

Capital availability, supply chain efficiency and innovation of agripreneurs: Basis for strategic development for sustainable farming

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Abstract

This study examined the relationship among capital availability, supply chain efficiency, and innovation as basis for development of strategic development plan for sustainable farming agripreneurship. Data was collected from 384 agripreneurs through a structured survey. The instrument covered financial resources, government support, and financial training; resource management, distribution channels, and supplier coordination; and technology adoption, innovation training, and digital integration. Descriptive statistics, the Shapiro-Wilk test, Spearman rho correlation, and Kruskal-Wallis tests were used in the analysis. Results revealed that the average age of agripreneurs is 46 years old and above which shows ageing population of agripreneurs which majority is male. The study further confirms low levels of access to capital and persistent inefficiencies across the supply chain, including limited market access and coordination with suppliers. In contrast, respondents showed a moderately positive outlook toward innovation, with many using platforms such as Facebook and YouTube to access farming knowledge. No significant relationships were found between capital availability and innovation or between supply chain efficiency and innovation. However, financial training showed a weak but significant relationship with supply chain outcomes. Based on the findings, a strategic development plan was developed, emphasizing inclusive capital access, capacity-building through farmer organizations, and technology-supported practices. There is a strong need to form farmer's organization or cooperatives at grassroot levels to leverage resources, training and credit access. It recommends further studies in Visayas and Mindanao and the integration of agripreneurship into higher education to engage the next generation of agripreneurs to sustain agriculture in the country.

Keywords: agripreneurship, capital availability, supply chain, innovation, sustainability

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1. Introduction

The agricultural sector is one of the critical sectors in the Philippine society, serving as the primary source of livelihood for millions of Filipinos, securing the food source and supporting economic growth in the rural areas. During 1970's to 1990's, Philippines was one of the pioneer and key players in the Agriculture Industry and one of the leading exporters of agricultural products especially in the Southeast Asian region. However, this sector is continuously facing a lot of challenges and threatens its growth and productivity. In the 2023 report of the Philippine Statistics Authority (PSA), Agriculture, Forestry and Fishing (AFF) accounts only for mere 8.9% of the country's Gross Domestic Product (GDP). This report highlights the urgent need to improve the efficiency and effectiveness of the agricultural sector, especially amid numerous challenges such as climate change, an aging farmer population, inefficient logistics, weak capital access, land fragmentation and slow adoption of innovation. Currently, Philippines is even importing agricultural produce such as rice, sugar, even fish from neighboring countries such as Vietnam, Thailand and China. The country will be facing more potential problems in the future if our agricultural sector continues to shrink and import dependence. These realities, although widely known, remain insufficiently addressed both in policy and practice.

One of the most pressing concerns in the agriculture sector is the aging population of farmers in the Philippines. Based on the last study conducted by the Department of Agriculture – Agriculture Training Institute in 2013, the average age of Filipino Farmers is between 57-59 years old. This demographic shift shows a significant and urgent need to address. Younger generations are often reluctant to pursue a career in farming because of the bad perception that there is less financial reward and other growth opportunities. Agriculture is often associated with poverty, longer working hours under the sun, huge risk and losses due to typhoon and natural calamities and very low government support. Even those coming from farming families are very hostile in continuing this endeavor and opt to sell the farm lots and rather convert it into industrial or residential lots.

Aside from aging farming population, this research seeks to examine three interlocking barriers to agripreneur growth: Capital Availability, Supply Chain Efficiency and Grassroots Innovation. These three variables were selected not only because of experience and observation, but rather existing literature often treats them individually. Capital, in the form of credit and subsidies, is the foundation on which expansion is built. Supply Chain efficiency, including input access and market connectivity, determines how effectively agripreneurs move their produce from farm to consumer. Innovation, whether formal or informal, allows farmers to adapt, grow and participate in the future of agriculture.

The main issue that the farmers are facing is related to lacking capital and financial aid for the farmers. Access to capital is essential for farmers to invest in modern technologies and have sufficient farm input to induce productivity. Consequently, majority of the Filipino farmers are categorically considered small farmer with less than 3 hectares of land attended to. Most of the small-town farmers do not have access to formal credit channels such as banks, thus further limiting their ability to procure modern equipment that can increase productivity. Instead, they are very vulnerable to high interest, informal channels, with their harvest as their guaranteed payment. It's a cycle of loan, pay, loan again to the farmers, and if no concrete help is provided for them, this will continue until the farmers will not be able to continue farming. Another critical issue that needs to be address is the inefficient supply chain in the agriculture sector in the Philippines, both in the infrastructure and in the flow of goods and the services need by our farmers. Post-harvest losses in the Philippines amounting to as much as 25% of the produce due to poor infrastructure, inadequate storage facilities, and even inefficient logistic systems. This results in higher operational costs for the farmers, resulting in two different impacts, one is reducing the competitive factor of local produce over to those imported ones, and the rising price of goods affecting the buying

power of the consumer, that translates to higher inflation rates.

Additionally, technology adoption remains a major concern in the agriculture sector. Our neighboring countries are incorporating advances in the agricultural technology such as precision farming tools, using Internet of Things (IoT) in the irrigation systems, and even incorporating smart technologies to revolutionize farming outputs, but the Philippines is lagging in this advancement. This gap is also attributed because of our farmers' aging population; however, technology adoption is one of the key drivers in enhancing productivity and mitigate risk attributed to climate change.

In the most recent period, agriculture is facing more challenges than ever; Covid-19 pandemic worsened the challenges faced by the farmers. African Swine Fever is affecting hog raiser in the region, especially in Batangas. Natural disasters such as the Taal Volcano eruption and devastating typhoons such as Kristine (international name is Trami) and Southwest Monsoon or Habagat affect the agricultural industry, and these natural threats will further exacerbate the conditions farmers are facing right now. The rise of Agripreneurs, or farmers who applies entrepreneurial skills by going beyond traditional ways and providing value added activities to increase value of the agricultural products, leading to higher profit, sustainable livelihood for the community is very vital for Philippine agriculture sector (Reyes, 2020). However, not addressing concerns that the sector is facing right now will not encourage agripreneurs to continue with their operation.

This research aims to address key areas such as capital availability, supply chain efficiency and innovation that will help tackle the systemic and chronic issues affecting the agricultural sector in the Philippines. It can bridge the gap between our current conditions and the ideal situation of a more productive, resilient and sustainable agricultural industry. As more farmers are being exposed to agripreneurship, policies and support must be readily available for them to ensure success (Santoalla et al, 2025). This research will benefit government offices such as Department of Agriculture, City & Municipal Agricultural Offices in providing realistic and sustainable projects that can uplift the conditions of farmers and agripreneurs. This will also help the formal financial institutions, such as banks and micro-creditors to design appropriate programs. This research aims to integrate – government, academe, private organizations and NGOs not as external factor but as embedded partners.

The researcher as an agripreneur himself, who came from generations of farmers experienced the harsh realities of agriculture in the Philippines. The researcher had actual trouble in securing capital, high cost of seeds and fertilizers, and low farm gate prices due to importation and rampant smuggling of agricultural produce. These chronic problems affect lives of thousands and thousands of farmers, their families and kids, including the researcher's own community. This lifelong journey of improving the lives of a Filipino farmer is the strong rationale behind this study. This research outcome will hopefully lead to a future state of not just profitable farmers, but resilient communities. Agriculture, if nurtured right, can feed both communities and dreams. The researcher hopes that this research will lead to one small step towards that future.

Objectives of the Study - The study aimed to assess the capital availability, supply chain and innovation of agripreneurs in Batangas province. Specifically, it determined the agripreneurs access to capital availability in facilitating adoption of sustainable farming practices in terms of financial resources, government support, and financial training programs; assessed the supply chain efficiency used in sustainable farming practices in terms of resource management, distribution channel and supplier coordination; determined the influence of innovation to agripreneurs as to the extent of technology adoption, participation in innovation training, and digital and technological integration; tested the significant relationship among capital availability, supply chain efficiency, and innovation and develop strategic development plans for sustainable farming.

2. Methods

Research Design - In this study, the researcher used descriptive research design aimed to understand the current conditions and challenges faced by the agripreneurs in the Philippines, specifically in the province of Batangas, related to the three key areas: capital availability, supply chain, and innovation. Descriptive research

was used to effectively understand the current condition of the respondents, and to be able to check whether patterns or a specific characteristic of a group were present that can be significant to the results of the study. This research design has systematically collected and analyzed qualitative data from the list of agripreneurs in the province. The researchers aimed to engage agripreneurs who are directly involved in the production, marketing, sales and distribution of their own agricultural produce (Krishnankutty et.al.,2024). The study aimed to develop a framework which was essential for more effective interventions to uplift the lives of the Filipino farmers, improve the economic outlook of the Philippines and to support the achievement of the UN SDGs.

Participants of Study - The participants in the study were agripreneurs from the province of Batangas. They were selected through random and purposive sampling to ensure that respondents had actual experience with the prevailing conditions of agriculture in the country and could provide diverse perspectives to support the development of the framework. The number of respondents was determined based on data from the Department of Agriculture Region 4A registry. As of 2022, there were a total of 91,254 farmers in the province; however, not all farmers could be immediately considered agripreneurs, making the selection process for this study more complex. In the study of de Mesa et al. (2022), an agripreneur was described as a person whose approach to agriculture aimed to revitalize and modernize the sector by converting raw produce into high-value products. Similarly, an agripreneur was characterized as someone who shifted from traditional farming practices to creating opportunities within the agricultural value chain, from sourcing to output.

To qualify respondents as agripreneurs for this study, a metric was applied requiring that each individual meet at least three of the following five characteristics: (1) Value Addition and Processing, meaning they created and sold products beyond raw produce; (2) Market-Oriented Approach, defined as selling directly to customers or trading posts without intermediaries; (3) Diversified Income Streams, where income was generated from multiple crops or livestock; (4) Farmer's Organization and Network, indicating membership in a barangay or town agriculture organization or cooperative; and (5) Employment Generation, where the farmer employed at least one helper in agricultural ventures. Using Raosoft Statistical Software and considering the 91,254 registered farmers in the province, the sample size was calculated to be 384 respondents at a 95% confidence level and a 5% margin of error. The breakdown of the agripreneurs included in the study came from Tanauan City with 133 respondents, Lipa City with 56 respondents, Sto. Tomas City with 96 respondents, Malvar with 48 respondents, Talisay with 34 respondents, Laurel with 12 respondents and San Jose with 5 respondents. This approach allowed the study to effectively capture a broad range of insights from respondents while reflecting the varying experiences and agricultural conditions across different cities and municipalities in Batangas.

Instrument of the Study - The primary instrument and source of information for this study was the use of a structured type of questionnaire designed to measure respondents' perceptions and gather information for specific areas using Likert-type scales. The questionnaires were sub-divided into four key areas that correspond to the flow of the study. It was rated on a four-point scale, ranging from "Strongly Disagree" to "Strongly Agree" which helped quantify the intensity of which the respondents conformed to the questionnaires. The first part focused on Capital Availability which measured the agripreneurs' access to financial resources, like loans, grants and even private investment to sustain its operations. It also considered government support and financial training needed to prosper the agri-ventures and how capital resources support technology integration. The second part focused on Supply Chain Efficiency which tackles agripreneurs' resource management for agricultural inputs and outputs. This also covered distribution channels to ensure timely and safe transport of agricultural produce. The third part discussed the agripreneurs' level of agreement on the current level of innovation and technology integration into the agriculture sector and how it helped the farmers to improve their operation, increasing their productivity and profitability. The fourth section has open-ended questions that enabled the respondents to have additional insights or responses that were not covered in the structured questionnaire section. It also included questions describing the nature of agricultural endeavor to understand variability and have a cohesive result afterwards.

The questionnaires were validated from a series of reviews of related literature and feedback from those experts in the field of economics, agriculture and management practices in the province. After validation, it was

reviewed and approved by the Ethics Review Committee. The pilot testing and reliability test was conducted in the initial pool of 30 agripreneurs. The reliability results of the variables such as Capital Availability, Supply Chain Efficiency, and Innovation demonstrated strong internal consistency, as indicated by Cronbach's alpha (α) values. Specifically, Capital Availability, which includes Access to Financial Resources ($\alpha=0.852$), Access to Government Support ($\alpha=0.877$), and Access to Financial Training Programs ($\alpha=0.876$), yielded an overall α value of 0.919, marking it as excellent. Similarly, Supply Chain Efficiency, consisting of Resource Management ($\alpha=0.865$), Distribution Channels ($\alpha=0.864$), and Coordination with Suppliers ($\alpha=0.891$), obtained an overall α value of 0.923, also categorized as excellent. Lastly, the Innovation variable, comprising Adoption of New Technologies ($\alpha=0.839$), Innovation Training & Knowledge Sharing ($\alpha=0.876$), and Digital and Technological Integration ($\alpha=0.849$), achieved an overall α value of 0.923, indicating excellent reliability. These findings suggested that the questionnaire used in the study are highly reliable, ensuring consistency in assessing variables that influence financial accessibility, supply chain efficiency, and innovation within the given context.

Data Gathering Procedures - The data collection process began with the creation of the survey questionnaires. The content was validated by experts in the field of agriculture and management, especially in region 4A. After the validation, the researcher tested the survey instrument with 30 initial respondents and consolidated the results afterwards and submitted the results for reliability testing. After the reliability test was conducted and confirmed, formal data collection process began by visiting the municipal and city agricultural offices in Batangas. The researcher visited the agricultural offices and informed the head of offices of the planned survey activities. The researcher seeks approval for the study and asked for endorsement from the chief agriculturist for the local unit in the barangays. Since the Data Privacy Law is in place, list of agripreneur cannot be provided by the government offices, rather an actual visit per barangay was recommended. The survey was conducted via Face-to-Face and by using printed copy of the survey questionnaire. In some cases, questionnaires were translated to Filipino language to accommodate respondents especially those that cannot understand English. The study was conducted for a month and a half long activity of actual survey distribution and interviews followed to gather responses from the target population. During the study, crop farming was found out to be under the Department of Agriculture, while Livestock is under the management of the Bureau of Animal Industry. The researcher formed a team that helped the researcher to reach more agripreneurs simultaneously. After the responses were manually collected, it was encoded, sorted and tabulated. Results were forwarded to statistician and subjected to statistical treatment and data analysis. Once finished, interpretation was conducted and compared against related literature for more in-depth comprehension.

Data Analysis - Weighted mean and rank were used to determine the agripreneurs access to capital availability in facilitating adoption of sustainable farming practices in terms of financial resources, government support, and financial training programs; to assess the supply chain efficiency used in sustainable farming practices in terms of resource management, distribution channel and supplier coordination; and to determine the influence of innovation in advancing sustainable farming methods by assessing the extent of technology adoption, participation in innovation training, and digital and technological integration. The result of Shapiro-Wilk Test showed that p-values of all variables were less than 0.05 which means that the data set was not normally distributed. Spearman rho was used to test the significant relationship. All analyses were performed using SPSS version 28.

Ethical Considerations - To ensure that all information acquired was utilized solely for research purposes and to maintain the quality and authenticity of the study, ethical considerations were employed throughout the research process. This is also in compliance with the Data Privacy Act of 2012. The researcher made sure that the chosen respondents were ready to respond to the relevant questions associated with the study by asking for each person's consent in person. By refraining from asking respondents for their identities while they were completing the questionnaires, the researcher ensured their secrecy and anonymity. Additionally, it was made sure that the respondents would freely choose how they would react to the questionnaires. Finally, the researcher made sure that none of the study participants were injured or otherwise negatively affected, and that their health, safety, and security came first. Lastly, since most of the respondents are agripreneurs in the rural areas, careful consideration of local practices and customs was observed during the conduct of the study.

3. Results & discussion

Table 1

Summary Table of Agripreneurs Access to Capital Availability in Facilitating Adoption of Sustainable Farming Practices

Indicators	Weighted Mean	Verbal Interpretation	Rank
Financial Resources	2.12	Disagree	2.5
Government Support	2.12	Disagree	2.5
Financial Training Programs	2.13	Disagree	1
Composite Mean	2.12	Disagree	

Legend: 1.00 – 1.49 Strongly Disagree; 1.50 – 2.49 Disagree; 2.50 – 3.49 Agree; 3.50 – 4.00 Strongly Agree

Table 1 presents a summary of the respondents' overall access to capital availability across three key sub-indicators: financial resources, government support, and financial training programs. All three components received a verbal interpretation of "Disagree," with a composite mean of 2.12. Financial training programs obtained the highest weighted mean at 2.13, followed closely by both financial resources and government support, each at 2.12. These results suggest that while there are slight variations in perception across the categories, the overall consensus among respondents is that capital-related support systems remain insufficient or inaccessible in enabling sustainable farming practices. The narrow difference in weighted means across all three sub-indicators highlights a shared perception of difficulty in accessing capital—whether through direct financing, institutional support, or knowledge development. Although financial training programs were rated slightly higher, the disagreement rating indicates that even these opportunities are not widely available or relevant to the majority of agripreneurs. This consistent feedback reinforces the notion that structural and systemic improvements are necessary across all fronts to equip agripreneurs with the tools they need to sustain and expand their ventures.

Table 2

Summary Table of Supply Chain Efficiency used in Sustainable Farming Practices

Indicators	Weighted Mean	Verbal Interpretation	Rank
Resource Management	2.42	Disagree	3
Distribution Channel	2.44	Disagree	1
Supplier Coordination	2.43	Disagree	2
Composite Mean	2.43	Disagree	

Legend: 1.00 – 1.49 Strongly Disagree; 1.50 – 2.49 Disagree; 2.50 – 3.49 Agree; 3.50 – 4.00 Strongly Agree

Table 2 presents the summary of respondents' perceptions of supply chain efficiency across three sub-variables: resource management, distribution channel, and supplier coordination. All components received a verbal interpretation of "Disagree," with a composite mean of 2.43. Among the three, the distribution channel scored the highest at 2.44, followed closely by supplier coordination at 2.43, and resource management at 2.42. The minimal variation among the scores suggests that inefficiencies were felt consistently across the supply chain spectrum. This result reinforces the observation that agripreneurs face challenges not only in moving their products to market but also in managing production inputs and maintaining effective coordination with suppliers. The low ratings across all three aspects point to an underdeveloped and fragmented supply chain structure. These inefficiencies likely contribute to higher operating costs, delays in operations, and reduced farm profitability. While there may be some awareness of better systems and tools, access and implementation remain limited, particularly in rural and smallholder contexts.

Table 3

Summary Table of Influence of Innovation in Advancing Sustainable Farming Methods

Indicators	Weighted Mean	Verbal Interpretation	Rank
Technology Adoption	2.88	Agree	3
Innovation Training	2.89	Agree	1.5
Digital and Technological Integration	2.89	Agree	1.5
Composite Mean	2.89	Agree	

Legend: 1.00 – 1.49 Strongly Disagree; 1.50 – 2.49 Disagree; 2.50 – 3.49 Agree; 3.50 – 4.00 Strongly Agree

Table 3 provides a summary of the agripreneurs' perceived influence of innovation in advancing sustainable farming practices. The composite mean was 2.89, verbally interpreted as "Agree." This reflects a generally

favorable view among respondents toward the role of innovation in their agricultural activities. Both *Innovation Training* and *Digital and Technological Integration* recorded the highest weighted mean of 2.89, while *Technology Adoption* followed slightly behind at 2.88. The narrow difference across all three indicators suggests a consistent and moderately strong engagement with innovative practices. Farmers appear open to adopting new tools, participating in training activities, and integrating technology into their day-to-day operations. Although none of the scores exceed 3.0, the level of agreement shows that innovation is taking root within their agribusiness practices, even if broader or deeper integration still faces some barriers. This also complements earlier findings where, despite financial and supply chain challenges, innovation emerged as a relatively stronger area of performance.

Table 4
Relationship Between Capital Availability and Supply Chain Efficiency

Financial Resources	rho	p-value	Interpretation
Resource Management	-0.033	0.523	Not Significant
Distribution Channel	-0.050	0.333	Not Significant
Supplier Coordination	-0.078	0.125	Not Significant
Government Support			
Resource Management	-0.084	0.101	Not Significant
Distribution Channel	-0.072	0.158	Not Significant
Supplier Coordination	-0.097	0.056	Not Significant
Financial Training Programs			
Resource Management	-.119*	0.020	Significant
Distribution Channel	-.114*	0.026	Significant
Supplier Coordination	-.119*	0.020	Significant

Legend: Significant at p-value <0.05*

Table 4 presents the relationship between capital availability and supply chain efficiency. Based on the results that financial resources and government support do not show significant relationships with any aspect of supply chain efficiency, including resource management, distribution channels, and supplier coordination, as evidenced by their weak and non-significant correlation values ($p > 0.05$). This suggests that simply having more financial resources or receiving government assistance does not necessarily lead to improved efficiency in the supply chain processes. In contrast, financial training programs exhibit a significant but negative correlation with all three sub-variables of supply chain efficiency (p ranging from -0.114 to -0.119 , $p < 0.05$). This implies that participation in financial training programs decreases, reported efficiency in resource management, distribution channels, and supplier coordination tends to slightly increase. This finding strengthened the impact that practical knowledge, particularly in managing finances, plays a more direct role in improving operational efficiency than the mere availability of funds. It is likely that training equips agripreneurs with the skills to optimize limited capital, maximize supplier coordination, and manage distribution constraints. Significant relationship, though negative, may reflect a pattern where those engaging in financial training become more capable of identifying and correcting inefficiencies in their supply chain. Thus, increasing financial education emerges as a more impactful driver of efficiency than passive capital access alone.

Table 5
Relationship Between Capital Availability and Innovation

Financial Resources	rho	p-value	Interpretation
Technology Adoption	0.055	0.278	Not Significant
Innovation Training	0.079	0.121	Not Significant
Digital and Technological Integration	0.029	0.573	Not Significant
Government Support			
Technology Adoption	0.041	0.422	Not Significant
Innovation Training	0.009	0.857	Not Significant
Digital and Technological Integration	-0.002	0.976	Not Significant
Financial Training Programs			
Technology Adoption	0.049	0.338	Not Significant
Innovation Training	0.021	0.680	Not Significant
Digital and Technological Integration	-0.019	0.710	Not Significant

Legend: Significant at p-value <0.05*

Table 5 shows the relationship between capital availability and innovation. Based on the findings, there are

no statistically significant relationships between capital availability and innovation-related factors across all variables examined. Specifically, financial resources, government support, and financial training programs show weak and non-significant correlations with technology adoption, innovation training, and digital and technological integration ($p > 0.05$). These results suggest that even there is an availability of financial capital, external support, or financial training does not directly influence the level of innovation within agripreneurs. This implies that innovation in farming practices may be driven less by access to capital and more by the farmers' internal motivation, exposure to peer practices, or digital habits shaped outside formal structures. While capital support mechanisms remain important, they appear insufficient in triggering innovation unless provided together by specific support, mentoring, or technology-driven community programs. Agripreneurs may be adopting new technologies and tools through informal learning platforms or grassroots experimentation, independent of formal financial assistance. This underscores the need to rethink innovation interventions beyond funding and include more localized and behavior-centered approaches.

Table 6
Relationship Between Supply Chain Efficiency and Innovation

Resource Management	rho	p-value	Interpretation
Technology Adoption	-0.016	0.757	Not Significant
Innovation Training	0.025	0.628	Not Significant
Digital and Technological Integration	0.013	0.798	Not Significant
Distribution Channel			
Technology Adoption	0.033	0.521	Not Significant
Innovation Training	0.057	0.262	Not Significant
Digital and Technological Integration	0.041	0.420	Not Significant
Supplier Coordination			
Technology Adoption	0.014	0.783	Not Significant
Innovation Training	0.015	0.773	Not Significant
Digital and Technological Integration	0.004	0.943	Not Significant

Legend: Significant at p-value < 0.05 *

Table 6 presents the relationship between supply chain efficiency and innovation. Based on the results, there are no statistically significant relationships between supply chain efficiency and innovation factors across all variables examined. Specifically, resource management, distribution channel, and supplier coordination exhibit very weak and statistically non-significant correlations with technology adoption, innovation training, and digital and technological integration ($p > 0.05$ in all cases). These findings suggest that improvements in supply chain efficiency do not necessarily translate to higher levels of innovation within the agripreneurs.

This result suggests that even when agripreneurs improve their efficiency in managing resources, coordinating with suppliers, or moving products to market, these operational improvements do not automatically drive innovation. For many agripreneurs, especially those managing small to medium-scale ventures, day-to-day efficiency often revolves around survival and cost control, rather than long-term experimentation or adoption of new technologies. The absence of a significant relationship implies that innovation may be influenced more by external exposure—such as digital learning, peer networks, or developmental support—rather than internal supply chain processes. Agripreneurs may become more innovative not necessarily because their operations are efficient, but because they are given the space, tools, and encouragement to try new practices beyond what is required to “get by.” This reinforces the importance of designing separate, deliberate strategies to foster innovation, rather than assuming it will follow naturally from operational improvements. Likewise, the policy of the city or municipal agriculture should be long term emphasizing continuity and consistency.

Strategic Development Plan

This strategic development plan was developed in direct response to the identified critical gaps in capital availability, supply chain efficiency and the uneven adoption of innovation among Filipino agripreneurs. The plan takes into account the study's key findings: limited access to financial resources, minimal and inconsistent government support, weak input management systems, and a reliance on informal learning pathways for innovation. Recognizing these, the plan organizes solutions into targeted programs with defined objectives, stakeholders, and

expected outcomes. Significantly, this plan also emphasizes the essential role of organized farmer groups—associations or cooperatives—in order to leverage access to capital, training, and government services. It highlights the need for improved farmer-bankability through credit profiling and financial discipline. Likewise, the plan supports the adoption of accessible, low-cost technologies that many older agripreneurs have already started. As an evidence-based tool, the development plan is designed to be adaptive, grounded in local realities, and capable of informing responsive, farmer-centered policymaking.

This plan focuses on three interrelated areas of intervention: capital accessibility, supply chain efficiency, innovation and digital adoption. Each area targets specific sub-variables found to be most lacking based on the study’s weighted mean results. The plan sets clear short, medium and long-term objectives and actions, and identifies key implementing stakeholders, including the Department of Agriculture, LGUs, academic institutions, and the private sector. The plan is applicable to small and medium-scale agripreneurs, particularly those in rural areas with limited access to formal credit, training, and infrastructure. By focusing on actionable solutions and emphasizing both top-down (government) and bottom-up (community) initiated activities, this development plan aims to provide a practical roadmap for enabling sustainable farming—transforming insight into action, and intention into outcomes.

Table 7
Strategic Development Plan for Sustainable Farming

Strategic Area	Key Result Area	Objective	Key Actions / Programs	Timeline	Responsible Stakeholders	Expected Outcomes
Capital Availability	Financial Resources	Enhance Access to Financing	Establish cooperative-led lending schemes and pooled capital funds Develop microfinance and insurance products tailored for small farmers	Short to Medium Term	Cooperatives, Rural Banks, Microfinance Institutions	Increased credit access, reduced reliance on informal lending
	Government Support	Strengthen government assistance for agripreneurs	Simplify government loan application processes and improve reach to rural barangays.		DA, LGUs	Higher government loan utilization
Supply Chain Efficiency	Resource Management	Improve input management and maximize efficiency	Develop shared input and storage facilities for farmers’ groups Train farmers in input optimization and waste reduction	Medium Term	DA, DTI, Private Agribusinesses, Cooperatives, ICT Providers	Reduced post-harvest losses, improved input access, stronger supplier relationships
	Supplier Coordination	Strengthen Coordination with suppliers and availability of farm inputs	Implement digital supplier communication platforms Facilitate supplier-farmer agreements through cooperatives			
Innovation	Technology Adoption	Increase adoption of practical agricultural technologies	Conduct community-based tech demonstration farms Provide subsidies for purchasing modern farm tools	Medium to Long term	DA TESDA Academic Institutions, Tech Providers, Farmer Associations	Wider technology usage, improved farm productivity, stronger online market presence
	Digital Integration	Strengthen digital capabilities of agripreneurs	Train farmers on digital marketing and record keeping apps Develop online learning hubs for continuous innovation exposure			
Capability Building and Policy Support		Strengthen agripreneur skills and ensure long-term, policy-backed sustainability	Offer agripreneurship education and leadership training Include agripreneurship electives in tertiary education Establish farmer-led feedback loops to guide DA programs Maintain policy continuity regardless of administration changes	Short to Long term	DA, CHED, LGUs, Academic Institutions, Policy Makers	Skilled farmer-leaders, increased youth participation, stable and responsive agricultural policies

4. Conclusions and recommendations

Access to capital remains a critical barrier. Respondents showed low satisfaction with all sub-variables: financial resources, government support, and financial training programs. Supply chain inefficiencies were evident across all respondents and all sub-variables: Innovation emerged as a relatively stronger area, with respondents moderately agreeing on technology adoption participation in innovation training and digital integration. Relationship analyses found a weak but significant correlation between financial training and supply chain efficiency. No significant relationships were found between capital availability and innovation or between supply chain efficiency and innovation. A strategic development plan was developed focusing to increase development on three key areas of capital availability, supply chain efficiency and innovation.

In light of the study's findings, the researcher recommends the following: For City or Municipal Agriculture Office to consider prioritizing forming farmers' associations or cooperatives. Organizing agripreneurs into formal groups offers clear advantages—better access to credit, eligibility for government support, shared equipment, and stronger bargaining power. With guidance from local government units, agricultural officers, and development organizations, agripreneurs can be supported in organizing, registering, and managing these cooperatives. For Farmers Association and Cooperatives to help build credit readiness and financial discipline among farmers. Providing training on basic financial recordkeeping, savings habits, and understanding credit mechanics can help bridge this gap. This will also prevent small and micro farmers from mortgaging land titles for additional capital at higher interest rates from informal channels. For Agriculture Training Institute (ATI) may continue to promote Technology Adoption in simple and accessible ways, such as social media platforms like Facebook and YouTube to learn new techniques, explore markets, or watch farm tutorials. These habits can be strengthened by introducing structured learning modules, mobile apps with offline capabilities, and peer-led demonstration sessions. For Department of Agriculture (DA) to consider supporting the agripreneurs adequately and consistently, independent of changes in administration. Projects can be categorized into short-, medium-, and long-term efforts. In the short term, actions should focus on organizing farmers into groups. Medium-term priorities include infrastructure support, LGU and private sector partnerships. Long term efforts includes institutional support for cooperatives and community-led monitoring systems to ensure program responsiveness. For Department of Agriculture (DA) to consider adopting and operationalize the proposed strategic framework for sustainable agripreneurship. The DA can pilot the framework in selected provinces, integrating its components—capacity building, supply chain efficiency, innovation, and collective farmer organization—into existing agricultural programs. Using the framework's built-in feedback mechanisms, the DA can develop policies that are more responsive to farmers' needs, harmonize support across agencies, and scale successful interventions nationwide. For future researchers, to encourage conduct of similar studies in other regions, particularly in the Visayas and Mindanao to strengthen the research base and create a more complete national picture. Agricultural conditions, challenges, and opportunities may differ significantly across regions. Lastly, for Tertiary Education Institutions to consider offering agripreneurship as an elective or specialization, especially in agriculture, business, and entrepreneurship programs. By doing so, young people can be introduced to farming not only as a tradition but as a viable enterprise.

5. References

- De Mesa, M. C. M., Hwang, H. S., & Shin, D. H. (2022). Limiting Factors Affecting the Value-Adding Capacity of Young Agripreneurs in the Philippines. *Journal of International Development Cooperation*, 17(1), 47-72.
- Krishnankutty, J., & Darsana, S. (2024). Qualities and competencies of an agripreneur. Enhancing Competency of Extension Personnel for Mentoring Agripreneurs [E-book] Hyderabad: Central Training Institute (CTI) Directorate of Extension Kerala Agricultural University, Thrissur & National Institute of Agricultural Extension Management, Hyderabad, India This e-book is a compilation of resource text obtained from various subject experts of Central Training Institute (CTI) Directorate of Extension Kerala Agricultural University, Thrissur & MANAGE, Hyderabad, on "Enhancing Competency of

Extension Personnel for Mentoring Agripreneurs". This e-book is designed to educate extension workers, students, research scholars, and academicians related to agricultural extension about the Enhancing Competency of Extension Personnel for Mentoring Agripreneurs, 16.

M Santoalla, J. G., Adap, M., Abante, M. V., & Vigonte, F. (2025). Interlinkages Between the Informal and Formal Economies in the Philippines: Contributions, Challenges, and Policy Pathways for Inclusive Economic Growth (February 22, 2025).

Reyes, G. (2020). Agribusiness Entrepreneurship Intention: Insights from a Philippine Agricultural University. *Philipp. Academy of Management EJ*, 3.

