

## Article

# The Paddy Procurement System for Sustainability: Evidence from Bangladesh Agriculture Sector

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**Abstract:** Bangladesh derives one-half of its agricultural GDP and one-sixth of its national income from paddy. It is crucial to the farmers' ability to survive. This paper aims to investigate current paddy procurement system and farmer awareness in the Bangladeshi agricultural sector to ensure business sustainability. This paper utilised a quantitative approach to research. The research investigated farmers' consciousness through perception and contentment. For the measurement, a survey of 210 farmers from three Upazilas was conducted using a closed-ended, pre-tested questionnaire. Version 20 of the SPSS programme was used for data analysis. Approximately 67.6% of respondents were unhappy with the current paddy procurement system, according to the study. Approximately 69.10% of respondents believe there is a middleman in the current paddy procurement system, approximately 94.30% of respondents believe the current system needs improvement, and 99.0% believe a new paddy procurement system could be beneficial. Furthermore, these findings led to the conclusion that there is room for improvement in the current paddy procurement system, which will increase the transparency and sustainability of paddy procurement activities for everyone, including farmers.

**Keywords:** paddy; sustainable paddy procurement system; farmer's consciousness; farmer's perception; farmer's satisfaction



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## 1. Introduction

Agriculture is regarded as one of Bangladesh's most important economic pillars. Agriculture's contribution to the GDP is anticipated to reach 13.37 percent in 2018. It is diminishing daily. Bangladesh's economy relies heavily on agriculture, which supports the majority of its population. According to BBS, the agriculture sector utilizes country's 47% total labour force [1]. Primary macroeconomic objectives, such as poverty alleviation, employment generation, food security, and human resources development, impact this sector's irresistible performance. Most farmers and their families wait eagerly for paddy harvesting all year round because all the family's expenses depend on the paddy sale. Paddy is Bangladesh's principal crop and the farmers' financial lifeline. This country produces three varieties of rice: Aus, which is available during March to August; Aman, available between June to January; and Boro, available between November to May [2]. However, the current rice production narrative is only sometimes encouraging. Due to low prices, the experience of farmers engaged in paddy production can sometimes be depressing. Today, paddy production relies heavily on fertilisers, irrigation, and insecticides.

The majority of farmers in Bangladesh are classified as middle- or low-income. They must frequently take out loans to cultivate paddy. Moreover, they are compelled to sell their paddy at a lower price immediately after harvesting for primarily two reasons: the lack of storage facilities; and the immediate need for money to pay back loans taken out to buy labour, seeds, fertiliser, insecticides, and other necessities, and to fund daily costs. Wholesalers and millers in Faria, Bepari, Paiker, and Aratdar-cum regularly try to take advantage of farmers. Therefore, farmers are compelled to sell paddy at a relatively lower price during harvest. Paddy prices are usually unstable, and ironically, seasonal fluctuations have been common since our independence [2]. Due to paddy production in Bangladesh, the farmers suffer a lot. The sufferings of farmers who produce paddy are indeed numerous. Significantly, the government has launched many programs to boost the agricultural sectors, primarily to support the farmer [3,4].

To solve the issue of low paddy prices during harvest season, the government has adopted a highly effective step to buy paddy from farmers at a fair price. This procurement serves the dual aims of providing financial help to farmers and ensuring rice stockpiles for the Public Food Grain Distribution System (PFDS), especially when they are in a rush to sell it after harvest [3,5]. The government announces the procurement price at crop harvest, also known as the minimum support price, taking into account all elements relevant to paddy production in order for the producer to obtain the right price. Farmers generally anticipate that the purchase price will be higher than the cost of production. If the procurement price exceeds the production cost, farmers realise a profit and are motivated to cultivate paddy the following year [6]. Since the government declares the procurement price at harvest time each year, taking into account all factors relevant to the production of paddy, it is expected that the producers will receive a reasonable price for their paddy, which may be the minimum support price. Nevertheless, the middlemen, not the farmers, are getting accurate prices and taking the benefits. Its causes include a proper paddy procurement system, illiteracy, poor communication knowledge, poor communication system, insufficient communication infrastructure, and other farmer facilities.

Despite the government's best efforts, the current paddy procurement system does not exist, real farmers are deprived of getting benefited instead, the benefits of support price go to the middlemen [7]. Not only are farmers deprived of the just price, but it also leads to an unstable food market, food price hiking, and ultimately food insecurity.

However, direct purchases of Aman, Boro, and Aus paddy from farmers grow daily, worsening farmers' suffering. Lack of real-time information results in significant losses for farmers. Farmers in Bangladesh need a proper paddy procurement system, while intermediaries and other influential individuals involved in the paddy procurement system receive government benefits. As a result, paddy cultivation is discouraged among farmers. The situation is alarming for the nation's food security and unemployment. This deficiency in paddy procurement system communication is extremely upsetting. Still, there is room for improvement in every aspect of procurement. There are few studies or research on farmers' perceptions and levels of contentment with the current paddy procurement system in Bangladesh. Consequently, it is essential to understand the farmers' mindsets to contribute to the actual development of Bangladesh.

Therefore, the study aims to investigate the current paddy procurement system in Bangladesh and farmers awareness towards it to ensure the sustainability of the paddy business. Thus, the following research questions have been developed to attain the research objectives.

#### Research Questions:

- a What is the present condition of the paddy procurement system in Bangladesh?
- b What are the opinions of farmers about the current paddy procurement system?
- c Are the farmers satisfied with the current paddy procurement system?

To ascertain how farmers feel about the existing paddy procurement system in Bangladesh and how informed they are of it, this study aims to analyse every aspect. By examining farmers' perceptions and levels of satisfaction with the paddy procurement system, this study will add to the body of knowledge on the subject and suggest a method

for ensuring the system's sustainability. Before, no studies were conducted on perception, satisfaction, and awareness have yet to be carried out in Bangladesh. Additionally, it will deepen our grasp of the pertinent fields and reveal potential improvements to the system. The strategy will assess the possibility of enhancing the paddy procurement system in light of the findings. As a result, the paddy procurement system in Bangladesh's farmers, planners, policymakers, administrators, academics, and other stakeholders are aware of the activities. This system will help farmers get the right price.

## 2. Literature Review

Rice is the most significant food crop in the world, feeding people more than any other crop. Nearly half the world's population, more than 3 billion people, rely on rice daily. It is also the staple food across Asia, where around half of the world's poorest people live, and is becoming increasingly important in Africa and Latin America. Rice has also fed people for longer than any other crop. It is spectacularly diverse, both in the way rice is grown and used by human beings. After harvesting, the rice grain undergoes several processes depending on how it will be used. These include drying, storing, milling, processing, and packaging—all before they are sold to markets. Rice has grown more abundantly than any other crop in the world. There are over 144 million rice farms worldwide, with a harvested area of about 158 million hectares [4]. About fifty percent of the world's population subsists on rice. The Bangladeshi people eat this as their main food source. Rice provides a variety of dishes and culinary products, including Khai, Chira, Muri, various cakes, and many more. People can also enjoy Polao and Biryani, among many other rice-based dishes. Paddy is the primary source of nutrition for humans and animals, such as cows, and the paddy straw is also used to produce fertilisers.

Therefore, numerous factors demonstrate that paddy cultivation is extremely important. According to Monthly Technology Today, paddy (rice) represents 35% of household expenditures in Bangladesh, making it the most significant staple food. Just the crop sector accounts for roughly 80% of Bangladesh's agricultural output, with rice making up about 82%. Contribution of Rice to GDP, Guaranteeing Food Security and Generating Income The Bangladesh Bureau of Statistics estimates that the contribution of agriculture to the GDP in 2018 will be 13.37 percent. Bangladesh's economy is almost entirely dependent on agriculture, which employs 46% of the country's total labour force and sustains the majority of its population [1].

According to rice millers, when they purchase paddy from farmers, its moisture content remains excessively high, increasing its weight. As a result, the paddy must be dried multiple times before husking. Last year, the government blacklisted 16,000 rice mills for purchasing paddy at a discount and hoarding vast paddy. Food Minister Qamrul Islam began purchasing rice and paddy from blacklisted millers on 15 April to meet the persistent rice shortage's procurement demand [8]. Alam et al. [3] state, "The goals of local rice procurement are due to two factors: to grow rice stocks for the public food grain distribution system (PFDS) and to supply farmers with income support that is greater than the cost of production so that farmers do not produce at a loss and to achieve income support objectives". However, researchers have demonstrated that the middlemen, not the farmers, reap the benefits due to the absence of a paddy procurement system. According to Sabur and others, the Bangladeshi government is persistently pursuing policies to achieve food self-sufficiency and improve the economic conditions of farmers [9]. According to Alam et al., Bangladesh's food grain production meets domestic demand. The National Food Policy Plan of Action (2008–2015) is also responsible for PFDS's efficacy. The paddy production and sales process in Bangladesh, the role of middlemen, the government's policy, and how farmers can reap the actual benefits of paddy production are all described in detail.

Distribution of paddy involves an excessive number of intermediaries, including commission agents, wholesalers, millers cum wholesalers, and retailers. Therefore, the price rises abnormally as a result of numerous middlemen taking the lion's share of the

profit [10]. In the current paddy procurement system, farmers are coerced into selling paddy by organised middlemen. To reach the goal, the government must eliminate the inherent flaws prevalent in agricultural marketing, including the presence of unnecessary middle city of market charges, a multiplicity of weights and measures, and market fraud [7].

In Bangladesh, the millers are the actual regulators of the rice market. Farmers Frias and Bepeparis sell paddy to packers, who then sell it to millers [11]. The millers are satisfied with the current paddy procurement system, but farmers feel that the paddy market needs to meet their needs [6]. The farmers, particularly the small- and medium-sized farmers, were insignificant, and it appeared that political elites primarily controlled procurement [9].

As a result of the farmers' difficulties in selling their paddy, the government has taken effective measures to purchase paddy from the farmers at a price that supports them. As a result of the absence of a paddy procurement system, however, a number of researchers have demonstrated that it is the middlemen, not the farmers, who reap the benefits. Local rice procurement serves two purposes: constructing rice stocks for the public food grain distribution system (PFDS) and providing income support to farmers. As a result, production costs are increased to prevent farmers from incurring losses and meet income support objectives. It also supports producer prices effectively [3]. In earlier studies, several researchers worked on measuring the farmers' satisfaction and awareness. Luo and Timothy investigated the farmers' satisfaction towards land consolidation performance in China [12]. In addition, Kalyani tested the farmers' awareness towards organic farming and found that 67% of the farmers have good perception towards organic farming [13].

### *2.1. Government Paddy Procurement Procedure*

The government buys paddy from farmers and rice from millers through its procurement centres throughout Bangladesh. There is an Officer in Charge (OC) and additional staff at each procurement centre. Each Upazila's food procurement system is overseen by an Upazila Controller of Food (UCF), and each district's food procurement system is under the control of a District Controller of Food (DCF). Based on the capacity of each procurement centre and the overall procurement target, the government sets the procurement target for each. A farmer can deliver paddy to the procurement centre for a base level of 70 kg and a maximum of 5 tonnes [4].

The government has made several changes to the procurement programme over the years to make it more practical, including listing farmers, increasing the targeted procurement quantity, and using a mobile app for procurement [14–16]. However, due to a need for more information and communication, farmers still require this program's benefits, and intermediaries seize this opportunity [17].

### *2.2. Private Sale-Open Market/Public Market*

Paddy sale is necessary for the farmers immediately after harvesting, and the government procurement system commonly works later than harvesting time. The farmers are usually interested in selling their paddy to private sale centres or open markets rather than the government procurement system. Additionally, there are many other reasons for the farmers' going to the private sale centres. First, there is a system of prompt cash transactions in the private market, and sometimes, it is in advanced payment; saving the transportation cost is one of the main reasons. Farmers can sell their paddy from a yard in a private sale system. In addition, in some cases, from the paddy field. During harvesting time, due to hurry and rough weather, it may be challenging to ensure the saleable quality of paddy, but in the procurement system, quality maintenance is necessary.

Farmers can often sell their lower-quality paddy through a private sale system. In a private sale system, moisture and foreign particles are irrelevant to the paddy. "Farmers sell their paddy mostly to middlemen during the post-harvest period for practical reasons," [9]. Paddy is traded via a number of middlemen, such as Kutial, Barkiwala, Faria, Bepari, and Miller. Kutial and Barkiwala need to have taken part in the purchasing process. The suppliers to the procurement centre are farmers and millers.

### 2.3. Problems in Paddy Procurement System in Bangladesh

The current system for paddy procurement must be improved. Although most farmers and many individuals involved with the current paddy procurement system held divergent views, they all agreed that it must be revised. The current paddy procurement system still has room for improvement. According to some, the current procurement programme could provide incentives to farmers more effectively. There are many causes for this. The government purchases paddy from farmers and rice from millers in Bangladesh via paddy procurement centres. After harvest, farmers sell their rice primarily to middlemen for practical reasons. There are numerous types of middlemen involved in the rice trade. Kutial, Barkiwala, Faria, Bepari, and Miller are their names. Kutial and Barkiwala were both cut off from the purchasing process. The sole members of the procurement channel were Faria, Bepari, and Miller. The suppliers to the procurement centre are farmers or millers [9]. While the government has yet to start its procurement process, rice and paddy are being sold for less than the prices specified by the government. In the domestic food procurement programme, which the government had high hopes for when it declared at the beginning of harvest season that it would buy a larger amount of paddy directly from farmers. Yet, thousands of Boro farmers are still at the mercy of private buyers and middlemen two weeks after the official opening of the paddy and rice procurement campaign on 5 May [8]. In comparison to what the government provided through the public procurement programme, the farmers provide substantially less to the middlemen. Farmers are suffering since the government's drive to purchase rice has not yet started [8]. Organised middlemen push farmers into selling paddy under the current paddy procurement system. Hence, in order to achieve the goal, the government should do away with the fundamental problems that currently exist in agricultural marketing, such as the use of pointless middlemen, a proliferation of market fees, a proliferation of weights and measures, and market fraud. To ensure a fair pricing process, the government must also be aware of the effects of a strong marketing system [7]. Farmer Afsar Ali lives in the Aditmari village in Lalmonirhat. He believes that his price of Tk 12 per kilogramme for harvested Boro is below the cost of production. When the government announced that it would buy paddy for Tk 23 per kilogramme, farmers in the same district, such as Abdul Gafur, were overjoyed. However, they do not know when to sell rice in government silos [8]. The millers are the ones that control the paddy market in Bangladesh, according to Robel's research. He gives an example of the channels being preserved. Faria, Bepari, Paiker, and Aratdar-cum are the middlemen or intermediaries in marketing networks [11]. Millers are given as much paddy as they need, but farmers must still be paid fairly. Thus, millers are satisfied with the current paddy procurement system, but from the farmers' point of view, the paddy market needs to fulfil its purpose [6].

As the farmers have to sell the paddy during harvesting time, they have to face means. Different intermediary groups or agencies try to exploit the farmers. We have obtained it in daily media also. Throughout distribution, the paddy sales go via far too many middlemen, including commission agents, wholesalers, millers, and cum wholesalers. When so many intermediaries are taking the lion's share of the profit, the price increases excessively. The government should maintain a sound food policy that keeps the price consistently under control and keeps good food stock in order to ensure that the public distribution system has enough rice and to prevent middlemen from making a profit. Bangladesh farmers' experience significant losses with their produce each year as a result of a lack of storage facilities and a government that cannot effectively regulate the market. Governmental initiatives were unsuccessful. The millers pay farmers far less for paddy than the set price set by the government [18]. The standard procurement system and current procurement system are given below in Figures 1 and 2.

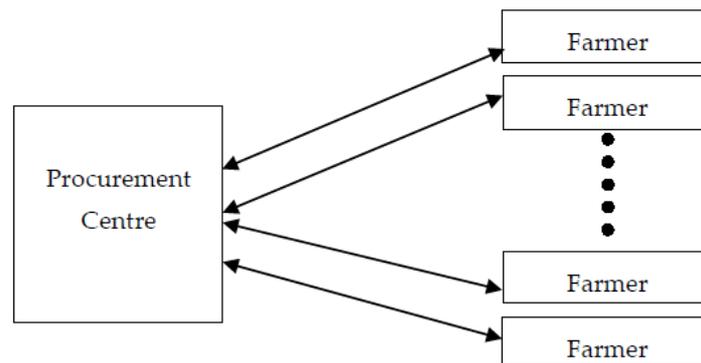


Figure 1. Standard Paddy Procurement System.

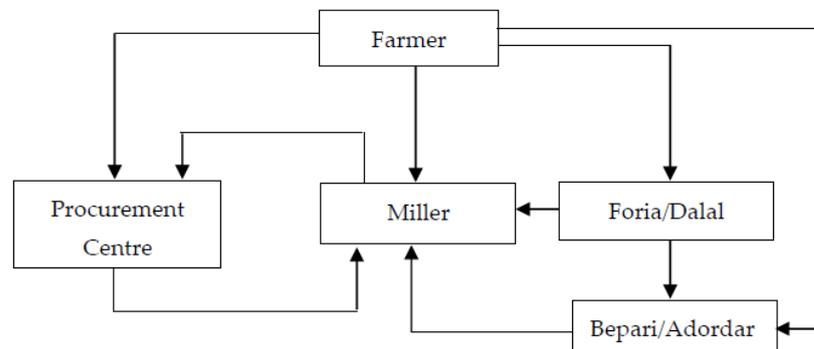


Figure 2. Current paddy Procurement System.

However, digging out the relevant literature on the current paddy procurement system, this research intends to find and show why the system fails to provide the necessities to the country's farmers. Based on the literature, it can be noted that there are many reasons for failing the current paddy procurement system. The main areas are: farmers' dire need of the sale, immediate harvesting time need of the sale, need and urge for quick cash, the fact that the government starts the procurement too late for the farmers, lack of confidence and awareness in the current paddy procurement system, the offer of credit from the middlemen and advanced payment and lack of trust and phobia of the missing of their money.

### 3. Methodology

#### 3.1. Research Design

Choosing the appropriate research design could be helpful, especially in achieving the research objectives appropriately.

#### 3.2. Development of Questionnaire

As quantitative research was needed on farmers who are the real beneficiary of the paddy procurement system, for quantitative analysis, a questionnaire was made and tested.

#### 3.3. Justification of the Sample Size of Quantitative Research

Sample Size: For this research, three Upazila of three districts are chosen for our sample. From general theory, the minimum required sample size is determined using the usual sample size determination formula for estimating proportion, which is given by:

$$n = \frac{n_0}{1 + \frac{n_0}{N}} \times def, \quad (1)$$

with

$$n_0 = \frac{p(1-p)z_{\frac{\alpha}{2}}^2}{d^2} \quad (2)$$

where,  $p$  is an a priori proportion of the required characteristics in the population  $z_{\frac{\alpha}{2}}$ , the value of the standard normal variate allowing  $100\alpha\%$  the probability of bad samples,  $d$ , and the allowable margin of error,  $N$ , is the population size. It is the design effect used for complex surveys using multi-stage cluster sampling. Since no complexity was adopted in the sampling, we considered the design effect unity. Since the number of respondents in each of the defined Upazila is relatively large (larger than 10,000), no adjustment for population size will be needed. Similarly, since the multi-stage approach is not adopted, no adjustment for design effect will be needed. A liberal choice  $a = 0.1$  is considered, which would give  $z_{\frac{\alpha}{2}} = 1.64$ . For the choice of the apriori proportion  $p$ , we consider the variable' perception of whether the farmers may get helps in receiving services. However, no previous estimate of this proportion is available, which is why the safest option  $p = 0.5$  is considered. A little choice of  $d = 0.1$ , therefore, yields a sample size  $67 \approx 70$  for each Upazila is considered. So, from three Upazila of three districts, total respondents are  $70 + 70 + 70 = 210$ .

Allocation of Sample Size among Districts: Ensuring a sample size of 210 in total and the allocation of sample size among the Upazila and districts are given in Table 1:

**Table 1.** Allocation of Sample Size among three Districts.

District	Upazila	No. of Farmers
1. Dinajpur	Phulkari	70
2. Nagaon	Patnitola	70
3. Jashore	Monirampur	70
Total		210

### 3.4. Data Collection for Research

According to the survey instruments, the data are collected from respective areas. For the quantitative data, the selected study areas were Upazila's three paddy producing and paddy surplus zones: Phulbaria, Patnitola, and Monirampur in Dinajpur, Noagaon, and Jashore districts, respectively. Primary data were collected from the farmers directly involved in paddy production, then sold surplus paddy in the private market or to the paddy procurement system.

### 3.5. Data Collection for This Research

A pre-tested and close-ended questionnaire using a five-point Likert scale was used to quantitatively collect data from the farmers for the investigation. The data were collected from the three Upazilas as Phulbaria (70 farmers), Patnitola (70 farmers) to collect data from the farmers for the investigation quantitatively and paddy surplus zones of Dinajpur, Noagaon, and Jashore districts. Collecting data from the field, the researcher took the help of three persons who were provided training before.

### 3.6. Validity, Reliability, and Ethical Consideration of Data

The validity and reliability of data with its ethical consideration of collection and utilization is a critical issue for any booming research work.

Internal validity, external validity, and reliability are the most important aspects of data validity. Internal validity highlights the process of matching research findings with reality [19]. External validity refers to the study's generalizability. External validity is achieved using two strategies: rich description and maximum variation [19]. This study examined both external validation strategies. Providing specific information about

participation is a crucial element of a dense description. Quotes from the observation and interviews should be used to provide sufficient evidence. This study is concerned with selecting the study sample for maximum variation.

**Reliability:** Similar questions were asked to the respondents from similar stakeholder groups. Moreover, responses from different respondents within similar stakeholders' groups were compared to each other. Hence, this activity has helped the study ensure the validity of the arguments forwarded for analysis purposes. In addition, reviewing the literature regarding this research issue and observing the documents related to the research, such as government policy and purposes of paddy procurement, and articles in the newspapers have all been helpful in this regard.

**Ethical Consideration in the Data Collection Process:** Qualitative research is more sensitive to ethical considerations because of the risk faced during the data collection process. During the data collection, the main concern is that a human being is being interviewed, and the researcher must bring himself closer to the respondent. According to Bowen, in research that considered humans as subjects of interest, informed consent is certainly an important feature of ethical considerations. The standard ethical guidelines were followed for conducting the interviews for this study. In accordance with the accepted guidelines for conducting ethical research, the authors made a pact that all information gathered during interviews for this project that may be associated with interviewees would be kept private and would only be revealed with the interviewees' consent, unless otherwise required by law [20]. As part of this investigation into Bangladesh's paddy procurement system, we solely used the interviewees' consent to discuss and publish the findings of the interviews. The major things that should be maintained during the data collection process are complete identification of the researcher's identity, voluntary involvement from the responder, and preserving confidentiality. Yet, because this form of research gives the researcher a wide range of interpretive flexibility and allows them to combine the research findings with their sentiments, ideas, and impressions, extra ethical concerns are also highlighted.

#### 4. Findings and Data Analysis

The respondents' age distribution is summarized in Table 2.

**Table 2.** Age group distribution of the respondents (n = 210).

Age Group (Year)	Frequency	Percentage
Mean $\pm$ SD		48.83 $\pm$ 11.72
24–38	36	17.1
39–53	99	47.1
54–65	75	35.7
Total	210	100.0

Source: Developed by the authors.

From Table 2, we can observe that the mean age of the respondents was  $48.83 \pm 11.72$  years. Most of the respondents (47.1%) came from the 39–53 age group, followed by 35.7% from 54–65 years, and 17.1% from 24–38 years.

Farmers' preference for selling their paddy is shown in Figure 3. Figure 3 shows the farmers prefer to sell to the private sector, nearly double (63%) of their sales to the government (37%). Farmers' happiness with the current paddy procurement system is shown in Figure 4. Figure 4 shows that more than half of the farmers (67.60%) were unhappy with the current paddy procurement system, and 31.3% were happy.

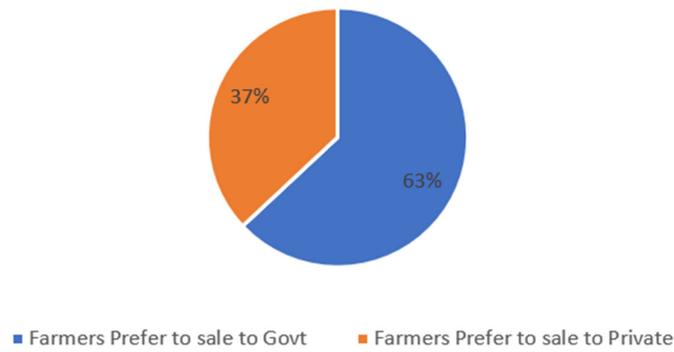


Figure 3. Farmers’ sale preferences.

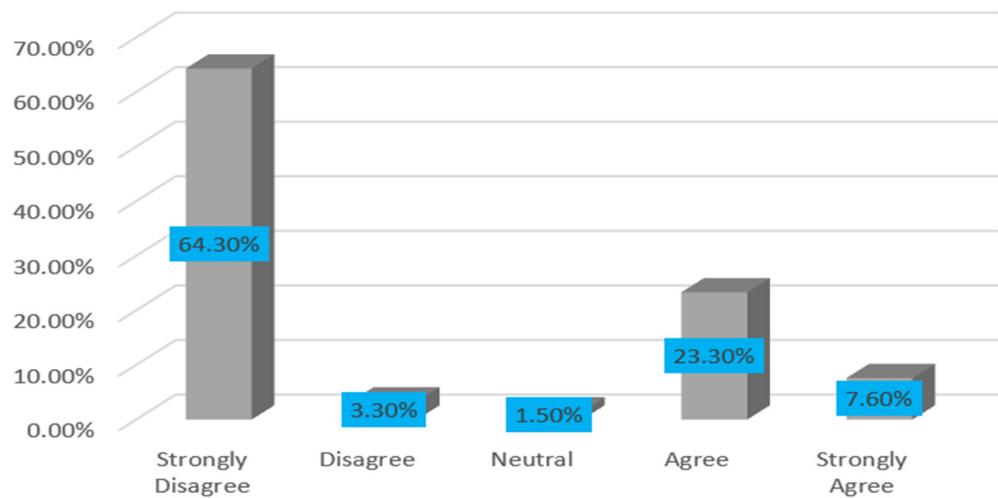


Figure 4. Farmers’ happiness with the current paddy procurement system.

Farmers’ opinions on the involvement of middlemen in the current paddy procurement system are shown in Figure 5. Figure 5 shows farmers’ opinions on the involvement of middlemen in the current paddy procurement system. More than half of the farmers (66.70%) consented to the presence of middlemen in the current paddy procurement system. The farmers’ desire for the new paddy procurement system is shown in Figure 6. Figure 6 shows that most farmers (94.30%) strongly desired a new paddy procurement system.

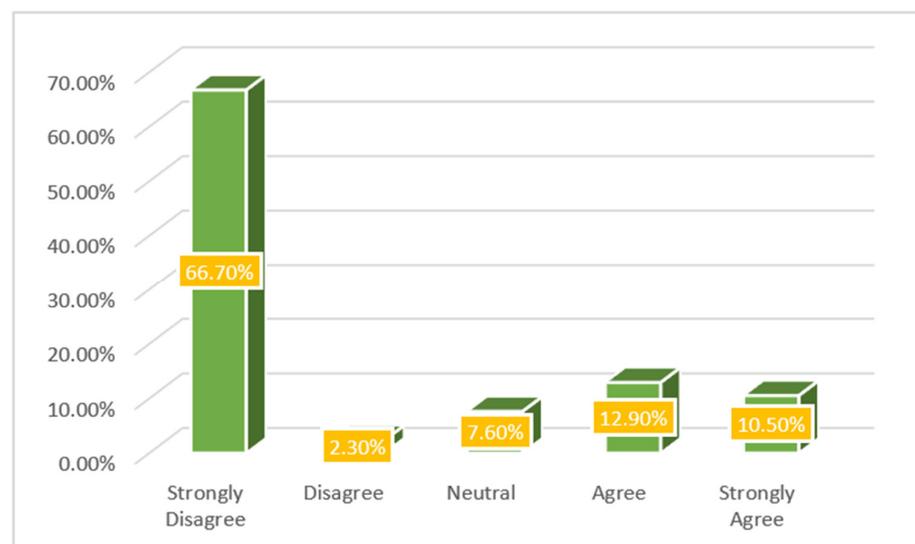
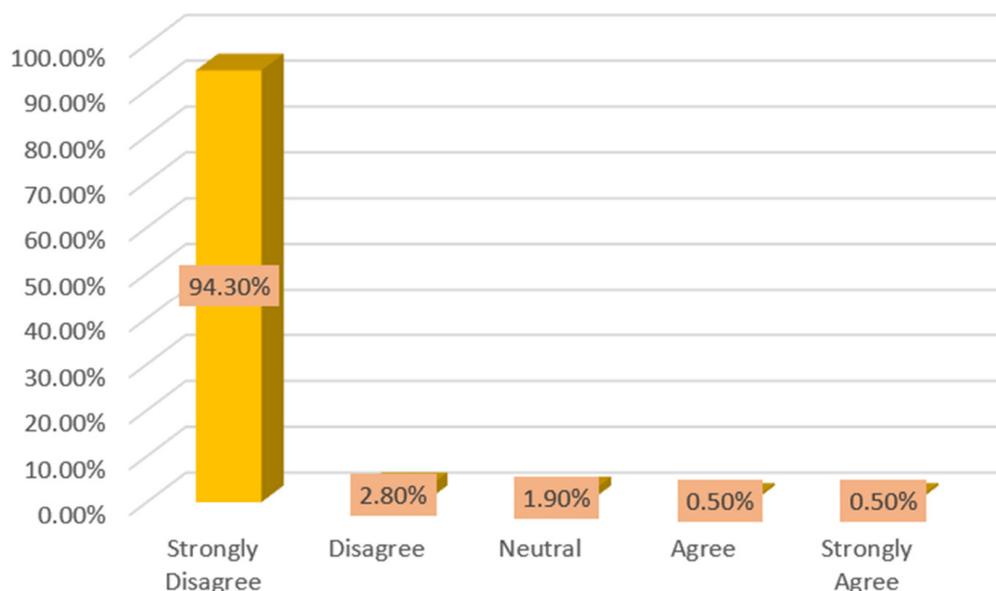


Figure 5. Farmers’ opinion on the involvement of middlemen in the current paddy procurement system.



**Figure 6.** Desire of the farmers for the new paddy procurement system.

The satisfaction level of farmers with paddy production-related activities is summarized in Table 3. In Table 3, we can observe in the case of happiness in paddy production work that more than half of the farmers (62.4%) strongly agreed, but about 31% of farmers were not happy with the transport/carrying cost was quite similar to the selling price. About 53.8% of farmers were happy with the local market, and 22.9% were strongly happy.

**Table 3.** Satisfaction level of farmers.

Variable of Interest	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Are you happy with your paddy production work	0 (0.0)	13 (6.2)	25 (11.9)	41(18.5)	131 (62.4)
Are you happy with the transport/carrying cost	35 (16.7)	56 (26.7)	65 (31.0)	34 (16.2)	20 (9.5)
Are you happy with the selling price	32 (15.2)	20 (9.5)	74 (35.2)	64 (30.5)	20 (9.5)
Are you happy with your local market	7 (3.3)	2 (1.0)	40 (18.0)	113 (53.8)	48 (22.9)

Results were expressed as n (%).

From Table 3, it is found that the farmers are not happy with the current paddy procurement task in transportation, price, payment, and timing. In no area of the current procurement system of government, are the farmers are happy. The satisfaction level of the framers of the current procurement system of government is summarized in Table 4.

**Table 4.** Satisfaction level of framers on current procurement system of government.

Current Procurement System of Government	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Transport	136 (64.8)	1 (0.5)	2 (1.5)	36 (17.1)	35 (16.7)
Price	139 (66.2)	5 (2.4)	1 (0.5)	33 (15.7)	32 (15.2)
Payment	135 (64.3)	9 (4.3)	1 (0.5)	49 (23.3)	16 (7.6)
Timing	143 (68.1)	1 (0.5)	1 (0.5)	50 (23.8)	15 (7.1)

Results were expressed as n (%).

### *Discussion of the Findings*

Food is one of the most fundamental rights of the citizen of a country. The government should ensure food availability in the market all year round for its citizens. Market forces often consciously wait to exploit the food market and create artificial food crises. The consequences are widespread: price hiking, extra profit earning, and sometimes insufficient food supply. Thus, most of the time, similar in other countries, the government of Bangladesh faces the terrible need to buy and store paddy to ensure the available food supply in the market for its population for the whole year. Sometimes the government is bound to procure paddy or rice from the intermediary force of the market. The farmers and the government become hostage to the malevolent force. Even the blacklisted millers are so influential in their areas that the government sometimes has to depend on them. The millers purchase each kilogram of paddy at a reduced rate, pointing out the moisture percentage of the paddy.

Farmers from three Upazila participated in the research ( $n = 210$ ). Total respondents were 210, of which male and female distribution was 197 (93.80%) and 13 (6.20%). Most of the farmers are happy with paddy production work. This result is relevant to the study conducted on agriculture extension services [21]. The mean age of the respondents was  $48.83 \pm 11.72$  years. Most respondents (47.1%) came from the 39–53 age group, followed by 35.7% from 54–65 years and 17.1% from 24–38 years. Farmers' preference to sell to the private sector was nearly double (63.33%) that to the government (37.77%). More than half of the farmers (64.30%) were unhappy with the current paddy procurement system, and 23.3% were happy. Similar results were found in a study on farmers' satisfaction, where more than one respondent was dissatisfied with the agriculture extension service [22]. More than half of the farmers (66.70%) consented to the presence of middlemen in the current paddy procurement system. Most farmers (94.30%) strongly desired a new paddy procurement system. In the case of happiness in paddy production work, more than half of the farmers (62.4%) strongly agreed, but about 31% of farmers were not happy with transport/carrying cost, which was quite similar to the selling price. About 53.8% of farmers were happy with the local market, and 22.9% were strongly happy. In the case of the satisfaction level of farmers on the current procurement system of the government, most of the farmers are not satisfied with transportation (64.8%), price (66.2%), payment (64.3%), and timing (68.1%). Regarding the satisfaction levels of farmers on the current selling system, 66.7% strongly agree that middlemen are involved within the system. More than half of the respondents (66.7%) were not getting government-declared prices. Results indicate that the farmers are happy with the paddy production. However, more than half of the farmers are unhappy with the current paddy procurement system because of the presence of middlemen. Bangladesh is an agri-based country, and it is essential to ensure a sustainable paddy procurement system for business sustainability.

### **5. Conclusions**

The main aim of this paper was to find out the consciousness of the farmers of Bangladesh about the current paddy procurement. It is found that farmers are not happy with the current paddy procurement system. As paddy sale is a dire need for the farmers of Bangladesh and the government also needs to procure the paddy from the farmers to confirm food security, the new one should replace the flawed procurement system. The newly developed paddy procurement system should be straightforward and transparent to the farmers, and the support of farmers should be sanguine. The farmers are happy with paddy production, and they are in dire need of it; they also need to sell the paddy during harvesting time, and it may be either in private sale or in the procurement system. Farmers have to face different types of hazards in the procurement system, such as the disturbance of the middlemen and delays payment, which create unhappiness with the current procurement system. Most of the farmers desire a new system of paddy procurement. A new paddy procurement system may be introduced, which will be acceptable and

preferred by the farmers. Accordingly, the farmers desire a robust and user-friendly paddy procurement system that can guarantee a sustainable paddy procurement system.

### 5.1. Managerial Implications

As the farmers became frustrated, it might be almost impossible to manage them to keep active in paddy cultivation. The findings of this study will help to support them, and the involvement of middlemen problem, which sometimes aggravates the frustration of farmers, may be reduced. It may be beneficial for policymaking in the paddy procurement system in Bangladesh, and similar paddy procurement problems have been faced in many other countries in the world. It is essential for developing countries, such as Bangladesh, to develop a sustainable paddy procurement system.

### 5.2. Limitations of the Study

This research has several limitations that need to be taken into consideration. Here, the respondents usually believe that the people who come to them were to facilitate them. When they were informed that this is only for research work, they were scared and not ready to provide essential information. In the prolongation of the findings of this article, there is sufficient opportunity to carry over with many further studies. If the findings are implemented, they may support the development of crop production statistics in the country. In addition to being helpful in food and paddy/rice export/import forecasting, the data were generated over years for future use.

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## References

1. BBS. *Statistical Pocketbook Bangladesh 2018*; Statistics and Informatics Division, Ministry of Planning, Government of Bangladesh, Bangladesh Bureau of Statistics: Dhaka, Bangladesh, 2018.
2. Chowdhury, N. Seasonality of food grain price and procurement program in Bangladesh science liberation: An exploratory study. *Bangladesh Dev. Stud.* **1987**, *15*, 105–128.
3. Alam, M.J.; Akter, S.; Begum, I.A. *Bangladesh's Rice Procurement System and Possible Alternatives in Supporting Farmers' Income and Sustaining Production Incentives*; A Study Report; Department of Agribusiness and Marketing, Bangladesh Agriculture University: Mymensingh, Bangladesh, 2014.
4. Islam, M.A. Review of Literature and Development of Models Relating to the Application of ICT in Paddy Procurement System in Bangladesh. *Int. J. Ethics Soc. Sci.* **2017**, *5*, 43–57.
5. Islam, M.A. Current Paddy Procurement System and Supporting Farmers in Selective Areas of Bangladesh: A Qualitative Analysis. *Int. J. Ethics Soc. Sci.* **2018**, *6*, 55–73.
6. Raha, S.K.; Moniruzzaman, M.; Alam, M.M.; Awal, M.A. *Structure, Conduct, and Performance of the Rice Market and the Impact of Technological Changes in Milling*; Research Report; Institute of Agribusiness and Development Studies, Bangladesh Agriculture University: Mymensingh, Bangladesh, 2013.
7. Dewan, M.F.A. A Study on Rice Marketing System in Bangladesh with Time Series and Cross-Sectional Data. Master's Thesis, Bangladesh Agricultural University, Mymensingh, Bangladesh, 2011.

8. Ahmad, R. Boro farmers at the mercy of middlemen: Buyers offer prices lower than govt-fixed rates for paddy, and rice; procurement by govt yet to start. *The Daily Star*, 1 May 2016; p. 2.
9. Sabur, S.A.; Jahan, H.; Reza, M.S. An evaluation of the government rice procurement program in selected areas of Bangladesh. *Bangladesh J. Agric. Econ.* **2003**, *26*, 111–126.
10. Prakash, C. Problems and expectations of the farmers in marketing paddy in Tiruvarur district, Tamilnadu. *Asian J. Manag. Res.* **2012**, *3*, 253–262.
11. Robel, M. Marketing of Boro Paddy in a Selected Area of Netrakona District. Master's Thesis, Bangladesh Agriculture University, Mymensingh, Bangladesh, 2013.
12. Luo, W.; Timothy, D.J. An assessment of farmers' satisfaction with land consolidation performance in China. *Land Use Policy* **2017**, *61*, 501–510. [CrossRef]
13. Kalyani, V. Perception of Farmers towards Organic Farming: A Glance of Agricultural Perspective. *SSRN* **2021**, 3879917. Available online: <https://ssrn.com/abstract=3879917> (accessed on 7 November 2022).
14. Roy, A.C.; Rahman, M.A.; Khan, M.A. Yield gap, profitability, and inefficiency of Aman rice in coastal areas of Bangladesh. *Progress. Agric.* **2020**, *30*, 395–404. [CrossRef]
15. Amin, M.A. Government Procurement of Rice through App Delayed, Limited. Dhaka Tribune. 2020. Available online: <https://www.dhakatribune.com/Bangladesh/government-affairs/2020/04/29/government-procurement-of-rice-through-app-delayed-limited> (accessed on 7 November 2022).
16. Parvez, S. Govt to Buy 50pc More Paddy to Feed the Poor. The Daily Star. 2020. Available online: <https://www.thedailystar.net/business/news/govt-buy-50pcmore-paddy-feed-the-poor-1890667> (accessed on 7 November 2022).
17. Zahid, S.H. Paddy Procurement: Intention and Outcome. 2020. The Financial Express. Available online: <https://thefinancialexpress.com.bd/views/paddy-procurement-intention-and-outcome-158402999> (accessed on 10 November 2022).
18. Rubaiyat, M.Q.I.; Roy, S.D.; Shakil, M. A country of famished farmers. *The Daily Star Weekend*, 4 May 2018; p. 35.
19. Merriam, S.B. *Qualitative Research: A Guide to Design and Implementation*; Jossey Bass: San Francisco, CA, USA, 2009.
20. Bowen, G.A. Preparing a qualitative research-based dissertation: Lessons learned. *Qual. Rep.* **2005**, *10*, 208–222. [CrossRef]
21. Kassem, H.S.; Alotaibi, B.A.; Muddassir, M.; Herab, A. Factors influencing farmers' satisfaction with the quality of agricultural extension services. *Eval. Program Plan.* **2021**, *85*, 101912. [CrossRef] [PubMed]
22. Elias, A.; Nohmi, M.; Yasunobu, K.; Ishida, A. Farmers' satisfaction with agricultural extension service and its influencing factors: A case study in North West Ethiopia. *J. Agric. Sci. Technol.* **2016**, *18*, 39–53.

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