

Extent of agricultural program implementation by the municipal agricultural offices of the 3rd District of Laguna

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Abstract

This study investigates the *extent* of agricultural program implementation within the Municipal Agriculture Office (MAO) of the 3rd District of Laguna, focusing on the relationship between demographic factors and the implementation of various agricultural programs. The research examines the demographic profile of respondents, including age, educational attainment, position in the agriculture sector, sex, and years of experience. It further evaluates the *level* of agricultural programs in the areas of Crop Production, Farm Mechanization, Financial Support, Fisheries and Aquaculture, and Livestock and Poultry Development. Additionally, the study assesses the extent of program implementation in terms of innovation adoption, coverage, effectiveness, resource allocation, sustainability, and stakeholder satisfaction. The study aims to test two key hypotheses regarding the agricultural program implementation in District 3. The first hypothesis posits that there is a significant *relationship* between the demographic profile of respondents and the extent of agricultural program implementation. This suggests that factors such as age, education level, income, and gender may *influence* how effectively these programs are carried out in the district. The second hypothesis examines whether there is a significant difference between the level of agricultural programs and the extent of their implementation. This hypothesis suggests that variations in the scale or resources allocated to the programs may result in differences in the success or thoroughness of their implementation. Overall, the study seeks to understand how demographic factors and program characteristics impact the effectiveness of agricultural initiatives in District 3. Data was collected through surveys questionnaire and interview guide. The findings aim to reveal *insights* into the effectiveness of agricultural program implementation, identify challenges, and purpose recommendations for enhancing agricultural development in the district. The study's results will contribute to understanding the role of demographic factors in shaping agricultural outcomes and offer strategies to improve program execution and sustainability in Laguna's 3rd district.

Keywords: Extent; relationship; influence; insights

1. Introduction

Evaluating the status and extent of agriculture program implementation is critical for ensuring that resources are efficiently utilized and program goals are met. Creswell and Creswell (2017) emphasize that evaluation studies provide a foundation for evidence based decision making, which is particularly important in public administration. By examining how municipal agriculture offices in District 3 execute these programs, this study seeks to uncover the factors that contribute to successful implementation as well as the barriers that hinder progress.

Although various studies have explored the broader aspects of agricultural development and governance, there remains a gap in understanding localized program implementation. The objectives of this research are twofold: to assess the extent on program implementation by municipal/city agriculture offices and to identify key factors influencing their success. By achieving these objectives, the study aims to contribute both to the academic discourse on agricultural governance and to practical policy development. Merriam and Tisdell (2016) highlight the importance of research that not only builds theoretical knowledge

but also offers actionable insights for stakeholder.

The study is particularly relevant in the context of the Philippine government's push toward modernizing agriculture and addressing rural poverty. Through a systematic evaluation of program implementation, this research seeks to inform strategies for improving service delivery and achieving long term sustainability in agriculture.

1.1. Background of the Study

In the context of governance, effective program implementation is a key indicator of administrative performance and accountability. Creswell and Creswell (2017) emphasize the importance of evaluation in public administration to ensure that policies achieve their intended objectives and that resources are utilized efficiently. The role of Municipal Agriculture Offices in implementing agricultural programs is crucial for realizing government goals, including increased productivity, rural livelihood improvement, and sustainable resource management. However, the effectiveness of these programs often varies, influenced by factors such as resource availability, organizational capacity, and stakeholder engagement.

District 3, like many other agricultural regions, plays a significant role in the Philippines' agricultural productivity. However, disparities in program implementation at the municipal/city level have been noted, often attributed to challenges such as inadequate funding, lack of technical expertise, and limited farmer participation (Philippine Statistics Authority, 2019). Addressing these disparities is essential for ensuring equitable and effective delivery of services and support to farmers.

The study is grounded in the need to assess the status and extent of agricultural program implementation in District 3. Understanding the successes and challenges of municipal/city agriculture offices in this district can provide valuable insights for improving governance, resource allocation, and policy development. By focusing on municipalities/cities in District 3, this research aims to identify key factors affecting the execution of agricultural programs and to evaluate their effectiveness in addressing local agricultural challenges. The study aligns with the Philippine government's commitment to modernizing agriculture and achieving sustainable rural development (Department of Agriculture, 2019). Moreover, it seeks to contribute to the academic discourse on agricultural governance by providing a localized analysis of program implementation.

The research is particularly relevant in the face of increasing demands for accountability and effectiveness in public service delivery. As Merriam and Tisdell (2016) note, studies that bridge the gap between policy and practice can have significant implications for improving public administration. The findings of this study are expected to inform policymakers, municipal/city leaders, and other stakeholders, guiding efforts to enhance the impact and sustainability of agricultural programs in District 3.

1.2. Theoretical Framework

The theoretical framework of this study on the Status on the Extent of Agriculture Program Implementation of Municipal Agriculture Offices of the 3rd District of Laguna serves as a foundation for understanding the complex dynamics of program execution. It integrates several key theories in governance, public administration, and innovation, offering a comprehensive lens to analyse factors affecting program success and identify areas for improvement.

The study draws on Ludwig von Bertalanffy's Systems Theory (1968), which posits that an organization functions as an interconnected system where each component influences overall performance. In the context of municipal/city agriculture offices, the successful implementation of agricultural programs depends on the interplay of various factors, including human resources, financial support, infrastructure, and stakeholder engagement (Merriam & Tisdell, 2016). A breakdown in any component of the system can disrupt program execution and hinder outcomes.

Systems Theory helps explain how municipal/city agriculture offices operate as part of a larger network, linking local government units (LGUs), farmers, and national agencies. Effective coordination among these entities is critical for ensuring seamless program delivery and achieving desired results.

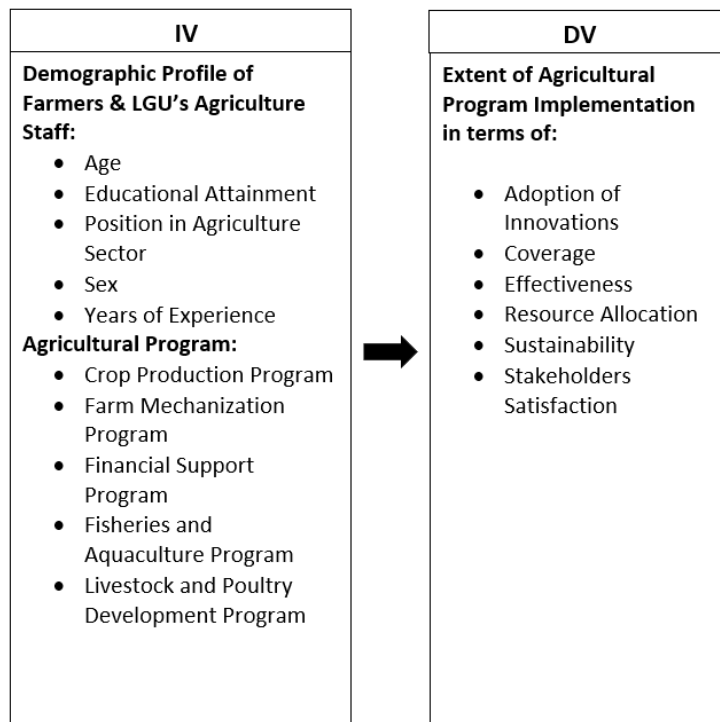
The study also incorporates the Policy Implementation Framework by Mazmanian and Sabatier (1983), which identifies critical factors influencing program implementation, including policy clarity, resource availability, and the commitment of implementers. While the framework predates 2016, it remains relevant for understanding modern program implementation challenges.

Recent studies, such as those by Creswell and Creswell (2017), highlight the enduring importance of clearly defined policies, adequate training for implementers, and strong institutional support. Applying this framework allows the study to evaluate whether municipal/city agriculture offices in District 3 have the necessary resources, skills, and policy guidance to implement agricultural programs effectively.

The theory is particularly relevant to the study because it highlights the importance of participatory governance in agricultural program implementation. Municipal/City agriculture offices must engage stakeholders at all levels to ensure programs are responsive to community needs and aligned with broader policy objectives.

1.3. Conceptual Framework

The **Conceptual Framework** of this study is designed to examine the relationship between the **demographic profile and agricultural program** as the independent variable and the **extent of agricultural program implementation** as the dependent variable. The framework integrates variables that measure the influence of individual and community characteristics on how agricultural programs are implemented and their outcomes.



The demographic profile of farmer and LGU agriculture staff is influenced by several key factors, including age, educational attainment, position in the agriculture sector, sex, and years of experience. Age

impacts adaptability to new technologies, with younger individuals more open to change. Educational attainment affects knowledge of modern farming practices, while position in the sector determines specific roles and responsibilities. Sex influences labor division and access to resources, and years of experience contribute to expertise and problem-solving abilities.

Together, these factors shape how individuals perform their roles and contribute to agricultural activities, guiding targeted support and interventions. Together, these independent variables such as age, educational attainment, position, sex, and years of experience help form a complete picture of how individuals in the agriculture sector perform their roles and contribute to the success of agricultural activities. Understanding these factors allows for better targeted interventions and policies to support the needs of farmers and LGU agriculture staff.

1.4. Statement of the Problem

The study aims to investigate the status on the extent of agricultural program implementation by the Municipal Agriculture Offices (MAOs) in municipalities/Cities in District 3, with a specific focus on how the demographic profile of stakeholders (such as farmers and agricultural workers) and agricultural program influences the implementation process.

Specifically, it answers the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 Age;
 - 1.2 Educational Attainment;
 - 1.3 Position in Agriculture Sector;
 - 1.4 Sex;
 - 1.5 Years of Experience?
2. How agricultural program describe in terms of:
 - 2.1 Crop Production Program;
 - 2.2 Farm Mechanization Program;
 - 2.3 Financial Support Program;
 - 2.4 Fisheries and Aquaculture Program; and
 - 2.5 Livestock and Poultry Development Program?
3. What is the level of implementation of agricultural program as to:
 - 3.1 Adoption of Innovations;
 - 3.2 Coverage;
 - 3.3 Effectiveness;
 - 3.4 Resource Allocation;
 - 3.5 Sustainability;
 - 3.6 Stakeholder Satisfaction?
4. Is there a significant relationship between the demographic profile of the respondents and the extent of agriculture program implementation?
5. Is there a significant relationship between the level of agricultural program and the extent of its implementation?
 - 5.1 Adoption of Innovations;
 - 5.2 Coverage;
 - 5.3 Effectiveness;
 - 5.4 Resource Allocation;
 - 5.5 Sustainability;
 - 5.6 Stakeholder Satisfaction?

1.5. Hypotheses

The following hypotheses will be tested to examine the significant effects of demographic factors (independent variables) on the implementation of agricultural programs (dependent variables) in the selected municipalities.

There is a significant relationship between the demographic profile of respondents and the extent of agricultural program implementation in District 3.

There is a significant difference between the level agricultural program and the extent of agricultural program implementation in District 3.

1.6. Significance of the Study

This study aims to evaluate the effectiveness and impact of agricultural programs implemented by the Municipal Agriculture Offices (MAOs) in the 3rd District of Laguna. Given agriculture's vital role in the district's economy, the outcomes of these programs directly influence farmers' livelihoods, food security, and local economic development.

This research aims to identify the strengths and limitations of current agricultural initiatives, providing critical insights for local government units, policymakers, and stakeholders. These insights will support more informed decision-making regarding resource allocation, policy development, and the formulation of improved agricultural strategies. Furthermore, this study aims to contribute to the enhancement of agricultural practices by identifying programmatic gaps and recommending targeted interventions.

1.7. Scope and Limitations

The study aims to assess the status and extent of the implementation of agricultural programs administered by the Municipal Agriculture Office (MAO) within the 3rd District of Laguna. The research will focus on evaluating the scope and effectiveness of various agricultural initiatives, including crop production program, farm mechanization program, financial support program, fisheries and aquaculture program, livestock and poultry development program and provision of support services to local farmers. Furthermore, the study will examine the challenges faced by the MAO in executing these programs and will investigate the perspectives of key stakeholders, such as farmers and agricultural worker, regarding the impact and accessibility of these initiatives. The scope of the study will be limited to the agricultural programs implemented by the MAO in the 3rd District of Laguna. The findings will provide valuable insights into the efficiency of these programs and suggest areas for improvement to enhance agricultural development in the 3rd district of Laguna.

The study aims to assess the extent of agriculture program implementation by the Municipal Agriculture Office (MAO) of the 3rd District of Laguna, however, several limitations may affect the findings and conclusions. First, the study is geographically limited to the 3rd District of Laguna, which means that the results may not be applicable to other districts with different agricultural practices, local government strategies, or socio-economic conditions. Additionally, the sample size and availability of respondents from the Municipal Agriculture Office, local farmers, and other key stakeholders may be constrained due to time limitations, participant availability, and willingness to participate, potentially affecting the comprehensiveness of the data. Another limitation is the potential lack of access to up-to-date and accurate data, as the study relies on records from the Municipal Agriculture Office, which may have challenges in data management or incomplete documentation.

The study's time frame further limits the ability to observe long-term trends and impacts of the agriculture programs, as it only captures a snapshot within a specific period. Furthermore, the data collected from interviews and surveys may be influenced by the respondents' subjective experiences, biases, or personal

perceptions of the agriculture programs, which may not fully reflect the broader community's views or the actual outcomes of program implementation. External factors, such as climate conditions, economic trends, or national agricultural policies, which are beyond the control of the Municipal Agriculture Office, may also influence the success or failure of the programs, but may not be fully accounted for in the study.

Lastly, variations in the extent of program implementation across different municipalities or barangays within the 3rd District, due to differences in resources, and community involvement, may lead to inconsistencies in the findings. Despite these limitations, the study aims to provide valuable insights into the challenges and effectiveness of agriculture program implementation in the district.

1.8. Definition of Terms

The study is guided by a conceptual framework that examines the relationship between the demographic profile of individuals in the 3rd District of Laguna and the agricultural programs implemented by the Municipal Agriculture Offices, and how these two independent variables influence the extent of agricultural program implementation. The independent variable in this study includes characteristics of the stakeholders (farmers, Municipal/City Agriculture Officers, and local agricultural communities) that may influence how agricultural programs are implemented. These variables are essential for understanding the factors that affect the program's implementation and success.

Demographic factors include:

- **Age:** Younger farmers may be more adaptable to innovative farming techniques, while older farmers may have more experience but could be less inclined to adopt new methods (Rogers, 2003).
- **Educational Attainment:** Farmers with higher educational qualifications may have better access to and understanding of modern farming technologies, leading to better program participation and implementation (Becker, 1993).
- **Position in Agriculture Sector:** The role that an individual plays in the agricultural sector (e.g., farmer, agricultural technician, government official) can influence their involvement in the program and their capacity to implement its demographic profile (Rogers, 2003).
- **Sex:** Roles can impact how resources and agricultural support programs are accessed and utilized. Women may have different needs and challenges from men, which can affect program outcomes (World Bank, 2016).
- **Years of Experience:** Experienced farmers may be more resistant to change or require additional support to adapt to new farming practices, while less experienced farmers may be more open to trying new techniques (Merriam & Tisdell, 2016).

Several studies highlight the importance of demographic characteristics such as age, sex, educational attainment, position in the agriculture sector, and years of experience in shaping the performance and adaptability of individuals in farming. Age influences openness on technology and innovation, with younger farmers generally more receptive to modern practices, while older ones often rely on experience. Educational attainment is linked to higher productivity, as educated individuals are better equipped to understand and apply improved agricultural methods. The position held in the sector, whether as a farm owner, manager, or laborer, also determines one's level of decision-making power and access to resources. Gender plays a significant role, with women increasingly contributing to agriculture despite often having less access to land and support. Lastly, years of experience contribute to practical knowledge, although ongoing learning remains crucial in responding to changing agricultural conditions. These demographic factors collectively impact how individuals contribute to and benefit from agricultural development

Agricultural Program include:

- **Crop Production Program:** Focuses on improving crop yield and productivity through better agricultural practices, seed varieties, pest control, etc.

- **Farm Mechanization Program:** Focuses on providing farmers with modern machinery and tools to improve farm productivity and reduce labor.
- **Financial Support Program:** Provides financial assistance in the form of grants, loans, or subsidies to support farming activities, infrastructure development, or input purchase.
- **Fisheries and Aquaculture Program:** Aims to improve fish farming and aquatic resource management for increased production and sustainability.
- **Livestock and Poultry Development Program:** Focuses on improving livestock and poultry farming through better breeding, health management, and production techniques.

Extent of Agricultural Program Implementation include:

- **Adoption of Innovations:** The faster and more expansive the adoption, the greater the program's success.
- **Coverage:** This indicates how widely the agricultural program is being implemented.
- **Effectiveness:** The program's measurable outcomes, such as increased agricultural productivity, income growth, and overall improvement in the beneficiaries' livelihoods.
- **Resource Allocation:** The effectiveness of distributing resources such as funding, seeds, equipment, and technical support to ensure the success of agricultural programs.
- **Sustainability:** The ability of the agricultural program to maintain its impact over time, ensuring continuous support to farming communities beyond the initial intervention phase.
- **Stakeholder Satisfaction:** The satisfaction levels of farmers and other stakeholders regarding the program's relevance and effectiveness.

1.9. Review of Related Studies and Literature

1.9.1. Related Literature

According to Tan, M. C., & Perez, J. T. (2019) investigates how municipal agricultural offices in rural areas implement agricultural programs, particularly looking into the extent of services provided to local farmers. Age, in this context, refers to the demographic characteristics of the target population, such as the age of farmers who are the primary beneficiaries of these programs. The study indicates that younger farmers tend to adopt new agricultural technologies more rapidly than older farmers, which impacts the overall effectiveness of agricultural program implementation. Municipal offices adjust their strategies based on these age-related differences, providing more support to younger farmers, especially in technology adoption programs.

According to Ramos, L. E., & Aquino, S. T. (2020) Ramos and Aquino's work focuses on the implementation of agricultural programs and the variables affecting their success in various municipalities. One key factor they explore is the age of the population, which influences how well agricultural programs are adopted. Older farmers, particularly those over 50, are less likely to participate in or benefit from modern farming techniques, which can hinder the full implementation of these programs in certain districts. The study underscores the need for municipal agricultural offices to consider age as a demographic factor when designing and rolling out agricultural policies and programs.

According to De Guzman, R. L., & Tan, F. R. (2018) investigates how age influences farmers' participation in agricultural extension services. Older farmers in the 3rd District of Laguna tend to have lower participation rates in new agricultural practices compared to younger farmers. The research suggests that municipal agricultural offices must adapt their outreach and communication strategies to better engage the older population. It also proposes the use of age-targeted programs to enhance program participation and effectiveness.

According to Manlapig, M. D., & Bautista, V. E. (2021) Manlapig and Bautista's research highlights how municipal agricultural offices in the 3rd District of Laguna execute agricultural development programs.

The study emphasizes that age plays a crucial role in the adoption of these programs, particularly in terms of training sessions and technical assistance. Younger farmers, with their familiarity and comfort with digital tools, engage more actively in modern agricultural practices, while older farmers may require additional support, such as hands-on training or simpler methods. This age-related factor is critical in understanding the challenges and the need for age-specific strategies in the agricultural program implementation.

According to Salazar, M. E., & Reyes, F. T. (2017) Salazar and Reyes' study discusses the relationship between agricultural interventions and the productivity of farmers, particularly in rural municipalities. They found that agricultural programs targeting younger farmers tend to yield higher productivity, as these farmers are more open to adopting innovative practices. The research suggests that the age of the farmers directly affects how well agricultural interventions are implemented. The authors highlight the need for municipal agricultural offices to consider the varying impacts of age on agricultural productivity when planning and executing programs.

According to Solomon, J. T. (2019) explores the relationship between educational attainment and agricultural productivity in rural areas. It highlights how education affects the adoption of modern farming techniques and the overall success of agricultural programs. Solomon's research suggests that municipalities with higher educational levels tend to have more effective agricultural program implementations due to better-trained farmers and agricultural officers.

According to Pereira, M. L., & Chavez, A. R. (2018) examines the importance of educational attainment among municipal agricultural officers in the Philippines. The authors argue that higher levels of education lead to more informed decision-making, better resource management, and the successful implementation of agricultural programs. The study presents evidence from the 3rd District of Laguna, which shows that educational attainment among officers correlates positively with program success.

According to Garcia, R. F. (2020) Garcia's research focuses on how the level of education among agricultural program coordinators influences their ability to engage with local communities. His study shows that municipalities with agricultural officers who have higher educational attainment are more successful in collaborating with farmers, implementing government programs, and adapting strategies to local needs. This study provides specific insights into how educational backgrounds shape program effectiveness.

According to De Guzman, L. E., & Rivera, J. D. (2021) De Guzman and Rivera investigate how educational backgrounds of agricultural officers influence the planning, execution, and monitoring of agricultural initiatives. Their findings suggest that higher educational attainment leads to better execution of agricultural policies and programs, including more efficient use of resources and improved outcomes in agricultural production.

According to Caballero, A. N., & Santos, E. D. (2017) provides a detailed analysis of agricultural program effectiveness in the 3rd District of Laguna, with a focus on the role of educational attainment among municipal agricultural officers. The authors argue that officers with higher educational qualifications tend to achieve greater success in implementing programs like crop diversification, sustainable farming, and technology adoption. The study includes a discussion on the need for continuous training and education for agricultural officers to ensure program success.

According to Delgado, E. A., & Villacruel, P. D. (2023) assesses the performance of agricultural extension workers (AEWs) in the 3rd District of Laguna. It finds that AEWs' competencies and local government support significantly influence program effectiveness. The research also highlights the dominance of national funding over local contributions in agricultural initiatives. Recommendations include enhancing monitoring tools and increasing local funding for agricultural programs.

According to Fernandez, S. C. (2023) examines the readiness of city agriculture personnel in implementing decentralized services post-Mandanas-Garcia ruling. It identifies key factors such as personnel structure, budget, policies, and enabling mechanisms as critical for effective service delivery. The findings suggest that local government units must strengthen these areas to ensure successful program implementation.

According to Alburo, H. R., Dialogo, G. G., Torres, P. A. A., & Padullo, R. A. (2021) focuses on

developing a computerized record management system for the Municipal Agricultural Services in Salcedo. The system aims to improve data management, enabling timely and efficient delivery of agricultural services. The research underscores the importance of information systems in enhancing program implementation at the municipal level.

According to Tabo, A., Hail, P. N., & Vargas, D. S. (2021) assesses the perceived impact of agricultural programs in Cuyapo, Nueva Ecija. It finds that programs have positively influenced farming practices, though some farmers expressed varying levels of satisfaction. The research highlights the effectiveness of dissemination strategies such as barangay visitations and training sessions in reaching beneficiaries.

According to Miano, L. C., Balinado, L., Romero, H. P., & Flores, H. C. (2022) This evaluation assesses the readiness of the Municipal Agriculture Office in Infanta to serve as a FITS Center. The study examines the office's capacity to provide information technology services to farmers, aiming to enhance access to agricultural information and support services.

According to Grecia, M. B. (2003) This undergraduate thesis from the University of the Philippines Los Baños provides an in-depth look at the operations and activities of the Municipal Agricultural Office in Calauan, Laguna. While the specific content is not detailed in the available abstract, such research typically includes assessments of program effectiveness, resource allocation, and community engagement in agricultural initiatives.

According to Alburo, H. R., Dialogo, G. G., Torres, P. A. A., & Padullo, R. A. (Year not specified) focuses on the development and implementation of a computerized Farmers' Record Management System aimed at enhancing the efficiency of agricultural program delivery in Salcedo, Eastern Samar. The research highlights the importance of data management in tracking program outcomes and improving service delivery at the municipal level.

According to Burgos, M. S., et al. (2011) This article discusses the institutionalization of the Techno Gabay Program (TGP) through Executive Order 801, which encourages LGUs to adopt the program in their agricultural extension services. The study examines the role of Information and Communications Technology (ICT) in improving the delivery of agricultural information and services to farmers, thereby enhancing the effectiveness of municipal agricultural offices.

According to Tabo, A. C., Hail, P. N., & Vargas, D. S. (2022) This research assesses the perceived impact of agricultural programs implemented by LGUs, focusing on aspects such as dissemination methods, farmer participation, and program effectiveness. The findings provide insights into how municipal agricultural offices can improve program implementation and address the needs of the farming community.

According to Ocampo, M. C. (2011) This paper reviews various integrated agricultural and rural development programs, highlighting the importance of partnerships between state colleges and universities, local government units, and non-governmental organizations in sustaining agricultural initiatives. The study offers valuable lessons on collaborative approaches to program implementation at the municipal level.

According to Grecia, M.B. (2003) This undergraduate thesis examines the operations and activities during a research internship at the Municipal Agricultural Office in Calauan, Laguna. It highlights how hands-on experience in the field contributes to understanding the challenges and strategies in implementing agricultural programs at the municipal level.

According to Delgado, E.A., & Villacruel, P.D. (2023) assesses the performance of Agricultural Extension Workers (AEWs) in the 3rd District of Laguna. It finds that AEWs' competencies and the support from Local Government Units (LGUs) significantly influence the success of agricultural programs. The study suggests that years of experience enhance AEWs' effectiveness in program delivery.

According to Alburo, H.R., Dialogo, G.G., Torres, P.A.A., & Padullo, R.A. (2016) focuses on developing a computerized record management system for the Municipal Agricultural Services in Salcedo, Eastern Samar. The study underscores the importance of experienced personnel in managing agricultural data systems, which are crucial for effective program implementation.

According to Bimoli, B.P. (1984) This thesis evaluates the Modified Training and Visit (T&V) system in the Philippines. It discusses how the experience of extension workers in implementing the T&V system affects the dissemination of agricultural knowledge and the adoption of new practices by farmers.

According to Fernandez, S.C. (2023) examines the readiness of city and provincial agriculture personnel in implementing decentralized agricultural extension services. It emphasizes that years of experience among personnel are critical for adapting to new governance structures and effectively delivering services post-decentralization.

According to Delgado, E. A., & Villacruel, P. D. (2023) assessed the performance of agricultural extension workers (AEWs) in the 3rd District of Laguna. It found that AEWs' competencies and the level of support from Local Government Units (LGUs) significantly influenced the effectiveness of agricultural programs. The study recommended enhancing monitoring and evaluation tools and increasing the number of AEWs to improve service delivery.

According to Agustin, M. A. (2021) evaluated the agricultural programs implemented by the LGU of Cuyapo, Nueva Ecija, from 2013 to 2016. It highlighted that the majority of farmers perceived the programs positively, noting improvements in income and farming practices. The study emphasized the importance of effective dissemination strategies, such as barangay visitations and training sessions, in ensuring program success.

According to Department of Agriculture – Special Area for Agricultural Development (DA-SAAD) CALABARZON (2023) This report discusses the orientation of 30 farmers in Rizal, Laguna, for the FY 2024 implementation of the SAAD program. It outlines the program's focus on social preparation, including community organizing and technical training, to ensure the successful adoption of agricultural interventions. The report underscores the importance of aligning program components with local agricultural practices and needs.

According to Municipal Agriculture Office – Alaminos, Laguna (2010) The MAO of Alaminos, Laguna, outlines its agricultural production programs, which include high-value commercial crops development, organic agriculture promotion, and the establishment of demonstration farms. These initiatives aim to enhance local agricultural productivity and sustainability through the distribution of quality seeds, seedlings, and organic fertilizers.

According to Department of the Interior and Local Government (DILG) & Department of Agriculture (DA) (2020) This joint circular provides guidelines for LGUs in formulating agricultural and fishery mechanization plans. It emphasizes the need for strategic planning and resource allocation to enhance agricultural productivity and efficiency. The guidelines serve as a framework for LGUs to develop and implement effective agricultural programs tailored to local contexts.

According to Manlapig, M. R. (2014) delves into the importance of farm mechanization in improving agricultural productivity and its role in rural development in the Philippines. It explores how municipal agricultural offices facilitate farm mechanization through programs that increase efficiency, reduce labor costs, and enhance farm production. The research highlights the effectiveness of these programs in specific regions like Laguna, focusing on the extent to which municipal agricultural offices implement them.

According to Reyes, C. B., & Nolasco, D. F. (2017) This paper assesses the implementation of agricultural mechanization programs by local government units (LGUs) in the Philippines, including municipal agricultural offices. It identifies the challenges faced by LGUs in adopting mechanization, such as lack of technical skills, high initial investment costs, and limited access to modern machinery. The study is useful for understanding the extent of farm mechanization implementation in the 3rd District of Laguna.

According to Alviar, S. D., & Garcia, M. B. (2015) Alviar and Garcia examine how farm mechanization programs implemented by the municipal agricultural offices in Laguna have impacted crop yields. Their findings demonstrate that mechanization programs have a positive effect on agricultural productivity, but the extent of impact varies depending on the adoption rate among farmers and the availability of adequate support from the local agricultural offices.

According to Anonuevo, C. A., & Aquino, R. D. (2018) explores the integration of farm mechanization into agricultural extension programs across various municipalities, with a focus on the 3rd District of Laguna. It evaluates the role of municipal agricultural offices in providing technical training, subsidies, and mechanization tools to farmers. The research emphasizes the importance of these programs in improving the efficiency and sustainability of agriculture in the district.

According to Herrera, F. A., & Santos, M. L. (2020) Herrera and Santos conduct a study on how agricultural programs, including mechanization, are implemented by the municipal agricultural offices in the 3rd District of Laguna. The paper highlights the relationship between the implementation of such programs and improved farm productivity. It also addresses the obstacles that hinder effective implementation, such as resource constraints, and provides recommendations for enhancing program delivery.

According to Dizon, J. T., Tan, F. O., & Cabral, R. T. (2023) This report details a project aimed at enhancing rice production in Barangay Perez, Calauan, Laguna, through the provision of farm machinery and capacity-building activities. The initiative involved the Perez ARC Multi-Purpose Cooperative and targeted 25 rice farmers, covering 30 hectares of rice land. Challenges such as limited machinery availability and the need for proper training were identified.

According to Delgado, E. A., & Villacruel, P. D. (2023) assessed the performance of agricultural extension workers (AEWs) in the Third District of Laguna. It found a strong correlation between AEWs' competencies and the support from local government units (LGUs), highlighting the importance of training and resources in effective program implementation.

According to Department of Agrarian Reform (2024) The Department of Agrarian Reform distributed farm machinery worth Php 650,888 to two farmer cooperatives in Laguna. This initiative aimed to enhance agricultural productivity and support agrarian reform beneficiaries in adapting to climate change.

According to Special Area for Agricultural Development (2023) This article discusses the impact of the Special Area for Agricultural Development (SAAD) program in providing farm machinery to farmers, particularly in MIMAROPA. It highlights how mechanization has improved productivity and created income-generating opportunities for farmer associations.

According to Department of Agriculture (2021) The Department of Agriculture revised procurement policies to allow more suppliers to participate in the farm mechanization program. By reducing the market presence requirement for suppliers, the DA aimed to expedite the distribution of farm machinery to farmers.

According to Limbo, R.C. (2017) This article examines various agricultural credit programs, including the Agrarian Production Credit Program (APCP), and their impact on small farmers. It emphasizes the importance of capacity building for farmer organizations to improve their eligibility for regular lending programs and discusses innovative measures to reduce lending costs to smallholders.

According to Orzaes, J.K.L. (2025) This report provides an overview of the agricultural credit landscape in the Philippines, highlighting challenges such as limited access to finance and the need for innovative solutions. It discusses existing financial programs and their effectiveness in supporting farmers and agribusinesses.

According to Agricultural Training Institute (ATI). (2021) The ATI's Agricultural and Fisheries Extension (AFE) Grant System offers funding support for extension service providers, including local government units (LGUs). It aims to enhance the delivery of extension services through training and other complementary activities, ensuring alignment with national agricultural programs.

According to Tabo, A.C., Hail, P.N., & Vargas, D.S. (2022) assesses the perceived impact of agricultural programs implemented by LGUs, focusing on the effectiveness of dissemination methods such as barangay visitations, meetings, and training sessions. It provides insights into how financial support influences the success of these programs.

According to Department of Agriculture (DA). (2023) This report discusses the implementation of ACPC and ACEF credit programs, which aim to provide financial assistance to small farmers and fisherfolk. It highlights the role of Regional Loans Facilitation Teams in overseeing and improving the delivery of these

programs.

According to Javier, B. S., Paliuanan, L. P., Agpalza, J. K. A., & Agoto, J. S. (2023) evaluates the MangngalApp, a web-based and mobile application developed to support rural development, including fisheries and aquaculture sectors. The application integrates various technologies and innovations to aid fishers, gatherers, processors, traders, and farmers. The research found that the app is highly acceptable and usable, aligning with ISO 25010 software quality standards, and is expected to enhance rural development, particularly in the fisheries sector.

According to Benosa, D. J. A. (2018) his plan outlines the modernization strategies for agriculture and fisheries in the MIMAROPA region, focusing on improving production, marketing, and infrastructure services. It emphasizes a bottom-up approach involving municipal agricultural officers, local government units, and stakeholders to ensure the effective implementation of agricultural programs, including those related to fisheries and aquaculture.

According to UNEP Law and Environment Assistance Platform (2021) NAFMIP serves as a directional plan to steer sector-wide growth in agriculture and fisheries over the next decade. It aims to modernize and industrialize the sector, focusing on increasing productivity and income for farmers and fisherfolk. The plan guides the development of more detailed and operations-oriented agri-fishery development plans, influencing the strategies of municipal agricultural offices in implementing fisheries and aquaculture programs.

According to Development Academy of the Philippines (2020) PAIS-FARMS is an information system developed to collect and consolidate agricultural production data, providing stakeholders with necessary information to resolve marketing problems and enable higher productivity. It assists municipal agricultural offices in managing agricultural production data, aligning with market demand, and improving food sufficiency, particularly in the fisheries sector.

According to Department of the Interior and Local Government (DILG) and Department of Agriculture (DA) (2020) These guidelines provide a framework for local government units to formulate agricultural and fishery mechanization plans. They aim to enhance the efficiency and effectiveness of agricultural programs, including those related to fisheries and aquaculture, by promoting the use of appropriate technologies and mechanization in production processes.

According to Tabo, A., Hail, P., & Vargas, D. (2021) assessed the perceived impact of agricultural programs implemented by the LGU of Cuyapo, Nueva Ecija, from 2013 to 2016. Findings indicated that the majority of farmers agreed on the positive effects of these programs, which provided substantial assistance leading to more productive farming. The study also highlighted the effectiveness of dissemination strategies such as barangay visitations, coordination, meetings, seminars, and trainings.

According to Flores, T., Ingal, C., Timbol, R., Parungao, D., & Gonzales, B. (2001) evaluated the effectiveness of livestock dispersal programs in Central Luzon. It found varying rates of redispersal across provinces, with some areas showing higher success in program implementation. The study emphasized the importance of monitoring and evaluation in assessing the impact of such programs.

According to Department of Agriculture (DA). (2015) This memorandum outlines the guidelines for establishing multiplier farms aimed at sustainable livestock and poultry production. It emphasizes the role of local government units in constructing housing units and installing necessary facilities, with technical assistance provided by national agencies.

According to Department of Agriculture - Regional Field Office III. (2019) This report discusses the distribution of goats to farmers under the Livelihood Assistance Project in Porac, Pampanga. It highlights the collaborative efforts between the Department of Agriculture and the municipal agricultural office in implementing livestock programs to support local farmers.

According to Philippine News Agency. (2019) This article reports on the development of a five-year strategic plan for the livestock and poultry sectors in Calabarzon. It underscores the importance of collaboration among government and private sectors in enhancing agricultural sustainability and productivity

in the region.

Erlene A. Delgado & Preciosa D. Villacruel(2023)assessed the performance of agricultural extension workers (AEWs) in implementing agriculture programs in the Third District of Laguna. It found that AEWs were predominantly middle-aged, female, and agriculture professionals. The study suggests that factors such as age, sex, and employment status did not significantly differ in performance dimensions but had strong effect sizes with practical significance.

According to Isabella Mari A. Jhocson & Rowena DT. Bacongus(2019) investigated the uptake pathways of Green Super Rice (GSR) varieties in Mabitac and Sta. Maria, Laguna. It found that the diffusion of GSR remained within the circles of respondents with whom the varieties were distributed, and the lack of a formal extension system limited access to information and technical support, negatively affecting continued adoption and diffusion.

According to Rowena Bacongus (2007) This paper discusses the need for agricultural extension systems to evolve from being monolithic producers of traditional services to enablers that catalyze the effective involvement of public and private agencies. It emphasizes the importance of maximizing strategies to create knowledge that addresses the multi-functional nature of agricultural development at the municipality level.

According to Meljun R. Banogon, Leilanie O. Barrion, Imelda DG. Olvida, Ma. Theresa R. Sawit (2021) focuses on the low adoption of certified rice seed technology in Sariaya, Quezon. It identifies limited knowledge and negative attitudes of farmers towards the technology due to limited direct extension services. The study proposes two policy options: increasing the number of local government unit-based extension workers and developing private village-based extension agents.

According to Delia C. Catacutan, L. Arbes, G. Boy (2001) This paper evaluates the technical, socio-economic, and institutional constraints contributing to the slow adoption of contour hedgerow conservation practices in the Philippines. It discusses the dissemination of Natural Vegetative Strips (NVS) as an effective alternative, which was more rapidly disseminated through the Landcare approach. The paper highlights the importance of participatory processes and community involvement in enhancing farmer adoption of conservation practices.

According to Bautista, E.M., & Ramos, J.S. (2015)examines the role of municipal agricultural offices in the Philippines, focusing on their capacity to implement agricultural programs effectively. The study highlights the relationship between local government support, available resources, and the success of agricultural initiatives in rural areas, which could be compared to Laguna's municipal agricultural offices.

According to Silva, R.T. (2019)Silva's research focuses on agricultural extension services as implemented by municipal agricultural offices across the Philippines. It provides insights into the effectiveness of these programs in increasing productivity, addressing local agricultural challenges, and enhancing the capacity of local farmers, which is directly relevant to understanding the implementation in Laguna's 3rd District.

According to Rodriguez, C., & Santos, A.P. (2017)This paper reviews how decentralized agricultural programs are implemented by municipal and provincial offices. It discusses the challenges and successes of local government units (LGUs) in managing agricultural services, touching on infrastructure, budget allocations, and community involvement, all of which are relevant to the agricultural program implementation in the 3rd District of Laguna.

According to De Guzman, M.L. (2020)This research provides a detailed analysis of how agricultural programs are managed by municipal agricultural offices in Laguna, particularly in rural and agricultural communities. It explores the specific programs implemented to enhance agricultural productivity and the involvement of stakeholders, offering useful information for understanding the context in the 3rd District.

According to Agustin, C.J. & Mendoza, P.L. (2018)offers an in-depth assessment of how agricultural programs are implemented in the 3rd District of Laguna. It analyzes the strengths and weaknesses of the agricultural offices in delivering support services, such as technical assistance, financial aid, and market

access, providing direct relevance to your specific topic of research.

According to Dela Cruz, J. R.(2018)examines the effectiveness of agricultural extension programs implemented by municipal agricultural offices in rural regions of the Philippines. The findings highlight that the active involvement of local agricultural officers and the provision of technical support to farmers contribute significantly to the success of agricultural initiatives. It also underscores the importance of tailoring programs to local agricultural needs, aligning closely with the conditions found in the 3rd District of Laguna.

According to Lanuza, S. A.(2016) This research focuses on how agricultural programs are implemented by municipal agricultural offices across various districts in the Philippines, including rural municipalities similar to those in Laguna. The study identifies key challenges such as limited resources, lack of coordination, and farmer engagement, while also discussing the success of localized agricultural strategies. The effectiveness of the implementation depends on the responsiveness of the municipal offices to the farmers' needs and the efficient use of resources for sustainable agricultural practices.

According to Garcia, M. T., & Cruz, A. P.(2020) This paper evaluates the impact of agricultural extension services, a critical component of municipal agricultural offices' programs, on farm productivity in various parts of the Philippines. The authors found that proper training, regular updates on modern agricultural techniques, and the establishment of feedback systems between agricultural officers and farmers significantly improved productivity. This is applicable to the agricultural program implementation in the 3rd District of Laguna, where similar challenges in rural farm productivity exist.

According to Santos, R. M.(2017) This literature explores the specific challenges faced by municipal agricultural offices in the Philippines, including insufficient funding, bureaucratic hurdles, and the lack of technical skills among local agricultural officers. However, it also discusses strategies for overcoming these challenges, such as enhancing community participation and creating stronger linkages between government agencies and local farmers. The findings can be applied to the 3rd District of Laguna to assess the local government's success in overcoming barriers and improving program effectiveness.

According to Almonte, J. E.provides an in-depth look at how municipal agricultural offices contribute to promoting sustainable agriculture through the implementation of environmental-friendly farming techniques, training programs, and support services. It shows that programs aimed at sustainability, such as organic farming and integrated pest management, have been particularly effective in improving agricultural outputs. The research is highly relevant to the 3rd District of Laguna, where sustainability and eco-friendly farming practices are becoming more central to local agricultural development.

According to Cecilio, M. L., & Hernandez, R. R. (2019)focuses on the role of effective resource allocation in the successful implementation of agricultural programs in rural communities. It explores how municipal agricultural offices in the Philippines allocate their resources, such as budget, manpower, and training, to ensure efficient delivery of agricultural services. The authors argue that proper resource management results in better agricultural productivity and sustainable development.

According to Chavez, S. V., & Gutierrez, A. (2020)This research investigates how municipalities, specifically in the 3rd District of Laguna, allocate resources for agricultural programs. The study examines the financial, human, and material resources used by municipal agricultural offices to implement agricultural projects. The authors emphasize that resource distribution directly correlates with the scale and impact of these agricultural interventions.

According to **Dela Cruz, J. P. (2018)** Dela Cruz's work analyzes how local government units (LGUs) like municipal agricultural offices manage resources for agricultural development. Through case studies in Laguna, the research sheds light on the financial constraints and challenges faced by municipal agricultural offices, offering suggestions on how to optimize resource use to enhance program outcomes.

According to Aguilar, A. S. (2021)This paper explores the challenges municipal agricultural offices encounter in allocating resources for agricultural development programs. It discusses budgetary limitations, logistical constraints, and the impact of political factors in resource allocation decisions. The author argues that strategic resource allocation can enhance the reach and impact of agricultural initiatives at the municipal

level.

According to Ferrer, M. P., & Castillo, E. (2022) Ferrer and Castillo examine the relationship between resource allocation and the effectiveness of agricultural programs within the 3rd District of Laguna. Their study shows that when municipal agricultural offices effectively distribute their resources—such as funds for training, irrigation projects, and seed distribution—the implementation of agricultural programs tends to be more successful, leading to higher productivity and sustainability.

According to Tiongco, M., & Tiongco, L. (2019) explores how local government units, particularly municipal agricultural offices, contribute to the sustainability of agricultural programs in rural areas. It highlights how effective program implementation can lead to long-term sustainability through proper planning, community involvement, and strategic resource allocation. The paper emphasizes the importance of monitoring and evaluating these programs for their long-term impact.

1.9.2. Related Studies

According to Melany B. Grecia (2003) This undergraduate thesis involved a research internship at the Municipal Agricultural Office of Calauan, Laguna. While the specific findings are not detailed in the available abstract, the study likely provided firsthand insights into the operations and challenges faced by MAOs in implementing agricultural programs.

According to Josefina B. Bitonio & Rogelio C. Evangelista (2013) This study assessed the delivery of agricultural extension services across 48 municipalities in Pangasinan. It found that the perceptions of Municipal Agriculturists, extension workers, and farmers varied significantly regarding the effectiveness of training and advisory services. Notably, issues such as lack of involvement in departmental decision-making and political interference were identified as challenges affecting service delivery. The study highlighted that age and experience influenced extension workers' perceptions and effectiveness.

According to Reynaldo N. Dusan (2002) This study focused on the extension capabilities and needs of agricultural technicians in Iloilo's local government units. It revealed that while technicians had high overall extension capabilities, there was a moderate level of satisfaction with their compensation and organizational support. The study also found that the technicians' age and length of service were positively correlated with their extension capabilities, suggesting that more experienced (and often older) technicians were more effective in implementing agricultural programs.

According to Alladin Tabo, Parsons Hail, and Danilo Vargas (2021) This study assessed the perceived impact of agricultural programs in Cuyapo, Nueva Ecija, from 2013 to 2016. It found that most farmers reported increased income and improved farming practices due to programs like seed distribution and livestock vaccination. The study also noted that the majority of respondents were aged between 31-50, highlighting the active participation of middle-aged farmers in these programs.

According to Luyjilene Legaspi (2015) This study compared government extension services provided to rice farmers in Magsaysay and Matanao. It highlighted issues such as politicization, manpower challenges, and the varying effectiveness of extension services. The study emphasized the importance of consistent and equitable service delivery to all farmers, regardless of political connections.

According to Bang & Han (2025) This study investigates the socio-economic factors affecting farmers' adoption of smart farming technologies in South Korea. The authors found that younger farmers with higher educational attainment and larger farm sizes were more likely to adopt smart farming solutions. Government policies offering financial assistance and training programs also played a significant role in encouraging adoption. This research underscores the importance of education in enhancing the adoption of modern agricultural practices.

According to Chernbumroong et al. (2023) This study evaluates a training program aimed at improving farmers' knowledge and performance in using smart farm technology in Chiang Mai, Thailand. The training, which combined mobile learning and smart farm laboratory sessions, demonstrated positive

outcomes in terms of farmers' reactions, learning, and behavior. The study highlights the effectiveness of educational programs in enhancing agricultural practices.

According to Atinaf et al. (2021) This exploratory study examines the resilience of information systems in agricultural extension services in Ethiopia. The authors identify key mechanisms such as robustness, self-organization, and learning, which are essential for effective information provision. The study emphasizes the role of education and training in strengthening these mechanisms and improving the delivery of agricultural extension services.

According to Jordan & Guerzoni (2020) This paper analyzes the efficiency of extension programs in promoting the adoption of chemical fertilizers in Ethiopia. The authors found that extension services had a considerable impact on fertilizer adoption, particularly in villages with significant time lags in adoption. The study suggests that educational interventions can accelerate the adoption of agricultural innovations.

According to The Guardian (2025) This article discusses the suspension of the 1890 National Scholars program by the U.S. Department of Agriculture, which funds agricultural education for students at historically Black colleges and universities (HBCUs). The program has supported over 800 students, providing full scholarships and subsequent placement in USDA positions. The suspension raises concerns about the future of agricultural education and its impact on rural communities.

According to JICA (2005). This Study assessed a project aimed at promoting rice-based farming systems in Bohol. It found that while training opportunities for farmers decreased post-2003, continuous technical guidance by agricultural technicians from the LGU helped maintain productivity. The study highlighted the importance of sustained support from municipal agricultural offices in ensuring the success of agricultural programs.

According to Afriansyah, A., Abdillah, L. A., & Andryani, R. (2015). This study utilized information technology to monitor the Rural Infrastructure Development Program (PIIP) in Indonesia. The system managed employment targets, reporting physical realization, and financial absorption, processing data reporting information on a regular basis, timely, complete, and factual.

According to Legaspi, L. (2017). This study compared the extension services provided to rice farmers in Magsaysay and Matanao. It identified challenges such as limited manpower and politicization of service delivery. Despite these challenges, the study noted that municipalities like Matanao implemented more diverse extension services, including technology demonstrations and expository learning, which were less prevalent in Magsaysay.

According to Burgos, M. S., et al. (2011). This study discussed the institutionalization of the Techno Gabay Program (TGP) through Executive Order 801, aiming to strengthen the extension delivery system of LGUs. The study highlighted that the adoption of TGP led to improved information and technology services, translating into increased technical efficiency and higher income for farmers.

According to FAO (2002). This study examined the use of the Farming Systems Development (FSD) approach in community planning across the Philippines. It emphasized the importance of active community participation in developing agricultural plans, which enhanced the sustainability and effectiveness of agricultural programs. The study suggested that such participatory approaches could be beneficial for municipal agricultural offices in planning and implementing programs.

According to Beintema, N., & Di Marcantonio, F. (2018) This study examines the role of gender, particularly women, in the implementation of agricultural policies. It provides insights into how agricultural programs are often influenced by gender dynamics, especially in rural settings. The study argues that female participation and leadership can be pivotal in the effective implementation of agricultural programs, something that may be evident in the context of the **municipal agricultural offices** in Laguna, where gender roles could play a significant role in policy execution.

According to Puno, M. T. C., & Magno, L. L. (2017) This study investigates the impact of gender within agricultural extension services in the Philippines, focusing on how women and men are both impacted differently by agricultural programs. It highlights how gender roles within agricultural offices influence the

reach and success of such initiatives. This could be particularly relevant in the 3rd District of Laguna, where local agricultural offices may have varying approaches based on gender inclusivity.

According to Reyes, C. A., & Bautista, M. I. (2020) This study discusses the role of gender in the design and implementation of agricultural policies and programs at the municipal level. It emphasizes the need for gender-responsive frameworks in local agricultural offices to address the needs of both men and women. The study provides context to how gender can affect the implementation of agricultural initiatives and is particularly relevant to municipal agricultural offices like those in Laguna.

According to Villamor, A. F., & Manlapig, R. B. (2016) This study explores the sexual division of labor in Philippine agriculture, focusing on the different roles of men and women in farming activities. The study finds that programs that do not consider gender-specific roles are less likely to succeed in rural areas. This is important for agricultural offices in Laguna, where local implementation might need to address gender-specific roles for more effective program reach.

According to Dizon, R. C., & Amparo, F. V. (2019) This study identifies barriers to and opportunities for implementing gender-responsive agricultural development policies in the Philippines. It suggests that local agricultural offices, including those in districts like Laguna, can enhance the effectiveness of their programs by recognizing the unique contributions and needs of both genders. The study also explores the role of municipal agricultural offices in overcoming barriers to gender equity in agricultural programs.

According to bathan (2015) This research examined the impact of extension services on rice farmers' technical efficiency in Albay. It highlighted that farmers who participated in extension programs, which are often facilitated by MAOs, showed improved productivity. The study implies that the experience of extension workers in providing relevant training and support can significantly enhance farmers' efficiency.

According to Efren B. Saz (2007) This paper assessed the agricultural extension services provided by the local government unit (LGU) in Ubay, Bohol. It found that the experience of extension personnel in understanding local conditions and needs was crucial for effective program implementation. The study suggests that years of experience enable extension workers to tailor programs more effectively to the community's requirements.

According to Dr. Mary Johnson & Noel Vock (2022) This report focused on enhancing agricultural extension methods in conflict areas of Mindanao. It emphasized that experienced extension workers were more adept at navigating challenges and building trust within communities, leading to more successful program outcomes. The study underscores the importance of experience in adapting extension methods to complex environments.

According to Byron Amadeus G. Cayabyab, Maria Ana T. Quimbo, Evelie P. Serrano, Filma C. Calalo (2018) This study evaluated the effectiveness of agricultural training programs in the Philippines. It found that participants with prior experience in farming were more successful in applying new knowledge gained from training programs. The study suggests that years of experience contribute to a better understanding of how to implement and adapt new techniques effectively.

According to Princess Alma B. Ani & Aleta Belissa D. Correa (2016) This article discusses the agricultural extension policies in the Philippines and their role in enhancing the delivery of technological services. It emphasizes that experienced extension workers are crucial in adapting and implementing these policies effectively at the local level. Their years of experience allow them to navigate challenges and tailor programs to meet the specific needs of farmers, thereby improving program outcomes.

According to Grecia, M. B. (2003). This undergraduate thesis provides insights into the operations and activities of the Municipal Agricultural Office in Calauan, Laguna. While the specific details are not available in the abstract, such research typically examines the implementation of agricultural programs, challenges faced, and the effectiveness of services provided to farmers. This study is pertinent for understanding local agricultural program execution in Laguna.

According to Lapitan, A. (2010). This dissertation examines the delivery of agricultural services at the municipal level, focusing on policy-specific consultations and the adoption of organic farming

technologies. It discusses the challenges and institutional support required for effective service delivery, providing valuable insights into the functioning of municipal agricultural offices.

According to Orticio, H. M. (1975). This conference paper discusses the implementation of the Masagana 99 program, a government initiative aimed at increasing rice production. It provides a perspective from the implementing agency, offering insights into the challenges and successes of large-scale agricultural programs.

According to Department of Agriculture - Regional Field Office III. (2022). This program, under the Department of Agriculture, aims to ensure food security for urban and peri-urban populations by promoting urban agriculture practices. It includes services such as seed distribution, technical support, and establishment of technology demonstrations. The program also provides agricultural machinery and facilities support to enhance productivity and sustainability.

According to Evangelista, R. C., & Bitonio, J. B. (2013). This study assessed the delivery of agricultural extension services by the 48 cities and municipalities in Pangasinan, covering the period of 2008–2010. It utilized a descriptive research method, gathering data from 228 respondents, including heads of city/municipal agricultural offices, extension workers, and officers of farmers' and irrigators' associations. The study found that the perception of these groups regarding the performance of municipal agriculturists in training services and farm and business advisory services was significant, indicating areas for improvement in service delivery.

According to David John F. Rodriguez and Ma. Eden S. Piadozo (2019) This study categorized 90 rice farms in Laguna into high, intermediate, and low mechanization levels. It found that highly mechanized farms had higher output and income per hectare but employed fewer laborers, particularly in post-production activities like threshing. The study highlights the economic benefits of mechanization and its impact on labor dynamics.

According to J.T. Dizon, F.O. Tan, and R.T. Cabral (2023) This project aimed to enhance rice production and increase income for 25 farmers in Calauan by providing mechanized equipment and capacity-building support. The initiative addressed challenges like limited machinery availability and aimed to improve farm productivity through mechanization.

According to Rossana Marie C. Amongo et al. (2018) The study applied the Modified Agricultural Mechanization Index (MAMIRice) to assess mechanization levels in Laguna. It found that the region's mechanization levels were below the ideal index, indicating potential for increased mechanization to improve productivity.

According to S.M.F. Cutay (1990) This study examined the impact of mechanization on labor employment in Calamba and Pangil. It found that mechanization reduced the number of workers needed for certain operations like weeding and threshing, though some areas still relied on manual labor due to accessibility issues.

According to Department of Agrarian Reform (DAR) (2024) DAR distributed farm machinery and equipment worth Php 650,888.00 to two farmer cooperatives in Laguna. This initiative aimed to enhance agricultural productivity and help farmers adapt to climate change, demonstrating the government's support for mechanization programs.

According to Mendoza, M.R., and Garcia, J.R. (2018) This study examines rural development initiatives in Laguna, including financial support programs provided by municipal agricultural offices. It analyzes the relationship between the allocation of funds and the successful implementation of agricultural development programs. The research also discusses challenges faced by local agricultural offices in securing and managing financial resources.

According to Santos, J.L., and Reyes, F.C. (2020) This paper investigates the effect of financial assistance on agricultural productivity in the municipalities of Laguna, particularly focusing on the 3rd district. It shows that municipalities with better access to government financial aid have higher rates of program implementation and better overall agricultural output.

According to Flores, R.C. and Dizon, A.L.(2019) This study evaluates the effectiveness of financial support mechanisms provided by local government units (LGUs) in agricultural program implementation, focusing specifically on Laguna's agricultural offices. The research highlights the challenges faced by municipal agricultural offices in ensuring financial aid reaches the intended agricultural projects and farmers.

According to Tansangco, R.V., and Pangilinan, M.S.(2017) Tansangco, R.V., & Pangilinan, M.S. (2017). *Financial Support for Agricultural Programs and its Effect on Local Governance*. Local Government Review, 25(4), 98-110.

According to Cruz, E.T., and Lopez, F.J.(2021) This study looks into public-private partnerships (PPPs) as a financing model for agricultural programs, focusing on municipalities in Laguna. It provides an overview of how such collaborations have improved financial access for local agricultural offices and enhanced the implementation of agricultural programs in the region. The study discusses challenges and successes in integrating private sector support into public agricultural initiatives.

2. Methodology

The study design, demographic and sampling strategies, research procedures, research instrument and statistical treatment of the data acquired are all presented in this chapter to assist answer the issue statements.

2.1. Research Design

The researcher adopted the descriptive research design to assess the status on the extent of agricultural program implementation of Municipal Agriculture offices of the 3rd district of Laguna. The descriptive design allows for the systematic collection and analysis of data as it involves gathering information, summarizing it and interpreting the data to provide clear picture of a current situation.

The purpose of this study is to document the extent to which agricultural programs are implemented by MAOs in District 3, as well as to identify factors that facilitate or hinder their success. A descriptive research design is well-suited to achieving these objectives because it allows for a straightforward examination of current practices, resource utilization, and perceived outcomes (Hill & Hupe, 2016). This approach also enables the collection of both quantitative and qualitative data, providing a comprehensive picture of the local agricultural programs and the role of MAOs in supporting it.

2.2. Population and Sampling Technique

The population of this study consists of two main groups: farmers and municipal implementers in the 3rd district of Laguna. The municipalities of Calauan, Victoria, and San Pablo City have farmers involved in various commodities, while the municipalities of Liliw, Nagcarlan, Rizal, and Alaminos primarily focus on high-value crops and livestock. A comprehensive list of farmers, including details such as name, sex, contact number, business commodity, area coverage, and volume of production, was provided by the Municipal Agricultural Officers (MAOs). The total population for this study was 3,462 individuals. To determine an appropriate sample size, the researcher used the Slovin's formula, which resulted in a sample population of 359. A combination of random sampling and convenience sampling techniques was used to select the respondents. Initially, the researcher employed random sampling by selecting participants randomly from the comprehensive list provided by the MAOs. After the random selection, the researcher personally visited the respondents' addresses to conduct surveys. This method ensured that each individual in the population had an equal chance of being selected. However, due to time constraints, the researcher later shifted to convenience sampling. In this phase, the researcher selected participants who were readily available and willing to take part, often coordinating with the MAOs to identify upcoming meetings and programs where potential

respondents could be found. Convenience sampling allowed the researcher to efficiently gather data within the limited timeframe.

2.3. Research Instrument

The researcher used a survey questionnaire as the research instrument to collect data. The questionnaire was designed to accommodate respondents with varying literacy levels. It consisted of three sections: (1) The demographic profile of farmers and agricultural staff, including age range, educational attainment, position in the agriculture sector, sex, and years of experience in agriculture-related work. (2) Agricultural programs, such as crop production, farm mechanization, financial support, fisheries and aquaculture, and livestock and poultry development. (3) The extent of agricultural program implementation, focusing on the adoption of innovations, coverage, effectiveness, resource allocation, stakeholders' satisfaction, and sustainability. A five-point Likert Rating Scale (LRS) was graded from 5 to 1 scores as follows: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree and 1 = strongly disagree. The questionnaire was administered to all respondents. For those who had limited literacy skills or were unable to read and write, the researcher read each question aloud to the respondent and marked their answers on the survey questionnaire based on the respondent's choice. The questions were crafted in simple language and had a Tagalized version to ensure accessibility for all participants.

2.4. Research Procedure

Initially the researcher secured permission through letter address to the Municipal Mayor through Municipal/City Agriculturist to request total population of farmers and to conduct data gathering through survey questionnaire in the MAO's office and different farm locations. Once the letter has been approved the researcher proceeded in the data gathering, due to time constraints the researcher then asked the MAO's office on their scheduled meeting and programs where the farmers can be easily be given survey questionnaire. The respondents were given ample time to answer the questionnaire for understanding and appreciation.

The survey questionnaire was then retrieved after the respondent's finish answering it, the result was tallied and tabulated according to the frequency of items checked by the respondents. Thereafter, data tabulation results were interpreted using various statistical tools, the results of which was used in coming up with the conclusion and recommendations.

2.5. Statistical Treatment

The researcher employed descriptive statistics to systematically summarize, organize, and present the data in a clear and manageable format. Various statistical tools were used in the analysis, including frequency count, which was applied to determine the number of occurrences of each response. Percentages were subsequently calculated to express the frequency of each response relative to the total, facilitating comparisons across different responses. For Likert scale questions, the mean (average) was used to assess the overall level of satisfaction among the respondents, providing a measure of central tendency. Additionally, the standard deviation was calculated to examine the variability of responses around the mean, with a higher standard deviation indicating greater dispersion and a lower standard deviation suggesting more consistency in responses. Finally, Pearson's correlation coefficient (r) was utilized to evaluate the strength and direction of the relationship between two variables, determining whether a significant correlation existed. Collectively, these tools enabled the researcher to gain a comprehensive understanding of the data and draw meaningful conclusions.

Likert Scale

Rating Scale	Verbal Interpretation
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

A comprehensive review by Jebb, Ng, and Tay (2021) examines significant developments in Likert scale construction from 1995 to 2019. The study highlights advancements in areas such as construct validity, readability testing, and alternative precision measures like coefficient omega and item response theory (IRT). Additionally, it discusses the use of ant colony optimization (ACO) for creating short-form scales, providing researchers with updated methodologies for scale development.

According to Ankur Joshi and colleagues (2015) provide an analytical review of the Likert scale, focusing on its psychometric properties such as reliability and validity. The paper discusses the challenges and debates surrounding the scale's analysis and inclusion of points, offering insights into best practices for its application in research.

Statement of the Problem	Statistical Tool	Uses
1. What is the demographic profile of the respondents in terms of: age, educational attainment, position in agriculture sector, sex and years of experience	Frequency Count and Percentages	Helps in understanding the distribution of data, helps in understanding the relative importance of dataset
2. How are agricultural program describing in terms of: crop production, farm mechanization, financial support, fisheries and aquaculture, livestock and poultry development.	Mean and Standard Deviation	Helps in determining the central tendency of data, Indicates the variation or variability exists in the dataset

3. What is the level of implementation of agricultural program as to: adoption of innovation, coverage, effectiveness, resource allocation, sustainability, stakeholder satisfaction.	Mean and Standard Deviation	Helps in determining the central tendency of data, Indicates the variation or variability exists in the dataset
4. Is there a significant relationship between the demographic profile of the respondents and extent of agriculture program implementation.	Pearson R	Helps in understanding the degree to which two variables are related
5. Is there a significant relationship between the level of agricultural program and the extent of its implementation as to adoption of innovation, coverage, effectiveness, resource allocation, sustainability, stakeholder satisfaction.	Pearson R	Helps in understanding the degree to which two variables are related

3. Results and Discussion

This chapter focuses on the presentation, analysis, and interpretation of data according to the results and analysis formulated in the study to assess the status on the extent of agricultural program implementation by the Municipal Agriculture Offices (MAOs) in the municipalities/cities in District 3.

3.1. Demographic Profile of the Respondents

In this study, the profile of the respondents is described based on their age, educational attainment, position in agricultural sector, sex and years of experience.

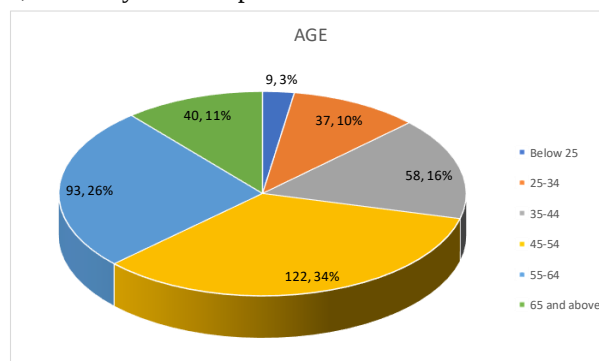


Figure 1 Demographic profile of the respondents in terms of Age

Figure 1 shows the frequency and percentage distribution of respondent's profile as to age.

It shows that majority of respondents falls under the age range of 45-54 years old (122, 34%), followed by 55 to 64 years of age (93, 26%) and 35 to 44 years old (58, 16%). It could be gleaned from the figure that respondents below 25 years old constitute the younger age group which comprises the lowest frequency count of samples (9,3%).

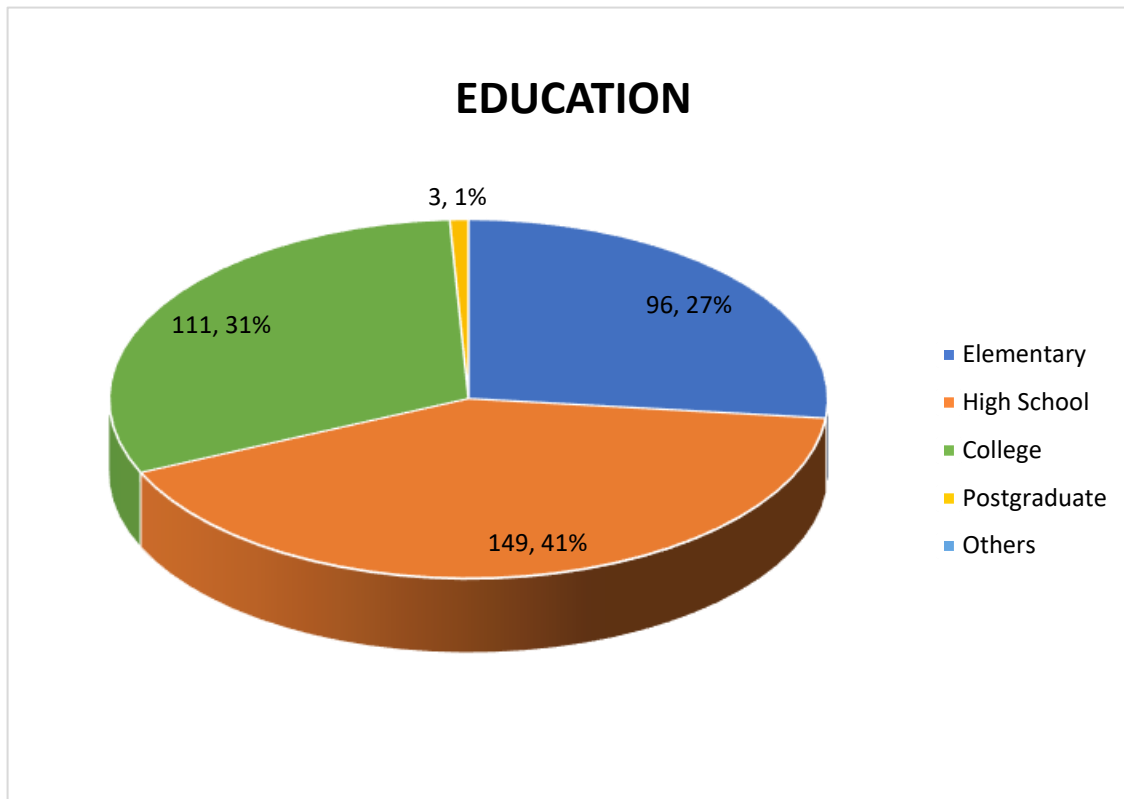


Figure 2 Demographic profile of the respondents in terms of educational attainment

Figure 2 presents the distribution of respondents according to their educational attainment. Out of the total 359 respondents, the largest portion had reached high school level (149, 41%), this is followed by those who attained a college level of education (111, 31%), while (96, 27%) completed elementary education. A small portion (3, 1%) had finished postgraduate level of education.

Educational Attainment of the respondents is important in the study as it helps provide context for their understanding, engagement and participation in agricultural programs.

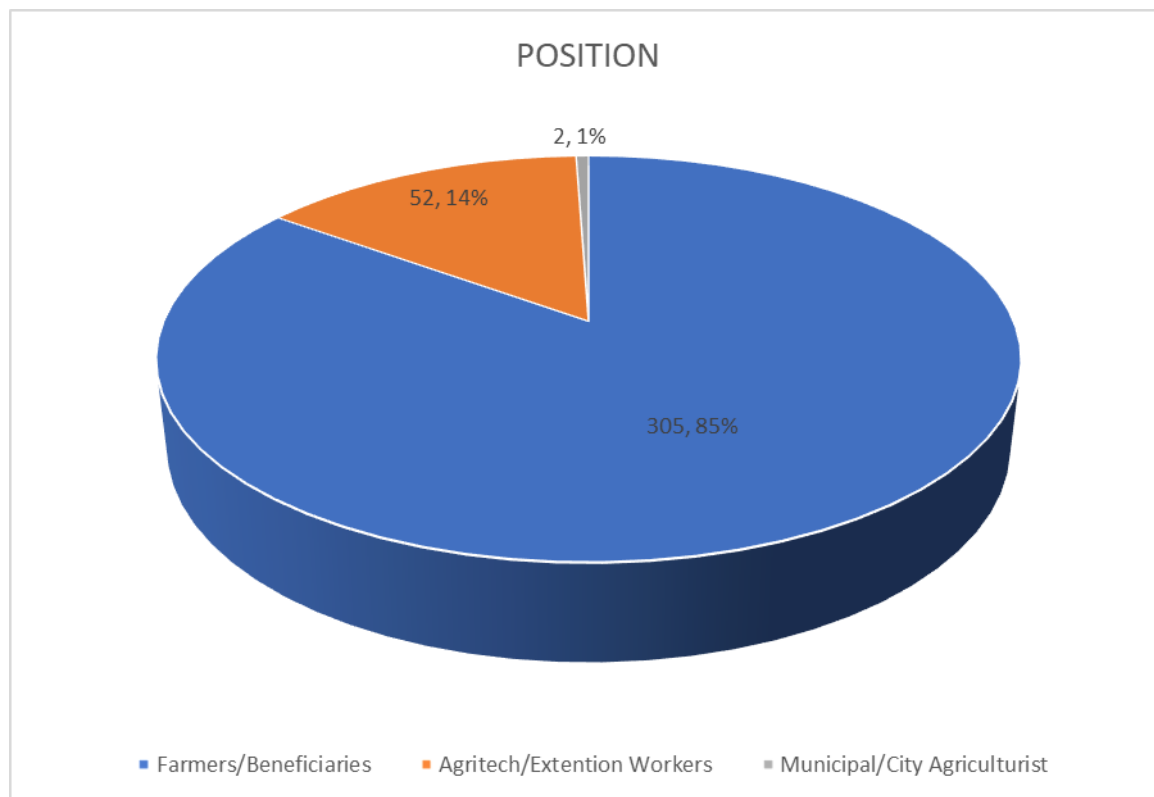


Figure 3 Demographic Profile in terms of Position

Figure 3 shows the distribution of respondents according to their position in relation to the implementation of agricultural programs. Among the 359 respondents, a significant majority of (305, 85%) are farmers/beneficiaries who are the direct recipients of the program and expected to use or apply the interventions introduced by the government.

Meanwhile, a total of (52, 14%) were agricultural technicians or extension workers, they are primarily responsible on the ground implementation, coordination and monitoring of agricultural initiatives at the local level. A small portion of the sample comprising of (2, 1%) are city/municipal agriculturist, who generally serve as program supervisors that oversees the implementation and ensures the alignment of the program with the municipal agricultural development plans.

The classification of respondents according to their roles and position is important in the study as it allows a comprehensive analysis of the implementation of the agriculture program from different standpoints within the system.

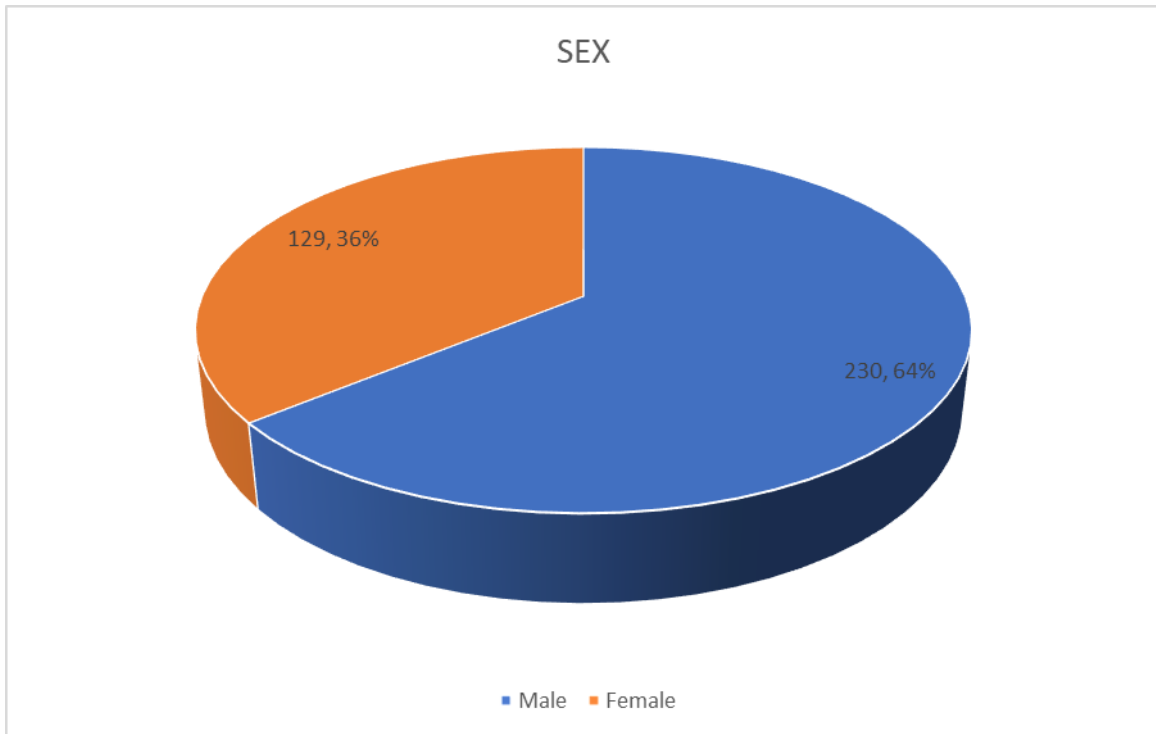


Figure 4 Demographic profile in terms of Sex

Figure 4 shows the distribution of respondents according to sex. Out of the total 359 respondent's majority of which are male (230, 64%), while (129, 36%) were female.

The inclusion of sex as a demographic variable in this study is relevant as it provides clearer picture of who and is participating and benefiting from agricultural programs in the 3rd district of Laguna. Since men and women may have different roles, experiences, or levels of involvement in agricultural programs and services. This ensures the study that responses reflect a range of perspectives from those actively engaged in the agricultural development at the local level.

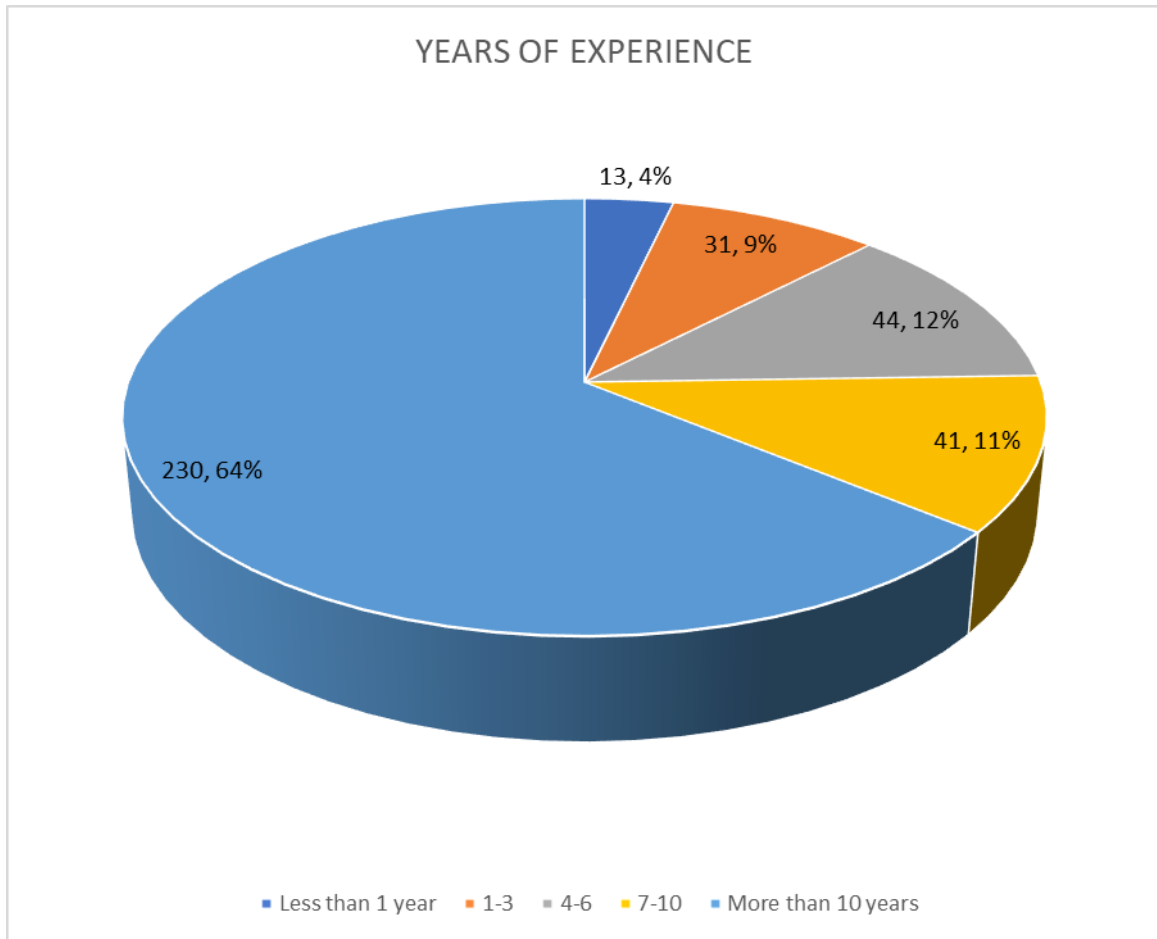


Figure 5 Demographic profile in terms of Years of Experience

Figure 5 shows the respondent's years of experience in their respective position or roles in the agriculture program. Out of the 359 respondents, majority of which has more than 10 years of experience (230, 64%) , followed by those with 4-6 years of experience (44, 12%) and those who have 7-10 years of experience (41, 11%). A smaller portion of (31, 9%) had between 1-3 years of experience on the field while the fewest respondents were those with less than a year of experience (13, 4%).

Including this variable is important because years of experience may influence how familiar the respondents are with programs being implemented and how well they understand the agricultural system. This helps provide different levels of insights among the individuals involved in the agriculture programs across the 3rd District of Laguna.

Table 1 Level of Crop Production Program

Crop Production Program	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program provides adequate support for increasing crop production (seeds, fertilizers, pesticides).	4.46	0.81	Effective
2. The program includes effective training or workshops on modern techniques for enhancing crop yields.	4.40	0.80	Effective
3. The crop production programs address the specific needs of farmers in the region.	4.34	0.85	Effective
4. The agriculture program provides irrigation system, water supply system, and other resources needed for crop enhancement.	4.30	0.91	Effective
5. The program introduces sustainable practices (organic farming, crop rotation) to enhance crop quality and production.	4.40	0.86	Effective
Overall Mean	4.40		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

As shown in Table 1, the Crop Production Program is considered effective across all areas evaluated with an overall mean of 4.40. It shows that the respondents agree that it was effective with regards to the support for increasing crop production (Mean=4.46, SD=.81), training and workshops on modern techniques (Mean=4.39, SD=.79), addressing the needs of farmers in the region (Mean=4.39, SD=.85), provision of irrigation systems, water supply and other crop enhancement (Mean=4.30, SD=.91) and introduction of sustainable practices (Mean=4.40, SD=.86). According to Spiertz, H. (2013) in “Challenges for crop production research in improving land use, productivity and sustainability” the challenges faced in crop production research, focusing on improving land use, productivity, and sustainability. It emphasizes the need for integrated approaches to address global food security issues.

Table 2 Fisheries and Aquaculture Program

Fisheries and Aquaculture Program	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program provides adequate support for fisheries and aquaculture development (fingerlings, feeds, equipment).	4.49	0.64	Effective
2. The program conducts training and capacity-building activities on modern aquaculture and sustainable fishing practices.	4.38	0.63	Effective
3. The program addresses the challenges faced by fishers and aquaculture practitioners in the region (overfishing, water quality, climate change).	4.46	0.64	Effective
4. The agriculture program provides access to financial or technical assistance for fisheries and aquaculture projects.	4.4	0.59	Effective
5. The program promotes sustainable and environmentally friendly practices in fisheries and aquaculture (habitat protection, waste management).	4.48	0.66	Effective
Overall Mean	4.44		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 2 reveals that the respondents agrees that the Fisheries and Aquaculture Program is effective with a mean of 4.44. It is based on the indicators which were support for fisheries and aquaculture development (Mean=4.49, SD= .64), training and capacity development (Mean=4.38, SD=.63), addressing the challenges faced by the fishermen (Mean=4.46, SD=.64), access to financial/technical assistance (Mean=4.4, SD=.64), promotion of sustainable and environmentally friendly practices (Mean=4.48, SD=.66). According to Department of Agriculture (DA) - Bureau of Fisheries and Aquatic Resources (BFAR) in “Enhanced Philippine Seaweed Development Program (EPSDP)” in 2024, the DA-BFAR allocated ₱1.06 billion to the EPSDP, a strategic investment reflecting the increasing importance of seaweed farming as a pillar of the Philippine aquaculture industry.

Seaweed, especially varieties like *Kappaphycus* and *Eucheuma*, plays a critical role in both domestic food security and global trade, serving as a key raw material for products such as carrageenan, food additives, fertilizers, cosmetics, and pharmaceuticals. The program's core objective is to expand seaweed farming by 64,000 hectares nationwide, with a projected 50% increase in annual production.

This ambitious target is expected to significantly enhance the livelihoods of coastal communities, especially in rural and marginalized areas, where seaweed farming is often the primary source of income. By modernizing seaweed farming and making it more resilient to climate change and market fluctuations, the EPSDP is not only boosting aquaculture productivity but also contributing to the inclusive growth of coastal economies.

Moreover, with the global demand for eco-friendly, plant-based products on the rise, the Philippine seaweed industry is well-positioned to capture a larger share of the international market. The EPSDP thus marks a significant step forward in transforming the seaweed sector into a globally competitive, climate-smart, and community-driven industry.

Table 3 Farm Mechanization Program

Farm Mechanization Program	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program provides sufficient access to modern farming equipment and machinery (tractors, harvesters).	4.67	0.59	Highly Effective
2. The program includes training on the proper use and maintenance of farm machinery.	4.55	0.58	Highly Effective
3. The farm mechanization program helps reduce labor costs and increases productivity in farming operations.	4.55	0.61	Highly Effective
4. The agriculture program ensures the availability of acquiring farm machinery.	4.61	0.61	Highly Effective
5. The farm mechanization initiatives are tailored to the specific needs and scale of farms in the community.	4.45	0.61	Effective
Overall Mean	4.57		Highly Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 3 shows that the Farm Mechanization Program is regarded as highly effective by the respondents with mean score of 4.57, this is in relation to the indicators as follows, access to modern farming

equipment and machinery (Mean=4.67, SD=.59), training on proper use of machinery (Mean=4.55, SD=.58), reduction of labor costs and increased in productivity in farming operations (Mean=4.55, SD=4.61), ensuring the availability of acquiring farm machinery (Mean=4.61, SD=.61), tailored mechanization initiatives to the specific needs and scale of farms (Mean=4.45, SD=.61). The DA Farm Mechanization Program, implemented through the Rice Competitiveness Enhancement Fund (RCEF), is a key initiative by the Philippine government aimed at improving the productivity and competitiveness of local rice farmers. This program was developed in response to the challenges brought about by Republic Act No. 11203, also known as the Rice Tariffication Law. While this move aimed to stabilize rice prices and ensure a steady supply for consumers, it posed a significant threat to the livelihood of Filipino rice farmers who now have to compete with cheaper imported rice. To help mitigate these impacts, the law created the RCEF, with a fixed annual allocation of PHP 10 billion, half of which is dedicated to mechanization efforts. The mechanization component of the RCEF focuses on distributing free modern agricultural machinery and equipment to qualified Farmer Cooperatives and Associations (FCAs).

Table 4 Financial Support Program

Financial Support Program	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program provides sufficient financial assistance to support farmer needs (loans, grants, subsidies) at a 5% bellow / annum.	4.32	0.78	Effective
2. The financial support program is accessible to all eligible farmers in the municipality.	4.41	0.73	Effective
3. The terms and conditions for availing of financial support (interest rates, repayment terms) are reasonable and farmer-friendly.	4.30	0.81	Effective
4. The program ensures timely distribution of financial support to beneficiaries.	4.37	0.75	Effective
5. The financial assistance provided by the program contributes to the improvement of farming productivity and income.	4.46	0.73	Effective
Overall Mean	4.37		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 4 shows that financial support program (FSP) is viewed by the respondents as effective with a

mean score of 4.37, this is in relation to sufficient financial assistance to support farmer needs like loans, grants, subsidies with an interest of below 5% per annum (Mean=4.32, SD=.78), accessibility of the FSP (Mean=4.41, SD=.73), reasonableness of the terms and conditions for availing financial support (Mean=4.30, SD=.81), timeliness of the distribution of financial support (Mean=4.37, SD=.75), contribution of financial assistance to the improvement of farming productivity and income (Mean=4.46, SD=.73). The DA, through the Agricultural Credit Policy Council, offers various credit and financing programs to support the agricultural sector. These programs aim to provide financial assistance to farmers, fisherfolks to enhance their productivity and income.

Table 5 Livestock and Poultry Development Program

Livestock and Poultry Development Program	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program provides sufficient support for improving livestock and poultry production (feed, veterinary services, vaccination.	4.35	0.74	Effective
2. The program conducts training and workshops on modern techniques (Artificial Insemination, Formulated Feed, Probiotics and Enzymes, Manure Management and etc.) for raising livestock and poultry.	4.29	0.76	Effective
3. The program addresses the specific challenges faced by livestock and poultry farmers in the municipality/city.	4.39	0.69	Effective
4. The agriculture program provides access to high-quality livestock and poultry breeds to improve production.	4.40	0.72	Effective
5. The program promotes sustainable and environmentally friendly practices in livestock and poultry farming.	4.48	0.71	Effective
Overall Mean	4.38		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 – Moderately Effective

1.0 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 5 shows that the livestock and poultry development program was regarded by the respondents as effective with a mean score of 4.38, the indicators were sufficient support for improving livestock and poultry production (Mean=4.35, SD=.74), training and workshop on modern techniques (Mean=4.29 SD=.76), addressing specific challenges faced by livestock and poultry farming (Mean=4.39, SD=.69), access

to high quality livestock and poultry breeds to improve production (Mean=4.40, SD= .72), promotion of sustainable and environmentally friendly practices in livestock and poultry farming (Mean=4.48, SD=.71).

Table 6 Adoption of Innovation

Adoption of Innovations	Mean	Standard Deviation	Verbal Interpretation
1. The use of modern agricultural technologies improves farm productivity.	4.43	0.80	Effective
2. I believe adopting innovative practices reduces production risks.	4.30	0.92	Effective
3. Innovations in agriculture are easy to understand and implement.	4.26	0.91	Effective
4. The adoption of innovations has significantly increased my farm income.	4.31	0.84	Effective
5. I find digital platforms and apps useful for improving my farming practices.	4.36	0.85	Effective
Overall Mean	4.33		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

Table 6 shows that the respondents generally see the adoption of innovation as effective, this is in relation to the use of modern agricultural technologies improves farm productivity (Mean=4.43, SD=.80), adopting innovative practices reduces production risks (Mean=4.30, SD=.92), innovations were easy to understand and implement (Mean= 4.26, SD=.91), adoption of innovation has significantly increased farm income (Mean= 4.31, SD=.84), digital platforms and apps were useful for improving farming practices (Mean=4.36, SD=.85).

In a rapidly evolving world, agriculture is undergoing a profound transformation, one that is being led by the integration of digital technologies. In many countries, the Department of Agriculture (DA) has been at the forefront of this change, spearheading efforts to modernize the agricultural value chain and empower farmers through innovative tools and platforms. At the heart of this transformation is the vision of Agriculture 4.0, a digital revolution aimed at digitizing farming and agribusiness activities to make them more efficient, sustainable, and inclusive.

This vision seeks to bring the farming sector into the digital age, utilizing advanced technologies like data analytics, the internet of things (IoT), and artificial intelligence (AI) to improve productivity, traceability, and decision-making. One of the most ambitious initiatives to come out of this movement is **e-Kadiwa**, a platform designed to bridge the gap between farmers and consumers, ultimately transforming the way agricultural goods are distributed.

This is the future that Agriculture 4.0 promises—a future where technology empowers farmers to

make informed, sustainable choices that not only increase productivity but also help them thrive in a rapidly changing world.

Table 7 Coverage

Coverage	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program reaches a wide range of farmers, including those in remote and undeserved areas.	4.28	0.82	Effective
2. The program adequately addresses the needs of different sectors, such as crop farmers, livestock raisers, and fisherfolk.	4.25	0.74	Effective
3. The agriculture program provides equal opportunities for all eligible beneficiaries regardless of their farm size or economic status.	4.26	0.88	Effective
4. The program covers all critical aspects of agricultural development, including production, marketing, and sustainability.	4.28	0.84	Effective
5. The scope of the program is sufficient to meet the agricultural needs of the community in the municipality/city.	4.33	0.86	Effective
Overall Mean	4.28		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 7 shows that agricultural program is generally perceived as effective in its coverage, respondents believes that the program reaches wide range of farmers and address variety of agricultural needs, with the indicators such as, the program reaches a wide range of farmers including those in remote areas (Mean=4.28, SD=.82), program adequately address the needs of different sectors (Mean=4.25, SD=.74), program provides equal opportunities for all eligible beneficiaries (Mean=4.26, SD=.74), program covers all critical aspects of agricultural development (Mean=4.28, SD=.84), scope of the program is sufficient to meet agricultural needs (Mean=4.33, SD=.86). The National Agriculture and Fisheries Modernization and Industrialization Plan serves as the Department's strategic framework to modernize and industrialize

Philippine agriculture and fisheries. It aims to double the incomes of smallholder farmer and fishers, promote climate-resilient agriculture, and enhance food security. The plan emphasizes the importance of public-private partnerships and investments in infrastructure, technology, and market access.

Table 8 Effectiveness

Effectiveness	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program has effectively addressed the key challenges faced by farmers in the community.	4.25	0.88	Effective
2. The program's objectives are clearly defined and successfully achieved within the expected timeline.	4.25	0.81	Effective
3. The services and interventions provided by the program are relevant to the specific needs of farmers and other stakeholders.	4.33	0.85	Effective
4. The agriculture program has contributed to significant improvements in agricultural productivity and income.	4.40	0.83	Effective
5. The program's implementation is well-coordinated and delivered efficiently to the beneficiaries	4.34	0.86	Effective
Overall Mean	4.31		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 8 shows the agricultural program is generally perceived as effective by the respondents in terms of addressing challenges, achieving its objectives and contributing to the community's agricultural development with a mean score of 4.31. The program is seen as achieving its objectives, addressing key challenges, providing relevant services and making significant contributions to agricultural sector. In Nueva Ecija, the DA's RCEF Seed Program provided inbred certified seeds to farmers, resulting in increased palay yields. For instance, Fernando Salvador, chairman of the Binabuyan Farmers Association in Barangay Pinili, reported that their production rose from 60–70 cavans per hectare to 100–120 cavans per hectare due to the

adoption of these seeds and improved farming practices.

Table 9 Sustainability

Sustainability	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program promotes practices that ensure long-term environmental sustainability (soil conservation, water management).	4.35	0.84	Effective
2. The program incorporates strategies to maintain consistent funding and resources for future implementation.	4.25	0.82	Effective
3. The agriculture program empowers beneficiaries through capacity-building initiatives, ensuring long-term independence and resilience.	4.28	0.83	Effective
4. The program establishes partnerships with stakeholders (government, private sector, NGOs) to ensure its sustainability.	4.27	0.85	Effective
5. The agriculture program includes mechanisms to monitor and evaluate its impact, ensuring continuous improvement over time.	4.31	0.84	Effective
Overall Mean	4.29		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 9 shows that the respondents generally agree that they perceive as effective in promoting sustainability with an overall mean score of 4.29. Respondents believe that the program takes adequate measures to ensure long term environmental sustainability. Respondents recognize the programs efforts in promoting environmental sustainability, securing future funding, empowering beneficiaries, forming partnerships and ensuring continuous improvement. According to DA-AFID (2024) in “DA promoting sustainable agriculture to agriculture to ensure sufficient, affordable food” Agriculture Secretary Francisco P. Tiu Laurel Jr. emphasizes the government’s commitment to promoting sustainable agriculture to ensure a sufficient supply of affordable food for future generations. He highlights the importance of environmental stewardship, biodiversity enhancement, and climate change mitigation in achieving sustainable agricultural practices.

The article also discusses the adoption of modern farming practices, mechanization, and the empowerment of food producers to enhance competitiveness and profitability in the sector. The heart of this movement is the belief that sustainability isn't just a buzzword—it's a necessity. The DA understands that the country's rich natural resources must be nurtured, not exploited. To this end, the department has prioritized *environmental stewardship*, advocating for eco-friendly farming practices that protect the soil, water, and biodiversity. Farmers are being encouraged to reduce their reliance on chemical fertilizers and pesticides, embracing organic alternatives and techniques that work with nature, rather than against it. By diversifying crops and integrating trees into farmland—a practice known as agroforestry—the agricultural sector begins to heal, creating a ripple effect of ecological balance. But the DA knows that sustainability also means *resilience*. The Philippines is no stranger to the harsh impacts of climate change, from droughts to typhoons, and farmers often bear the brunt.

Table 10 Resource Allocation

Resource Allocation	Mean	Standard Deviation	Verbal Interpretation
1. The resources (funds, equipment, materials) allocated to the agriculture program are sufficient to achieve its objectives.	4.21	0.92	Effective
2. The agriculture program ensures that resources are distributed fairly among all beneficiaries.	4.32	0.74	Effective
3. The program has adequate financial resources to support its activities and initiatives.	4.26	0.81	Effective
4. The allocation of resources is timely and does not cause delays in program implementation.	4.25	0.85	Effective
5. The agriculture program prioritizes resource allocation based on the most urgent needs of the farmers and stakeholders.	4.31	0.83	Effective
Overall Mean	4.27		Effective

LEGEND:

- 4.50 - 5.00 - Highly Effective
- 4.00 - 4.49 – Effective
- 3.00 - 3.99 - Moderately Effective
- 1.00 - 2.99 - Less Effective
- 1.00 - 1.99 - Not at all Effective

Table 10 shows that agricultural program is generally seen as effective in allocating resources with an overall mean score of 4.27. Respondents perceive that the resources provided are mostly sufficient and fairly distributed, and that they are used efficiently to support the programs objectives. A landmark study by **Saturnina C. Halos, Cristina C. David, Eliseo R. Ponce, and Corazon B. Lamug** titled “*Philippine National Agricultural and Natural Resources Research System: Resource Allocation Issues and Directions for Reforms*” (1999), critically examines the resource distribution strategies within the Philippines' agricultural research system. The authors argue that the system has been historically **underfunded and fragmented**, leading to **inefficiencies** in achieving national agricultural goals. The Department of Agriculture, alongside the Department of Environment and Natural Resources (DENR), is central to this network but suffers from poor coordination and a lack of strategic direction. Their findings highlight the **mismatch between research priorities and actual resource allocation**, often skewed by political considerations rather than scientific or economic merit.

Table 11 stakeholder Satisfaction

Stakeholder Satisfaction	Mean	Standard Deviation	Verbal Interpretation
1. The agriculture program has met the expectations of stakeholders in terms of service quality and delivery.	4.33	0.81	Effective
2. Stakeholders are satisfied with the level of communication and engagement provided by the program implementers.	4.37	0.71	Effective
3. The agriculture program has positively impacted the livelihoods of stakeholders, including increased productivity or income.	4.40	0.78	Effective
4. Stakeholders feel that their feedback and concerns are addressed in the planning and implementation of the agriculture program.	4.33	0.84	Effective
5. Overall, stakeholders are satisfied with the outcomes and effectiveness of the agriculture program.	4.38	0.88	Effective
Overall Mean	4.36		Effective

LEGEND:

4.50 - 5.00 - Highly Effective

4.00 - 4.49 – Effective

3.00 - 3.99 - Moderately Effective

1.00 - 2.99 - Less Effective

1.00 - 1.99 - Not at all Effective

Table 11 shows that respondents generally seen the agricultural program as effective in meeting their satisfaction with an overall mean score of 4.36. Agricultural program is viewed positively in terms of service quality, communication, impact on livelihoods and overall outcomes. According to Freeman's Stakeholder Theory (1984) it is importance to align the expectations of stakeholders with the outcomes of programs to ensure their success. On the other hand, Chowdhury (2006) highlights the importance of effective communication in bridging gaps between program implementers and stakeholders which is crucial for fostering greater participation and satisfaction.

Table 12 Correlation and Significance between Demographic Variables and the Extent of Agricultural Program Implementation

		AOI	COVERAGE	EFFECTIVENESS	SUSTAINABILITY	RA	SS
AGE	Pearson Correlation	-.100	-.048	-.072	-.065	-.054	-.088
	Sig. (2-tailed)	.059	.360	.174	.217	.308	.094
	N	359	359	359	359	359	359
EDUC_ATTAIN	Pearson Correlation	.104*	-.010	.036	.058	-.045	.047
	Sig. (2-tailed)	.049	.857	.496	.271	.397	.371
	N	359	359	359	359	359	359
POSITION	Pearson Correlation	-.026	.065	-.021	.023	.084	-.002
	Sig. (2-tailed)	.621	.218	.698	.666	.113	.976
	N	359	359	359	359	359	359
SEX	Pearson Correlation	.069	.028	.046	.037	-.006	.039
	Sig. (2-tailed)	.193	.601	.382	.482	.905	.456
	N	359	359	359	359	359	359
YRS_OF_EXP	Pearson Correlation	-.064	-.010	-.062	-.072	-.017	-.041
	Sig. (2-tailed)	.230	.844	.240	.171	.742	.439
	N	359	359	359	359	359	359

The analysis of the Pearson Correlation Coefficients and significance (p-values) indicates that demographic variables generally exhibit weak and statistically insignificant relationships with the dimensions of agricultural program implementation. Age is associated with weak negative correlations, ranging from -

0.100 to -0.088, and all p-values exceed 0.05, signifying the absence of a statistically significant relationship.

Educational attainment demonstrates a weak positive correlation (0.104) with the Adoption of Innovation (AOI) dimension, with a p-value of 0.049, indicating a statistically significant but weak relationship. However, the p-values for the other dimensions of agricultural program implementation are above 0.05, suggesting no significant relationships. Position within the agriculture sector is correlated weakly with the dimensions, with values ranging from -0.026 to 0.084, and all p-values are above 0.05, signifying no significant impact. Similarly, the correlations between sex, years of experience, and the program dimensions are minimal, with p-values above 0.05, indicating no statistically significant relationship.

In conclusion, while educational attainment exhibits a weak but statistically significant positive relationship with the adoption of innovation, other demographic factors, including age, position in agriculture sector, sex, and years of experience, do not demonstrate any meaningful or significant influence on the implementation of agricultural programs.

According to Feder G., Just R.E, and Zimmerman, D. (1985) in their work on the adoption of new agricultural technologies, higher levels of education are associated with greater likelihood of adopting innovative agricultural practices. Education increases the capacity of farmers to understand new technologies, making them more likely to adopt innovations that improve productivity and sustainability.

Additionally, according to Maredia, M. K., Brylee, D., Anderson, J. R. (2000) which conducted a study on the impact of education on the adoption of agricultural innovations, findings that farmers with higher education are more likely to adopt innovative agricultural practices because they can better understand new technologies and access information.

Table 13 Correlation and Significance between the Level of Agricultural Program and the Extent of Agricultural Program Implementation

		AOI	COVERAGE	EFFECTIVENESS	SUSTAINABILITY	RA	SS
CP	Pearson Correlation	.714**	.739**	.786**	.798**	.705**	.748**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	359	359	359	359	359	359
FAA	Pearson Correlation	.560**	.632**	.732**	.747**	.624**	.628**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	102	102	102	102	102	102
FM	Pearson Correlation	.510**	.542**	.728**	.689**	.591**	.590**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	49	49	49	49	49	49
FS	Pearson Correlation	.595**	.600**	.698**	.688**	.611**	.591**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	317	317	317	317	317	317
LAPD	Pearson Correlation	.632**	.669**	.787**	.752**	.653**	.678**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	266	266	266	266	266	266

The Pearson Correlation Coefficients provide an assessment of the strength and direction of the relationship between various agricultural programs and their implementation across key dimensions, including effectiveness, sustainability, and stakeholder satisfaction.

A correlation value approaching 1 indicates a strong positive relationship, while a value near 0 suggest a weak relationship. All agricultural programs-Crop Production (CP), Farmers' Access to Assistance (FAA), Farm Mechanization (FM), Livestock and Poultry Development (LAPD), and Financial Support (FS)-demonstrate significant positive correlations with program implementation, as evidenced by p-values of 0.00, which are well below the conventional threshold of 0.05 for statistical significance.

This suggests that the observed relationships are not attributable to random chance. Among these programs, Crop Production (CP) exhibits the strongest correlations, ranging from 0.705 to 0.80, indicating its substantial impact on program effectiveness, sustainability, and stakeholder satisfaction. Similarly, Farmers' Access to Assistance (FAA) and Livestock and Poultry Development (LAPD) show strong positive correlations, with values ranging from 0.56 to 0.75 for FAA and 0.632 to 0.79 for LAPD.

While Farm Mechanization (FM) demonstrates slightly lower correlations, ranging from 0.51 to 0.73, it still reflects a significant positive relationship with program implementation. Financial Support (FS) also shows a strong positive correlation, with values ranging from 0.595 to 0.70. Overall, these findings underscore the critical role of these agricultural programs in promoting agricultural development, with Crop Production (CP) having the most pronounced influence on the success of program implementation.

4. Summary of Findings, Conclusion, and Recommendations

This chapter provides an overview of the conclusions drawn after presenting, evaluating, and interpreting the study's data, as well as the suggestions made for additional research.

4.1. Summary of Findings

The study was conducted in the 3rd District of Laguna from January 18 to February 25, 2025, with the primary objective of assessing the status of agricultural program implementation by the Municipal Agriculture Offices in the District. The researcher used a sample population of 359 out of the total population of 3,462 individuals engaging in the agriculture sector in the 3rd District.

From the result obtained in the study, the researcher drawn the following findings.

1. Majority of the respondents (34%) belong to the 45-54 age bracket, followed by those aged 55-64 (26%), and low percentage of respondents belonged to the youth.
2. Most respondents attained at least high school level of education (41%) followed with a significant number holding college degrees (31%).
3. An overwhelming majority of respondents (85%) were the farmers or the beneficiaries, then (14%) of the respondents were agricultural extension workers.
4. Majority of the respondents were male (64%), followed by female (36%)
5. Most of the respondents (64%) had more than 10 years of experience in the agricultural sector, indication of a well-established and experienced workforce.
6. The Crop Production Program had an average mean rating of 4.40 indicating that the program was perceived as Effective.
7. The Fisheries and Aquaculture Program had an average mean rating of 4.44 indicating that the program was perceived as Effective.
8. The Farm Mechanization Program had an average mean rating of 4.57 indicating that the program was perceived as Highly Effective.
9. The Financial Support Program had an average mean rating of 4.37 indicating that the program was perceived as Effective.

10. The Livestock and Poultry Development Program had an average mean rating of 4.38 indicating that the program was perceived as Effective.
11. The extent of implementation in terms of Adoption of Innovation had an average mean of 4.33 indicating high level of implementation
12. The extent of implementation in terms of Coverage had an average mean of 4.28 indicating high level of implementation
13. For the aspect of Effectiveness, the average mean rating of 4.31, signifying high level of implementation
14. In the aspect of Resource Allocation, it has an average mean rating of 4.29, signifying high level of implementation.
15. In terms of Sustainability, it has an average mean rating of 4.29, indicating high level of implementation
16. In terms of Stakeholder Satisfaction, it has an average mean rating of 4.36 indicating high level of implementation.
17. The study revealed that among the indicators of profile, only the educational attainments show significant relationship with Adoption of Innovation ($r=0.104$, $p=0.049$). Although the relationship is weak, a positive r value indicates that when the respondent's educational attainment is achieved to a higher level the AOI is being increased. Other factors were found insignificant ($p>0.05$).
18. The study revealed that as the level of agriculture program increase, so does its extent of implementation signifying a significant relationship between the two.

4.2. Conclusions

From the result obtained in the study, the researcher drawn the following conclusions:

1. There is no significant relationship between the demographic profile of the beneficiaries/farmers and municipal agriculture implementers as to the extent of the agricultural program implementation
2. There is a significant relation between the levels of agricultural programs and the extent of agricultural program implementation in the 3rd district of Laguna.

4.3. Recommendations

From the conclusions drawn, the following recommendations were formulated:

1. It is recommended that the Municipal Agriculture Offices may develop a program aimed at encouraging the younger generation to engage in agriculture, ensuring the continuity and sustainability of the agricultural sector.
2. Since there is no significant relationship between the demographic profile of beneficiaries/farmers and municipal agriculture implementers concerning the extent of program implementation, it is recommended that efforts be made to better align agricultural programs with the specific needs and characteristics of different demographic groups.
3. Given that the relationship between program levels and implementation extent is significant, it is advisable to invest in enhancing the skills and capabilities of municipal agriculture implementers.

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