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PROJECT LAWA AT BINHI: EFFECTIVENESS ON SOCIO-ECONOMIC RESILIENCE AND CLIMATE ADAPTABILITY AMONG TARLAC FARMERS

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ABSTRACT

This study examines project LAWA at BINHI (Local Adaptation to Water Access and Breaking Insufficiency through Nutritious Harvest) under the Risk Resiliency Program – Climate Change Adaptation and Mitigation of the Department of Social Welfare and Development (DSWD) and its effectiveness in enhancing the socio-economic resilience and climate adaptability of farmers in Tarlac province amidst disruptions brought by El Niño.

The quantitative descriptive research design was used, where 100 partner beneficiaries of La Paz, Moncada, Ramos, San Clemente and San Jose participated. A structured questionnaire on the 5-point Likert scale was used for collecting data, and then descriptive statistics were used for analyzing the data with the help of SPSS. The respondents were mostly above 40 years and a majority were landless laborers, implying a higher level of vulnerability to climate shocks and livelihood insecurity.

Results indicate that the program is viewed as being very effective on all its components. The highest effectiveness mean = 4.33 was obtained for cash-for-work which generates immediate income support by timely distribution of wages. Food security, water security and agricultural stability were significantly enhanced by communal gardens (mean = 4.43) and small farm reservoirs (mean = 4.20). The climate adaptability training (4.13) improved beneficiaries' capacity to use climate resilient farming techniques. But there are still obstacles: the lack of adoption of electronic payment mechanisms and a need for greater after-program support (market linkage, technical mentoring, etc.).

The study finds that the project LAWA at BINHI demonstrates a combination of livelihood support, infrastructure provision, and capacity development in moving towards adaptive social protection. It emphasizes the need for the community's involvement in governance and the need for local support structures to create long-term climate resilience for vulnerable farming communities.

Chapter 1
THE PROBLEM AND ITS BACKGROUND

Background of the Study

El Niño-Southern Oscillation, or ENSO, is a climate cycle that affects temperatures in the central and eastern Pacific. It passes through three stages: ENSO neutral, La Niña, and El Niño. La Niña cools the water, while El Niño warms it at the surface. The humid equatorial climate of the Philippines is marked by high humidity, frequent rains, and comparatively high temperatures and as an archipelago, the Philippines has the highest vulnerability to tropical cyclone events worldwide. The Philippines is highly vulnerable to El Niño Southern Oscillation (ENSO) and La Niña, as well as to climate change and disaster risks that impact food and water security, agriculture and water resources, like in many countries in the Asia Pacific region.

In the current, the climate change adaptation in the Philippines has already shifted from "no regret" solutions to being fully integrated into policies and development plans that specifically address the vulnerabilities of the country and local governments. The National Climate Change Action Plan (NCCAP) identifies key improvement areas based on the gap analysis of Climate Change research. It mainly focuses on environmental sustainability and food security. A comprehensive approach will be used to enhance resilience, emphasizing multifunctionality, transdisciplinary participation, and sustainability. However, government efforts to mitigate the drought impacts have not consistently led to successful adaptation to extreme threats of climate change.

The farmers' experiences during recent the El Niño phenomenon have revealed common challenges. Many farms faced significant water shortages, which decreased irrigation availability and negatively impacted the crop yields, particularly for water-intensive crops like rice and vegetables. While prolonged dry spells resulted in wilting of plants that led to lower productivity and financial stress among the farmers.

Tarlac Province is in the center of Central Luzon with 305,345 hectares of land that is used for agriculture and has an agricultural-based economy that makes up 1.0% of the country and 16.75% of the region. Of this, 112,997.57 hectares are dedicated to agricultural activities and are mainly used for corn and rice cultivation. To mitigate the effects of water scarcity and limited access to water sources in upland, rainfed and other areas as initiative of the Department of Social Welfare and Development (DSWD), the Risk Resiliency Program, including Cash-for-Work, is a broader effort on Climate Change Adaptation and Mitigation-Disaster Risk Reduction and Management

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(CCAM-DRR). The DSWD collaborates with local government units to engage beneficiaries in building these reservoirs, compensating them at the prevailing regional wage rate. Priority is given to farmers affected by El Niño, particularly those in the DSWD's Listahanan database.

Launched in February 2024 in Tarlac Province, the project targets municipalities; Lapaz, Moncada, Ramos, San Clemente, and San Jose based on the expected severity of El Niño. Community engagement in this initiative will support effective disaster risk reduction and promote resilience to climate change. Project LAWA at BINHI is designed to address the impacts of the El Niño phenomenon in Central Luzon, particularly in Tarlac Province, a province that is highly reliant on agriculture, by promoting sustainable water management and food security is critical in protecting vulnerable populations from climatic socio-economic hardships and aim to provide them with the necessary resources and support to recover and thrive.

Statement of the Problem

This study will focus on the assessment and evaluation of the project's success in increasing the resilience of partner-beneficiaries over the implementation of the Department of Social Welfare and Development- Risk Resiliency Program through Cash for Training/ Work- Project Lawa at Binhi in Tarlac Province.

In particular, the research aims to answer the following:

1. What are the profiles of the partner-beneficiaries in the Province of Tarlac, along with:
   - 1.1 Place of origin
   - 1.2 Age
   - 1.3 Sex
   - 1.4 Marital Status
   - 1.5 Socio-economic Status
   - 1.6 Years of experience as a farmer
   - 1.7 Extent of farmland
2. What are the effects of Climate Change on the lives of partner-beneficiaries?
3. How effective are the interventions provided to the partner beneficiaries under the DSWD Risk Resiliency Program Climate Change Adaptation and Mitigation-(Project LAWA and BINHI) on the following;
   - 3.1 Socio-economic resilience
   - 3.2 Climate adaptability
   - 3.3 Water Management and Agricultural Practices
   - 3.4 Vulnerability reduction on the impacts of Climate Change
4. What are the additional proposed measures in the implementation of the DSWD RRP CCAM- PLAB?
5. What is the implication of the study to Public Administration?

Significance of the Study

The results of the study are sought to be beneficial to the Department of Social Welfare and Development, the Department of Agriculture, the Province of Tarlac, the Local Government Units, the Farmers, the Students, and Future Researchers.

To the Department of Social Welfare and Development, the study on farmers affected by El Niño who are participating in Project LAWA at BINHI in Tarlac Province provides valuable opportunities for growth and improvement. This could assist the Department of Social Welfare and Development (DSWD) in enhancing its programs and supporting vulnerable communities in several key areas.

Foremost, with regard to the Effectiveness Assessment, the study enables an effective evaluation of Project LAWA and BINHI, allowing the identification of successful strategies employed by partner stakeholders. While, in terms of Program Enhancement, this highlights the areas where future projects can be enhanced to achieve a greater impact not just in the lives of the partner-beneficiaries but also in the entirety of the community. Also, this study will act as a roadmap for future targeted funding, ensuring that resources are distributed equitably and where they are most needed among the participating agencies.

To the Department of Agriculture, this study aims to highlight key areas in the community such as agricultural resilience, climate-smart practices, program evaluation, policy reforms, resource allocation, food security, farmer empowerment, and interagency collaboration that supports the DSWD policy decisions on the disaster risk reduction, climate change mitigation initiatives, and fostering sustainability of resilience among families in the community while guiding resource allocation for climate initiatives. Which thereof focuses on enhancing extension services for farmers, improving water source management to mitigate drought, developing climate-resilient crop varieties, and providing extensive agriculture-related orientations and training.

To the Provincial Government of Tarlac, this study intentions to improve the decision-making for Provincial Local Government Units (PLGUs) in agriculture, disaster risk reduction, and sustainable development of communities. This study also focuses on the localized solutions to climate-related challenges and emphasizes effective resource allocation for agricultural growth, disaster response and community resilience that will also include the evaluation of the Project LAWA at BINHI implementation in the province.

Perceived key components include fostering farmer empowerment, revisiting disaster risk plans, and supporting sustainable agriculture, crop diversification, and soil conservation to aid vulnerable communities.

To the Local Government Units, the research about the farmers affected by El Niño, who are beneficiaries of Project LAWA at BINHI in Tarlac Province, is significant for several reasons because this study aims to refine agricultural programs and policies, enhance climate resilience, promote sustainable agricultural practices, support vulnerable farming communities, and foster inclusive and sustainable development which will soon result in socio-economic resilience and community climate adaptability.

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To the Farmers, this study will serve as an information to disaster risk reduction (DRR) strategies and enhances climate resilience through identifying social, economic, and environmental effects of the El Niño on farmers and entirety of agricultural productivity, as well as their adaptation methods. It also aims to advocate for sustainable agricultural practices and supports the development of safety nets for vulnerable farming communities as an insight guide to national and local policymakers in making targeted interventions and allocating adequate resources to the community effectively and it is expected that through this research, farmers' voices will be amplified and encouraged.

To the Students and Future Researchers, this research purposes to make a theoretical, practical, methodological, and empirical contributions to the body of knowledge on climate change, disaster risk reduction, socio-economic resilience, and community climate adaptability. In addition, it will offer a framework for assessing the effects of climate-related disasters on sector and community that will demonstrates the application of quantitative research in understanding complex phenomena such as El Niño in the livelihood of the partner-beneficiaries and how the DSWD RRP CCAM CFT/W Project LAWA at BINHI implementation has aid in the mitigation and adaptation measures of the community in combatting threats of climate impacted distresses. Moreso, the study is also expected to provide a baseline data for future research on climate change, agriculture, and rural development, socio-economic resilience, and as wells as climate adaptability which bridges the facilitation of comparative analyses with other regions across the country.

Scope and Delimitations

This research endeavors to identify the effects of climate change on the lives of the partner beneficiaries, to identify the effectiveness of the interventions provided to the pioneer partner beneficiaries of the DSWD RRP CCAM- Project LAWA and BINHI 2024 implementation, to determine its impact on socio-economic resilience and climate adaptability, and to propose additional measures in the future implementation of the DSWD RRP CCAM- Project LAWA and BINHI.

This research will also focus on the specific boundaries and limitations concerning the demographic scope and it will concentrate on the Province of Tarlac, specifically targeting partner-beneficiaries selected municipalities during the 2024 implementation of DSWD RRP CCAM Project LAWA and BINHI, composing an enumeration of 100 pioneer partner beneficiaries from the target municipalities: Lapaz, Moncada, Ramos, San Clemente, and San Jose.

Conceptual Framework

The study aims to explore how the partner beneficiaries' lives are affected by climate change, to identify the outcome of the interventions given to the partner beneficiaries by DSWD RRP CCAM- Project LAWA and BINHI as effective, to determine how the interventions affect the socio-economic resilience and climate adaptability of the partner beneficiaries, and to propose further interventions to be undertaken in the future implementation of the DSWD RRP CCAM- Project LAWA and BINHI. It employs a quantitative research design, and it will utilize a descriptive approach to explore how these partners beneficiaries navigated the challenges posed by climatic disturbances in their livelihoods and daily lives. Through this research, incorporating principles of quantitative research design represents partner beneficiaries' experiences in the effects of climate change, the effectiveness of DSWD RRP CCAM Project LAWA and BINHI as to their socio-economic resilience and climate adaptability from the respondents' perspectives, with justification regarding the study. This approach also lends itself to proposed additional measures in the future implementation of DSWD RRP CCAM Project LAWA and BINHI and to public administration findings.

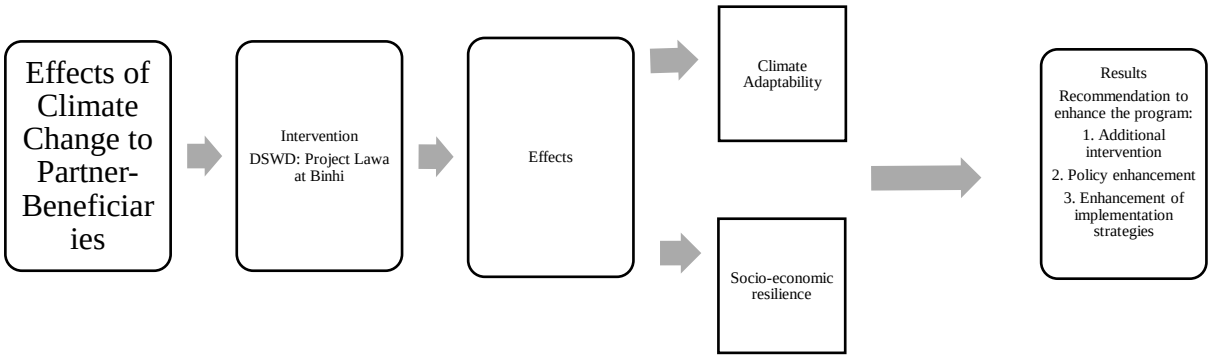


Figure 1. Paradigm of the Study

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Chapter 2
METHODOLOGY

This chapter provides an overview of the research methodologies utilized in this investigation, such as the research site, instruments, data gathering techniques, and statistical procedures for data analysis.

Research Design

This phase of the study utilizes a quantitative approach. The data collected from the quantitative survey were encoded and analyzed using the Statistical Package for the Social Sciences (SPSS). First, demographics and variables were correlated to identify differences. Regression analysis was also employed to examine the relationships between variables and how they impact one another.

Locale of the Study

Several Tarlac Province municipalities, including Lapaz, Moncada, San Clemente, San Jose, and Ramos, participated in the study. Tarlac, which consists of seventeen municipalities and one component city the provincial capital of Tarlac City is situated in the central part of Luzon.

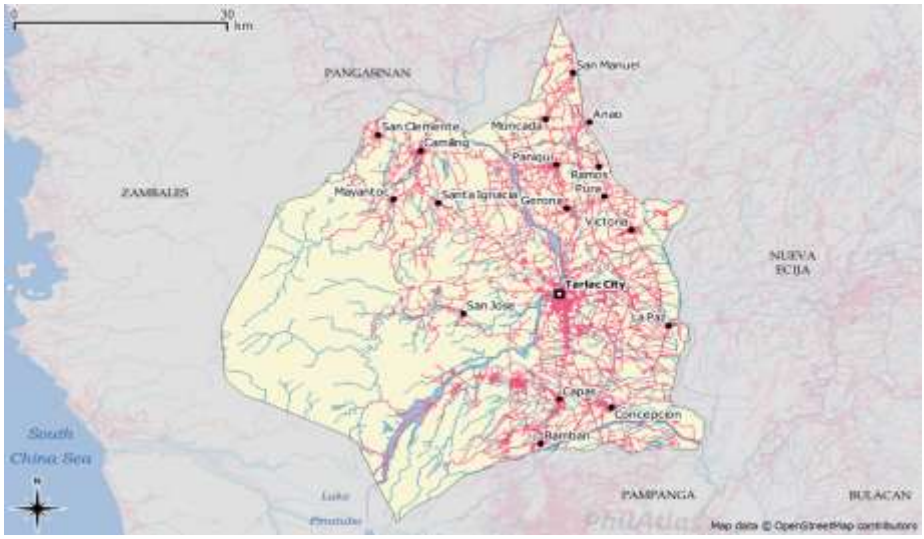


Figure 2. Map, Province of Tarlac

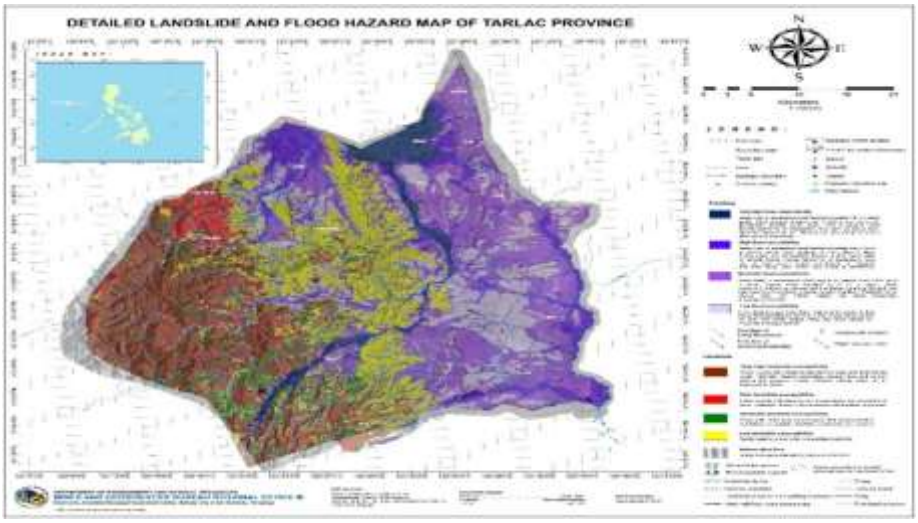


Figure 3. Geo Hazard Map, Province of Tarlac

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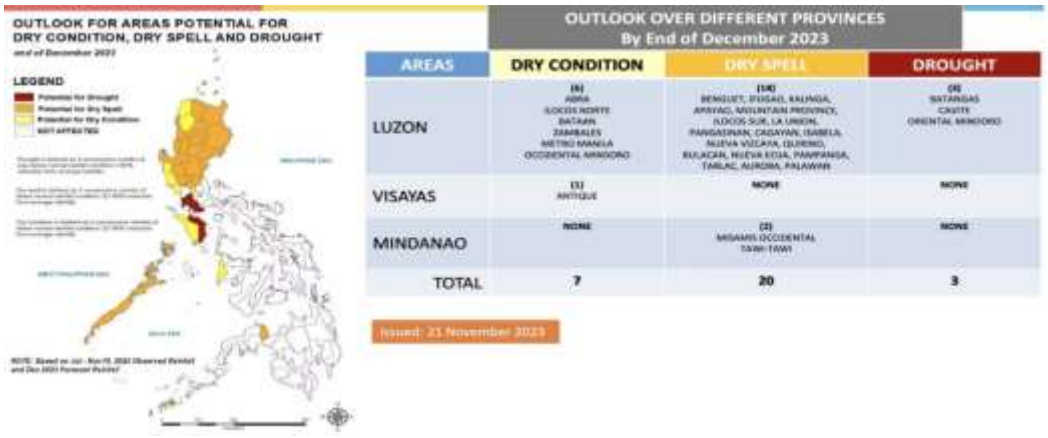


Figure 4. Map, PAG-ASA Climate Outlook

Sampling Design

The researcher used a quantitative approach to evaluate the effect of El Niño phenomenon to the target population which are the beneficiaries of the Province of Tarlac's Project Lawa and Binhi 10th Wave CY 2024 through the Department of Social Welfare and Development's Risk Resiliency Program for Climate Change Adaptation and Mitigation (RRP-CCAM).

Respondents of the Study

The Department of Social Welfare and Development's (DSWD) Risk Resiliency Program for Climate Change Adaptation and Mitigation (RRP-CCAM) pioneer partner beneficiaries, particularly those engaged in Project Lawa and Binhi Wave CY 2024 implementation in the Province of Tarlac, are the research target. To ensure a representative and balanced analysis, the study utilized a balanced geographic distribution, selecting exactly twenty (20) beneficiaries from each of the five participating municipalities: Lapaz, Moncada, Ramos, San Clemente, and San Jose. This allows each municipality to contribute an equal 20% to the overall findings.

1. Descriptive Profile of the Study Sample

Table 1.1
Place of Origin of the Respondents

Municipality	Frequency	Percentage
Lapaz	20	20.0%
Moncada	20	20.0%
Ramos	20	20.0%
San Clem	20	20.0%
San Jose	20	20.0%
Total	100	100.0%

The collected data shows a balanced geographic distribution among the respondents. For the 2024 implementation of the DSWD RRP CCAM-PLAB program, exactly twenty (20) pioneer partner beneficiaries were selected. These individuals were chosen from each of the five municipalities in the province, Moncada, Ramos, San Clemente, and San Jose, to ensure that each area contributes equally, with each municipality representing twenty percent (20%) of the overall findings.

Data Gathering Procedure

In order to gather information from the pioneer partner beneficiaries of the Department of Social Welfare and Development's Risk Resiliency Program for Climate Change Adaptation and Mitigation (RRP-CCAM), specifically the Project Lawa and Binhi 10th Wave CY 2024 implementation in the Province of Tarlac, who were directly affected by the El Niño phenomenon, the researcher employed the convenience sampling method. Participants will be assured that their data will be kept private, anonymous, and utilized exclusively for scholarly purposes.

Data Analysis

After the field collection, all the empirical data were systematically tabulated and encoded to analyze data using the Statistical Package for the Social Sciences (SPSS). The results were then statistically analyzed using frequency, percentage, ranking and weighted mean to present the data in verbal terms of effectiveness of the programs. To ensure the accuracy and practical depth of the interpretation

The formula that will be used is as follows: Weighted mean =[f (3)+ f(2)+ f(1)]/N

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Where 5,4,3,2,1 = corresponding value
F = frequency of each response option
N = total number of respondents

In this study, the researcher utilized a 5-point scale to assess the climate adaptability and socio-economic resilience of those pioneer beneficiaries of DSWD RRP CCAM- Project LAWA at BINHI implementation in the Province of Tarlac.

Likert Scale. The five-point rating scale was used to evaluate and interpret the results of the study on the impact assessment of the partner beneficiaries of DSWD RRP CCAM- Project LAWA at BINHI among selected municipalities in the Province of Tarlac.

Numerical Equivalent	Range	Adjectival Description
1	1.00-1.49	Not Effective
2	1.5-2.49	Slightly Effective
3	2.5-3.49	Moderately Effective
4	3.5-4.49	Highly Effective
5	4.5-5.0	Extremely Effective

Ethical Consideration

The protection of the participants in the study and informed consent was prioritized (Miles et al., 2016). Every participant was given a consent letter outlining the study's objectives and their particular participation in it. The participants were informed that their involvement was entirely voluntary and that there were no associated risks. The researcher undertakes to do the study respectfully, honestly and responsibly, especially with vulnerable groups, including farmers impacted by environmental changes.

The researcher took privacy of participants' information into consideration. All data collected will be kept confidential and used exclusively for academic purposes. This practice adheres to Section 8 of the Data Privacy Act of 2012, which emphasizes the necessity to safeguarding personal information. It is imperative to implement appropriate measures to ensure the confidentiality of this information.

Chapter 3
PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter reviews the DSWD Risk Resiliency Program's Project LAWA at BINHI in Tarlac, focusing on 100 beneficiaries to assess their resilience. It covers six areas: Livelihood Enhancement, Climate Adaptability, Resilience Measures, Cash-for-Work Operations, and Water and Food Security.

Table 1.2
Age Profile of the Respondents

Category	Frequency	Percentage
26 to 40	24	24.0%
41 to 55	28	28.0%
56 to 70	36	36.0%
Above 70	12	12.0%
Total	100	100.0%

The sample population is predominantly composed of older adults, having seventy-six (76%) of the population being over the age of forty (40). The most significant age bracket is the (56 to 70-year-old group (36%), while only twelve (12%) of respondents are over 70, it also suggests that while most of the sample population is aging, still many of them are still within the typical working and active farming age.

Table 1.3
Sex Profile of the Respondents

Category	Frequency	Percentage
Male	40	40.0%
Female	60	60.0%
Total	100	100.0%

As the table above illustrates, there is a notable female majority in this group, with women making up sixty (60%) of the respondents compared to forty (40%) for men. This indicates a strong female presence in the context being studied and entails that farming is not an all-male, domineering world. In the RRP CCAM Project Lawa at Binhi, this led to the Department of Social Welfare and Development actively promoting gender equality and the integration of women into traditionally male-dominated tasks.

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Table 1.4		
Marital Status of the Respondents		
Category	**Frequency**	**Percentage**
Single	21	21.0%
Married	67	67.0%
Widowed	12	12.0%
Total	100	100.0%

The majority of respondents are married, making up sixty-seven percent (67%) of the group. This could be a sign of good household stability or dependence on family units. Twenty-one percent (21%) is single and twelve percent (12%) is widowed. The majority of the respondents are married with farmers/farm owners. Some of the single farmers are heirs to the land of older farmers who are too old to farm.

Table 1.5		
Socio-Economic Status of the Respondents		
Category	**Frequency**	**Percentage**
Farm Laborer	47	47.0%
Farm Owner	53	53.0%
Total	100	100.0%

There is a nearly equal division between owners of means of production and workers of labor in the sample population. Farm owners make up 53% of the group, the remaining 47% are farm laborers. This tight division indicates a social organization characterized by almost half of the population engaged in wage labor in agriculture.

To understand the socio-economic resilience and climate adaptability of the respondents, the researcher looks at their socio-economic status based on their ownership or lack thereof of farmland as classified by the Department of Agriculture. The first group comprises of farmers without land who are paid as farm laborers. The farmers who have the least land of 1 hectare or less are the marginal scale farmers and then the small farmers who have 1 hectare to 2 hectares of farm land.

Table 1.6		
Years of Farming Experience of the Respondents		
Category	**Frequency**	**Percentage**
2 to 14	35	35.0%
15 to 27	27	27.0%
28 to 40	28	28.0%
41 to 53	7	7.0%
Above 53	3	3.0%
Total	100	100.0%

The respondents in DSWD initiative are experienced farmers who have to struggle for years of losses in the agriculture sector due to the El Niño phenomenon and lack of water accessibility, and they have different levels of experience, most of them are well established. The largest share (35%) consists of people with 2-14 years' experience, closely followed by 15-27 years (27%) and 28-40 years (28%). Just 10% of respondents combined (less than 12%) have over 41 years of experience, matching the less than 11% of respondents in the "Above 70" age group.

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Table 1.7 Extent of Farmland of the Respondents		
Number of Hectare	**Frequency**	**Percentage**
None	47	47.0%
0.01 to 1.00	25	25.0%
1.01 to 3.00	21	21.0%
3.01 to 5.00	5	5.0%
5.01 to 7.00	2	2.0%
Total	100	100.0%

In the targeted areas of implementation of RRP CCAM PLAB, it had shown by the answers of the beneficiaries that the size of farmland significantly influences a farmer's capacity to adapt to climate change. Farmers with more land are generally more capable of investing in new technologies, trying out new crop varieties, and absorbing the costs of potential damages. While Small-scale farmers, particularly those in rainfed lowlands, are at higher risk of losses, highlighting the need for targeted support, such as improved irrigation and access to insurance, leaving them to on the dry to sustain livelihood during the damaging impact of climate change.

2. Determination of the effects of Climate Change on the lives of partner-beneficiaries

In order to understand the quantitative mean scores shown in Tables 2.1–4.4, the researcher employs an extensive rubric as the foundation for the analytical framework. This rubric makes it easier to translate statistics into a verbal statement that accurately depicts the program and explains its efficacy. Project LAWA at BINHI is evaluated consistently and objectively across a number of crucial parameters thanks to the rubric's categorized ranking of the results. This thorough effort makes it simple to understand and compare the outcomes, offering insights into different aspects of the program's effectiveness.

The findings from the program evaluation show a complex picture of effectiveness with varying degrees of success across multiple levels. Areas fall in the "Moderately Effective" range (2.50 to 3.49) indicating that the program had a substantial but less than ideal effect. An example of this can be seen in the Livelihood program, which scored a mean of 3.49, placing it in the highest end of this category. Conditions related to El Niño had a baseline score of 3.37, which was also in this moderate range and thus had a significant impact on this rating.

The "Highly Effective" category (with scores ranging from 3.50 to 4.49) demonstrates a significant number of program components that are very successful and well received by participants. The Climate Adaptability training was a remarkable success, with a mean score of 4.13, reflecting the effectiveness of addressing disaster preparedness of the participants. The Resilience Measures also scored a good mean of 3.97, with water harvesting and disaster-resilient crops having a remarkable score of 4.18 and 4.15 respectively. The Cash-for-Work operations were also outstanding – with the highest mean score across all categories at 4.43. 100% regional minimum wage payments achieved a commendable score of 4.46, which is one of the reasons for this success. These were joined by the Access to Water and Food components, which strongly entered this high performing range (4.30 and 4.26 respectively), and Sustainability and Ownership, which also entered this high performing range, albeit less strongly (3.76 and 4.45 respectively).

Finally, the "Extremely Effective" category, ranging from 4.50 to 5.00, is very rare. There were several individual scores in the tables that were close to being classed as “Extremely Effective” – for example, timely receipt of cash payments was 4.46 and the effect of establishing a communal garden were 4.43 – but no overall category means scored this prestigious rating. This joint evaluation gives an extensive overview of the program's results and potential for improvement, revealing its strengths as well as those areas that require continued effort to enhance.

Table 2.1
Effectiveness of the Program in Terms of Addressing Threat of El Niño in Terms of the Respondent’s Livelihood

Statement	Mean	Verbal Description
How much impact did the project have in addressing the threat of El Niño on your livelihood? (Gaano kalaki ang naging epekto proyekto sa pagsugpo ng banta ng El Niño sa iyong kabuhayan?)	3.37	Moderately Effective

The data indicated that overall, the effects of El Niño on the partner-beneficiaries' livelihood activities were rated Moderately Effective with a mean of 3.37. Before the project, external climatic stresses such as El Niño were very strong on the targeted respondents in the Province of Tarlac, which had a significant impact on their livelihoods. Consequently, the beneficiaries

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reported a mean score of 3.37 regarding the magnitude of El Niño's negative impact on their lives, indicating that the challenges faced were significant and widespread across the five municipalities.

Table 2.2		
Effectiveness of the Program in terms of Livelihood		
Statement	**Mean**	**Verbal Description**
How effective were the SFRs or water harvesting structures in preventing crop losses? (Gaano naging epektibo ang mga SFR o water harvesting structures sa pag-iwas sa pagkalugi ng pananim?)	3.59	Highly Effective
Is selling your produce in the Kadiwa Stalls or local market has been effective? (Naging epektibo ba ang pagbebenta ng ani sa mga Kadiwa stall o lokal na merkado?)	3.52	Highly Effective
Mean	3.49	Moderately Effective

Program Effectiveness in terms of Livelihood. The data reflect a positive intervention in mitigating agricultural losses, with an overall mean of 3.49, categorized as Moderately Effective. While the specific interventions, namely the Small Farm Reservoirs (SFR) and water harvesting structures (3.59), Rainfall and runoff are collected and stored for irrigation in small farm reservoirs (SFRs). According to study, using Kadiwa stalls for market access (3.52) was rated as Highly Effective. In the Philippines, Kadiwa stalls (Katuwang sa Diwa at Gawa para sa Masaganang Ani at Mataas na Kita) are used as a direct marketing mechanism to significantly reduce post-production loss in communal gardens and community-managed agricultural projects. SFRs are an economically viable way to store and conserve rainwater to lessen the effect of drought and cropping intensification in rainfed drought-prone areas.

3. Determination of the effectiveness of the provided interventions to the partner beneficiaries under the DSWD RRP CCAM PLAB on Socio Economic Resilience, Climate Adaptability, including Water Management and Agricultural Practices, and Vulnerability reduction on the impacts of Climate Change

Table 3.1		
Effectiveness of the Program in terms of Resilience Measures		
Statement	Mean	Verbal Description
Kapakinabangan ng pagtatanim ng mga disaster-resilient crops at fruit-bearing trees.	4.15	Highly Effective
Halaga ng sariling pinagkukunan ng tubig (LAWA) upang iwasa n ang epekto ng dry spell.	4.18	Highly Effective
Ang tubig mula sa proyekto ay nagagamit din sa ibang pangangai langan sa bahay.	3.59	Highly Effective
Mean	3.97	Highly Effective

The table above illustrates that the overall mean of 3.97, the resilience measures are regarded as Highly Effective The most important aspects are the access to water (LAWA) to mitigate droughts (4.18) and the strategic planting of disaster resilient crops and fruit-bearing trees (4.15). The primary agricultural resilience goals are well met even though use of project water for non-primary agricultural purposes was rated lower, but still high (3.59).

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Table 3.1.1		
Effectiveness of the Program in terms of Cash-for-Work		
Statement	**Mean**	**Verbal Description**
Did you participate in the 20-day Cash-for-Work and Training accordingly? (Kaayusan ng pakikilahok sa 20-araw na Cash-for-Work at Training)	4.39	Highly Effective
Was the cash compensation received in a timely manner? (Pagtanggap ng kabayarang cash (100% Regional Minimum Wage) sa tamang oras)	4.46	Highly Effective
Did you feel safe during the implementation of the project activities? (Pakiramdam ng kaligtasan (safety) habang isinasagawa ang mga aktibidad n g proyekto)	4.45	Highly Effective
Mean	4.43	Highly Effective

This survey category represents the highest-rated aspect of the program, with an overall mean of 4.43 (Highly Effective). The administrative execution was particularly praised, specifically regarding the timely disbursement of the 100% Regional Minimum Wage (4.46) and the assurance of participant safety (4.45). The orderly conduct of the 20-day training and work period (4.39) further validates the operational efficiency of the DSWD's implementation framework.

Table 3.2		
Effectiveness of the Program in terms of Climate Adaptability		
Statement	**Mean**	**Verbal Description**
How did the CCAM training helped in increased readiness to crises and emergencies? (Paano nakatulong sa antas ng pagtaas ng kaalaman sa paghahanda sa sakuna matapos ang CCAM training?)	4.14	Highly Effective
What is the level of adaptability of the family in fighting hunger amidst threats of El Niño? (Ano ang antas ng katatagan ng pamilya laban sa gutom sa gitna ng matinding init?)	4.08	Highly Effective
Can the lessons learned from Climate Change Adaptation and Mitigation and Disaster Risk Reduction and Management be applied in everyday farm planning? (Nagagamit ba ang mga natutunan sa CCAM at DRRM sa pang-araw-araw na pagpaplano sa bukid?)	4.17	Highly Effective
Mean	4.13	Highly Effective

The overall mean was 4.13 for this dimension, suggesting good transfer of knowledge and skills. Knowledge acquisition was reported to be high after CCAM training (4.14), and most importantly, application of these learnings in the daily farm planning process (4.17). The high score for family stability against hunger in extreme heat (4.08) highlights the success of the program in bridging the gap from climate education to tangible resilience of families.

Table 3.3		
The Program's Ability to Provide Water and Food Security.		
Statement	**Mean**	**Verbal Description**
Did the project improve access to water during drought periods? (Napabuti ba ng proyekto ang access sa tubig sa panahon ng tagtuyot)	4.27	Highly Effective
Are the water structures currently still functional and useful? (Kasalukuyang pa bang gumagana (functional) at kapaki-pakinabang ang mga istruktura ng tubig?)	4.20	Highly Effective

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Has the communal garden been successful in growing vegetables and improving food security?" (Tagumpay ba ang communal garden sa pagpapatubo ng mga gulay at pagpapabuti ng seguridad sa p agkain)	4.43	Highly Effective
Mean	4.30	Highly Effective

The program had a significant impact on resource security locally, and was rated a Highly Effective mean of 4.30. One of the striking results is the effectiveness of community gardens in enhancing food security (4.43). Moreover, the respondents agreed that the water structures are operational (4.20) and also significantly improved water access during periods of drought (4.27), one of the main goals of Project LAWA at BINHI.

Table 3.4
Effectiveness of the Program in terms of Access to Sustainability and Ownership

Statement	Mean	Verbal Description
Is there a clear and effective maintenance plan for the projects? (Pagkakaroon ng malinaw at epektibong maintenance plan para sa mga proyekto?)	4.19	Highly Effective
Is there a sense of ownership and responsibility toward the project? (Pagkakaroon ng pakiramdam ng pagmamay-ari (sense of ownership) at pananagutan sa proyekto)	4.19	Highly Effective
Has there been active participation in the Community Action Plan (CAP) for long-term impact? (Pagiging aktibo sa pakikilahok sa Community Action Plan (CAP) para sa pangmatagalang epekto?)	4.39	Highly Effective
Mean	4.26	Highly Effective

Table 4.4 shows that the long-term viability of the project appears promising, with an overall mean of 4.26 (Highly Effective). High level of active involvement in the Community Action Plan (4.39) showing strong community stewardship. Maintenance planning was equally rated at 4.19, as was the respondents' sense of responsibility for the structures, indicating that the community is willing to continue to support the structures beyond the implementation stage.

4. Proposal of additional measures in the implementation of the DSWD RRP CCAM- PLAB

This section serves as a qualitative mechanism for identifying strategic pathways for program refinement based on the lived experiences of the partner-beneficiaries. The researcher employed a checklist to see the perspective of the targeted population, which will then serve as a strategic roadmap for program evolution, moving from short-term relief toward long-term socio-economic resilience. The overwhelming consensus on specific measures indicates a community that is deeply invested in the technical and structural success of the project.

A. High Consensus Strategic Enhancements (Questions 1, 2, 4 and 5)

Extended Mentorship, Guaranteed Markets and a Maintenance Fund were supported by 98% of the respondents (98 out of 100) from the participants. Longitudinal Capacity Building (Question 1): Although the training seemed to work well, beneficiaries realize the challenge of the implementation of actual agriculture, hence the need for monthly coaching and "refreshers." They want a more continuous mentoring process to deal with issues of the real farm world outside the 20-day project period. Farmer-beneficiaries want to explore Extended Mentorship that moves beyond the initial 20-day project cycle to address the "complexity of actual agricultural implementation". Specifically, their interests include Real-World Farming Challenges, like the beneficiaries seek monthly coaching and "refreshers" to help them navigate practical agricultural issues that emerge during the actual farming process.

A "Guaranteed Market" is in high demand (Question 2), underscoring the need for value-chain security. The program can help farmers avoid the risk of post-harvest losses and price fluctuations, by formalizing agreements with local markets that help to guarantee the farmers' household incomes proportionate to their production. What are the reasons for these 98 members of the target population to demand a "Guaranteed Market"? It is based on the need of the participants for economic security and post-harvest protection.

In Repair of Small Farm Reservoirs (SFR) and agricultural tools, there is a recommendation for a "contingency fund" which shows substantial community stewardship. Beneficiaries are focusing on the longevity of the project's physical assets, recognizing that

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sustainability of water access depends on having a stewardship fund in place to maintain the project. Project LAWA at BINHI is one of the key strategic elements that will contribute to the long-term sustainability and continuity of the project through a few important mechanisms recommended by the targeted respondents who indicated that BINHI has an extensive Financial Safeguard for Physical Assets. The proposed fund will serve as an important "contingency fund" to support repair and maintenance of critical infrastructure, such as Small Farm Reservoirs (SFR). It will also help with the replacement of garden tools that could be damaged or worn out when the formal implementation period is over.

This is very important and it is the concept of Preservation of Functionality, which ensures that water harvesting structures are available for the emergency needs as and when required and not let decay. This process not only moves a theory into a plan that is well-funded, but also helps develop a sense of Fostering Community Ownership. The data shows that the beneficiaries also have a high level of commitment and responsibility, with a score of 4.19. With a dedicated fund in place, this sentiment is further reinforced, empowering the community to actively take charge of the project's enduring legacy. They will no longer be limited by their lack of financial resources to make needed repairs and will be able to be more engaged and responsible in maintaining these important infrastructures.

In the water management sector, particularly in the agricultural domain, participatory site selection proves to be a paradigm-shifting approach in the realm of water management. It changes the paradigm of being a recipient of aid to an active technical consultant where the beneficiaries can make decisions that have direct consequences on their livelihoods. This innovative approach not only maximizes infrastructure placement but also ensures infrastructure is in line with the actual experience and observation of local farmers. Envision communities where a centuries-old tradition of farming is based on deep-rooted dialogue that starts with water facilities. The consultancy is in the form of sharing of information by local farmers based on their practical experience with water flow and its interaction with terrain behavior. For example, these observations can be used to strategically position Small Farm Reservoirs (SFR) which increases the odds of effectively harvesting and storing water, thereby promoting sustainable water management for the community. Exploring the demographics of the farmers involved uncovers a lot of experience – an astounding 65% have 15 – 40 years of farming experience.

B. Analytical Evaluation of the Digital Payout Suggestion (Question 3)

The results show a significant difference between the desired modernization of payment systems, especially in terms of structural improvement, as expressed by the respondents. Remarkably, only 8 out of 100 participants (8%) said they would prefer the integration via e-wallets of a Digital Payout option.

The demographic data analysis reveals an age distribution of the respondents, that is, 76% of the respondents are aged 40 years and above while 48% are aged 56 years and above. This demographic is often stereotyped as being technologically underwhelmed, and preferring physical cash payments.

5. The implications of the Study for Public Administration.

The results from the effectiveness assessment of Project LAWA at BINHI (PLAB) provide important lessons to the changing picture of public administration in the Philippines, specifically on social protection, digital divide issues and institutionalization of participatory governance in rural spaces. One of the remarkable changes is the operational paradigm of the Department of Social Welfare and Development (DSWD) where they are increasingly moving from the traditional relief mode. This shift reflects a more proactive approach to climate-responsive governance, and represents a significant shift from the more traditional approach.

For the public administrator, the findings have significant ramifications in terms of how effective social safety nets are becoming, depending on their ability to transfer knowledge and provide technical training. Daily farm planning is an example of the high utility reported for Climate Change Adaptation and Mitigation (CCAM) trainings with a mean score of 4.17.

The present study highlights the need for a multi-dimensional approach to successful public administration in the climate vulnerable environment. This method strikes a balance between the transparency of cash-for-work programs and equitable, demographically-targeted service delivery; it also seeks to adopt a more participatory and sustainable approach to resource management, which is crucial for supporting vulnerable communities' resilience in the Philippines.

Chapter 4
SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter will summarize the results of the data analysis and provide conclusions and practical recommendations. It would look into the effectivity of the 1st implementation cycle or 2024 of the Department of Social Welfare and Development's Risk Resiliency Program, Cash for Training/Work Project Local Adaptation to Water Access and Breaking Insufficiency through Nutritious Harvest for the Impoverished in the climate adaptability and socio-economic resilience among the farmers in Tarlac Province.

Summary of Findings

This study evaluates the effectiveness of the Department of Social Welfare and Development (DSWD) Risk Resiliency Program through the Climate Change Adaptation and Mitigation initiative, specifically Project LAWA at BINHI, in enhancing the socio-economic resilience and climate adaptability of 100 pioneer beneficiaries across the municipalities of La Paz, Moncada, Ramos, San Clemente, and San Jose in the Province of Tarlac.

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In general, the results indicate that Project LAWA at BINHI has a positive effect on improving the resilience of vulnerable farming communities in Tarlac, addressing temporary livelihood needs and long-term adaptive capacity. The program has achieved high effectiveness in income support, water management and climate adaptability, but the fact that many beneficiaries are aging and without land shows that it is important to continue providing sustainable and inclusive interventions. They comprise additional capacity building, better access to assets, and sustainability processes to secure resilience benefits beyond the duration of the program.

Conclusions

The study on the DSWD Risk Resiliency Program – Climate Change Adaptation and Mitigation (RRP-CCAM), in particular, Project LAWA at BINHI, revealed that the program in general is seen as highly effective to improve the resilience of its partner beneficiaries. The mean ratings, based on a 5-point Likert scale, for most of the program components ranged from 3.50 to 4.49, reflecting positive outcomes overall in the implementation of the program.

The study also highlights the need to tackle socio-economic disparity when building resilience. There is a significant reliance on landless laborers as beneficiaries who are still more vulnerable because they have access to less productive resources. As a result, the food gap has been partially filled by communal gardens and income-generating initiatives, which offer food security and supplemental income. But difficulties in adopting digital payment systems, with just 8% of users, highlight a disconnect between the innovations being offered in the programs and the realities of rural communities.

Recommendations

Based on the results obtained, a number of recommendations are made to further improve the implementation and sustainability of the Risk Resiliency Program – Climate Change Adaptation and Mitigation (RRP-CCAM) of the Department of Social Welfare and Development (DSWD) Risk Resiliency Program (RRP) – Climate Change Adaptation and Mitigation (CCAM) Project LAWA at BINHI.

1. The DSWD is encouraged to change its implementation framework from interventions using short-term projects to capacity building. While the existing interventions like Cash-for-Work and climate adaptability training have worked, ongoing technical support, mentoring and post-intervention coaching of beneficiaries is needed for sustained resilience. A longitudinal support system will ensure that progress towards adaptive capacity will continue and be sustained over time.
2. The asset stewardship and asset sustainability arrangements need to be made stronger, especially for climate-resilient assets like Small Farm Reservoirs (SFRs). The creation of local Maintenance and Contingency Funds is recommended to keep these facilities in operation and effective when facing a long drought or other climate-changing events. This will improve the sustainability of interventions in water management that are essential for agricultural production.
3. The program should implement a service delivery system that is responsive to the demographics and is inclusive. As a significant percentage of beneficiaries are 40 years old or older (76%), reliance on traditional and available payout mechanisms will be important to continue. The low acceptance rate (8%) shows that digital payment systems are not a necessity then, they can be a valuable tool to improve efficiency but in the case of Hungary must be introduced smoothly and sensitively, depending on the context. A combination of the two is suggested to cater to the needs of both the traditional and digital approaches, ensuring inclusivity and accessibility.
4. Livelihood interventions for landless laborers need to be further strengthened, with an emphasis on expanding communal gardens, and market linkage initiatives. Communal Gardens have proven to be very effective in enhancing food security and alternative livelihoods (mean: 4.43). There is a need, however, for further assistance on market integration, logistics, and value chain development to enhance the income stability of beneficiaries, particularly vulnerable, landless beneficiaries.
5. At the local governance level, the Local Government Units (LGUs) must institutionalize Project LAWA at BINHI in their Annual Investment Plans (AIPs) and Programs, Projects, and Activities (PPAs). This will help to provide continuity in projects and encourage local ownership of climate resilience initiatives. It is also recommended to set up an inter-agency Executive Committee comprising of relevant local offices at the community level to enhance coordination, monitoring and technical support the LGUs are encouraged to invest in comprehensive sustainability strategies that align with the six pillars of climate resilience: water conservation, improving soil fertility, climate-resilient crop diversification, renewable energy use, efficient resources use, and active community engagement. These coordinated actions will help embed resilience building into longer term local development planning, rather than just a response to specific events.
6. The study highlights the importance of an integrated strategy for adaptive social protection measures that includes financial support, upgrading infrastructure, strengthening capacities, and engaging in inclusive governance, as seen in the case of Project LAWA at BINHI. Improvements of these elements through sustained policy support and local integration would greatly increase the resilience of vulnerable farming communities and help build a more climate-resilient public administration system in the Philippines.