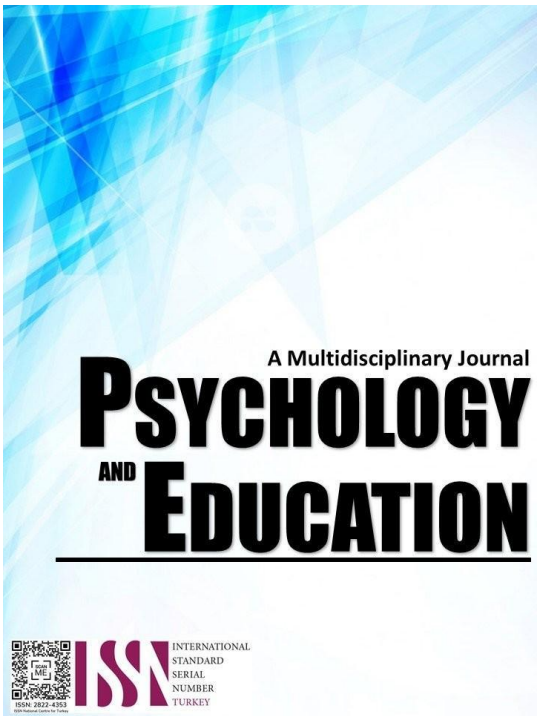
FARMERS' COMMUNITY ASSETS AND COPING STRATEGIES FOR DISASTER IN HINUNANGAN, SOUTHERN LEYTE: A PROPOSED RESILIENCE PROGRAM



PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL

Volume: 52
Issue 6
Pages: 699-716
Document ID: 2026PEMJ5091
DOI: 10.70838/pemj.520605
Manuscript Accepted: 02-06-2026

Psych Educ, 2026, **52**(6): 699-716, Document ID:2026PEMJ5091, doi:10.70838/pemj.520605, ISSN 2822-4353

Research Article

Farmers' Community Assets and Coping Strategies for Disaster in Hinunangan, Southern Leyte: A Proposed Resilience Program

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Abstract

This quantitative study, guided by Resilience and Resource-Based theories, assessed the disaster resilience of 277 rice farmers in Hinunangan, Southern Leyte, by examining their community assets and coping strategies. The findings revealed that the farming population is predominantly composed of older, female, and married individuals with low formal education and a high dependence on a single livelihood, making them particularly vulnerable to climate shocks. While the community possesses strong social assets and proactive coping strategies, they exhibit significant weaknesses in its financial, human, and physical assets. Specifically, farmers expressed clear disagreement on access to fair markets and collective emergency funds, and they were uncertain about their knowledge of climate-resilient farming. The study also found a significant positive correlation between financial assets and ex-post coping strategies, and that resilience levels varied significantly by geographic location, with inland farmers being the most vulnerable. Based on these findings, a proposed resilience program was developed. This program aims to leverage the community's social strengths to address critical gaps in financial, human, and physical assets through targeted initiatives like financial literacy workshops, climate-resilient agriculture training, and location-specific planning. The ultimate goal is to empower the community with a sustainable, data-driven framework for disaster preparedness and recovery.

Keywords: *community assets, coping strategies, disaster resilience, rice farmers, Hinunangan, Southern Leyte, resilience program*

Introduction

The increasing frequency and severity of disasters due to climate change and other anthropogenic factors necessitate a thorough investigation into community resilience, particularly within agricultural sectors that are often most affected. This study delves into the assets and coping strategies utilized by farming communities in Southern Leyte in the Hinunangan municipality in response to disasters. The researcher recognizes that while resilience frameworks are critical, they often lack careful consideration for localized risks, which is essential for effective disaster planning and community preparedness (Zamboni, 2017). Furthermore, the connection between agricultural policies and local resilience has not been rigorously explored, necessitating an evidence-based approach to address these gaps (Qin et al., 2021).

The immediate context for the urgency of this study stems from the observed impacts of various disasters on the livelihoods of farmers in Hinunangan. Research indicates that an over-reliance on agricultural income in the face of climatic fluctuations exacerbates farmers' vulnerabilities (Qin et al., 2021). This is particularly pertinent in regions where agricultural practices are central to community identity and economic stability. The researcher has identified that improved financial capital is a vital factor influencing the selection of diversified resilience strategies among farming communities (Qin et al., 2021). Thus, this study seeks to contribute to the understanding of how local assets—both tangible and intangible—enhance coping mechanisms amid environmental disasters and economic pressures.

Another compelling aspect of this study is its consideration of social and psychological dimensions in enhancing resilience. Prior work emphasizes the roles of social capital and community networks as critical assets for disaster preparedness, suggesting that community cohesion can significantly influence an area's adaptive capacity (Adams et al., 2019). An effective resilience program must encapsulate these social dimensions while also integrating risk perception into community preparedness practices, as communities engaging stakeholders in their resilience-building efforts often report higher levels of preparedness (Epstein et al., 2017; Alam et al., 2020). This indicates a pressing need for structured programs that foster engagement and resource mobilization in farming communities.

Moreover, agricultural strategies and coping mechanisms have been shaped by unique local environmental conditions. Recent analyses demonstrate that farmers' responses to risks—including land degradation and climate-induced hazards—vary widely and are informed by local knowledge and experiences (Xu et al., 2018). Inevitably, these responses influence their resilience infrastructure. Understanding these localized coping strategies in Hinunangan is not just relevant to the immediate community but holds implications for broader regional policies in disaster risk management and climate adaptation.

Hence, the research aims to delineate these local coping strategies and community assets while proposing a tailored resilience program that addresses their specific needs. Such an initiative is not only timely but necessary for ensuring the long-term viability of the farming community in the post-disaster context. Insights from various literatures, including reports on community resilience (Bangalore et al., 2016), socioeconomic dynamics (Zhong et al., 2019), and direct coping mechanisms against disasters (Bachri et al., 2022), help in framing this context. Thus, the Proposed Resilience Program can be developed to enhance the adaptive capacities of farmers in Hinunangan, facilitating both immediate recovery and sustainable long-term development.

Theoretical Background

This study is grounded in the Resilience Theory as established by C.S. Holling in 1973. Resilience Theory posits that systems, including communities and ecosystems, possess the ability to withstand disruptions and maintain their core functions and structures. In the context of farmers' communities in Hinunangan, Southern Leyte, this theory provides a robust framework for understanding how farmers develop coping strategies to mitigate the impacts of disasters, which is critical for enhancing community resilience (Baraka, 2023).

Resilience Theory can be intricately linked to social-ecological frameworks that underscore the necessity of community-driven responses to external shocks such as natural disasters. The theory illustrates that resilience is not merely about bouncing back from disturbances but rather evolving and adapting in response to these challenges (Assefa, 2024). This adaptability is particularly relevant in agricultural settings where farmers must contend with climate variability and its repercussions on crop productivity (Olumide, 2024). Farmers in Southern Leyte are likely to exhibit resilience through diversified farming practices, changes in crop varieties, and other innovative agricultural strategies aimed at coping with climate-induced disasters (Baraka, 2023).

Furthermore, the Resilience Theory emphasizes the importance of social capital and community engagement as pivotal assets for collective coping strategies in crises (Gökmenoğlu & Sönmez, 2024). Communities that foster strong interpersonal relationships and trust among members are better equipped to implement local adaptation strategies that enhance resilience against disasters (Glass et al., 2022). Engagement in community-led initiatives, as observed in various case studies, often leads to improved resource sharing and collaborative problem-solving, which are essential for recovery and sustainability (Xu et al., 2020).

Promoting resilience involves recognizing the unique cultural and contextual factors that influence how communities respond to disasters. The theory relates to the notion of adaptive capacity, which underscores the significance of local knowledge and practices in shaping effective coping strategies (Tuan, 2024). In Hinunangan, supporting farmers through training and resource provision that aligns with their traditional practices can further bolster their resilience to environmental uncertainties (Daigle & Heiss, 2020).

In summary, the theoretical framework of Resilience Theory integrates a multifaceted understanding of community resourcefulness, social cohesion, and adaptation strategies, thereby underscoring its relevance to the proposed resilience program for farmers' communities in Hinunangan, Southern Leyte. The insights gleaned from this theory provide a solid foundation for developing tailored interventions that enhance the adaptive capacities of farmers against the backdrop of increasing disaster risks (Yang & Kim, 2023).

This study is also anchored by Asset-Based Community Development (ABCD) theory by Kretzmann and McKnight IN 1993. According to the ABCD theory, communities can become stronger and better prepared for disasters by using the talents and resources they already have within them. This approach emphasizes leveraging local resources, capabilities, and social networks to foster sustainability and resilience in communities undergoing environmental stress or adverse events.

Current studies, such as those by Rahma et al., illustrate how the ABCD framework can improve community outcomes by focusing on specific assets within local contexts, such as knowledge, skills, and networks, and using these to implement effective disaster preparedness and response strategies (Rahma et al., 2023). Furthermore, the exploration of community assets enables a shift from a solely needs-based approach to one that recognizes and amplifies existing strengths, fostering a sense of agency among community members. By implementing a resilience program tailored to the context of farmers in Hinunangan, Southern Leyte, the proposed research directly aligns with ABCD theory, as it seeks to empower local farmers by identifying and utilizing their existing assets while simultaneously enhancing their coping strategies for disasters.

The Sendai Framework supports initiatives that involve local communities in disaster management processes, thereby validating the necessity of an asset-based perspective (Chan et al., 2021). By fostering community engagement and empowerment through asset mapping and strategic capacity building, the proposed resilience program can effectively address the unique challenges faced by farmers in Hinunangan, facilitating improved preparedness and recovery outcomes.

This study is anchored by the Community Capitals Framework by Flora and Flora in 2008. The Community Capitals Framework (CCF) posits that community resilience is supported through a blend of various forms of capital. This framework is particularly applicable to understanding how farmers in Hinunangan, Southern Leyte, can utilize their community assets to develop effective coping strategies for disasters.

The assets within farmers' communities, as identified through the CCF, serve as a foundation for cultivating resilience. The framework emphasizes that diverse asset bases empower communities to implement adaptive strategies that can mitigate the impacts of disasters. For instance, access to social networks can provide farmers with critical information and resources, thereby enhancing their coping mechanisms. Studies have suggested that maintaining and leveraging such community networks contributes significantly to food security and the reduction of vulnerability among smallholder farmers (AO et al., 2022).

Coping strategies derived from community assets often encompass both resource management techniques and collaborative solutions. For instance, research has shown that farmers utilize various coping tactics to handle stressors, which can include diversifying income sources or engaging in community support systems. This illustrates the interplay of social and economic capital in reinforcing resilience (Mitten & Molenberghs, 2024). Furthermore, evidence suggests that coping mechanisms, such as diversification or active participation in disaster response planning, are significantly influenced by the availability and effectiveness of community resources (Mohammad

et al., 2022).

In addition to social and economic aspects, the framework highlights the importance of political and cultural capitals in shaping local disaster resilience initiatives. Governance structures that support agricultural practices and community planning for disaster resilience can enhance preparedness and response strategies among farmers (Terblanche et al., 2022). Moreover, recognizing cultural practices and traditional knowledge as valuable assets allows for the integration of indigenous farming techniques that may be particularly suited to local environmental conditions, further contributing to effective disaster coping strategies (Aleu, 2024).

This study is anchored by the Philippine Republic Act 10121. This law was implemented to enhance the Philippines' resilience against disasters by formulating a methodical framework for handling and decreasing disaster risks. The Act emphasizes prevention and preparedness, mandating local government units (LGUs) to develop and implement comprehensive disaster risk management plans. The essence of the law supports the formulation of community-based resilience programs such as the one proposed for the farmers' community in Hinunangan, Southern Leyte, as it underscores community engagement and participation as key tenets of effective disaster management (Sumbillo & Madrigal, 2020; Alegado, 2021).

In the context of supporting farmers' communities, "Post-Haiyan: Alternatives for Disaster Management Law and Governance in the Philippines" highlights the necessity for tailored approaches that address local-specific vulnerabilities and capacities (Alegado, 2021). It recognizes the diverse strategies communities adopt, aligning with those envisaged in the proposed resilience program for the farmers of Hinunangan.

Moreover, the economic implications of disasters on local communities have been stressed in discussions surrounding disaster management laws in the Philippines. Research indicates that while Republic Act 10121 encourages investments in disaster risk reduction, local governments, especially those with lower incomes, face significant challenges in resource mobilization (Resuello, 2020). This highlights the importance of equipping farmers' communities with the knowledge and tools necessary to create and maintain their assets, ensuring their coping strategies are well-supported by local governance frameworks.

In addition, building a disaster-resilient local economy is essential for enhancing community resilience, particularly for farmers who are heavily reliant on agriculture for their livelihoods. The potential for local government units to leverage the benefits provided by Republic Act 10121 to foster economic stability and resilience through proactive disaster risk management practices reinforces the relevance of establishing a resilience program designed for the farmers' community in Hinunangan (Resuello, 2020).

This study is also anchored by the Philippine Republic Act 9729, which serves as a critical legislative framework for enhancing the resilience of communities, especially in agriculture-dependent regions such as Hinunangan, Southern Leyte. This Act institutionalizes the integration of climate change into national, sectoral, and local development plans, policies, and programs, which is essential for addressing the vulnerabilities of farmers and their coping strategies for disasters. Specifically, the law directs the formulation of a National Climate Change Action Plan to address impacts on food security, thereby acknowledging the direct relationship between disaster preparedness and agricultural stability (Pulhin & Tapia, 2021).

Moreover, the Local Government Code of 1991, encapsulated in Republic Act 7160, empowers local government units (LGUs) to develop and implement disaster risk reduction strategies tailored to their unique contexts. This legislation fosters community involvement and local capacity-building, which are pivotal for developing resilience programs that utilize local assets and indigenous knowledge systems (Resuello, 2020). The alignment of community-driven initiatives under these laws highlights how empowering local governance can lead to enhanced disaster resilience for farmers in Southern Leyte.

Additionally, the Philippine Republic Act 11038 complements these efforts by promoting biodiversity conservation and enhancing the natural resources base, which is critical for farmers' livelihoods. By safeguarding ecosystems, this Act supports sustainable agricultural practices that can mitigate the adverse impacts of climate-induced disasters (Gevaña et al., 2021; Marquez & Olavides, 2024). A holistic approach integrating these legislative frameworks encourages the development of comprehensive resilience programs that leverage both community and natural assets for disaster preparedness, ultimately benefiting the farming community in Hinunangan.

In synthesizing these relevant legal frameworks, it is evident that the Philippines has made strides in creating a structured approach to disaster risk management and resilience building.

Research Questions

This study evaluated the typhoon preparedness and resilience of rice farmers in Hinunangan, Southern Leyte, during the 2025-2026 school year. The findings were used to develop a proposed resilience program. The study aims to answer the following research questions:

1. What is the profile of the respondents in terms of:
    1.1. age;
    1.2. sex;
    1.3. civil status;
    1.4. educational attainment; and

1.5. primary source of livelihood?
2. What is the perceived level of farmers' community assets in terms of the following:
   2.1. social;
   2.2. human;
   2.3. natural;
   2.4. financial; and
   2.5. physical?
3. What is the perceived level of farmers' coping strategies in terms of:
   3.1. ex-ante; and
   3.2. ex-post?
4. Is there a significant correlation between the farmers' financial assets and their utilization of ex-post coping strategies?
5. Is there a significant difference in the level of resilience among farmers when grouped by their location (upland, inland, and coastal)?
6. What challenges do farmers face in building community assets and implementing coping strategies against disaster?
7. What proposed resilience program can be crafted to enhance farmers' community assets and coping strategies for disaster in Hinunangan, Southern Leyte?

Methodology

Research Design

This study used a quantitative approach to address its objectives thoroughly. This approach was chosen to describe the characteristics of the farmer-respondents objectively and to analyze the relationships and differences between key variables statistically. The study focused on quantifying the perceived levels of community assets and coping strategies, and examining their relationships. The ultimate aim was to use these quantitative findings as the basis for proposing a resilience program. The quantitative aspects of the study involved: Descriptive Analysis: This was used to describe the profile of the farmer-respondents in terms of their sex, age, educational status, civil status, and primary source of livelihood. It also quantified the farmers' perceived level of community assets (Human, Social, Financial, Natural, and Physical) and their perceived level of coping strategies (Ex-Ante and Ex-Post), utilizing responses from Likert scales. Correlational Analysis: A Pearson's r was computed to determine if there was a significant correlation between the farmers' financial assets and their utilization of ex-post coping strategies. Comparative Analysis: ANOVA was performed to examine if there was a significant difference in the level of resilience among farmers when they were grouped by their location (upland, inland, and coastal). The primary data was collected through a structured survey questionnaire. This instrument incorporated sections for gathering demographic information and Likert-scale questions designed to measure farmers' perceptions of their community assets and coping strategies. The collected quantitative data underwent rigorous statistical analysis using descriptive statistics (standard deviations, means, frequencies, percentages) and the aforementioned inferential tests (Pearson's r, one-way ANOVA) to identify significant patterns and relationships. The findings from this analysis were then used to identify the key challenges faced by the farmers, providing a robust foundation for proposing a farmers' resilience program.

Respondents

The respondents of this study were the 277 farmers from Hinunangan, Southern Leyte. The total population was proportionately distributed in all barangays with Rice Farmer Association members. A total of 277 rice farmers of the local community will be the target respondents, with rice farmers randomly selected from upland barangays, coastal barangays, and lowland/inland barangays.

Instrument

The study utilized a structured survey questionnaire as its primary instrument for data collection. The questionnaire was carefully designed to gather data relevant to all research questions and was divided into three main parts to collect comprehensive information from the farmer-respondents systematically. Part I is the Respondent Profile. This section was created to collect the basic demographic and professional information of the respondents. It included items on age, sex, civil status, educational attainment, and primary source of livelihood. The data gathered from this part were used to describe the socio-demographic profile of the farmers, providing essential context for the study. Part II is Perceived Level of Community Assets and Coping Strategies. This part was designed to measure the farmers' perceptions of their community's assets and coping strategies. It included a series of Likert-scale items to assess the perceived level of different types of assets: Social, Human, Natural, Financial, and Physical. Additionally, it measured the perceived level of coping strategies categorized as ex-ante (before a disaster) and ex-post (after a disaster). The responses to these statements were used to determine the community's strengths and weaknesses in resilience. Part III is Challenges Faced by Farmers. This section aims to identify the primary challenges farmers face in building community assets and implementing coping strategies. It utilized open-ended questions and statements to explore the difficulties and barriers encountered by the farmers, such as limited access to financial help, lack of income diversification, and vulnerability to natural disaster risks. The data from this part was crucial for understanding the core problems that the proposed resilience program would need to address.

Procedure

The researcher conducted a secondary data analysis by utilizing a pre-existing dataset that was originally gathered by the same research team for a prior study. A key strength of this approach is that the data were collected from the identical cohort of respondents used in the current research, ensuring direct sample comparability. The existing information, after retrieval, underwent a rigorous preparation process that included data cleaning, verification of data integrity, and systematic structuring (such as recoding or aggregation) to align with the specific variables and hypotheses of the present investigation. This methodical preparation was essential to ensure the validity and reliability of the original measurements, thus facilitating accurate statistical analysis and generating meaningful interpretations for the new research objectives.

Data Analysis

The collected data underwent rigorous statistical analysis using the SPSS software and Microsoft Excel. To address the research questions, the following statistical treatments were employed:

Frequency counts and percentages were used to describe the profile of the respondents in terms of their educational attainment, sex, age, civil status, and primary source of livelihood. This provided a clear demographic overview of the farming community.

Weighted Mean and Standard Deviation were utilized to summarize the perceived level of farmers' community assets (Social, Human, Natural, Financial, and Physical) and their perceived level of coping strategies (Ex-Ante and Ex-Post), based on their responses to the Likert-scale items.

Ranking was used to identify and prioritize the challenges that farmers face in building community assets and implementing coping strategies, with challenges ranked from most to least significant based on the weighted means of the responses.

Pearson's r was computed to determine if there was a significant correlation between the farmers' financial assets and their utilization of ex-post coping strategies. This test helped to understand the relationship between financial resources and post-disaster recovery actions.

ANOVA was performed to examine if there was a significant difference in the level of resilience among farmers when grouped by their location (upland, inland, and coastal). This allowed for a comparison of resilience levels across different geographical areas.

Ethical Considerations

This research adheres to ethical standards by utilizing secondary data, ensuring that no new data collection involving human participants was required, thus minimizing potential risk or burden to the respondents. The data used were sourced from a prior study, and the researcher maintained strict compliance with the original ethical clearance and consent procedures obtained for that initial collection. Crucially, the data were fully anonymized or de-identified prior to analysis to protect the privacy and confidentiality of the identical cohort of respondents. All subsequent data handling, storage, and reporting were executed with due diligence to ensure that individual identities cannot be determined, upholding the principles of confidentiality and privacy throughout the research process.

Results and Discussion

This section presents the findings of the study, which were gathered from a survey of 277 farmer-respondents in Hinunangan, Southern Leyte. The data is organized into three main parts: the Demographic Profile of the Respondents, the Perceived Level of Farmers' Community Assets, and the Level of Resilience to Disasters.

Demographic Profile of the Respondents

This section presents a demographic profile of the respondents, providing an overview of key characteristics such as their gender, educational attainment, age, civil status, and primary source of livelihood. The data, collected from a survey of 277 individuals in Hinunangan, Southern Leyte, serve to contextualize the community being studied. Analyzing these demographic traits is crucial for understanding the social and economic landscape of the area and for developing effective, tailored programs, particularly in the context of agricultural resilience and disaster preparedness. The following tables illustrate the detailed breakdown of these characteristics.

Table 1. *Age Profile of the Respondents*

Age	*Frequency*	*Percentage*
81 yo above	4	1.44
71-80 yo	20	7.22
61-70 yo	59	21.30
51-60 yo	82	29.60
41-50 yo	63	22.74
31-40 yo	43	15.52
21-30 yo	6	2.17
Total	277	100.00

Table 1 shows that the majority of the farmers surveyed are in the 51-60 years old age bracket, accounting for 29.60% of the respondents. The next largest groups are those aged 41-50 years old (22.74%) and 61-70 years old (21.30%). A combined 58.34% of

the farmers fall within the 41 to 70 age range, indicating a significant portion of the farming population is middle-aged to senior. The smallest age groups are the youngest, 21-30 years old (2.17%), and the oldest, 81 years old and above (1.44%).

It implies that the farming community in Hinunangan, Southern Leyte, is largely composed of mature and aging individuals. This demographic profile suggests potential vulnerabilities related to physical capacity, adaptability to new technologies, and a possible lack of succession, as younger generations may not be entering the farming sector. This could have significant implications for the long-term sustainability of agricultural practices and for developing effective resilience programs, which must consider the specific needs and capabilities of an older workforce.

This aligns with the study of Ji et al., where it was highlighted that age has a significant positive relationship with the adoption of sustainable agricultural practices. Their research indicated that older farmers are often more inclined to persist with traditional methods but may struggle to adapt to new technologies, reflecting similar concerns about adaptability as posed in the demographic analysis of farmers in Hinunangan, Southern Leyte (JI et al., 2022). Specifically, the authors mention that the age group being predominantly middle-aged to senior in farming communities points to potential challenges regarding their physical capacity and willingness to adopt innovative techniques, thereby affecting agricultural productivity and sustainability (JI et al., 2022).

Table 2. *Gender Profile of the Respondents*

Gender	*Frequency*	*Percentage*
Male	102	36.8
female	175	63.2
Total	277	100.00

Table 2 shows that of the 277 respondents in Hinunangan, Southern Leyte, a greater proportion are female, comprising 63.2% (175) of the total, while male respondents make up 36.8% (102). It implies that women play a significant and dominant role in farming, asset management, and disaster coping strategies within the community. The study's findings and the development of a resilience program should therefore give special consideration to the specific needs, roles, and contributions of women.

This aligns with the study of Fertő and Bojnec, which highlights the critical role of women in agriculture and the positive environmental impact of female-led farms. Their findings indicate that farms managed by women often adopt sustainable practices at a higher rate than those managed by men, thereby contributing to climate resilience and sustainable development (Fertő & Bojnec, 2024). The substantial female representation in the respondents from Hinunangan, Southern Leyte, comprising 63.2%, reflects these broader trends in agriculture, suggesting that women are vital players not only in farming but also in asset management and coping strategies for disasters. However, specific data regarding this representation in Hinunangan is not directly referenced in the provided studies.

Table 3. *Civil Status of The Respondents*

Civil Status	*Frequency*	*Percentage*
Single	26	9.4
Married	212	76.5
Widowed	31	11.2
Separated	8	2.9
Total	277	100.00

Table 3 shows that the majority of the farmer-respondents in Hinunangan, Southern Leyte, are married, accounting for 76.5% (212 out of 277). This is followed by widowed respondents at 11.2% (31), single respondents at 9.4% (26), and separated respondents at 2.9% (8). The data clearly indicates that the farming community is predominantly composed of individuals in stable, family-oriented relationships.

It implies that the proposed resilience program should be designed with the family as the primary unit of focus. Given that most farmers are married and likely have dependents, their coping strategies for disaster are not just individual concerns but are often shared and managed collectively as a household. This strong family structure can be a significant asset, fostering a shared sense of responsibility, mutual support, and pooled resources.

Therefore, resilience-building initiatives should leverage this communal strength, perhaps by providing training, resources, and support that benefit the entire family, such as family-based disaster preparedness plans, communal asset-sharing, and household-level financial literacy training. The program should recognize that the stability and interdependence of married couples and family units are crucial for strengthening the overall resilience of the farming community.

This aligns with the study by Bogdan et al., which emphasizes the importance of family cohesion and resilience in the aftermath of disasters. Their research indicates that families who exhibit strong communication skills and conflict resolution techniques are better able to process stress and maintain cohesiveness post-disaster, supporting the notion that interpersonal skills are vital for resilience (Bogdan et al., 2022). This speaks to findings in Hinunangan, Southern Leyte, where a significant percentage of the farming community is characterized by stable, family-oriented relationships, with 76.5% being married.

Table 4. *Educational Attainment of the Respondents*

Educational Attainment	*Frequency*	*Percentage*
Elementary Level	79	28.50
Elementary Graduate	55	19.90
High School Level	46	16.60
High School graduate	65	23.50
Collge Level	13	4.70
College Graduate	19	6.90
Total	277	100.00

Table 4 shows that the majority of the farmers have not progressed beyond high school education. The largest group, 28.5%, reached Elementary Level, followed closely by those who are High School Graduates (23.5%). A significant portion are also Elementary Graduates (19.9%). Conversely, only a small minority of the respondents have attended or completed college, with College Level and College Graduate representing just 4.7% and 6.9% of the total, respectively. It implies that the community's human capital, specifically in terms of formal education, is relatively low. This limited educational attainment could hinder the farmers' ability to fully grasp and adopt complex information related to modern agricultural technologies, advanced disaster preparedness, and sophisticated coping strategies. The findings highlight a potential vulnerability, as a lower level of education may correlate with less access to resources, fewer income-generating opportunities outside of farming, and a limited understanding of disaster risk reduction principles. Consequently, any proposed resilience program must consider this educational background by utilizing simple, practical, and visually-based training methods to ensure effective knowledge transfer and skill development.

This aligns with the study of Piñeiro et al., which discusses how the decision-making process of farmers regarding the adoption of sustainable agricultural practices is influenced by various factors, including education (Piñeiro et al., 2020). The lower educational attainment observed among the farmers in Hinunangan aligns with the notion that limited formal education can impede their understanding and adoption of modern agricultural technologies and disaster risk management strategies. Specifically, Piñeiro et al. highlight that the educational background of farmers affects their engagement and ability to make informed decisions related to agricultural practices, suggesting that education plays a critical role in enhancing farmers' capacities to cope with environmental and economic challenges.

Table 5. *Primary Source of Livelihood*

Livelihood	*Frequency*	*Percentage*
Fishing	11	4.0
Farming	266	96.0
Total	277	100.00

Table 5 shows that among the 277 respondents, 266 (96.0%) identified farming as their primary source of livelihood. A much smaller group of 11 (4.0%) respondents identified fishing as their primary source of livelihood. The total frequency is 277, representing all respondents included in the table. It implies that the community of Hinunangan, Southern Leyte, is overwhelmingly dependent on farming for its economic survival and sustenance. This high concentration on a single livelihood, particularly one susceptible to natural disasters, highlights the community's vulnerability. The small percentage of respondents engaged in fishing suggests that the study's focus on farmers is highly appropriate for understanding the livelihood and disaster resilience of the majority of the population. The findings also underscore the urgent need for a resilience program specifically tailored to support agricultural practices and protect farming-based livelihoods from the effects of disasters.

This aligns with the study of Mengistu, who examined rural livelihood activities and highlighted that a predominant reliance on farming can increase a community's vulnerability to environmental shocks and disasters (Mengistu, 2022). The findings indicate a significant concentration in farming as the main source of livelihood among respondents, with 96.0% identifying it as their primary source. This is consistent with previous literature suggesting that rural communities often heavily depend on agriculture for economic sustenance, which can limit their resilience to external shocks, such as natural disasters (Sanaullah et al., 2021).

Perceived Level of Farmers' Community Assets

This section presents the perceived level of community assets among the surveyed farmers in Hinunangan, Southern Leyte. It examines the strengths and weaknesses of the community's resources across five key categories: social, human, natural, financial, and physical assets.

Table 6. *Social assets*

Statements	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Our community has a strong sense of togetherness and unity during difficult times.	3.51	0.66	Agree
We have a reliable system for sharing information and warnings within the community.	3.65	0.68	Agree
Community members actively participate in local meetings and	3.64	0.68	Agree

decision-making processes.			
There is a high level of trust and cooperation among different families in our community.	3.56	0.68	Agree
Our community leaders are effective in coordinating collective action.	3.64	0.69	Agree
Conflicts in our community are handled peacefully and do not disrupt our solidarity.	3.7	0.7	Agree
External organizations and government agencies have strong, supportive relationships with our community.	3.67	0.73	Agree
We have established social groups or associations that provide support to members.	3.32	0.97	Neither Agree Nor Disagree
Community members consistently look out for and help their neighbors.	3.56	0.63	Agree
The community has a shared vision for its future and works together to achieve it.	3.57	0.64	Agree
Overall Weighted Mean	3.58		Agree

Table 6 shows that the farmers in the community generally agree that they have strong social assets, with an overall weighted mean of 3.58, which corresponds to a verbal interpretation of "Agree." The highest rated statement, with a weighted mean of 3.70, is "Conflicts in our community are handled peacefully and do not disrupt our solidarity," while the lowest rated, with a weighted mean of 3.32, is "We have established social groups or associations that provide support to members," which falls into the "Neither Agree Nor Disagree" category. All other statements related to togetherness, information sharing, community participation, and trust received "Agree" interpretations.

It implies that the community's social capital is a significant strength and a vital resource for disaster resilience. The high ratings for cohesion, trust, and peaceful conflict resolution suggest a strong foundation of social support that can be leveraged during a crisis. However, the neutral response regarding established social groups or associations suggests a potential gap in formal, organized support networks. This indicates that while informal, neighbor-to-neighbor support is robust, there is a clear opportunity to strengthen the community's resilience by developing more structured and formal social groups, such as local organizations or cooperatives, to coordinate support and resources during disasters better.

This aligns with the study of Hu et al., which emphasizes that strong social capital is pivotal in disaster-prone zones, facilitating community resilience through various means such as mutual support, trust-building, and cooperation (Hu et al., 2023). The findings indicate that the farmers in Hinunangan exhibit considerable strength in social capital, as evidenced by an overall weighted mean of 3.58 regarding their social assets. The respondents' agreement that "Conflicts in our community are handled peacefully and do not disrupt our solidarity" underlines the critical role of conflict resolution in maintaining social cohesion. This reflects similar conclusions drawn by Brummans et al., who emphasize the importance of effective conflict mediation for building and sustaining communal relationships (Brummans et al., 2021).

Table 7. *Human Assets*

Statements	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Farmers in our community are knowledgeable about climate-resilient farming techniques.	3.19	0.85	Neither Agree Nor Disagree
We have received sufficient training on disaster preparedness and response.	3.04	0.91	Neither Agree Nor Disagree
Community members have good health and are physically able to perform demanding work.	3.36	0.77	Neither Agree Nor Disagree
Our community has access to quality education that helps members learn new skills.	3.32	0.76	Neither Agree Nor Disagree
The youth are actively engaged in farming and are willing to take over from older generations.	3.29	0.76	Neither Agree Nor Disagree
Farmers have a good understanding of market trends and business management.	3.54	0.72	Agree
We have the skills to repair and maintain essential equipment.	3.42	0.69	Agree
Community members are innovative and can adapt to new challenges.	3.42	0.73	Agree
There is a high level of literacy, which helps in understanding written information and warnings.	3.45	0.75	Agree
Our community has access to counseling or psychological support services after a disaster.	3.53	0.66	Agree
Overall Weighted Mean	3.36		Neither Agree Nor Disagree

Table 7 shows that the farmers' community in Hinunangan, Southern Leyte, holds a neutral perception regarding most of their human assets, with an overall weighted mean of 3.36, which falls under the "Neither Agree Nor Disagree" category. Specifically, the community is neutral on their knowledge of climate-resilient farming techniques (3.19), their access to sufficient training on disaster preparedness (3.04), their physical ability for demanding work (3.36), access to quality education (3.32), and the youth's engagement in farming (3.29). However, they agree that they have a good understanding of market trends (3.54), possess skills to repair equipment (3.42), are innovative and adaptable (3.42), have high literacy levels (3.45), and have access to psychological support after a disaster (3.53).

It implies that while the community has a perceived strength in their soft skills, like market understanding, innovation, and literacy, there is a significant uncertainty or ambivalence about the more tangible and physical aspects of their human assets. This neutral stance suggests a potential gap in the community's human capital, particularly concerning formal education and training in modern, climate-resilient farming techniques. The findings underscore a need for a resilience program to focus on enhancing these specific areas to better equip the community against disasters and ensure the long-term sustainability of their livelihoods.

This aligns with the study of Hargono et al. (Hargono et al., 2023), which highlights the relationship between community awareness and disaster preparedness. The neutral perception observed among farmers in Hinunangan, Southern Leyte, indicates that while there is a varied understanding of their capabilities, a significant gap remains in practical training, particularly in climate-resilient agricultural practices. Hargono et al. affirm that enhanced public awareness correlates with improved preparedness for disasters, suggesting that educational interventions may be necessary to bolster community resilience and perception.

Table 8. *Natural Assets*

Statements	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Our farmlands are fertile and productive.	3.55	0.75	Agree
The water sources (rivers, springs) in our community are reliable and sufficient for farming and household needs.	3.4	0.67	Neither Agree Nor Disagree
The forests and natural vegetation in our area are well-preserved.	3.3	0.67	Neither Agree Nor Disagree
Our community is not heavily affected by soil erosion or landslides.	3.55	0.7	Agree
We have access to diverse plant varieties and seeds that can withstand different conditions.	3.36	0.74	Neither Agree Nor Disagree
The quality of our air and water is clean and healthy.	3.39	0.75	Neither Agree Nor Disagree
Our community actively participates in environmental conservation activities.	3.09	1.00	Neither Agree Nor Disagree
We have a clear and fair system for managing shared natural resources.	3.27	0.99	Neither Agree Nor Disagree
Our agricultural areas are well-irrigated and not prone to drought.	2.91	0.99	Neither Agree Nor Disagree
Our community has adequate land for farming and other livelihood activities.	3.22	0.94	Neither Agree Nor Disagree
Overall Weighted Mean	3.31		Neither Agree Nor Disagree

Table 8 shows that the overall perceived level of natural assets among the farmers is at a "Neither Agree nor Disagree" level, with an overall weighted mean of 3.31. The highest-rated natural assets were the fertility and productivity of farmlands and the lack of heavy soil erosion or landslides, both receiving a "Agree" interpretation with weighted means of 3.55.

In contrast, the lowest-rated asset was the idea that agricultural areas are well-irrigated and not prone to drought, which had a weighted mean of 2.91 and a "Neither Agree nor Disagree" interpretation. Most of the other statements, including the reliability of water sources, the preservation of forests, and the cleanliness of air and water, also fell into the "Neither Agree nor Disagree" category.

It implies that while farmers perceive some strengths in their natural environment, such as fertile land and relative protection from erosion, there are significant areas of uncertainty or perceived vulnerability. The finding that they are uncertain about the adequacy of irrigation and the susceptibility of their land to drought is particularly concerning for a farming-dependent community. This suggests that while the land itself may be good, the infrastructure and management of water resources are potential weaknesses.

The overall neutral perception indicates that the community's natural assets are neither a definitive strength nor a clear weakness for disaster resilience, highlighting a need for targeted interventions to strengthen these areas, particularly in water management and environmental conservation practices.

This aligns with the study of Tabe-Ojong et al., who highlighted that the adoption of effective agricultural practices can lead to enhanced soil fertility and increased farm income, which underscores the importance of recognizing strengths in natural assets such as farmland productivity and fertility in this context (Tabe-Ojong et al., 2023). The findings resonate with the assertions made by Sargani et al.,

who documented that various asset allocations and adaptation practices in farming are intimately linked to the perception of risk, including environmental sensitivities such as drought and irrigation reliability (Sargani et al., 2023).

Table 9. *Financial assets*

Statements	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Most farmers in our community have personal savings to fall back on during a crisis.	2.94	1.01	Neither Agree Nor Disagree
We have access to reliable credit or loans from banks or cooperatives.	2.77	0.93	Neither Agree Nor Disagree
Farmers have diverse income sources in addition to farming.	2.73	0.91	Neither Agree Nor Disagree
Our community has a strong cooperative or savings group that assists members financially.	2.86	0.96	Neither Agree Nor Disagree
Remittances from family members working away from home are a stable source of income.	2.79	1.03	Neither Agree Nor Disagree
We have access to crop or livestock insurance to protect against losses.	2.92	0.79	Neither Agree Nor Disagree
Financial aid from the government or NGOs is distributed fairly and on time after a disaster.	2.85	0.89	Neither Agree Nor Disagree
Community members have a good understanding of financial management.	2.92	0.9	Neither Agree Nor Disagree
We have access to fair markets to sell our produce at reasonable prices.	2.26	0.96	Disagree
The community has established collective funds for emergency purposes.	2.14	0.96	Disagree
Overall Weighted Mean	2.72		Neither Agree Nor Disagree

Table 9 shows that the farmers surveyed have a neutral or uncertain perception of their financial assets, with the overall weighted mean of 2.72 falling within the "Neither Agree nor Disagree" range. The statements related to personal savings, access to credit, remittances, and crop insurance all have weighted means hovering around 2.80 to 2.94, indicating that the farmers are unsure about the reliability and availability of these resources.

The lowest-rated statements are those concerning access to fair markets (2.26) and the existence of collective emergency funds (2.14), both of which fall into the "Disagree" category. This indicates that farmers feel a distinct lack of these critical financial resources. The standard deviations, which range from 0.79 to 1.03, suggest a considerable variation in responses, meaning there is no widespread consensus among the farmers on the status of these financial assets.

It implies that the community's financial foundation for disaster resilience is weak and uncertain. The overall neutral perception suggests that farmers neither strongly believe in nor disbelieve in the availability of financial resources, which itself is a vulnerability. The most significant finding is the clear disagreement on the presence of fair markets and collective emergency funds. This highlights two critical areas of weakness: a lack of control over income streams and an absence of a communal financial safety net. A proposed resilience program must address these specific gaps, perhaps by establishing farmer-led cooperatives for marketing and creating a community-managed disaster fund.

This aligns with the study of Nguyen et al. (Nguyen et al., 2021), which underscores the critical role that financial resources and farmers' perceptions play in shaping the agricultural industry's resilience to external pressures such as climate change. The evidence from Table 12, indicating a neutral perception among farmers regarding their financial assets, suggests a broader trend where a lack of confidence in financial resources can act as a barrier to effective adaptation strategies.

Similarly, Karki et al. Karki et al. (2020) articulate that insufficient access to information and technology further exacerbates the challenges faced by smallholder farmers in making informed decisions about their financial assets and potential coping strategies for disasters.

Table 10. *Physical Assets*

Statements	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Our houses and other buildings are sturdy and can withstand strong winds and floods.	2.85	1.15	Neither Agree Nor Disagree
We have a well-maintained road network that remains passable after a disaster.	3.19	1.09	Neither Agree Nor Disagree
Our community has a designated evacuation center that is safe and well-equipped.	3.49	1.06	Agree
We have a reliable supply of clean drinking water and	3.06	0.88	Neither Agree Nor

electricity.			Disagree
Our community has adequate storage facilities for crops and harvests.	3.19	1.11	Neither Agree Nor Disagree
We have a functional early warning system for approaching disasters.	3.09	1.09	Neither Agree Nor Disagree
Our community has a sufficient inventory of emergency supplies like first aid kits and flashlights.	2.59	1.06	Disagree
Community members have access to modern farming tools and equipment.	2.68	1.03	Neither Agree Nor Disagree
Our bridges and infrastructure are resilient to natural hazards.	2.78	0.94	Neither Agree Nor Disagree
We have reliable communication services, such as mobile phone signal and internet connection.	2.91	0.87	Neither Agree Nor Disagree
Overall Weighted Mean	2.98		Neither Agree Nor Disagree

Table 10 shows that the farmers' perceived level of physical assets is generally neutral, with an overall weighted mean of 2.98. The highest-rated item is the existence of a designated evacuation center, with a weighted mean of 3.49, which is interpreted as "Agree". However, the community disagrees that it has a sufficient inventory of emergency supplies, with the lowest weighted mean of 2.59, interpreted as "Disagree". Other physical assets, like the sturdiness of houses, road networks, and access to modern farming tools, were all rated as "Neither Agree Nor Disagree".

It implies that the community's physical infrastructure for disaster preparedness is inconsistent and vulnerable. While the presence of a safe evacuation center is a clear strength, the low rating for emergency supplies indicates a significant gap in preparedness at the community and household levels. The neutral perception of other critical infrastructure, such as housing, roads, and communication, suggests these assets are not yet at a level that inspires confidence or can be fully relied upon during a disaster. This indicates that while some formal structures (like evacuation centers) may be in place, the overall physical resilience of the community is weak, posing a major risk to safety and recovery efforts.

This aligns with the study of Hargono et al. (Hargono et al., 2023), who established a connection between disaster awareness and community preparedness in Indonesia, illustrating how communities can be equipped for emergencies when they possess adequate knowledge and resources. Specifically, the study underscores the significance of designated evacuation centers—an asset deemed positive by local farmers in Hinunangan, as indicated by a weighted mean of 3.49. This finding supports the assertion that awareness and preparedness are closely linked, suggesting that improving physical assets can enhance disaster readiness (Hargono et al., 2023).

Perceived Level of Farmers' Coping Strategies

This section presents the results of the survey on the perceived level of farmers' coping strategies for disasters. The findings are divided into two main categories: Ex-Ante (Before the Disaster) and Ex-Post (After the Disaster) coping strategies. The tables below show the weighted mean and standard deviation for each statement, along with a corresponding verbal interpretation.

Table 11. *Ex-Ante (Before the Disaster) Coping Strategies*

Statements (Ex-Ante)	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Our family keeps a stock of non-perishable food and water for emergencies.	3.75	0.82	Agree
We save money or assets to use in case a disaster affects our livelihood.	3.52	0.95	Agree
We have strengthened our houses or other farm buildings to withstand strong winds or floods.	3.48	1.05	Agree
Our community holds regular drills or meetings for disaster preparedness.	3.69	0.77	Agree
We have access to and use early warning systems to prepare for approaching disasters.	3.81	0.65	Agree
We plant crop varieties that are known to be more resistant to drought or floods.	3.54	0.88	Agree
We have a clear plan on where to go and what to bring during an evacuation.	3.62	0.79	Agree
Our community maintains a central fund or resource pool for disaster-related needs.	3.55	0.93	Agree
We have secured our important documents and belongings in a safe, waterproof place.	3.71	0.78	Agree
We have diversified our income sources to reduce our dependence on farming alone.	3.43	0.91	Agree
Overall Weighted Mean	3.61		Agree

Table 11 shows that the farmers have a high level of agreement on their perceived ex-ante coping strategies, with an overall weighted mean of 3.61, which is interpreted as "Agree." All ten statements regarding preparedness actions taken before a disaster, such as keeping emergency supplies, having a clear evacuation plan, strengthening homes, and diversifying crops, received a verbal interpretation of "Agree." The highest-rated strategy is the use of early warning systems (3.81), while the lowest-rated, though still in the "Agree" category, is the diversification of income sources (3.43).

It implies that the community's primary strength in disaster resilience lies in its proactive and precautionary measures. The farmers are not only aware of what to do before a disaster but also believe they are actively practicing these strategies. The consistent agreement across all preparedness actions—from individual household steps like securing documents and saving money to community-level efforts like drills and maintaining a central fund—demonstrates a strong culture of preparedness. While all areas are perceived as strengths, the lower rating for income diversification suggests that while farmers are taking steps to prepare for a disaster's impact, their economic vulnerability remains a concern. This highlights a need for a resilience program to focus on enhancing financial stability by expanding livelihood options beyond farming.

This aligns with the study of Lee et al. (Lee et al., 2023), who found that effective disaster preparedness is critical for enhancing the resilience of communities. In their research, they highlight that individuals' awareness and preparedness practices are pivotal in mitigating risks associated with disasters. The data presented in the study indicate that farmers in Hinunangan, Southern Leyte, demonstrate a high level of agreement towards their perceived ex-ante coping strategies, which reflects a similar understanding of the importance of preparedness actions, consistent with the findings of Lee et al. The proactive attitudes observed in the farmers' responses, such as having emergency supplies and a clear evacuation plan, align with Lee et al., who emphasize the necessity of preparedness strategies to bolster community resilience and mitigate disaster impacts.

Table 12. *Ex-Post (After the Disaster) Coping Strategies*

Statements (Ex-Post)	*Weighted Mean*	*Standard Deviation*	*Verbal Interpretation*
Our community members quickly help each other with clean-up and rebuilding after a disaster.	3.81	0.85	Agree
We can easily get financial help (e.g., loans, credit) to recover from losses.	3.25	1.05	Neither Agree Nor Disagree
Our family uses savings to cover immediate expenses and losses after a disaster.	3.39	0.98	Neither Agree Nor Disagree
We receive financial aid or relief goods from the government or NGOs in a timely manner.	3.48	0.91	Agree
We quickly repair damaged farm tools and equipment to resume farming activities.	3.75	0.82	Agree
The community works together to repair damaged infrastructure like roads and irrigation systems.	3.62	0.9	Agree
Our community seeks psychological or emotional support after a major disaster.	3.1	1.12	Neither Agree Nor Disagree
We change our farming practices or plant different crops after a disaster to prevent future losses.	3.7	0.89	Agree
Our family and neighbors share resources like food, water, and shelter immediately after a disaster.	3.95	0.77	Agree
We find alternative sources of income (e.g., temporary labor) to sustain ourselves during recovery.	3.25	0.96	Neither Agree Nor Disagree
Overall Weighted Mean	3.53		Agree

Table 12 shows that farmers generally agree that they have strong coping strategies after a disaster, with an overall weighted mean of 3.53. The highest-rated strategy is sharing resources like food and water with neighbors, which has a weighted mean of 3.95, followed by community members quickly helping each other with cleanup and rebuilding, with a weighted mean of 3.81. Farmers also agree that they are able to quickly repair damaged equipment, receive timely aid, and adapt their farming practices.

However, they are neutral or uncertain about their ability to access financial help easily (weighted mean of 3.25) and personal savings (weighted mean of 3.39) for recovery. The community is also uncertain about its ability to seek psychological support and find alternative income sources.

It implies that the community's primary strength in post-disaster recovery lies in its social capital and innate resilience. The high ratings for cooperation, resource sharing, and community-led rebuilding demonstrate a strong, informal social safety net. However, there are significant gaps in formal and financial coping mechanisms. The uncertainty regarding access to savings, loans, and alternative income sources highlights a critical vulnerability—the community relies heavily on mutual aid but lacks a robust financial strategy for recovery. This suggests that a proposed resilience program should focus on strengthening financial literacy and access to formal financial support systems to complement the community's existing social strengths.

This aligns with the study of Alhadi et al., who emphasize the critical role local wisdom and community resilience play in coping strategies against natural disasters. Their research highlights that communities with strong informal support systems effectively

mobilize resources, such as food and water sharing, which were noted as highly rated coping strategies among farmers facing natural disaster risk (Alhadi et al., 2023). The findings indicate a profound social capital within the community that facilitates collaboration and resource sharing during crises, reflecting the community's capacity to quickly help each other with cleanup and reconstruction efforts.

Significant Relationship Between the Farmers' Financial Assets and Their Utilization of Ex-Post Coping Strategies

This section presents the results of the correlational analysis to determine the significant relationship between farmers' financial assets and their utilization of Ex-Post (after-disaster) coping strategies.

Table 13. *Significant Relationship Between the Farmers' Financial Assets and Their Utilization of Ex-Post Coping Strategies*

Variable	*Correlation Coefficient r*	*P-value*	*Level of Significance*	*Decision*	*Interpretation*
Farmers' Financial Assets and Their Utilization of Ex-Post Coping Strategies	0.385	0.000	0.05	Reject the null Hypothesis.	Significant

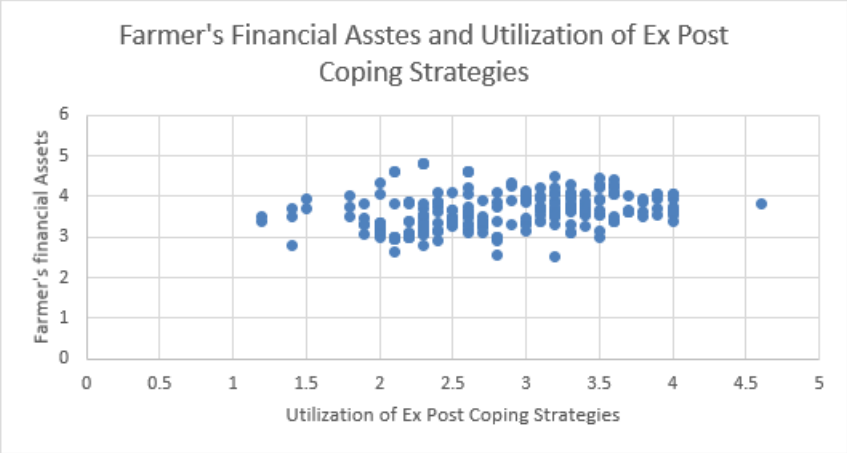

Figure 1. *Farmer's Financial Assets and Utilization of Ex Post Coping Strategies*

Table 13 shows a significant positive relationship between farmers' financial assets and their utilization of Ex-Post coping strategies, with a correlation coefficient (r) of 0.385 and a p-value of 0.000. Since the p-value (0.000) is less than the significance level of 0.05, the null hypothesis is rejected, indicating that the relationship is statistically significant. The positive value of r suggests that as farmers' financial assets increase, so does their perceived ability to effectively use coping strategies after a disaster.

It implies that financial resources are a critical factor in a farmer's ability to recover from a disaster. The more financial assets a farmer has—whether it is savings, access to credit, or diverse income sources—the more likely they are to engage in effective recovery actions such as rebuilding, repairing equipment, and finding alternative livelihoods. This relationship highlights that financial stability is not just an asset in itself but a key enabler of other post-disaster coping behaviors.

This aligns with the study of Debessa et al. (Debessa et al., 2022), which highlights the crucial relationship between coping strategies and resilience levels in the face of food insecurity shocks in rural households. Their analysis reveals that when households possess adequate financial means, they are better positioned to respond to adverse situations. This supports the hypothesis that financial stability enhances resilience and recovery capacity in disaster contexts.

Significant Difference in the Level of Resilience Among Farmers When Grouped By Their Location (Upland, Inland, And Coastal)

This section presents the results of the inferential analysis to determine if there is a significant difference in the level of resilience among farmers when they are grouped according to their geographic location: upland, inland, and coastal. An Analysis of Variance (ANOVA) was used to compare the means of the Ex-Ante and Ex-Post coping strategies across these three groups. The findings are crucial for understanding how a farmer's location influences their preparedness for and recovery from disasters.

Table 14. *Significant Difference in the Level Of Resilience Among Farmers When Grouped By Their Location (Upland, Inland, And Coastal)*

Geographical Location	*Level of Resilience*			
	Mean	*F-value*	*P-value*	*Interpretation*
Upland	3.36			
Inland	3.23	5.957	0.003	Significant
Coastal	3.37			

Table 14 shows a significant difference in the level of resilience among farmers when they are grouped by their geographical location ($F = 5.957$, $p = 0.003$). Farmers in Coastal areas reported the highest mean level of resilience (3.37), followed closely by farmers in Upland areas (3.36), while farmers in Inland areas reported the lowest mean level of resilience (3.23).

It implies that the geographical context is a significant factor in determining a farmer's capacity to cope with and adapt to stresses and shocks. The lower mean resilience score for Inland farmers suggests that they are the most vulnerable group and are in urgent need of targeted, location-specific interventions and support programs to build their resilience. Conversely, the higher resilience levels among Coastal and Upland farmers suggest that factors specific to those environments (such as access to certain resources, established social networks, or unique traditional knowledge) are contributing positively and should be studied for best-practice models that could be adapted for inland areas.

This finding aligns with the study of Caviedes et al. (Caviedes et al., 2025), which indicates that geographical contexts significantly influence the resilience of small-scale farmers. Farmers in coastal and upland areas exhibit stronger resilience (mean scores of 3.37 and 3.36, respectively) compared to those in inland regions (3.23), suggesting a differential adaptation to environmental stresses. This observation is further supported by Samuel et al. (Samuel et al., 2021), who examined the impact of climate-resilient technologies on farmers' income amidst climate impacts, underscoring that geographical attributes like access to resources and socio-ecological systems play vital roles in shaping adaptive capacities.

Challenges that the Farmers Face in Building Community Assets and Implementing Coping Strategies Against Disaster

This section analyzes the challenges farmers face in building community assets and implementing disaster coping strategies. The provided table ranks the top five challenges based on a prioritization derived from the preceding data on farmers' perceived coping abilities. This ranking offers a direct insight into the most significant barriers to resilience in the community.

Table 15. *Rank of Challenges that the Farmers Face in Building Community Assets and Implementing Coping Strategies Against Disaster*

Challenges Farmers Face	*Rank*
Limited Access to Formal Financial Help	1st
Lack of Financial Savings for Recovery	2nd
Low Diversity of Income Sources	3rd
Limited Access to Alternative Income After a Disaster	4th
Difficulty in Seeking Psychological and Emotional Support	5th

Table 15 shows that limited access to formal financial help is the top-ranked challenge for farmers, followed closely by a lack of personal financial savings for recovery. These two financial challenges hold the first and second ranks, indicating that the most significant vulnerability for the farming community is economic. Low diversity of income sources ranks third, followed by limited access to alternative income after a disaster (4th) and difficulty in seeking psychological and emotional support (5th).

It implies that financial vulnerability is the most critical and pressing issue hindering farmers' resilience. The top four challenges are all directly or indirectly related to economic limitations, suggesting that despite strong social networks and a culture of mutual aid, farmers lack the financial capital and diverse income streams needed to absorb the shocks of a disaster. The ranking also highlights a less visible but important challenge: the need for psychological support, which is often overlooked in disaster response planning. A holistic resilience program must address both the economic and social-emotional vulnerabilities of the community.

This aligns with the study of Hapsoro et al., which indicates that economic vulnerability remains pervasive among various groups, including farmers, due to limited financial resources that inhibit recovery measures in crises (Hapsoro et al., 2022). The findings of the current research highlight that limited access to formal financial resources and lack of personal savings are significant challenges for farmers, echoing Hapsoro et al.'s assertion that financial behavior significantly influences vulnerability (Hapsoro et al., 2022). Furthermore, Zulkifli et al. emphasize that lack of income diversification exacerbates the economic challenges faced by farmers, which aligns with findings that low-income diversity is a critical vulnerability factor (Zulkifli et al., 2023).

Conclusions

Based on the data, the farming community in Hinunangan, Southern Leyte, is characterized by an aging, family-oriented, and predominantly female population with a generally low level of formal education, making them particularly vulnerable to disaster impacts. The community possesses notable strengths in its social assets, such as strong unity and effective conflict resolution. However, it is highly vulnerable due to significant weaknesses in its financial, human, and physical assets, which are critical for effective disaster resilience.

The community demonstrates a high perceived level of coping strategies for disaster, with their greatest strengths lying in proactive, community-based preparedness and immediate, informal post-disaster response. At the same time, their primary vulnerability remains in formal financial and institutional support for recovery. There is a significant and positive relationship between farmers' financial assets and their ability to utilize Ex-Post coping strategies. The level of disaster resilience among farmers varies significantly with their geographic location, with upland farmers demonstrating the highest levels of both preparedness and post-disaster coping, while inland

farmers show the lowest. The primary challenges farmers face in building disaster resilience are overwhelmingly financial, highlighting a critical gap in their ability to cope with economic shocks and recover from losses.

Craft a community resilience program that is specifically designed to meet the unique needs and capabilities of an older, female-dominated, family-based, and less-formally educated population, focusing on simple, practical, and family-centered strategies to enhance their capacity to cope with and recover from disasters. Develop a comprehensive resilience program that leverages the community's strong social cohesion to address critical gaps in financial, human, and physical assets, with a focus on establishing organized support groups, providing practical disaster preparedness training, and creating a communal emergency fund.

Enhance the community's financial resilience by implementing programs focused on financial literacy, establishing a community-managed emergency fund, and creating partnerships with microfinance institutions. Implement programs that enhance farmers' financial literacy and access to microfinance to strengthen their post-disaster recovery capabilities. Develop and implement a location-specific resilience program that provides customized training and resources to address the unique vulnerabilities of farmers in upland, inland, and coastal areas, prioritizing support for inland farmers. Establish a community-based micro-lending program and financial literacy training to increase farmers' access to and management of financial resources for disaster preparedness and recovery.

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