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SERVICES DELIVERY OF THE NATIONAL IRRIGATION ADMINISTRATION: PERSPECTIVES OF FARMERS IRRIGATOR'S ASSOCIATION

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ABSTRACT

This study analyses the level of satisfaction of the farmers' irrigator association (IA) in Nueva Ecija. Also, determine the correlation between the profile of the respondents and their level of satisfaction. The study also proposed countermeasures and recommendations. This study determined comprehensive development and maintaining high-quality services provided by the National Irrigation Administration (NIA) – Aurora Nueva Ecija (ANE) – Irrigation Management Office. By identifying the level of satisfaction of farmers in terms of communication, water distribution, and system management, as well as the challenges encountered by the farmers, this research serves as a vehicular way to maintain agricultural productivity, food security, and a stronger local community.

The study used a quantitative descriptive research design. The data was collected among randomly selected members of the Farmers Irrigator's Association in Nueva Ecija. The methodology involves a quantitative descriptive design using a five-point Likert scale to assess the level of satisfaction of the farmers and Pearson correlation.

The study found that the majority of the farmers were male, ages 51-60 years old, married, had a monthly income of Php 10,000 or less, had been members of the association for six years or more, and handled rice crops. Whereas, farmers were very satisfied with the services provided by NIA in terms of communication, water distribution, and system management. Then, there is no significant relationship between the profile variables and the level of satisfaction of the farmers. Thus, some farmers still encountered challenges in water distribution, destruction of dams and canals, and issues between the members of the association. Even if only a few farmers express concerns, if nothing is done, these problems may worsen and have wider repercussions. The farming community's resilience can be greatly increased by reducing communication gaps and offering timely assistance during environmental emergencies.

This study suggests continuously implementing water monitoring and evaluation, encouraging open communication, regular meetings, and team-building; generating an allocated budget; proposing resilient design and regular monitoring of the irrigation system; and engaging in real-time engagement with complaints. Overall, the research contributes to the National Irrigation Administration in enhancing programmes and activities in contribution to high-quality services and policy-making that can increase the agricultural productivity in the province.

KEY WORDS: *Communication, Water Distribution, and system management, National Irrigation Administration (NIA) – Aurora Nueva Ecija (ANE) – Irrigation Management Office*

INTRODUCTION

The Food and Agriculture Organization of the United Nations (FAO) reports that irrigation systems consume approximately 70% of the world's freshwater resources, emphasizing their critical role in global agricultural production and water resource management (Jones, 2024). Khriji et al. (2020) indicates that irrigation systems were introduced to improve crop yield, manage water resources, and connect wireless sensor networks. Irrigation was designed to easily distribute water resources throughout all land areas around the world. This was extremely beneficial in terms of plant growth and increasing farmer profits. However, Water management has been one of agriculture's biggest problems for the past ten years (Khriji et al., 2020). To continuously maintain the good services of irrigation system, analyzing the customer satisfaction were relevant for every institution.

Panaitescu (2024) emphasizes that as everyone has a unique experience and journey, the degree of customer satisfaction needs to be a constant measurement. Therefore, analyzing the satisfaction of the farmers that serving with the irrigation system were relevant to further understand their needs and requirements as well as the challenges encountered by the farmers. Thus, several international studies have examined the same topic.

Bopp et al. (2023) analyzed the degree of satisfaction among Water User Associations (WUA) in Ethiopia because of the problems with irrigation water availability. The study found out that locations with less water shortage have a much higher degree of satisfaction among farmers than do places with more water scarcity (Bopp et al., 2023).

Similarly, Ulatu et al. (2022) ascertain the level of farmer satisfaction in Ethiopia's Salale Zone. Ulatu et al. (2022) examine the state of water productivity, satisfaction, and the composition and strength of water user associations.
Meanwhile, in the Philippines several studies were also analyze the farmers satisfaction regarding the irrigation system.

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Reyes & Schultz (2020) emphasized the importance of engaging with the Irrigators' Association in identifying societal concerns that benefit not only the National Irrigation Administration or NIA but also the Filipino farmers. The information provided by the irrigator's organization benefited both the academic institution and national irrigation (Reyes & Schultz, 2020).

Whereas, Medalla et al. (2019) analyze the farmer-beneficiaries' satisfaction in Bulan, Sorsogon. According to the report, younger farmers expressed more satisfaction on the services provided. The infrastructural projects and concrete canals should be used to consistently deliver water. Additionally, when it comes to design and irrigation issues, farmers must be taken into account Medalla et al. (2019). This emphasize that it is crucial to involve farmers in irrigation system planning, design, and decision-making processes.

Similarly, Naz (2018) analyze farmers' satisfaction with NIA, which is important in determining the quality of services provided by a specific organization. According to the survey, farmers in Sorsogon were satisfied with their technical and quality construction services (Naz 2018). Furthermore, the study suggests that NIA's participatory program could help increase their skill in bidding, water distribution, and facility maintenance (Naz 2018). This indicates that the NIA participatory program were useful in helping farmers to improve their skills, especially in the areas of facility maintenance and water distribution.

Certainly, based on Republic Act No. 10969 or also known as the Free Irrigation Service Act, the National Irrigation Administration (NIA) continued to provide and operate canals and farm ditches (Free Irrigation Act passed into law in 2018). Indeed, NIA play a huge role in helping the countries agricultural productivity. Similarly, Clemente et al. (2019) indicates that NIA is in charge of the national irrigation system's design, operation, maintenance, and repair.

Based to the researcher's observations, due to the increasing demands of farmers it is important to continuously monitor the services provided by the institution. NIA aims to enhance irrigated areas that support the growth of agriculture, ensure farmer satisfaction, and accomplish effective irrigation system operation and maintenance as part of its quality objectives. In this regard, the study analyses the level of satisfaction of the Irrigator's Association (IA) regarding the services provided by the National Irrigation Administration (NIA)-Aurora Nueva Ecija (ANE)-Irrigation Management Office in Cabanatuan City, Nueva Ecija. This specifies the services provided in water distribution, communication, and system management. Also, if there is a relationship between the profile of the farmers and their level of satisfaction, as well as potential challenges that are encountered by the farmers. This serves as a vehicular way of identifying the areas of improvement, strategies, programmes, and service delivery that would help the farmers and strengthen agricultural productivity in the country. The study's findings were pertinent for developing policy recommendations that would support the NIA's goals and objectives.

Statement of the Problem

Maintaining the integrity of a particular institution as well as the constancy of the trust and loyalty of the people it serves depends on how satisfied customers are with the service delivery system. As part of the core values of NIA to provide integrity, innovation, commitment and excellence it is vital to analyze the areas where service delivery may be improved as well as the issues and concerns of farmers. Thus, the study was analyzed the socio-demographic profile of the respondents as well as their level of satisfaction on the services of NIA. Also, if there is a sequenced relationship between the profile and level of satisfaction of the farmer's association. Next, it determines the challenges encountered by the farmers to provide potential policy recommendation. The study sought to answer the following questions.

1. How is the profile of the respondents be describe in terms of?
1.1 Age
1.2 Sex
1.3 Civil Status
1.4 Income
1.5 Years as a member of irrigators association
1.6 Types of crops handled
2. What is the Level of Satisfaction of Farmer Irrigator's Association on the services provided by NIA?
3. Is there a sequenced relationship between the profile and level of satisfaction of the farmer's association?
4. What are the challenges encountered by the Farmer's Irrigator's Association?
5. What measures can be proposed to enhance services provided by the NIA-ANE-IMO?
6. What are the implications of the study to Public Administration?

MATERIALS AND METHODS OF THE RESEARCH

The study was used quantitative descriptive research design, which systematically gather and analyze numerical data to define the characteristics, attitudes, and experiences of a particular population or issue (Admin, 2024). The research was conducted in the province of Nueva Ecija. The total service area NIA-ANE-IMO is 21,538.23 with 129 system (NIA-ANE-IMO, 2023). Thus, the respondents of the study were composed of farmer's irrigators association (IA) members in Nueva Ecija, with a total of 370 respondents. The number of the respondents were computed based on the Cochran formula and checked by statistician. Purposive and random selection techniques were combined to choose the respondents.

Moreover, all the data was encrypted using Microsoft Excel. The study used frequency, percentage and ranking into table to describe the sociodemographic profile of the respondents. Whereas, the researcher used a 5-point Likert scale to determine the level of satisfaction of the farmers in terms of communication, water distribution and system management. Also, it used Pearson correlation to analyzed if there is a sequenced relationship between the profile variables and the level of satisfaction of the farmers.

All of the research's data collection was kept private. The researcher took precautions to prevent data leaks and to keep the record secure.

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RESULTS OF THE RESEARCH

1. Socio-demographic profile of the Respondents

Table 1
Age

Age	F	%	R
18-years old- 30	3	0.81	5
31-40 years old	24	6.49	4
41-50years old	127	34.32	2
51-60 years old	149	40.27	1
Above 61 years old	67	18.11	3
Total	**370**	**100**	

Table 1 presents the age profile of the respondents; the majority of the farmers were the ages of 51 to 60, with a total of 149 individuals, or 40.27%, which serves as rank 1. Those between the ages of 41 to 50 make up rank 2, with 127 respondents, or 34.32%. Followed by above 61 years old with 67 individuals, or 18.11%, as rank 3. In contrast, the youngest age group, those between the ages of 18 and 30, had the lowest representation with only 3 responses (0.81%), with rank 4 consisting of 24 respondents (6.49%).

Similarly, research by Lagasca et al. (2024) found that the average age of farmers in Nueva Ecija is 53 years old. The long-term viability of rice production in the area may be impacted by this study, which points to an ageing farming population. Also, the study of Velza et al. (2023) found out that the average age of farmers in Cawayan, Masbate, is fifty years old. In connection with this, Searca & Searca (2023) indicate that the average age of Filipinos is between 55 and 59 years old, and this number is predicted to drop in the next 10 to 12 years.

Overall, the result shows that most of the Farmer's Irrigators' Association in Nueva Ecija are older, suggesting that older people are more inclined to agricultural activity. This indicates that very few people were engaging as a member of Irrigators Association facilitated NIA-ANE-IMO.

Table 2
Sex

Sex	F	%	R
Male	361	97.57	1
Female	9	2.43	2
Total	**370**	**100%**	

Table 1 presents the sex profile of the respondents, indicating a male dominance. The majority of 361 responses, or 97.57%, are male out of the 370 total farmers. In contrast, only 9 respondents, equivalent to 2.43%, are female.

Similarly, according to the study by Velza et al. (2023), there were 71 percent more men than women among Masbate's farmers same with the study of Lagasca et al. (2024), which shows that most of the farmers surveyed were men.

Indeed, in 2018, PSA also revealed that just 23% of women work in agriculture, whereas 77% of farmers nationwide are men (Ani, 2020). This huge gender disparity emphasizes how male-dominated the Philippine agriculture industry is.

In this regard, men predominate in the province's irrigation-related activities, which may be a reflection of long-standing gender stereotypes and conventional roles in agricultural work.

Table 3
Civil Status

Civil status	F	Percentage	R
Single	**5**	**1.35%**	**3**
Married	**357**	**96.49%**	**1**
Widow	**8**	**2.16%**	**2**
Total	**370**	**100%**	

Table 3 presents the civil status profile of the respondents out of 370 respondents. According to the data, 357, or 96.49% of the total, are married, corresponding to the majority of respondents (rank 1). It is followed by widows with 8 farmers, or 2.16%, and singles with only 5 respondents, or

Similarly, the majority of farmers in Cawayan, Masbate, approximately 90% of the total respondents, are also married (Velza et al., 2023). The high percentage indicates that farming is still family-oriented, which reflects on labour distribution, sustainability, and decision-making influenced by marital status.

In this regard, the vast majority of married farmers in Nueva Ecija can represent a population with well-established family structures, which can have a big impact on their goals, how they make decisions, and how involved they are in farming.

Table 4
Income

Income	F	Percentage	R
10,000 and below	**339**	**91.62%**	**1**
11,000-20,000	**25**	**6.76%**	**2**
20,000-50,000	**3**	**0.81%**	**3**
50,000 an above	**3**	**0.81%**	**3**
Total	**370**	**100%**	

Table 4 presents the income profile of the farmers out of 370 respondents. The data reveals that the majority of farmers state that their monthly income is ₱10,000 and below with 91.62%, or 339 of the respondents which serve as rank 1. Followed by ₱11,000 and ₱20,000 with 25 respondents or 6.76% (Rank 2). Then Just 0.81% (3 respondents each) indicated income ranges of ₱20,000–₱50,000 and ₱50,000 and above. This indicates that majority of the farmers had a low-income level.

This results also confirm in the study of Velza et al. (2023) revealed that farmers' average monthly income was ₱10,000.00, or roughly ₱833.00 per month. This number illustrates the ongoing poverty that many farmers face in the country. Also, the Philippine Statistics Authority (PSA) indicates that 31.6% of farmers in the Philippines live below the poverty level (Searca & Searca, 2023).

In this regard, the data shows that most of the farmers had a low income on a monthly basis. This suggests that most of them were still in a low-income range despite of agricultural engagement.

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Table 5
Years as a member of irrigators association

Years	F	Percentage	R
Less than 1	8	2.16%	4
One to two years	26	7.03%	3
4-5yrs	110	29.73%	2
6 years and above	226	61.08%	1
Total	**370**	**100%**	

Table 5 presents the Years as a member of irrigators association profile of the respondents out of 370 respondents. According to the data collected, 226 out of 370 respondents, or 61.08% of the total, have been members of the association for six years or more (Rank 1). Furthermore, 110 farmers, or 29.73% (rank 2), have 4 to 5 years followed by 26 respondents, or 7.03% (rank 3), revealed having 1 to 2 years of experience. The data revealed that majority of those surveyed had been part of the association for a long run.

In connection to this, according to the provisions of the maintenance agreement, the Irrigators' Association was paid ₱1,400 per month to maintain a 3.5-kilometer irrigation canal (Irrigators' Association | NIA UPRIIS, n.d.). These incentives can affect the relationship, sustainability and effectiveness of water distribution networks in agricultural regions (Irrigators' Association | NIA UPRIIS, n.d.). Also, it was seen that due to the increasing demands of the farmers in Nueva Ecija, the numbers of IA were also increasing (NIA-ANE-IMO, 2023). Therefore, this indicates that a lot of farmers like their ongoing participation, perhaps as a result of the advantages and support that come with membership.

Table 6
Types of crops

Years	F	Percentage	R
Ampalaya	1	0.27%	6
Kamote	6	1.62%	3
Mais	23	6.22%	4
None	2	0.54%	5
Palay	217	58.65%	1
Sibuyas	49	13.24%	3
Sitaw	1	0.27%	6
Vegetable	71	19.19%	2
Total	**370**	**100%**	

Table 6 presents the types of crops planted in Nueva Ecija. According to the data, palay (rice) is the most often planted crop among the farmers, with 58.65%, or 217 out of 370 (Rank 1), cultivating it. With 19.19% or 77 respondents, answered planted different vegetables rank second among crops, indicating that farmers produce a variety of crops. Onions, or sibuyas, rank third with 13.24% of the total respondents, or 49 people, demonstrating their importance as a high-value crop.

In connection to this, Lagasca et al. (2024) analyze how the growing of rice approach might improve farmers' incomes and overall status of living in Nueva Ecija. Given its demand and integration for the environment in the area, it appears that planting rice continues to be the main agricultural activity in the province. Central Luzon produced 1,516,967 metric tons of rice in 2022, according to the Philippine Statistics Authority or PSA (Streamtech Fibre Internet, 2022). Rice is so essential to the Philippine economy since it is the nation's primary food and a major source of income for millions of Filipinos (Santoalla, 2019).

Moreover, although there is a slight presence of mixed and alternative cropping methods, the data indicates that rice is still the most planted crop. This demonstrates how encouraging rice production were really important in Nueva Ecija. The study indicates that in order to ensure rice production in Nueva Ecija, continuous support for the farmers was relevant.

2. Level of Satisfaction of Farmer Irrigation Association on the Services provided by NIA-ANE-IMO

Table 7
Level of Satisfaction of the Respondents in terms of Communication

Statement	Mean	Verbal Description
Communication between NIA and your Farmer Irrigator's Association	4.54	Fully Satisfied
Overall quality and effectiveness of maintenance efforts in your irrigation system	4.53	Fully Satisfied
Effectively address your concerns and feedback about irrigation services	4.51	Fully Satisfied
Mean	**4.53**	**Fully Satisfied**

The Table 7 presents the Level of Satisfaction of the Respondents in terms of Communication. With a grand mean of 4.58, the data indicates that respondents are completely fully satisfied with the services offered by NIA-ANE-IMO in terms of communication.

The statement "Communication between NIA and Farmer's Irrigator's Association" got the highest mean (4.54) followed by the statement "Overall quality and effectiveness of maintenance efforts in your irrigation system," which had a mean score of 4.53 and "Effectively address your concerns and feedback about irrigation services," which had a mean score of 4.51, indicating complete satisfaction.

It is similar to the study of Reyes & Schultz (2020), which analyses farmers' perspectives on the nation's irrigation modernization. According to the study, NIA provides training in livelihood, system management, financial management, and other areas as a means of supervision the IA (Reyes & Schultz, 2020). This suggests that meeting farmers' requirements and preserving high-quality services required effective communication.

Furthermore, due to the communication efforts provided by the institution it helps the IA in Nueva Ecija to be recognize as an outstanding farmer. In fact, the Simimbaan Irrigators Association Inc. and Brgy. Sta Lucia Old Zaragosa Farmers

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Irrigators Association Inc. became the 50th Gawad Saka Finalist.

In this regard, the delivery of high-quality services has been facilitated by the high degree of satisfaction with communication between NIA-ANE-IMO and the IA. Successful institutional collaboration requires transparency, trust, and mutual understanding, all of which are fostered by effective communication.

Table 8
Level of Satisfaction of the Respondents in terms of Water distribution

Statement	Mean	Verbal Description
Timeliness of water delivery	4.68	Fully Satisfied
Fairness of water distribution among farmers	4.56	Fully Satisfied
Maintenance and repair of irrigation infrastructure	4.54	Fully Satisfied
Condition of the irrigation infrastructure (canals, pumps, gates, etc.) in your area.	4.54	Fully Satisfied
Mean	**4.58**	**Fully Satisfied**

The Table 8 presents the Level of Satisfaction of the Respondents in terms of water distribution. With a grand mean of 4.58, the data indicates that respondents are completely fully satisfied with the services offered by NIA-ANE-IMO in terms of water distribution.

The farmers in Nueva Ecija receive water distribution on time, as indicated by the highest grand mean of 4.68 followed by the statement "Fairness of water distribution among farmers" as indicated by the second-highest mean of 4.56, then mean of 4.54 thought that farmers thought the water infrastructure was kept up to now and in good condition through repairs and maintenance.

Indeed, Thim (2025), irrigation played a crucial role in supplying water to all of the nation's agricultural lands. Also, Ngango & Hong (2021), irrigation water systems were vital for farmers during critical periods due to unpredictable rainfall and drought.

The high satisfaction rating in this area suggests that water is being distributed consistently and equitably, which could improve productivity in agriculture and raise farmer confidence in the organization's services. This further supports the beneficial effects of the Free Irrigation Service Act, which encourage equitable and fair access to irrigation systems.

Table 9
Level of Satisfaction of the Respondents in terms of System Management

Statement	Mean	Verbal Description
Allocated for the repair and maintenance of the irrigation infrastructure	4.54	Fully Satisfied
Quality of technical advisory/ support service provided	4.51	Fully Satisfied
Support from NIA or other government agencies for system management	4.57	Fully Satisfied
Overall quality and effectiveness of system management	4.60	Fully Satisfied
Mean	**4.56**	**Fully Satisfied**

The Table 9 presents the Level of Satisfaction of the Respondents in terms of system management. With a grand mean of 4.56, the data shows that farmers are completely satisfied with NIA's system management.

Farmers have confidence in the overall quality and efficacy of institution's system management, as reflected by their 4.60 mean followed by Support from NIA or other government agencies for system management with a mean score of 4.57, the mean of 4.54 in allotted for irrigation system maintenance and repairs and a mean score of 4.51 for Quality of technical advisory and adjectival rating of fully satisfied.

In connection to this, the study of Sanchez (2025) indicates that the farmers of Malibay-Kalawakan Irrigators Association, Inc. expressed great satisfaction with the management it received from NIA because of the organization's high level of effectiveness and reliability, as well as its efficiency and good collaboration with their employee. Similarly, the study of Villacorte et al. (2018) revealed that the UPRIIS agricultural water system was managed in a highly sustainable manner, and farmers were extremely satisfied with the way the system was executed.

Therefore, due to the leading good management of NIA-ANE-IMO it receives award as the Best Irrigation Management Office for CY 2024. This demonstrates the efficacy of the system management techniques used by NIA staff members working with the Irrigators' Associations (IAs).

Table 10
Level of satisfaction in terms of communication, water distribution and system management

Statement	Mean	Verbal Description
Communication	4.53	Fully Satisfied
Water Distribution	4.58	Fully Satisfied
System Management	4.56	Fully Satisfied
Total	**4.56**	**Fully Satisfied**

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Table 10 presents the level of satisfaction in terms of communication, water distribution and system management. With a grand mean of 4.56, the data shows that farmers in Nueva Ecija were highly satisfied with the services offered by ANE-IMO.

Farmers were satisfied with the information provided by ANE-IMO, as evidenced by the highest ranking of 4.58 in terms of communication followed by System management (4.56) and Communication (4.53) with adjectival rating of entirely satisfied, comes next.

Moreover, under the leadership of the Operation and Maintenance (O&M) Section, the organization has put in place a proactive and systematic monitoring methodology for every irrigation system in order to guarantee effectiveness and equity in water distribution. Also, It guarantees a well functioned irrigation project across the province under the leadership of the IMO manager, administrative and finance section, institutional development, operation and maintenance section, and engineering section (NIA-ANE-IMO, 2023). Farmers indicated their satisfaction with the communication services offered by the organization, which included regular and coordinated meetings with IA (NIA-ANE-IMO, 2023).

Sanchez (2025) stated that farmers were largely satisfied with the assistance and services provided by the NIA (Sanchez, 2025). These services demonstrated how well NIA's participation in strengthening local agricultural communities worked by helping to create a well-run and sustainable irrigators' organization.

In general, the Farmers Irrigators Association members very satisfied with the NIA-ANE-IMO services, especially with regard to system management, water distribution, and communication. The consistently high satisfaction proves good collaboration with local stakeholders, responsiveness to demands of the farmer, and effective implementation of the different irrigation projects.

3. Correlation between Profile of the Respondents and their Level of Satisfaction

Table 11

Demographics	Pearson (r)	p-value	Decision	Result
Age	0.045	0.386	Accept Ho	Not Significant
Sex	0.061	0.244	Accept Ho	Not Significant
Civil Status	0.055	0.290	Accept Ho	Not Significant
Income	0.022	0.679	Accept Ho	Not Significant
Years as a Member	0.015	0.778	Accept Ho	Not Significant
Crops Handled	0.020	0.698	Accept Ho	Not Significant

Table 10 presents that correlation between profile of the respondents and their Level of Satisfaction. All profile variables were found to be not significantly correlated with the level of satisfaction of the respondents since a majority of them rated very high to the services rendered to them by NIA. Their consistent high ratings showed no association between profile and satisfaction.

Similar to this, Naz (2018) investigated how satisfied Sorsogon farmers were with the National Irrigation Administration's (NIA) services. The results showed that, on the whole, farmers were satisfied with NIA's irrigation services and assistance. Furthermore, there were no discernible variations in the respondents' reported levels of satisfaction when they were categorized by sex or affiliation with Irrigators' Associations (IAs). This shows a degree of equity in service delivery and a consistent perception of service quality across various demographic groups.

In this regard, demographic and socioeconomic factors like age, sex, civil status, income, years of membership in the Irrigators Association, and the kind of crops they grow do not substantially affect the farmers' opinions about how satisfied they are with the services offered by the institution. This shows that regardless of a farmer's personal or farming experience, the services provided by ANE-IMO are viewed as equitable, reliable, and available to a variety of farmer profiles.

4. Challenges encountered by the Farmer's Irrigator's Association

Table 12
Challenges encountered by Farmer Irrigator's Associations

Problems	F	%	R
Sometimes lack of water supply	8	2.16	1
There is chaotic member of the association.	7	1.89	2
Sometimes we have uncooperating members	5	1.35	3
Canal and dam reconstruction	3	0.81	4
Slow action	2	0.54	5
Destruction of irrigation during heavy rain	1	0.27	6
Defective water drainage	1	0.27	6
Often gets damaged since the irrigation has been in place for a long time.	1	0.27	6

Table 11 presents the Challenges encountered by Farmer Irrigator's Association in Nueva Ecija, the Irrigators Association members deal with a number of challenges that make it difficult to efficiently administer and use irrigation systems in their localities.

Based on the data presented, several challenges were identified by the farmers regarding the irrigation system, although the frequency of these issues appears relatively low. The most commonly reported problem is that "sometimes water supply is not enough," which answered by 8 farmers (2.16%). Second, chaotic member within the association with 7 respondents

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(1.89%) and uncooperative members (1.35%), which suggest internal organizational challenges that may affect the efficiency and unity of the group. This is also followed by Canal and dam reconstruction, slow response, destruction of irrigation and defective water drainage.

The presence of defective water drainage systems which may cause fields to flood. Particularly during the rainy season, these drainage problems may impede appropriate water flow and have a detrimental impact on agricultural output.

According to Gebul (2021), Ethiopia also encountered difficulties with irrigation management, design, building, and other service assistance. Thus, Bopp et al. (2023) assert that the management and collaboration of Water Users Associations (WUAs) are critical to an organization's overall performance. In this regard, it indicates that collaboration between the farmers and NIA were relevant to the success of agricultural productivity in the country.

Farmers generally deal with a variety of difficulties, especially during natural catastrophes, protracted dry seasons, and because of sporadic miscommunications among association members. Regardless of how few respondents may report these difficulties, prompt and effective responses are necessary to ensure farmers' wellbeing and the proper operation of their organizations. Even if only a few farmers express concerns, if nothing is done, these problems may worsen and have wider repercussions.

5. Proposed measures for the enhance service delivery of NIA-ANE-IMO

Table 13
Action Plan

Problems	Objectives	Strategies	Personnel/Office in-Charge	Resources Needed activities
Sometimes lack of water supply	To ensure availability of water	Implement water monitoring and evaluation on different area	ANE-IMO Project-in-charge Engineers/ Personnel from Operation and maintenance	Budget for project Sustainable water supply
There is chaotic member of the association and uncooperating members	To promote coordination and unity among the association	Encourage open communication, regular meetings and team-building	IA Officers, Institutional Development Unit	Training funds
Canal and dam reconstruction, Destruction of irrigation during heavy rain and Defective water drainage	To attain resilient and calamity resistance irrigation system	Generate allocated budget, propose resilient design and regular monitoring on the irrigation system	ANE-IMO Project-in-charge Engineers, NIA personnel	Budget for repair and maintenance funds
Often gets damaged since the irrigation has been in place for a long time	To attain resilient and calamity resistance irrigation system	Generate allocated budget, propose resilient design and regular monitoring on the irrigation system	ANE-IMO Project-in-charge Engineers, NIA personnel	Budget for repair and maintenance funds
Slow action	To promote agricultural productivity	Real time engagement to complaints	Slow action	Budget for promote agricultural productivity

Table 12 presents action plan for the enhance service delivery of NIA-ANE-IMO. First, the lack of water supply is challenge in the availability of water to some farmers. The strategy to assess this issue is to implement water monitoring and evaluation on different area to have an analysis on water resources for the farmers.

The goals of the Free Irrigation Service Act (Republic Act No. 10969), which aims to give small-scale farmers free irrigation services, are closely aligned with this activity. The Act must guarantee that water is continuously available and accessible in addition to waiving irrigation fees if it is to be genuinely effective.

Second, there is chaotic member of the association and sometimes uncooperating members that challenge coordination and unity among the association. The strategy to address this issue is encourage open communication, regular meetings and team-building. Funding support is required to provide leadership development seminars, organized training program, and capacity-building projects that stabilize and professionalize the IAs' internal governance in order to carry out these activities successfully. In order to manage irrigation systems, guarantee adherence to operating procedures, and encourage participatory governance, effective irrigation associations are essential partners. The benefits of free irrigation services are enhanced and irrigation infrastructure is managed sustainably through shared responsibility and strong local leadership when IAs' institutional capacity is strengthened.

Third, canal and dam reconstruction, destruction of irrigation during heavy rain, often gets damaged since the irrigation has been in place for a long time and defective water drainages challenge to attain resilient and calamity resistance irrigation system. The strategy to address this issue is generate allocated budget, enhance design plan to calamity resistance irrigation system and regular monitoring. In order to guarantee structural integrity and resilience, these experts are essential in the planning, designing, and overseeing of rehabilitation projects. Furthermore, in order to provide engineers and field staff with up-to-date technical knowledge and creative techniques that facilitate the development of climate-adaptive infrastructure, resources like training funding are required.

Additionally, by guaranteeing that irrigation services continue to be available and operational even during natural disasters, it strengthens the efficacy of the Free Irrigation Service Act (Republic Act No. 10969). This is an urgent and crucial issue for the general growth of the agricultural industry since the advantages of free irrigation could be compromised by frequent interruptions and expensive repairs if a robust and disaster-resilient system is not in place.

Lastly, slow action that challenge the agricultural productivity of the farmers. The strategy is to address this issue is to have a real time engagement to complaints or immediate action as soon as possible. Establishing real-time engagement tools for managing complaints as well as making sure that prompt action is taken wherever feasible are the suggested approaches to address this problem.

Generally speaking, the goal of these action plans is to create an irrigation system that is sustainable, effective, resilient, and meets farmer demands. They also aim to improve cooperation

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and solidarity among Irrigators' Association members, encouraging shared accountability and dedication to increasing agricultural output. These programmers directly support the quality goals of the National Irrigation Administration (NIA), which prioritise stakeholder satisfaction, sustainable water resource management, and ongoing service delivery improvement. By carrying out these action plans, NIA-ANE-IMO reaffirms its dedication to offering dependable irrigation services that promote rural development and raise Filipino farmers' standard of living.

6. Implications of the study to Public Administration

The study of Nueva Ecija farmers' satisfaction levels and the difficulties that faced with communication, system management, and water distribution is extremely pertinent to the study of public administration. The results provide important information for the government, especially the National Irrigation Administration (NIA), to improve and expand services for the province's Irrigators' Associations (IAs). Maintaining productive cooperation and giving the upkeep of the area's irrigation systems top priority require addressing the problems encountered by IA members. Additionally, the findings can help Local Government Units (LGUs) develop focused initiatives that improve agricultural output and promote the general well-being of nearby farmers.

Thus, this study emphasizes how crucial it is to combine the execution of policies with enhanced service delivery, reasonable infrastructure investments, and participatory governance. It advocates for a more comprehensive strategy for managing irrigation, one that actively tackles operational issues on the ground in addition to adhering to legal requirements. To guarantee that the Free Irrigation Service Act fulfils its potential in improving the agricultural sector and protecting the lives of Filipino farmers, it is imperative that NIA, LGUs, and IAs strengthen their institutional cooperation.

The study concluded that addressing a number of urgent issues is crucial to assisting farmers in raising their revenue. The ageing farming population, gender disparity, low incomes, frequent natural disasters, water scarcity, dam and irrigation canal damage during catastrophes, and internal disputes among Irrigators' Association members are a few of these. Even if few respondents brought up these concerns, it is still crucial to deal with them directly to avoid more serious issues down the road. The general well-being of farming communities and long-term agricultural sustainability will be enhanced by taking early action through suitable policies and support systems.

Diop (2020), agriculture must be viewed as a crucial sector in order to maintain food security, promote development, and lessen poverty. In this instance, irrigation systems were crucial to meeting agricultural demands.

In this regard, addressing the issues facing the farming industry requires the creation and execution of focused programmes that support the long-term growth of Irrigators' Associations, such as financial aid, technical training, and capacity-building projects. These initiatives enable farmers to have an active role in the design, upkeep, and administration of irrigation systems in addition to enhancing their organizational skills.

These strategies highlight the significance of responsive, accountable, and participatory governance from the standpoint of public administration. In order to turn national policies, like the Free Irrigation Service Act, into practical, regional initiatives that directly assist farming communities, public administration is essential. Public administrators can contribute to the accomplishment of important development objectives, such as greater agricultural productivity, food security, poverty reduction, and community empowerment, by coordinating institutional activities with the real requirements of farmers.

CONCLUSION

Based on the results, nearly half of the members of the Farmers Irrigator's Association in Nueva Ecija were elderly, male, married, have a monthly income of ten thousand or below, have been members of the association for six years or more, and grow rice as their main crop.

The study also found that the farmers were fully satisfied with the services provided by NIA-ANE-IMO in terms of communication, water distribution, and system management. Whereas, there is no significant relationship between the profile of the respondents and their level of satisfaction. This indicates that the characteristics of the farmers were not related to their opinion on the service provided by the institution.

Thus, even though there are just a few members who have encountered problems in terms of water supply, miscommunication among members of IA, and issues with irrigation system infrastructure, it is still relevant to address those issues to maintain the high-quality services provided by the institution.

Based on the plan of action, it is suggested to implement water monitoring and evaluation, encourage open communication, regular meetings, and team-building; generate an allocated budget; propose resilient design and regular monitoring of the irrigation system; and engage in real-time engagement with complaints. This would be relevant to boosting stability and strengthening coordination among members. Also, a sustainable water supply improves structures, avoids physical damage, and reduces costs for repair and to promote agricultural productivity.

Recommendations

The following is a list of potential recommendations based on the research's findings and conclusions. This recommendation aims to enhance the service delivery and promote agricultural productivity in the country.

1. The national government needs to allocate more budget for the irrigation rehabilitation and resilient infrastructure. One way to do this is to priorities budget for agricultural productivity.
2. The Department of Agriculture (DA) needs to provide more agricultural assistance to the farmers to increase their low income. One way to do this is to provide more subsidies and free seedlings and fertilizers.

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3. The Local Government Unit (LGU) needs to enhance ordinances for the efficient use of irrigation systems and create programs to support agricultural productivity in the province.
4. The Aurora Nueva Ecija (ANE) – Irrigation Management Office (IMO) needs to strengthen their disaster-resistant infrastructure. Also, request a sufficient fund for a contingency plan and make sure that every project-in-charge (PIC) is providing a real-time water monitoring system.
5. The engineering section in ANE-IMO was encouraged to design a calamity-resistant dam and canals. This would be helpful to avoid reconstruction of infrastructure during typhoons.
6. The operation and maintenance section in ANE-IMO was encouraged to have frequent evaluation and monitoring of the irrigation system.
7. The Institutional Development Unit in ANE-IMO needs to continuously coordinate and assist farmers in being more organized. Helping them establish rules and regulations for irrigators association membership is one approach to doing this. Stronger connections between farmers will result from supporting capacity-building initiatives.
8. To facilitate the development of resilient infrastructure projects targeted at fortifying the irrigation system, the Administrative and Finance Section has to allocate and request sufficient resources. For irrigation facilities to be developed, maintained, and climate-proofed to resist future disasters and guarantee farmers receive ongoing service, adequate financial resources must be secured.
9. The Farmers Irrigators' Association (FIA) needs to strengthen internal coordination through their rules and regulations among the members of the association. One way to do this is to conduct regular meetings to enhance good relationships among the members.
10. For the academic community to continue to support research and development for climate-resistant irrigation systems.
11. For future researchers to better understand the opportunities and difficulties faced by irrigation associations, research that compares several provinces can help identify best practices for local communities.

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