & Brinkmann, 2009). The use of both methods facilitated a deeper understanding of the phenomenon by

capturing both personal narratives and collective viewpoints. I used an interview guide questionnaire to maintain consistency and direction throughout both interviews and discussions, while still allowing participants to elaborate on their responses. These methods offered key advantages, including generating rich, in-depth data, capturing both individual and group perspectives, fostering interaction that can reveal shared perceptions, and enhancing the overall depth and credibility of the findings (Roberts, 2020).

2.4 Data Analysis

I analyzed the data in this study using Braun and Clarke's (2006) six-phase thematic analysis, a systematic process for identifying and interpreting patterns in qualitative data. I first familiarized myself with the data by reading and re-reading the interview transcripts, followed by generating initial codes to capture meaningful features across participants' accounts. I then organized these codes into potential themes during the searching-for-themes phase, which I subsequently reviewed and refined to ensure coherence with the coded extracts and the entire dataset. I proceeded to define and name the themes, clearly articulating the essence of each, and finally, produced the report by weaving together thematic insights with participant narratives and relevant literature. Throughout these steps, I remained actively engaged by bracketing my personal biases, carefully interpreting participants' voices, and ensuring the analysis remained true to the phenomenon under investigation.

2.5 Ethical Considerations

I adhered to the trustworthiness criteria of Lincoln and Guba (1985) by ensuring credibility, dependability, confirmability, and transferability in this qualitative study. Credibility was achieved through prolonged engagement, open interviews, and member checking to validate participants' responses. Dependability was ensured by systematically documenting the research process, while confirmability was established through reflexivity and maintaining an audit trail to minimize researcher bias. Transferability was addressed by providing rich descriptions of the context and participants. These measures also supported the study in obtaining ethical clearance from the Society for Moral Integrity and Legal Ethics (SMILE).

3. Results

3.1 Anticipations of the Opportunities and Threats in the Banana Market

3.1.1 Diversifying Buyers and Market Channel

Participants emphasized the importance of producing bananas that meet buyers' standards in terms of physical appearance, size, and overall quality. Their responses

highlighted the attention given to proper cultivation and farm management practices to ensure that bananas remain attractive and marketable. The participants also noted that buyers use product quality as a primary basis for purchasing decisions, making quality assurance a significant consideration in banana production. Alongside maintaining quality, they underscored the importance of achieving high production levels, reflecting the need to balance both quality and quantity to meet market expectations and demands.

One of the participants said:

"The quality of banana, the cosmetics, the overall cosmetics appearance... must be 100% quality... atimanon siya nga dagko, and nindot og gwapa siya. Mao nay gena pangita sa mga buyers" (The quality of the banana, its appearance, the overall look... must be 100% quality... it should be taken care of so it becomes big, nice, and beautiful. That's the buyer watch to see.") IDI 5Pg2L77-79

Another participant echoed this experience, stating:

"E ensure jud dapat ang quality sa saging kay mao manay basihan sa buyer... e make sure pud nga taas ang production." ("We really need to ensure the quality of the bananas because that is what buyers base on... we also need to make sure that production is high.") FGD 1 Pg3L95-96

3.1.2 Market Fluctuation

Participants described the fluctuating nature of banana prices as a recurring condition that affects their farming activities. Their responses indicated that market prices are difficult to predict because external factors beyond farmers' control largely influence them. The participants also noted that having an established buyer or market partner may provide some level of stability in selling their produce. Furthermore, they highlighted that small-scale farmers with limited production are more vulnerable to the effects of price instability, suggesting that market fluctuations impact farmers differently depending on their production capacity and access to buyers.

One of my participants shared:

"Dili pirmamente ang presyo sa saging, usahay taas ang palit, naa puy usahay nga baba jud. Dili jud namo ma predict kay mag agad man me sa presyo sa market." ("The price of bananas is not always stable; sometimes buyers pay high, and other times it is really low. We cannot predict it because we depend on the market price.") IDI 6Pg3L87-88

One of them expressed:

“Tama jud ng dili stable ang presyo, pero depende pud if na najud kay partner buyer, ang looy ani si ang mga farmers nga gagmay lang og production.” (“That’s true, the price is really unstable. But it also depends if you already have a partner buyer. What’s unfortunate is that small-scale farmers with limited production are the ones who suffer the most.”) FGD 2 Pg4L97-98

3.1.3 Environmental Threats

Participants described environmental and climatic conditions as significant factors affecting banana production. Their responses highlighted experiences with unpredictable weather events, including flooding, extreme heat, and typhoons, which resulted in substantial damage to banana farms. The participants noted that flooding led to the loss and deterioration of banana plants, while prolonged hot weather and El Niño conditions negatively affected plant health and fruit quality. They also recounted the impacts of strong typhoons, which caused banana plants to fall and sustain extensive damage. These accounts illustrate the challenges posed by climate-related events and their influence on agricultural productivity and crop sustainability.

“Ang atong klima dili jud nato matagna, naay mga sakuna na kalit lang muabot. Labaw na dire sa Brgy. Alejal na bahaonon kaayo na lugar. Nakasinati me grabi kaayo ang baha, unya tanan namong mga tanom na saging kay naapektohan gayud. Daghan namatay and mostly na damage jud sila.” (“Our climate is really unpredictable; disasters can come suddenly. Especially here in Barangay Alejal, which is very prone to flooding. We have experienced severe flooding, and all of our banana plants were affected. Many died, and most were heavily damaged.”) IDI4Pg3L110-111

A participant shared:

“Grabi kaayo ang panahon karon labi na karon nga tig-init og sa panahon sa El Niño, mangasunog jud ang mga dahon sa saging unya pangit kaayo ang bunga sa saging.” (“The weather is extremely intense nowadays, especially during the hot season and El Niño. The banana leaves get scorched, and the fruits turn out to be of very poor quality.”) IDI1Pg2L90-91

Similarly, another participant shared:

"Panahon atong nagka Bagyong Pablo, isa me sa mga farmers nga affected jud kay nangatumba ang among mga tanum nga saging". ("During the time of Typhoon Pablo, we were among the farmers who were truly affected because our banana plants were knocked down.") IDI1Pg3L120-121

3.1.4 Banana Diseases

Participants considered banana diseases as a major challenge affecting the sustainability of their farming livelihood. Their responses emphasized concerns about the persistence and severity of diseases, particularly soil-borne diseases perceived as having no effective cure or solution. Participants reported that these diseases have significantly affected their banana farms, creating uncertainty about the future of banana production. In addition to the impact of disease outbreaks, they also noted difficulties associated with unfavorable market conditions, indicating that both agricultural and economic challenges contribute to the hardships they face in maintaining their livelihoods.

The participant said:

"Lisod na kaayo karon tungod sa... banana disease kani man gud siya nga sakit si soil borne og wala pajud siyay solution or tambal... muabot jud ang panahon na mahurot najud ni siya." (It is very difficult now because of the banana disease... this disease is soil-borne and still has no solution or cure... the time will come when it will all be gone.) IDI 6Pg11L414-415

Along the same lines, another participant explained:

"Ang among livelihood karon lisod najud kaayo... wala pjuay tambal aning panama disease nga niigo samong mga sagingan. Ang presyo sa market sad karon dili kaayo competitive." ("Our livelihood now is already very difficult... there is still no cure for the Panama disease that affected our banana farms. The market price is also not very competitive now.") FGD 4Pg12L439-440

3.2 Absorptive Capacity of the Farmers to Avail Opportunities and Confront Threats

3.2.1 Government Assistance

Participants highlighted the importance of government support in addressing the challenges faced by banana farmers. Their responses reflected expectations of assistance from government agencies, particularly financial support and programs to restore and improve banana plantations. The participants also expressed the need for

agricultural assistance to help sustain their farming activities and recover from difficulties affecting production. These accounts indicate that external institutional support is viewed as a valuable resource for strengthening banana farmers' livelihoods and addressing challenges in the agricultural sector.

One of the participants expressed:

"Unta madungog sa mga ahensiya sa gobyerno nga dapat mutabang... duna untay allocation of fund para sa pagpagwapo og pagpabalik sa sagingan." ("I hope the government agencies will hear us and help... that there will be an allocation of funds to restore and improve the banana plantations.") IDI 1Pg9L320-321

Another participant shared a similar experience, stating:

"Nangayo najud meg tabang sa gobyerno na tagaan unta me og assistance para matabangan me nga mga mag uuma." ("We have already asked for help from the government, hoping to be given assistance to help us as farmers.") IDI 6Pg11L418-419

3.2.2 Low-Cost and Innovative Farming Methods

Participants discussed adopting farming practices that incorporate organic materials into their banana production. Their accounts revealed the use of organic inputs, such as chicken manure and other locally available resources, as alternatives or supplements to conventional farming methods. The participants also referred to being introduced to newer agricultural practices, particularly organic farming, which they have gradually integrated into their farm operations. In describing their experiences, they noted that these practices were perceived to contribute to farm management efforts, including addressing disease-related concerns and reducing reliance on synthetic fertilizers and chemical inputs. Collectively, the responses illustrate a shift toward the utilization of organic-based farming approaches as part of their agricultural activities.

As one participant shared:

"Ang technology nga genagamit namo is kuan lang katong more on application of organic matter as such kuan iti sa manok, chicken dunk... amo ng gina apply." ("The technology we use is mainly the application of organic matter such as chicken manure... that is what we apply.") IDI 4 Pg7L258-259

Consistent with this, another participant noted:

"Naa sad me mga new technology nga ge open sa amoa sama sa pag gamit og organic farming." ("We were also introduced to new technology such as the use of organic farming.") IDI 6 Pg8L280-281

In a similar vein, another participant described his experience, stating:

"Sa karong ang among gena gamit is asin og iti sa manok, nga maoy nakatabang na malessen ang sakit samoang sagingan." ("Right now, what we use is salt and chicken manure, which helps lessen the disease in our banana farm.") IDI 5 Pg7L269-270

One participant also added:

"Sauna purely fertilizer and mga chemicals lang ang gena gamit namo... karon organic farming jud isa ni siya sa nakatabang." ("Before, we only used fertilizers and chemicals... now organic farming is one of the things that has helped.") IDI 5 / FGD 5 Pg7L270-271

3.2.3 Leverage Social and Institutional Linkages

As the narratives were examined, a strong sense of interconnectedness emerged, underscoring that sustaining farming livelihoods is not solely an individual endeavor but is shaped by relationships and support systems. The accounts revealed that, amid unstable market prices and production-related challenges, farmers often rely on various individuals, groups, and institutions for guidance, assistance, and access to resources. These connections appeared to provide opportunities for learning, support, and a sense of security during periods of uncertainty. At the same time, the experiences underscored the importance of cultivating trust, maintaining communication, and strengthening collaborative relationships. Through these perspectives, farming resilience was portrayed not only as a product of agricultural resources but also as an outcome of the social and institutional networks that support farming communities.

One of the participants emphasized:

"Daghan meg mga kahibalo nga nakuha gikan pud sa ubang sources... MCDC, sa CDA, sa DAR... asta sa among buyer need jud nan ga naa juy connection." ("We gained a lot of knowledge from different sources... from MCDC, CDA, DAR... even with our buyer, it is really important to have connections.") IDI 2 Pg6L231-232

Another participant added:

"Nasination pud namo ng mag tapok tanan miyembro... assembly na kung diin naga share og experience ang matag isa, para ma aware pud tong ubang farmers." ("We experienced gathering all the members... it is an assembly where each one shares their experiences so that other farmers can also become aware.") FGD 3 Pg8L298-299

Consistent with this, another participant described the experience, stating:

"Kailangan jud nimu og mga connections para maoy makatabang sa imoha kung panahon na dili na lig-on ang presyo." ("You really need connections because they are the ones who will help you when the price is no longer stable.") IDI 6 Pg7L274-275

3.2.4 Financial Management Practices

As the experiences were reflected upon, a profound sense of emotional and financial exhaustion became evident in the accounts of those facing severe economic hardship. The narratives conveyed how prolonged financial difficulties extended beyond material losses and influenced emotional well-being, creating feelings of discouragement, uncertainty, and vulnerability. The depletion of resources was portrayed as a challenging experience that affected not only livelihood stability but also personal resilience and outlook. Despite these difficulties, the accounts also revealed a persistent determination to keep moving forward, suggesting that endurance persisted even in situations marked by significant strain and adversity.

One participant shared:

"Nihilak jud ko kay ang kwarta nga nabilin sa akua piso nalang jud kay zero2 jud ang billing namo sa sagingan." ("I really cried because the money left with me was only one peso since our banana farm billing was already zero.") FGD 6 Pg6L212-213

Another participant expressed a comparable experience, stating:

"Ang koop namo nagka utang2 sad para lang ma solve ang problema sasagingan." ("Our cooperative also went into debt just to solve the problems in the banana farm.") IDI 6Pg5L187-188

3.3 Adaptive Capacities of the Farmers while Availing or Confronting Threats

3.3.1 Adopting New Technologies

As the experiences were examined, a gradual process of adaptation became evident in the shift from conventional farming practices to organic approaches. The narratives showed how farmers explored alternative methods for cultivating and managing their crops, moving away from a heavy reliance on chemical inputs and adopting more natural farming practices. This transition appeared to involve both challenges and opportunities as farmers adjusted to unfamiliar techniques and evaluated their effectiveness in addressing agricultural concerns. The accounts also suggested an evolving perspective on farm management, in which the adoption of organic practices was viewed not only as a practical response to farming challenges but also as an approach that supported the long-term health of the land and crop production.

A participant noted:

"Sauna purely fertilizer and mga chemicals lang ang gena gamit namo... karon organic farming jud isa ni siya sa nakatabang."
("Before, we only used fertilizers and chemicals... now organic farming is one of the things that has helped.") IDI 5 / FGD 5
Pg7L270-271

Similarly, another participant added:

"Naa sad me mga new technology nga ge open sa amoa sama sa pag gamit og organic farming." ("We were also introduced to new technology such as the use of organic farming.") IDI 6 Pg8L280-281

3.3.2 Crop Diversification

As the experiences were reflected upon, a process of adjustment and reevaluation emerged in response to the declining productivity and viability of farming operations. The accounts illustrated how farmers faced situations in which their farms could no longer sustain previous levels of production or livelihood support. This reality prompted considerations of alternative livelihood strategies and changes in farm use, often requiring difficult decisions about the future of their agricultural activities. The narratives further revealed the challenges of balancing attachment to established farming practices with the need to pursue new directions. Through these experiences, adaptation was portrayed as a necessary response when existing agricultural conditions could no longer adequately support continued production.

As one participant expressed:

"Ang pag restore samong livelihood karon lisod najud kaayo... gina ingon nga e change nalang daw into other crop." ("Restoring our livelihood now is already very difficult... they are saying that we should just change to another crop.") FGD 4 / FGD 6Pg12L439-440

A participant also reflected this experience, stating:

"Dunay mga ge introduce sa mga government agencies nga murag ipa divert sa lain nga produkto." ("There are introductions from government agencies that seem to divert us to another product.") IDI 1Pg1L10-11

3.4 Restorative Capacity of the Farmers to Ensure Stability Amid Opportunities and Threats

3.4.1 Rehabilitating Damaged Farms

The importance of specialized support and technical intervention became increasingly apparent in addressing persistent farming challenges. The narratives highlighted an awareness that certain agricultural problems extend beyond visible crop conditions and are linked to underlying soil-related issues that affect farm productivity. The accounts recognized the need for targeted assistance, expert guidance, and scientifically informed solutions to support farm recovery and rehabilitation. At the same time, the experiences conveyed optimism that appropriate interventions could improve soil conditions and restore agricultural productivity. Through these perspectives, recovery was portrayed as closely connected to access to relevant expertise, resources, and context-specific support. One participant hoped:

"Basin mahatagan me og supporta... one-time nga allocation sap ag restore sa fertility sa yuta based on soil and leaf analysis nga gekinahanglan namo." ("Hopefully we can be given support... a one-time allocation to restore the fertility of the soil based on the soil and leaf analysis that we need.") IDI 2Pg9L336-337

Similarly, another participant said:

"Mabalik ang sagingan nga maayo dili ingon nga ipadayon ang laing production... tabangan me... nga mabalik sa dati." ("So that the banana plantation can return to being good again, not to shift to another production... help us... so we can go back to how it was before.") IDI 1 Pg9L323-324

3.4.2 Reinvestment in Production

The recurring need to reinvest financial resources into farm operations emerged as an important aspect of sustaining agricultural production. The narratives reflected how farmers allocate earnings toward essential production requirements, including farm maintenance, agricultural inputs, and labor, to ensure the continuity of farming activities. These accounts illustrated the challenges of balancing limited financial resources with ongoing production demands, particularly when income remains uncertain. The experiences further highlighted the cyclical nature of farm investment, wherein resources are continually redirected toward production with the expectation of maintaining or improving future yields despite unpredictable economic outcomes.

“Sa pagrestore satong plantation, kailangan nato mo invest og dako kaayo nga pundo para ma resolve ang problema. Kailangan mo invest sa mga bag-ong machines.” (“In restoring our plantation, we need to invest a large amount of capital to resolve the problem. It is necessary to invest in new machines.”) IDI4Pg3L130-131

Similarly, another participant added:

“Kami sakong bana nag-invest me og mga abono, og chemicals para restore ang among yuta. Kay kung dili me mag-invest dili jud dili me maka bawi.” (“My husband and I invested in fertilizers and chemicals to restore our land. Because if we don’t invest, we won’t be able to recover our losses.”) IDI5Pg3L142-143

3.4.3 Rebuilding Market Connections

The process of re-establishing market linkages emerged as an important strategy for sustaining farming livelihoods. The narratives highlighted efforts to reconnect with existing buyers, identify new market opportunities, and strengthen relationships with potential trading partners in response to changing market conditions. These accounts reflected the significance of maintaining reliable market connections alongside ensuring product quality and consistent production. The experiences also illustrated the challenges of navigating competitive, uncertain market environments, while demonstrating farmers' continued efforts to secure stable market access and support the recovery of their livelihoods.

“Normal lang jud sa mga banana farmers na from time to time need nato nga e rebuild atong market connections labi na sa mga buyers. Kay sila rajud maka help sa atua. Og sila pud mupalit satong saging.” (“Normal lang jud sa mga banana farmers na from time to time need nato nga e rebuild atong market connections labi na sa

mga buyers. Kay sila rajud maka help sa atua. Og sila pud mupalit satong saging.”) ID11Pg4L290-291

Another participant added:

“Sa panahon karon, grabi na kaayo ka competitive ang market mao nang kailangan jud nato na mag build og market connections.” (“In today’s time, the market has become extremely competitive, which is why it is really important for us to build strong market connections.”) ID13Pg5L312-313

4. Discussion

4.1 Anticipations of the Opportunities and Threats in the Banana Market

The study found that banana farmers anticipate both threats and opportunities as part of their livelihood strategies. They recognize that market fluctuations require them to maintain high-quality produce to remain competitive consistently. At the same time, they are aware of environmental threats, such as typhoons, floods, and El Niño, which may damage banana plants, as well as diseases that can severely affect plantations. Despite these challenges, farmers also identify market opportunities by monitoring demand and price trends to determine optimal harvesting periods and by diversifying buyers and market channels to maximize income.

These findings affirm the claim of Limpoco and Digal (2023), who suggested that banana farmers respond to market fluctuations by adjusting their strategies, including diversification and the exploration of alternative markets. Similarly, the results support Ortiz's (2023) assertion that banana farming is highly vulnerable to environmental risks, such as typhoons and flooding. This alignment indicates that farmers' anticipatory practices are grounded in both economic and environmental realities, underscoring the importance of proactive, adaptive decision-making for sustaining their livelihoods.

In contrast, the present findings contradict the claim of Sakar and Das (2023), which suggested that technological advancements can sufficiently mitigate uncertainties, thereby reducing the need for farmers to rely heavily on risk anticipation and market timing. In this study, however, banana farmers continue to rely heavily on anticipatory practices, such as monitoring market trends, preparing for environmental threats, and making strategic harvesting decisions, suggesting that technology alone may not fully address the complex and unpredictable challenges they face.

4.2 Absorption Capacity of the Farmers to Avail Opportunities and Confront Threats

The findings of my study asserted that banana farmers exhibited absorptive capacity through their ability to access government assistance, adopt low-cost and innovative farming methods, and actively leverage social and institutional linkages. Concurrently, they confront emerging threats by recalibrating their financial management practices. This finding supports the assertion of Isnan et al. (2025) that farmers demonstrate absorptive capacity through access to both government and community-based assistance, as well as through engagement in social networks and institutional linkages. Furthermore, this finding also confirms the claim of the Organization for Economic Cooperation and Development (OECD, 2024), highlighting that farmers build resilience by adopting innovative and cost-efficient farming practices and improving productivity through new technologies and methods.

The study's findings indicate that banana farmers exhibit absorptive capacity through their ability to access government assistance, adopt low-cost, innovative farming practices, and actively leverage social and institutional linkages. At the same time, they respond to emerging threats by recalibrating their financial management practices to sustain their operations. These results support Isnan et al.'s (2025) assertion that farmers demonstrate absorptive capacity by accessing both government and community-based support systems and by engaging in social networks and institutional linkages. Furthermore, the findings align with the claim of Mba et al. (2025), who highlighted that farmers build resilience by adopting innovative, cost-efficient farming practices and enhancing productivity through improved methods and technologies. Together, these connections suggest that absorptive capacity plays a critical role in enabling farmers to cope with and adapt to ongoing challenges.

In contrast, I observed a divergence from Micabalo et al. (2024), who asserted that farmers effectively exhibit absorptive capacity, whereas many farmers struggle to access financial support and institutional assistance, limiting their ability to adapt.

4.3 Adaptive Innovation and Collaborative Learning in Farming Practices

My findings underscored that banana farmers demonstrated adaptive capacity by integrating crop diversification in response to unstable market prices and an incurable banana disease. Banana farmers also adopt new technologies and modify planting schedules. Through these adjustments, banana farmers cannot only confront threats but also take advantage of new opportunities to sustain and improve their livelihoods. This finding corroborates the view of Limpoco and Digal (2023), stating that banana farmers adapt to unstable market prices by diversifying production and exploring alternative products and markets. Moreover, this finding substantiates Nyangi and Utouch's (2026) claim that banana farmers demonstrate adaptive capacity through strategies such as changing farming practices, adopting innovations, and adjusting planting decisions to cope with climate and production risks.

However, my current findings contradict the claim by the Philippine Institute for Development Studies (PIDS, 2023), highlighting the assumption that farmers effectively demonstrate adaptive capacity, as many still have low adaptive capacity due to limited financial, physical, and informational resources.

4.4 Restorative Capacity of the Farmers to Ensure Stability Amid Opportunities and Threats

The findings of my study highlighted that banana farmers demonstrate restorative capacity to rehabilitate damaged farms, reinvest in production, and rebuild market connections. Through these recovery efforts, farmers gradually restore productivity and bring stability back to their livelihoods despite previous threats and challenges. This finding affirms Molde's (2025) perspective that banana farmers can restore their livelihoods and productivity through support programs, reinvestment, and cooperative efforts. Similarly, this finding aligns with the argument of Wulandari et al. (2023), who highlight that farmers face difficulties in rehabilitating their farms due to limited financial capacity and the high cost of agricultural inputs.

This finding affirms Molde's (2025) perspective that banana farmers can restore their livelihoods and productivity through support programs, reinvestment, and cooperative efforts. Similarly, the results align with those of Wulandari et al. (2023), who emphasize that farmers often face difficulties rehabilitating their farms due to limited financial capacity and the high cost of agricultural inputs. This suggests that recovery is not immediate but requires sustained effort and support.

In contrast, the present findings contradict the claim of Goris et al. (2023), which explains that farmers can recover from agricultural shocks primarily through self-financing strategies, local resource mobilization, and informal support systems even without strong institutional intervention. In this study, however, recovery appears to depend more on structured support, reinvestment, and rebuilding external linkages, suggesting that self-reliance alone may not be sufficient for full restoration.

5. Conclusion

The study concluded that banana farmers demonstrated resilience amid unstable market opportunities and threats through their capacities to anticipate, absorb, adapt, and restore their livelihoods. Farmers proactively prepared for challenges by monitoring market trends and environmental risks, absorbed difficulties through support systems and resource management strategies, adapted by adopting new technologies and crop diversification, and restored livelihood stability through farm rehabilitation, reinvestment, and rebuilding market connections. These findings affirm that resilience among banana farmers is a dynamic and continuous process that enables them to sustain their livelihoods despite economic, environmental, and agricultural uncertainties. Furthermore, the study highlighted that resilience is strengthened not

only through individual efforts but also through institutional support, social linkages, and adaptive strategies that contribute to long-term livelihood sustainability.

6. Recommendation

Based on the findings, local government units, agricultural agencies, and other relevant stakeholders may strengthen support programs for banana farmers by providing timely financial assistance, access to disease management interventions, climate-resilient farming technologies, and soil rehabilitation initiatives. Efforts may also be directed toward expanding technical training on organic farming practices, improving access to reliable market information, and facilitating stronger market linkages between farmers and buyers to reduce the effects of price instability. In addition, collaborative partnerships among government agencies, agricultural experts, and farming communities may be strengthened to deliver targeted, science-based solutions to persistent challenges such as Panama disease, environmental hazards, and declining productivity. Future researchers may further examine the effectiveness of adaptive farming strategies and support mechanisms in promoting the long-term resilience and sustainability of banana farming livelihoods.

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Conflict of Interest Statement

The author declares no conflict of interest.

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