

Perceptions of Rice Farmers & Retailers Towards the National Food Authority's Restructuring Plan

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Abstract

Since the implementation of the RA No. 11203 or the Rice Tariffication Law, the NFA developed a restructuring plan for improving its effectiveness and efficiency in achieving its new mandate. This study, therefore, using a quantitative design, examined farmers, retailers, and jail workers, male and female's level of agreements on the effects of the NFA's restructuring program in terms of their awareness, time optimization, profit return, and transportation and labor costs. Data was collected using a crafted survey questionnaire to unveil in what aspect should the agency focus on improving. Findings suggest that, most of the respondents are in favor with the program despite the difference in gender and age. Although, since the decrease of NFA rice stocks due to discontinued importation, the agency's distribution program affected rice retailers. Moreover, this study found out that the agency should improve on its procurement process, especially in providing proper drying facilities to attract more farmers that increases the number of rice paddies for buffer stocking to be distributed that would suffice to local citizens. This study provides baseline data for future studies about how the restructuring plan of the NFA impacts its stakeholders and the country in ways beyond what was measured on this survey. This research was done limiting only to one of the many regions in the Philippines and focused on the immediate effects and did not assess long-term impacts. It would thus be appropriate for similar investigations to be carried out in other areas of the country.

Keywords: Awareness, Profit, Costs

1. Introduction

The acquisition of the NFA's rice stocks is achieved through *Palay* Procurement Program (PPP). Under this program, the NFA buys *palay* from individual farmers and/or farmers' organizations at the government support price of P19.00/kilo if their products meet the quality standards (clean & dry) set by the agency (nfa.gov.ph/buying-selling-price, n.d.). However, the buying price decreases, or even the grains are getting rejected depending on the quality of the paddies. With the rigid requirements mandated by NFA, the farmers will be forced to increase their labor costs and, consequently, will consider selling their *palay* to private traders. This in itself poses a problem in the acquisition function of NFA. Sabur, Jahan, & Reza (2003) said that farmers' main reasons for not selling paddy to the procurement center were the lengthy procedure, the loss of time, and the high transportation cost.

The issuance of Executive Order No. 165 on May 2014 has reassigned the NFA under the Office of the President. Its functions include ensuring the food security of the country by stabilizing the supply and price of staple grain rice. Then on February 14, 2019, the Republic Act No. 11203, or the Rice Tariffication Law (RTL), was approved, and it transformed the NFA from a trading and regulatory agency to a buffer stocking agency (About Us: National Food Authority, n.d.)

Subsequent to the passage of the RTL, NFA's functions and scope as a grain agency were eventually renewed as it only focuses on the acquisition, maintenance, and distribution of rice buffer stock. The National Food Authority is responsible for processing the acquired rice paddies into rice grains. The NFA ensures that stored stocks are maintained in excellent and consumable conditions. However, this function becomes irrelevant if the NFA cannot procure stocks and improve its acquisition operations.

Sharma, Giri, & Rai (2013) stated that in order to make the Indian supply chain efficient and globally competent, a proper framework that suggests the mechanism for tracing and visibility of inventory in the system, procurement and sourcing of paddy, operations of rice processing companies, distribution system, retailing strategy, and logistics system is essential. In addition, Jha & Mehta (2008) indicated that a contributing cause to the low level of procurement is the strict quality standards for moisture content and cleanliness set by the NFA for rice purchases. These requirements are particularly troubling for less fortunate farmers who lack access to suitable post-harvest facilities.

Considering the current challenges faced by NFA with its new functions in reaching its targets and executing its role in the country, this study intended to create awareness to the agency, particularly the Davao Oriental Branch Office, as well as its stakeholders, about the problems and effects of the ongoing restructuring on the NFA's new functions to enable improvements and innovations of their programs that would benefit both the agency and its stakeholders.

2. Objectives of the Study

Considering the problems presented above, this study aimed to:

2.1 Determine the socio-demographic profile of the respondents in terms of:

- a. age;
- b. sex; and
- c. occupation.

2.2 Determine the level of the respondents' agreement with the National Food Authority's restructuring plan in terms of their:

- a. awareness;
- b. profit;
- c. time; and
- d. transportation & labor Cost.

2.3 Determine the significant difference in the level of agreement with the National Food Authority's restructuring plan when analyzed across the socio-demographic profile of the respondents.

3. Hypothesis

H1: There are no significant differences between the level of agreement with the National Food Authority's restructuring plan when analyzed across the respondents' socio-demographic profile.

4. Literature Review

4.1 Socio-Demographic Factors Contributing to the Productivity in Paddy Farming

Siriwardana & Jayawardena (2014) discovered significant differences in gender and farming techniques. Male farmers surpassed female farmers in terms of their sense of farming as a career, involvement in cooperation, knowledge sharing, and innovation and practice adoption. However, there was no significant difference in paddy farming production based on gender, despite the fact that men farmers were more productive. This could also be attributed to family members' involvement in paddy growing. Farming knowledge sharing behavior was significantly correlated with respondents' perceptions of farming as a career and marginally related to their farming experience. The introduction of new procedures and innovations was a big contributor to paddy farming production. Farming expertise also contributed to increased farm output.

4.2 Aging Filipino Rice Farmers and Their Aspirations for Their Children

Filipino rice farmers are indeed getting older. Palis (2020) stated that most of them do not want their children to be rice farmers because of the physical, psychological, and financial difficulties they experienced. Rice farming requires a lot of labor and resources, but the pay is low and unreliable. Instead, parent farmers hope that their children will find non-farm occupations, either in cities or abroad, to provide a higher and steadier income and help them escape poverty. In the context of Filipino culture, given the effect of parents on their children, they are more likely to have a negative view regarding rice farming. Furthermore, Palis (2020) recommended that the Philippine government and agricultural institutions must develop on-the-ground measures to increase farmers' and their children's motivation to continue rice farming and, as a result, contribute to the country's rice self-sufficiency goal.

4.3 Organizational Structure Changes

Ahmady, Mehrpour, & Nikooravesh (2016) defined organizational structure as the framework of an organization's relationships with the tasks, processes, people, and groups working to accomplish the objectives. In addition, DeCanio, Dibble, & Amir-Atefi (2000) stated that both the general conduct of organizations and the situations of individuals and sub-units within firms are influenced by organizational structure. The immediate direct influence of external changes in the environment on organizations can be separated from the full effect once the organizational structure has had time to respond. Furthermore, failure to appreciate the impact of organizational structure on company performance will result in significant errors in estimating the costs and benefits of changing external circumstances.

4.4 Understanding the Meaning of Awareness

In the context of research, the word awareness refers to the process of re-creating face-to-face interactions in so-called collaboration tools applications. In the context of networked learning and networks of researchers, it is not yet understood. Reinhardt, Mletzko, Sloep, & Drachsler (2012) stated that the derived components of awareness serve as markers for places where researchers' awareness can be strengthened by upcoming advancements and specially crafted tools. Even the best methods for promoting scholarly awareness cannot overcome narrow-mindedness and egocentrism since awareness demands a wide interest in others and their work. Furthermore, it is important to state that awareness can be a problem when there is too little of it as this may lead to double work and delayed innovation. On the other hand, excessive awareness can be a problem if it overwhelms the person with too much purportedly pertinent information.

4.5 Government Policy Related to Rice Problems

Since Indonesia's declaration of independence, the country has followed a policy of meeting its rice demands. In addition to the lack of sufficient land to increase domestic rice productivity, the high demand

for rice commodities among Indonesians caused fluctuations in rice availability, which had an impact on the unstable price. Silalahi, Yudha, Dwiyaniti, Zulvianita, & Feranti (2019) concluded that the current government policy for maintaining food security is insufficient. Some government regulations are thought to be incapable of achieving a balance between small and large farmer groups. Because the government is thought to be unfamiliar with the process and intricacies of rice production, some regulations are still deemed inadequate.

In Pakistan, Abdullah, Cuixia, Ghazanfar, Rehman, Ghazanfar, & Saud (2013) recommended that the government should take measures to lower the costs of farmers have to endure while producing rice and protecting their crops. Additionally, the government should make sure that fertilizer and other inputs are free and readily available at discounted rates. Furthermore, in order to stabilize prices, the government can also establish a support price for various varieties of rice. As a result, farmers would be able to devote and exert their best efforts to acquire the greatest production that may lead to the increase Pakistan's rice exportation.

4.6 Government Procurement Procedure Affecting Time and Costs

Similar to the Philippines, its procurement centers in Bangladesh are dispersed across the country where, the government buys paddy from farmers and rice from millers. Based on the capacity of each procurement center and the national procurement target, the government sets the procurement target for each procurement center. According to Sabur et al. (2003), in comparison to large farmers, small farmers sold the greatest proportion of their surplus to the procurement center. The cost of selling paddy to the procurement center was more than double than that of selling paddy in the market. The majority of millers were dissatisfied with the size of the Boro rice quota. Farmers' participation in procurement programs was found to be influenced by factors such as marketed surplus, experience, education, metaled road, and distance from procurement center. Sabur et al. (2003) added, farmers' main reasons for not selling paddy to the procurement center were the lengthy procedure, the loss of time, and the high transportation cost.

4.7 Profitability of Procurement Programs

In reality, the procurement program should only be used as a price support mechanism during good crop years. As a result of price support operations, grains will be added to the public stock. It will exclude public procurement when the market provides price support without the need for additional government efforts, as is typically the case in poor harvest years. Maintaining an optimal stock, given current government distribution programs, is a separate issue that should be addressed by importing food grains when domestic crop procurement does not meet the demand for an optimal level of public food grain stock. Ahmed, Chowdhury, & Ahmed (1993) envisioned that, in the not-too-distant future, public involvement in Bangladesh's food grain markets will cease to exist, except for a role in disaster mitigation. As a result, any short-term measures such as procurement or distribution should not complicate and complicate the path to long-term adjustment. This implies that grain prices in public procurement and open-market operations should be close to market prices. These administered prices should be based on market prices. Market price, on the other hand, appears to be much higher than export parity price, despite the fact that import parity price is very close to and occasionally slightly higher than market price.

5. Theoretical Bases

5.1 Effectiveness of Rice Procurement Program and Farmers' Profitability

Rahaman, Sarkar, Kabir, & Deb, (2020) examined the perceptions of farmers and millers about the paddy and rice procurement system and its feasibility using cross-sectional data obtained from a sample survey

conducted in 2018. A profit model was used to determine the factors influencing farmers' likelihood of participating in the procurement system in two districts of Bangladesh. According to the findings, the government procurement system has a significant impact on both participating farmers and millers. Additionally, attractive prices, program scheduling, and good behavior of procurement employees encourage farmers to participate in the program. The government procurement program has several flaws, including anomalies in farmer selection, employees taking extra paddy, corruption, an insufficient payment system, and procurement capacity. As a result, the government will be on high alert to ensure that the procurement system provides farmers with price support. A well-functioning procurement system is critical for ensuring food security in the country by ensuring a fair price for producers.

Additionally, Rahaman et al. (2020) proposed policy guidelines for establishing a sound paddy and/or rice procurement system in Bangladesh. Almost all non-participating farmers stated that they were not well informed about the rules and regulations of the public paddy/rice procurement program. As a result, an awareness-raising campaign to increase farmer knowledge would increase their bargaining power, potentially increasing farmer participation in the program. The capacity of government procurement should be increased so that the system can procure a significant amount of paddy and influence the rice market to keep the farmgate price of paddy reasonable. In this way, the government procurement program can make rice production profitable, increasing rice farmers' income. It is critical to begin purchasing paddy/rice as soon as the harvest season begins. It will influence and increase farmer participation in the procurement program. It would also push market prices up to help poor farmers, who typically sell paddy at a lower price during harvesting season.

5.2 Rice Production and Marketing: Assessing Regulatory Agencies' Role in Positioning

The rice food system has been identified as a critical component of global food security. However, due to a broken food system that raises concerns about standards, demand for locally manufactured rice remains abysmally low. Regulatory agencies play an important role in raising standards, improving quality, and positioning products in front of consumers. The study's researchers wanted to know how rice regulatory agencies ensure quality control and how it affects consumer patronage. The findings revealed that regulatory agencies play an important role in ensuring quality control of made in Nigeria rice, but consumers still lack trust in standards, resulting in low patronage for local rice. Among other challenges, finance was mentioned as a major threat to rice production and marketing. Oteh, Agwu, Okpokiri, Aniuga, & Ani (2018) recommended that the government establish programs to educate rice producers and marketers about the potential dangers of poor rice marketing standards. As such, they should be provided with the necessary and adequate standard machineries to assist them in improving the quality of our local rice, thereby facilitating large-scale production and marketing in Nigeria rice.

5.3 Inventory Management of Rice

The traditional supply chain in India's rice sector has always faced the challenge of having enough inventory. Inventory management in the rice supply chain necessitates accurate demand forecasting, inventory planning, and timely inventory procurement. Sharma et al. (2013) stated that the traditional supply chain structure faces inventory management issues, such as overstocking, which leads to obsolescence and increased supply chain costs, or stock outs of popular varieties, which leads to lost sales. The rice supply chain in India is also experiencing supply chain issues related to procurement, distribution, intermediary collaboration, and a logistics system that needs to be redesigned. In order to make the Indian supply chain efficient and globally competent, a proper framework that suggests the mechanism for tracing

and visibility of inventory in the system, procurement and sourcing of paddy, operations of rice processing companies, distribution system, retailing strategy, and logistics system is very important.

5.4 Analysis of Rice Distribution

Many activities collaborate in the process flow or movement of goods from the hands of producers to the hands of consumers. Someone has to buy and collect agricultural products, someone has to transport the results to the consumer area, and some are just looking for sources of supply and sources of demand. As a result, Taufiq (2001) said that it can be interpreted that approved agencies are people, companies, or institutions that are directly involved in the flow of goods from producers to consumers, including traders, retailers, brokers, freight forwarders, and warehouse companies.

Syahza (2003) added that the large price difference between grain and rice is the result of a long agricultural commodity distribution chain. Because distribution costs are high in this situation, there are parts that must be removed as a trader profit. Although, in general, farmers are not involved in the product marketing chain, merchants benefit from value-added processing and trading of agricultural products. This tends to reduce the farmers' share and raise the fees that consumers must pay.

6. Methodology

6.1 Design

In order to satisfy the objectives of the study, a quantitative approach was used to analyze quantitative data such as socio-demographic characteristics and compile statistics. This technique is to find patterns and correlations in the data. Quantitative research involves gathering and analyzing numerical data. Finding the facts about various social processes is the focus of quantitative research. To test or disprove the study's central concept, it used of statistical data to enable numerical comparisons and statistical judgments.

This study made use of a survey questionnaire comprised of four categories to quantify the analysis of variance (Table 1). The interviewees pointed out these variables that could be significant factors to be used in this study. The questionnaire comprised 20 items across four categories, with five items per category. Each category was similarly provided with a description for better appreciation.

Responses were recorded on a five point-Likert scale, with responses ranging from Strongly Agree to Strongly Disagree.

Table 1. Questionnaire Categories and Description of Each Category

Categories	Category Descriptions
Awareness	Rice farmers and retailers need to stay informed about the NFA's new functions and preferences to make informed decisions and adapt their strategies.
Time Optimization	Efficient time management is essential for rice farmers and retailers to maximize productivity and meet production and distribution deadlines.
Profit Return	Evaluating profit return help rice farmers and retailers assess the financial performance of their operations and make informed decisions regarding resource allocation and pricing strategies.
Transportation & Labor Cost	Managing transportation and labor costs is crucial for rice farmers and retailers to remain competitive and optimize profitability in the industry.

6.2 Sampling

Nikolopoulou (2022) referred to purposive sampling as a non-probability sampling technique in which units were chosen because they possess characteristics that one requires in the sample. Moreover, the

study was specific as far as the respondents for the primary data are concerned. Considering it is purposive and to address some bias, a larger sample was interviewed for rice producers as respondents and a complete enumeration for all the other respondents. Content validation of the questionnaire by the expert was done after it was prepared and the same was pilot tested on selected respondents.

For the inclusion in identifying the participants, the following were considered: a) farmers should have experienced selling their rice to the National Food Authority's required qualifications which is the "clean & dry" policy; b) retailers and jail institutions should have purchased rice stocks from the NFA; and c) all respondents should reside or produce their paddies in the farmlands of Davao Oriental.

The data were extracted from the respondents of this study. There was a total of 45 respondents interviewed in conducting this study. 10 of which were done primarily for the pilot testing recommended by the statistician to test the feasibility of the survey. After which, the remaining twenty-five (25) local rice farmers, four (4) local jail workers specifically in Jail Mati, Jail Lupon, BJMP Lupon & Jail Baganga (LGU) and six (6) private businesses were asked to answer the survey questionnaire. The researcher then tabulated the data gathered and from there the analysis was done.

It was challenging to estimate the precise number of responses, which has implications for the sample size. The author made the observation that "the question of sample size is the most perplexing question to both novice and experienced researchers" (Anderson, 1997). The sample size, on the other hand, is allegedly decided by the proposed research design, according to Cohen, Manion, and Morris (2007). The researcher therefore adhered to Anderson's (1997) philosophy, which outlines clear conclusions and recommends that an acceptable sample size should be one with thirty or more respondents. This sample size was chosen in part to allow for generalizations and to improve the validity of the results.

6.3 Collection

The researcher used primary data for this study. The data were gathered from the stakeholders of NFA, rice farmers and retailers through survey questionnaires (Appendix A). In this quantitative study, participants were invited by the researcher. The purpose of the study was formally explained to the respondents. Moreover, they were asked for permission if they could be included in the study.

6.4 Presentation

The results of the primary data were presented through tabulation of survey answers from the questionnaire distributed to the respondents of the study. Each variable of this study was tabulated and discussed with additional information from imparted by the participants.

6.5 Analyses

The effect of the respondents' sex, age, and occupation across the level of agreement categories was determined using a one-way analysis of variance. For these tests, a p-value of <0.05 was considered significant. Adopted from the analysis of Nyutu (2021), participants responded to the survey questionnaire items using a five-point Likert scale: 1) Strongly Disagree, 2) Disagree, 3) Neutral, 4) Agree, and 5) Strongly Agree as shown in Table 2. For the analysis, frequency counts, mean, and analysis of variance (ANOVA) were used. Specifically, frequency counts were employed to answer the first objective regarding the socio-demographic profiles of the respondents.

Table 2. Interpretation of 5-Point Likert Scale Measurements

Range of Means	Likert-Scale	Descriptive Interpretation
1.00 – 1.80	1	Strongly Disagree
1.81 – 2.60	2	Disagree
2.61 – 3.40	3	Neutral
3.41 – 4.20	4	Agree
4.21 – 5.00	5	Strongly Agree

Moreover, means were utilized for the second objective, as regards to the level of respondents’ agreement with the NFA’s restructuring plan. Lastly, ANOVA was used for the third objective which sought to determine the significant difference on the level of agreement.

7. Results and Discussion

The demographic profile of the respondents is shown in Table 3 which provides that majority are farmers, followed by retailers and the jail workers.

Table 3. Demographic Profile of Respondents

	Frequency (n=45)	Percentage (100%)
Sex		
Male	26	57.78
Female	19	42.22
Age		
21-30 years old	3	6.67
31-40 years old	13	28.89
41-50 years old	6	13.33
51-60 years old	10	22.22
61 years old and above	13	28.89
Occupation		
Farmer	35	77.78
Retailer	6	13.33
Jail Worker	4	8.89

The selection was purposely designed since local farmers are currently the agency’s largest stakeholder since they are the bread and butter of NFA’s operations. Similarly, most of the respondents of this study were male compared to female respondents. This implies that the respondents’ sex negatively influences on the level of agreement with the NFA’s restructuring program. Table 3 also shows that the least

respondents in terms of age are between 21-30 years old (6.67%). This infers that most respondents of this study are relatively old and are more experienced in the production of rice paddies and retailing NFA rice. Similar to the study of Palis (2020), it has shown that the rice farmers from Agusan, Iloilo, and Isabela are aging. It is believed that their children will have no future in that kind of source of living, therefore it is regarded as a last resort.

7.1 Level of Agreement with the National Food Authority’s Restructuring Program

As shown in Table 4, the level of agreement with National Food Authority’s restructuring program in terms of the respondents’ awareness is. Most respondents agree that the NFA’s new policies instill awareness to its stakeholders on its new functions Standard Operating Procedures on its procurement program as this information are broadcasted through the news and explained during procurement season. However, neutral on its distribution program since 77.78% of respondents are farmers and are not involved in this particular transaction.

Table 4. Respondents’ Awareness

Statements	Mean	Std. Dev.	Descriptive Equivalent
The National Food Authority’s new policies instill awareness to both farmers and retailers on the need of the agency to maintain buffer stock inventory.	3.84	1.507	Agree
The agency gives clear and definite Standard Operating Procedures (SOP) on its palay procurement program to farmers.	4.04	1.043	Agree
The agency gives clear and definite Standard Operating Procedures (SOP) on its distribution program to retailers.	3.31	0.733	Neutral
The NFA gives clear instructions about the requirements needed for transactions.	4.38	0.936	Strongly Agree
The agency conducts regular “UGNAYAN” / meeting with farmers & retailers for new information about its new functions and procedures.	3.02	1.438	Neutral
Overall	3.72	1.260	Agree

In addition, participants’ response suggests that the agency needs to conduct *UGNAYAN* with farmers & retailers more often for them to understand the functions and roles of the NFA more. The overall result suggests that the agency is knowledgeable about the practices, general processes in rice production, and regulations in our country since the NFA is continuously innovating and initiating awareness for its local farmers and retailers.

These results are in contrast to the study of Silalahi (2019) which states that the government of Indonesia is thought to be unfamiliar with the process and intricacies of rice production, some regulations are still deemed inadequate.

Table 5 reveals the level of agreement with the National Food Authority’s restructuring program regarding of time optimization.

Table 5. Time Optimization

Statements	Mean	Std. Dev.	Descriptive Equivalent
The NFA restructuring plan provides enhanced procedures especially the shortened time in transacting with farmers and retailers.	2.84	1.566	Neutral
The enhanced policies of the agency give both farmers and retailers an easy access in availing its palay procurement and rice distribution program.	4.91	0.288	Strongly Agree
The mode of payment is hassle-free.	3.98	1.158	Agree
The restructuring plan provides more efficient and skilled employees during transactions.	4.84	0.367	Strongly Agree
There is no delay in the payments or availability of stocks during transaction periods.	4.82	0.535	Strongly Agree
Overall	4.28	1.216	Strongly Agree

According to the respondents, some prefer selling their crops to private traders than with the NFA since most of the farmers do not have access to solar drying pavements or have the labor force to dry and clean their rice paddies to meet the agency’s qualifications. This corroborates the study of Sabur, Jahan, & Reza (2003) that stated that farmers' main reasons for not selling paddy to the procurement center were due to the lengthy procedures and the loss of time.

However, the NFA’s presence during harvest season and in the market has positive feedback as well. It has given farmers and retailers an easy option where to buy/sell their products, especially when private traders are absent or parties cannot agree on their prices. In addition, a few respondents suggest that the agency improves its mode of payment, particularly in its lengthy-procedure distribution process. This result opposes with Ramos’ (2000) findings were farmers stated that their decision to sell to the NFA or not is influenced by the additional hassle of having to encash payments from the NFA rather than the simpler cash transactions with private dealers. However, some farmers shared that it takes a couple of days for private traders fully pay their balances.

Lastly, the respondents strongly agree that the NFA’s employees are efficient and highly skilled. This infers that the result of the agency’s restructuring plan in selecting employees to be deployed in the field and conducting seminars before procurement seasons is highly effective.

The level of agreement with the National Food Authority’s restructuring program in terms of profit return is presented in Table 6. The results show that most of the respondents agree that the allocated buying price of the agency assures both farmers and retailers of their return on investments and can even gain more profit. This corroborates the findings of Sabur et al. (2003) stating that the cost of selling paddy to the procurement center was more than double than that of selling paddy in the market. It is a fact that attaining the quality required by the NFA incurs an increase in cost but also increases the price of the *palays*, which results in higher profit for the farmers.

Although, some rice farmers from Caraga & Baganga shared that even prices from private traders are high, most of them still opt to sell their *palays* to the NFA because traders have schemes that affect the integrity of their buying capacities such as decreasing certain weight from every sack of grain or having rigged weighing scales. This is also one factor why most respondents strongly agree that the NFA protects farmers and retailers from middlemen since most traders use middlemen to purchase rice paddies, resulting in their products being bought at a lower price.

Table 6. Profit Return

Statements	Mean	Std. Dev.	Descriptive Equivalent
NFA’s price of paddy and rice assures both farmers and retailers of the return of investment (ROI).	4.02	1.011	Agree
NFA restructuring plan intends to protect both farmers and retailers from unscrupulous middlemen.	4.98	0.149	Strongly Agree
The new NFA policies has paved its ways for rice farmers to promote their locally produced rice.	4.29	0.815	Strongly Agree
The NFA should grant additional incentives to rice farmers that meet its good quality classifications.	4.56	0.841	Strongly Agree
With the NFA’s restructuring plan, I gained more profit.	3.78	0.997	Agree
Overall	4.32	0.919	Strongly Agree

Upon conducting this study, most respondents strongly agree that the NFA promotes their locally-produced rice particularly in Caraga, Baganga, and Cateel. Since the quality of their crops is different with that of Banaybanay’s products, the NFA still purchase their rice paddies which also benefits the agency in terms of reaching its procurement target. Furthermore, this could also benefit both stakeholders and the agency. Such schemes are similar to Bangladesh. Sabur et al. (2003) also stated that their government sets targets for each procurement center based on the capacity of the procurement centers and the national procurement target.

By assessing the transportation & labor cost, Table 7 shows the respondents’ level of agreement with National Food Authority’s restructuring program in terms of transportation and labor cost. Upon

interviewing the participants of this study, most of them disagree with the statements that the NFA restructuring plan provides cost-cutting in terms of transportation and labor costs. This result corroborates with Sabur et al. (2003), that states that high transportation costs are one of the main reasons farmers do not sell rice paddies to procurement centers.

Table 7. Transportation & Labor Costs

Statements	Mean	Std. Dev.	Descriptive Equivalent
NFA restructuring plan provides cost-cutting measures to both farmers and retailers in their transportation cost.	2.09	0.996	Disagree
NFA restructuring plan provides cost-cutting measures to both farmers and retailers in their labor cost.	2.11	1.21	Disagree
Procurement centers are located at convenient distance.	4.16	1.107	Agree
Transportation to procurement center is easy.	4.53	0.786	Strongly Agree
Farmers and retailers should utilize their own laborers during transactions with the NFA.	2.13	1.486	Disagree
Overall	3.00	1.580	Neutral

Additionally, since the agency requires farmers to dry their crops, most need to transport their rice paddies to drying pavements and then to procurement centers. Even though most of the respondents agree that procurement centers are at a convenient distance because procurement centers are strategically constructed near the rice farmlands and strongly agree that transportation to procurement centers is easy since most roads are already cemented, the clean & dry policy increases farmers’ transportation and labor cost that can be a major factor that they opt not to sell to the NFA.

Furthermore, it was also found out that most respondents prefer the agency to have its own laborers during transactions since some farmers and retailers do not, unlike Mati Jail, which utilizes prisoners to haul their purchased stocks.

7.2 Analysis of Variance of the Level of Agreement with the National Food Authority’s Restructuring Program

Presented in Table 8 shown below the data comparison of the respondents’ level of agreement regarding awareness toward the National Food Authority’s Restructuring Program across their socio-demographic profiles.

Table 8. Respondents’ Awareness across Their Socio-Demographic Profiles

Demographic Profiles	F-ratio	Sig. (P-value)	Decision on H_0 : reject if $p \leq \alpha$
Sex	0.090	.766	Fail to reject

Age	0.946	.446	Fail to reject
Occupation	1.649	2.04	Fail to reject

It presents that there is no significant difference regardless of sex since the p-value is greater than 0.05. In addition, it also shows that when grouped according to age, participants with the age bracket of 51-60 years old rated high in their level of awareness than the other age brackets. This difference, however, is not significant.

Lastly, the data in terms of the respondents' occupation, shows that there is no significant difference since its p-value is 2.04. This implies that regardless of sex, age, or occupation of the respondent, their awareness is just of the same level. Still, the NFA should widen the scope of instilling awareness to its stakeholders. Similarly, Rahaman et al. (2020) proposed an awareness-raising campaign to increase knowledge to increase their bargaining power, potentially increasing participation in the program.

Table 9 presents the data comparing the level of agreement in terms of time optimization brought about by the National Food Authority's Restructuring Program to the respondents across their socio-demographic profiles. It shows that regardless of the sex, age, or occupation of the respondents, the level of time optimization does not significantly vary. This implies that although time is a crucial factor for the respondents, their socio-demographic profiles showed no significant difference. Respondents imparted that it is more important that they have somewhere to buy/sell their products as soon as possible.

Table 9. Time Optimization across Their Socio-Demographic Profiles

Demographic Profiles	F-ratio	Sig. (P-value)	Decision on H_0 : reject if $p \leq \alpha$
Sex	1.088	.303	Fail to reject
Age	0.276	.892	Fail to reject
Occupation	0.866	.428	Fail to reject

Similar to Indonesia, Taufiq (2001) stated that someone has to buy and collect agricultural products, someone has to transport the results to the consumer area, and some are just looking for sources of supply and sources of demand.

The comparison of the level of agreement in terms of profit return brought about by the National Food Authority's Restructuring Program to the respondents is shown in Table 10 below. The data show a significant difference in profit return regarding respondents' occupations. The NFA's programs focus on building good relationships with farmers by helping them increase their profit and encouraging them to sell their crops to the agency for buffer stocking. Similar to Indonesia, their government develop subsidies, price, and other policies that improve access to inputs and farmers' terms of trade (Pasaribu, 2010).

Table 10. Profit Return across Their Socio-Demographic Profiles

Demographic Profiles	F-ratio	Sig. (P-value)	Decision on H_0 : reject if $p \leq \alpha$
Sex	0.142	.708	Fail to reject
Age	1.009	.414	Fail to reject
Occupation	19.604	.000	Reject

However, the data implies that whatever the sex or age of the respondents, they have the same level of agreement toward their profit return. Thus, this result contradicts with the study of Siriwardana, and Jayawardena (2014) stating that male farmers outperformed females in paddy productivity. Even though there was no significant difference between gender and average productivity in paddy farming, males recorded superior profitability over females in Sri Lanka.

Table 11 shows that the transportation and labor cost brought by the National Food Authority’s Restructuring Program to the respondents across their age is the same. This implies that whatever the age of the respondents, they just have the same level of agreement towards their transportation and labor cost.

Table 11. Transportation & Labor Cost across Their Socio-Demographic Profiles

Demographic Profiles	F-ratio	Sig. (P-value)	Decision on H_0 : reject if $p \leq \alpha$
Sex	3.762	.041	Reject
Age	0.184	.946	Fail to reject
Occupation	4.383	.013	Reject

However, this result also displayed that there is a significant difference on the level of transportation and labor cost when analyzed across the respondents’ sex and occupation. This reveals that, in terms of sex, female respondents have higher level of agreement on the effects of the NFA’s restructuring programs on their transportation and labor cost, compared to that of males. Due to the intensity of work in farming and retailing, most respondents, particularly female, proposed the agency having their own labor workers during transactions. These results relate to the study of Galor and Weil (1996), stated that physical strength and intellectual ability are depicted as the two inputs that go into the production side of the economy. Although men are physically stronger than women, both sexes have the same level of cerebral capacity. Furthermore, retailers have higher level of agreement compared to those who are farmers and jail workers. As shown in Table 12, the results of the Overall Level of agreement with the National Food Authority’s Restructuring Program across Their Socio-Demographic Profiles. The data imply that whatever the sex or age of the respondents, they just have the same level of agreement towards the program since the results show that the P-value of both variables are greater than 0.05. However, this result also showed that there is a significant difference on the level of agreement when analyzed across the respondents’ occupation. This indicates that retailers have significantly higher level of agreement on the NFA’s restructuring program, which was followed by the farmers and so on. Since the implementation of the program, retailers

are free to import rice from private traders and must have benefited them more than simply purchasing stocks from the NFA.

Table 12. Overall Level of Agreement with the National Food Authority’s Restructuring Program across Their Socio-Demographic Profiles

Demographic Profiles	F-ratio	Sig. (P-value)	Decision on H_0 : reject if $p \leq \alpha$
Sex	0.033	.856	Fail to reject
Age	0.791	.538	Fail to reject
Occupation	3.803	.046	Reject

Compared to domestic production, imported rice is more affordable. The Philippines produces palay at a higher cost than other major rice exporters like Vietnam and Thailand, which accounts for the price gap (Vertudes et al., 2020).

8. Conclusion

The results show that the research hypothesis is incorrect. There is a significant difference on the level of agreement when analyzed across the respondents’ occupation. Based on the findings of the study, the following conclusions were made: firstly, the findings of the study were more particular on the opinions of rice farmers than the other respondents since they are the agency’s back bone of its operations. However, the results showed that retailers were significantly affected by the implementation of the program since the NFA’s rice stocks decreased due to discontinued importation of rice grains, rice allocations and authorized retailers also decreased. This study also found out that, overall, there is no significant difference between male and female, as well as the age of the respondents. Regardless of sex and age, the restructuring program of the NFA did not significantly affect the local rice farmers and retailers of Davao Oriental.

Secondly, results indicated that the NFA restructuring program has had significant effects for rice farmers and retailers. The changes in procurement policies, guidelines, and distribution channels have influenced their livelihoods and income. Some farmers and retailers have experienced positive outcome, such as improved access to market and enhanced profitability. However, others have encountered challenges, including increased competition, longer procedures, and higher transportation and labor costs.

Moreover, the effect of the restructuring program on the retailers was particular on the stocks allocated to them given that their profitability depended on it excluding the jail workers since they purchase NFA rice to decrease cost to feed their inmates. This problem can be solved by strengthening the relationship between rice farmers and the agency.

9. Recommendations

The researcher recommends the following: the NFA should increase public awareness of its new policies and procedures by entering remote rice fields within the province. Regular *UGNAYAN* with farmers even before harvest seasons to explain the agency’s functions, pricing mechanism, and processes.

Additionally, to attract more farmers, they should have the option to sell their freshly harvested crops with reasonable price to compete with private traders and to decrease the time and costs spent to meet the clean & dry qualifications of the NFA. On top of that, negative feedbacks from farmers about the schemes of private traders should be seen as opportunities to increase the agency's procurement numbers. By ensuring the integrity of the price and weight during procurement, this will build trust among parties. Moreover, improvements should be made in the payment process. Buyers of NFA rice should have the option pay directly to the office's cashier to reduce travel time and transportation costs. Correspondingly, cash basis payment for farmers should be looked into without compromising the safety of the NFA personnel during harvest seasons.

Furthermore, the NFA should improve its drying facilities. By investing in upgrading and modernizing drying facilities, including mechanical and solar dryers, that can reduce drying time and improve the quality of rice paddies. Improved drying facilities will contribute to higher-quality rice, reduced post-harvest losses, increased efficiency in the value chain, and ultimately, improved profitability and competitiveness of farmers.

The researcher also recommends that the findings of this study would reach a wide audience, including policy makers, the NFA's stakeholders and top management, and the general public. The NFA could include presenting the findings during *UGNAYANs*, media/digital platforms, academic journals, and relevant organizations working in the field of agriculture and food security. This will provide an opportunity for stakeholders to ask questions, provide feedback, and gain a deeper understanding of the research and the program. Additionally, monitoring the impact of the study's findings is essential. As a result, effectiveness of the findings and the restructuring program will be assessed accordingly.

Lastly, it is important to note that this study has its limitations. These findings are based on a specific geographic area, Davao Oriental, and may not be fully representative of the entire country or other regions. Additionally, the study focused on the immediate effects of the NFA restructuring program and did not assess long-term impacts. Future researchers could examine deeper into these aspects to provide a more comprehensive understanding of the dynamics between the restructuring plan and the rice industry.

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