
ASCERTAINING THE REASONS OF FUTILE COOPERATION AMONG THE FARMERS IN THE RICE SUPPLY CHAIN IN BANGLADESH

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1. Abstract:

This study is an attempt to understand the reasons which are playing an active role to prevent the widespread adaptation of cooperative societies in the rice supply chain in Bangladesh. The purpose of this study is to figure out the problems from the farmers' perspective and address the dominant reason or reasons among them. Primary data was collected from 100 respondents and after analyzing with a t-test with a 99% confidence level of five prominent factors, lack of government support in terms of raising awareness and lack of financial stability among farmers are revealed to be the major actors. Preventative measures are needed to further the beneficial sweeping effect of cooperatives and the government is expected to step in immediately. To the best of our knowledge, this is the first attempt to specifically identify the leading causes of the arrested development of cooperative societies in the rice supply chain.

2. Introduction:

Rice constitutes the largest portion of diet in the people of Bangladesh. It also comprises the largest portion of agriculture in the country. Most of the farmlands are still focused on producing rice than any other crop, almost 75.1% (Sujan, Islam, Azad, & Rayhan, 2017). So it is no surprise that the government has taken many initiatives to increase the production of rice which resulted in two-three folds more rice production than previous. With all this

attention given to the production, the producers of rice, most of the time remains unnoticed. Their livelihood, standard of living, earning per capita has not improved. All this distress can be attributed to the unfair price of rice paid by different middlemen and their increasing number in the supply chain of rice.

The number of middlemen is staggering in the rice supply chain. They act as major players in the marketing channel without having done almost anything to its production. There are many actors in the rice supply chain acting as the middleman such as rice millers, wholesalers, and retailers (Siddiquee, Sammy, & Hasan, 2019). As the supply chain is slightly skewed to favor the middlemen, many steps have been taken to reduce the influence of them from farmers. A cooperative society among farmers is one of them. (Brown, Barrow, Molian, & Burke, 2005) States that cooperative society emerges when there is an unbalance in the market and goods are not delivered at acceptable prices.

A cooperative society is an association consisting of voluntary members who share common goals (like- economic, social, cultural or, other) and walks toward those goals which were singularly unattainable for a person. But the Cooperative Society makes it a lot easier to obtain those goals as a whole. And each member gets their share of that achievement. Incorporating cooperatives have a number of benefits such as an increase in bargaining power, farmers being better informed about the current market situation, extension services, pooling of available resources, credit and, supply of different agricultural commodities i.e. seeds, fertilizers, pesticides, etc. In addition, it can make the supply of products more efficient by making the supply chain shorter (Lopulilsa & Suryani, 2018). There has been worldwide evidence of cooperation to improve the situation of farmers in the agricultural sector. Japan, Iran, Germany, etc. have numerous cooperative societies and they all exist to raise the situation of farmers.

The theme of the Cooperative Society itself is pretty old. The enforcement of Indian Cooperative law (1904) was the beginning and soon after it was implemented in Bangladesh (1905). The best example of a Cooperative Society in Bangladesh is the Bangladesh Police Cooperative Society Limited. Which is being around for 60 years (since 1960). Other known Societies in Bangladesh are- IDCDDBR Workers Cooperative Society Limited, BRAC Cooperative Society Limited, Kholabaria Hobigong Bazar Therapeutic Producing & Selling Cooperative Society Limited, Shurma Multipurpose Cooperative Society Limited, Sunrise multipurpose Cooperative Society Limited, etc.

Many attempts have been taken to incorporate cooperative societies in the supply chain of different agricultural products. The government has taken different initiatives to increase the number of cooperative societies in the agricultural sector such as the Cooperative Society Act 2002, Cooperative Society Rule of 2004 and, Cooperative Policy Act 2012, formulated by Rural Development and Cooperation Division (RDGD). There has been a success in the dairy supply chain through a cooperative society as the livelihood capita of farmers has been increased (Uddin, Pervez, & Gao, 2020). Farmers are getting fair prices, they have a voice in the price of the milk and the yielding has seen an increase through cooperation. But not the same can be said about the main cereal of the country, rice. The little success of the existing cooperative society always seems to favor the large or middle holders. Farmers with low land cannot benefit through existing programs. Moreover, the sustainability of these societies is stigmatic. Many of these societies have disappeared after meeting only one or two objectives. Improper management of the organization, low credit, enormous interest rate, political influence, etc. can be attributed as the reasons for this failure.

This paper tries to discover the reasons for the failure and low sustainability of cooperative society in the rice supply chain and understand them in a broader sense. After uncovering this situation the paper tries to give recommendations to overcome these problems.

3. Literature Review:

Everybody has been trying to optimize their supply chain to increase performance and this is done by different supply chain strategies. Any agricultural supply chain is no different (Rigatto, Larson, & Padula, 2004). Evidence of the positive effect of cooperative societies in any agricultural supply chain in many countries is abundant. Cooperative societies in the agricultural area can be compared to an SCM model. Like any SCM model, these societies have proven to benefit all major players in SC and gave common ground to many specific activities. (Jifroudi, Teimoury, & Barzinpour, 2020).

Looking at different reasons why cooperatives are built, will give us a solid perspective on why they are important. The cooperatives emerge where clearly exist the tendency of market power abuse (Fulton & Hueth, 2009). Buy a good managing team and some luck the society provides the members with liquidity through distributing the earnings. But this same thing becomes the downfall of that Cooperative Society. In most cases, the wealth focusing nature of this cooperation loses its main characteristics that are patron value and get doomed. According to (Keeling, Carter, & Sexton, 2004) the Rice Growers Association (RGA), a cooperative society of California, was forced to a great demise due to ineffective management and passive membership coupled with the lack of board oversight. Balancing is the perfect recipe to cook any successful Cooperative Society. Increasing stakeholders and inequity among the owners produce problems that are more akin to the Governance of an organization (Park & Russo, 1996).

In Bangladesh, more studies have been found on the effect of cooperation than reasons for the failure of cooperation in the supply chain. Among those studies, there have been some recommendations to help sustain agricultural cooperation in the supply chain. (Uddin, Pervez, & Gao, 2020) A study on examining the implication on the livelihood later recommends that cooperation needs professional staff, a monitoring system, better corporate strategy and, inspecting partnership of the product. Both (Abdullah & Hossain, 2013) & (Islam, Fujiwara, Sato, & Hyakumura, 2018) suggest that the organization should be controlled and driven by farmers. Another research suggests lack of credit can deteriorate the situation of cooperation and finally increase the cost of the final product and government involvement is proven to have a positive influence on longevity as proven by the research (Siddiquee, Sammy, & Hasan, 2019).

Some studies have been found that discuss the reasons behind the poor management of co-operatives in Bangladesh. (Sultana, Ahmed, & Shiratake, 2020) a study on a dairy co-operative in Sirajgonj has shown the constraints faced by the farmers such as Lack of grazing land, Poor veterinary services, Lack of access to adequate market, Inadequate infrastructure development, etc. It also suggests that proper planning, financing, good governance, and supporting the body are necessary to improve a co-operative to make it sustainable. (Islam, Azim, Karim, & Begum, 2014) Indicates that most co-operatives in Bangladesh have not registered or don't know how to register from the concerned authority, Female's participation

is less than male participation which is a backdrop to speedy socio-economic benefit, Lack of professional management, Limited supply of capital, Lack of motivation by the higher-level stakeholders to highlight the opportunities for starting cooperatives. (Milovanovic & Smutka, 2018) Discusses the living and farming expenses of farmers of Kurigram Sadar, it suggests the benefits farmers will face by engaging in a co-operative movement.

4. Problem statement:

Farmers' Cooperative societies can achieve various feed toward farmer empowerment. It is basically an organization of farmers that helps them to overcome their solo difficulties including- (1) organized production, (2) mechanized agriculture, (3) increase productivity, (4) ensure fair pricing, (5) make room for collaboration, (6) remove Transportation barriers, (7) create an opportunity to access fixed Byers removing middle man (8) political invulnerability, (9) better management, etc.

According to The Ministry of Local Government, Rural Development and Cooperatives there are 52580 Farmers' Cooperative in Bangladesh. Another 81 was added to the list in the next quarter and another 160 dropped from the list in the same quarter making the total fall by 79. This scenario suggests that Farmers' Cooperative has a downward tendency.

New Cooperative Societies of farmers are being founded every day and so the dismantling of the old ones, concluding the futile nature of these cooperative societies. Besides, there are no well renowned Cooperative Society solely for the farmers, made by the farmers. In most of the case, there is a third party involvement which makes the system biased in a selfish way. In this scenario, those so-called Cooperative Societies exploit the farmers where it was originally intended to uplift its stakeholders thus make the Cooperative Society unsustainable. So, there exist thriving forces that drive the farmer's cooperation into the void. Factors like-

(1) Economic causes, (2) finance causes, (3) experience causes, (4) strategy causes, (5) personal issues, (6) leadership and, (7) politics are most likely to play key roles descending any Cooperative Society into oblivion (Henehan & Anderson, 2001).

Based on Bangladesh Agriculture Development Corporation (BADC) there is no recorded cooperative society for the rice farmers in Bangladesh focusing on coordinated production. There were indeed some societies in the past but they are now history. For some reason, those societies never succeeded. But we need these sort of societies for accelerating the wheel of the economy. A research on Kurigram farmers suggested that "Rice Farmers' Cooperative Society has the potential to increase rice production by 12.6% and 41.5% respectively by manipulating post-production loss and intensified cropping (Milovanovic & Smutka, 2018)".

The Rice Farmers' Cooperative Society has great capabilities but the problems of these farmers were overshadowed for so long. To the best of our knowledge, there are no such papers that address the causes of unsuccessful Rice Farmers' Corporation attempts in Bangladesh. So, this paper intends to explore demolished cooperative societies and general

rice farmers to find out the dominated bricks to be overcome to reintroduce these organizations in the context of Bangladesh.

5. Objectives:

The general objective is to get a close-up look from farmers' points of view to find out why they think cooperatives do not exist in the rice supply chain. This paper tries to figure out the root cause from farmers' perspective. In specific terms they can be said in the following manner:

- To find out the reasons of the self-destructive nature of the cooperative societies in the rice supply chain.
- To analyze these causes to address the dominant reason.

6. Methodology:

Approach of the Methodology:

Throughout the methodology, our prime focus was to identify the root problems that cause in-vain co-operation among the rice farmers in Bangladesh. This research was carried out as quantitative research. Data were analyzed by manipulating the variables. Descriptive statistics were used to show respondents' demographic properties, a Likert scale analysis was used to analyze respondents' insight into the problems they face in a rice farming co-operative.

Data Collection:

Selection of Study Area:

Since rice cultivation is done more or less throughout the country. So Rajshahi, Bogra, and Tangail were chosen to collect the data due to easier access. Puthia, Chapainawabganj, Natore Upazila of Rajshahi; Ghatail, Gopalpur of Tangail; Iswardi and Sirajgonj Upazila of Bogra was selected for the study because the majority area of this region is very suitable for rice production.

Selection of Samples:

The farmers dedicated to rice farming in Rajshahi, Tangail and Bogra were considered as the population for this study. First a list of 40 rice growers from Tangail, 40 rice growers from Rajshahi and 50 rice growers from Bogra were selected for the study of which 40 of Tangail, 20 from Rajshahi and 20 from Bogra were interviewed based on simple random sampling.

Collection of Data:

Data were collected from both primary and secondary sources. Primary data were collected through a semi-structured interview with the respondents. Respondents included Bangladesh Agricultural Development Corporation (BADC) of Rajshahi, Directorate of Agricultural Extension (DAE) of Rajshahi and Tangail, Department of Agricultural Marketing (DAM) of Rajshahi, District Cooperative Office (DCO) of Rajshahi, Bogra and Tangail, and rural level farmers involved in the rice production of Bangladesh. Secondary data were collected from the Food and Agricultural Organization (FAO), Bangladesh Bureau of Statistics (BBS), Newspaper and Internet Files.

Method of analysis:

The research procedure included a questionnaire that was made by 5 point Likert type questions, pre-test of the questionnaire, survey, data processing, analysis and interpretation. The data was collected manually from the respondents then converted into an excel file. Then the excel file was feed into SPSS for further analysis.

The statistical significance of the clustering of the questions were verified using Component Matrix analysis. After that the components (or clusters) went through reliability test separately using Cornbrash's alpha. Thus proving the reliability of those components.

Then each components were converted into individual composite variable. The T test with 95% level of significance was performed on those variables concluding whether to 'Reject' or 'Fail to Reject' the null hypothesis in each case.

Hypothesis generation:

Previous studies on cooperative societies indicated various causes for ineffectual cooperation. But there were no recorded causes for Rice Farmers' Cooperative Societies. So, we have hypothetically considered some factors based on currently available papers and experimented on them for useful interpretations.

1. H1₀: Experience Factor
2. H2₀: Government Factor
3. H3₀: Financial Factor
4. H4₀: Personal Cause
5. H5₀: Managerial Factor

These are the null hypotheses we have developed indicating each of the factors are guilty for futile new-cooperative societies among the rice farmers. On the other hand the alternative hypotheses suggest that they are not.

7. Data Analysis:

Demographic Information

Demographics is the information of a population based on factors such as age, gender and race. Demographic data refers to socio-economic information expressed statistically, also including employment, education, income, marriage rates and more factors. The analyses of demographic data are used to justify the conclusions and recommendations of this research.

Age Distribution of the Sample:

Table 7.1 shows the age distribution of the sample. From the table it can be seen that most respondents about 34% are 40-49 years in age. And 28% of the respondents are of 50-59 in age. 25 % of the respondents are of age 30-39 and the rest 6% are of 20-29 years old.

Table 7.1: Age Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	6	6.0	6.0	6.0
	30-39	25	25.0	25.0	31.0
	40-49	34	34.0	34.0	65.0
	50-59	28	28.0	28.0	93.0
	60+	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Figure 7.1 is a bar chart showing the percentage count of the age range of the respondents.

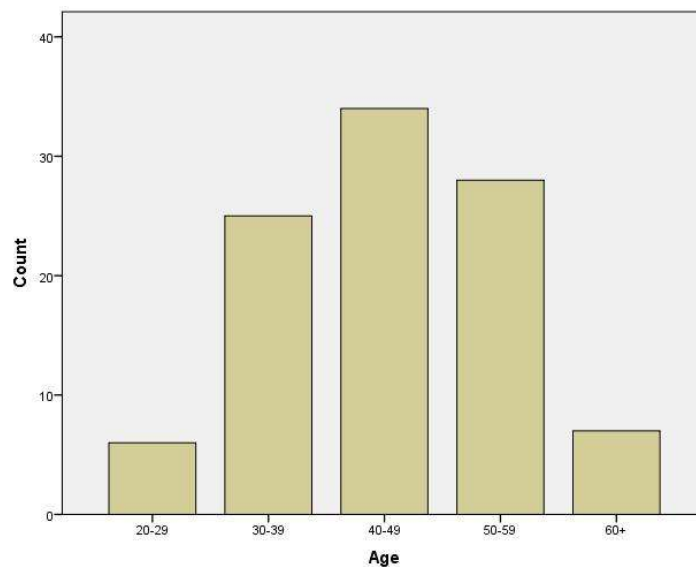


Figure 7.1: Bar Chart of Age Range of Respondents

Gender of the Sample:

Table shows the gender distribution of the sample. From the table it can be seen that majority of the respondents about 95% were male and the rest 5% were female.

Table 7.2: Gender Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	95	95.0	95.0	95.0
	Female	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Figure 7.2 is a bar chart that shows the percentage count of gender of the sample.

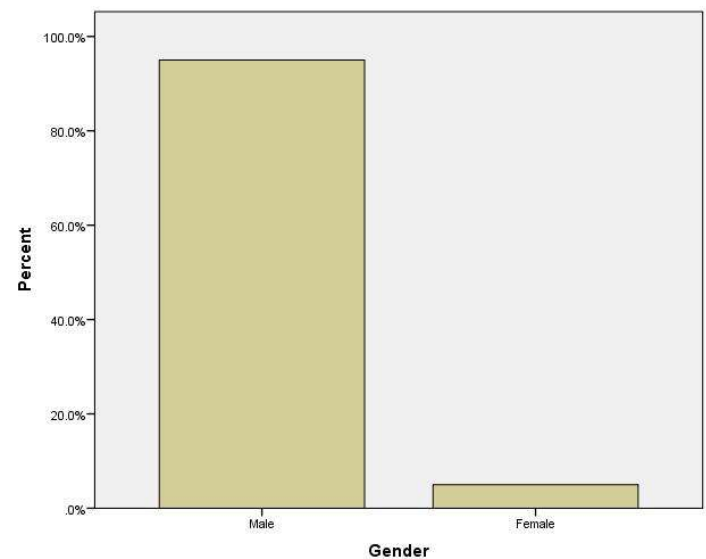


Figure 7.2: Bar Chart of Gender Distribution of Respondents

Marital Status of the Sample:

Table shows the marital status of the sample. From the table it can be seen that 90% of the respondents were married. About 7% were widower and about 3% of the respondents were unmarried.

Table 7.3: Marital Status of Respondents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	90	90.0	90.0	90.0
	Unmarried	3	3.0	3.0	93.0
	Widower	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Educational Qualification of the Sample:

Table 7.4 shows the educational qualification of the sample. From table it can be seen that majority of the population about 40% have primary education. About 19% have no educational background. 16% have basic education and only 10% of the sample has made it through high school.

Table 7.4: Educational Qualification of Respondents.

	Frequency	Percent	Valid Percent	Cumulative Percent
No education	19	19.0	19.0	19.0
Basic	16	16.0	16.0	35.0
Primary	40	40.0	40.0	75.0
High School	10	10.0	10.0	85.0
Other	15	15.0	15.0	100.0
Total	100	100.0	100.0	

Figure 7.3 is a bar chart that shows the count percentage of the educational background of the respondents.

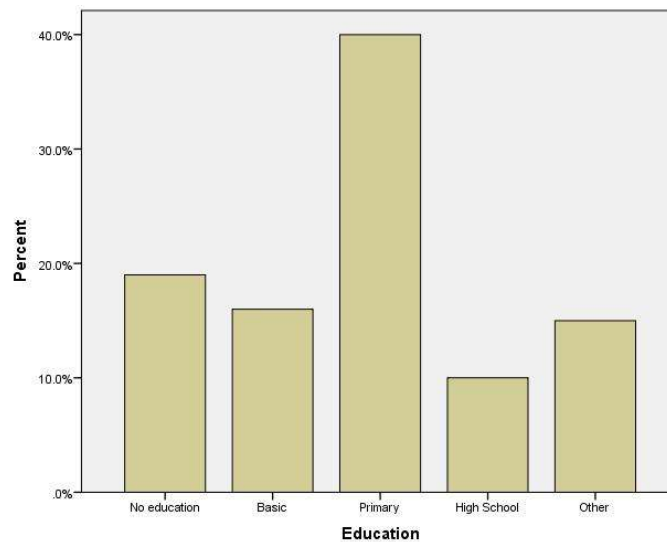


Figure 7.3: Bar chart of Educational Qualification of Respondents.

Occupation of the Samples:

Table shows the occupation of the sample. From table it can be seen that the majority of the respondents with a percentage of 47% are farmers with land, about 36% are landless farmers and about 17% are land lords.

Table 7.5: Occupation Status of Farmers.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Land less Farmer	36	36.0	36.0	36.0
	Farmer with land	47	47.0	47.0	83.0
	Land Lord	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Figure 7.4 is a pie chart of occupation of the sample. From the pie chart we can see that majority of the respondents were farmers with land.

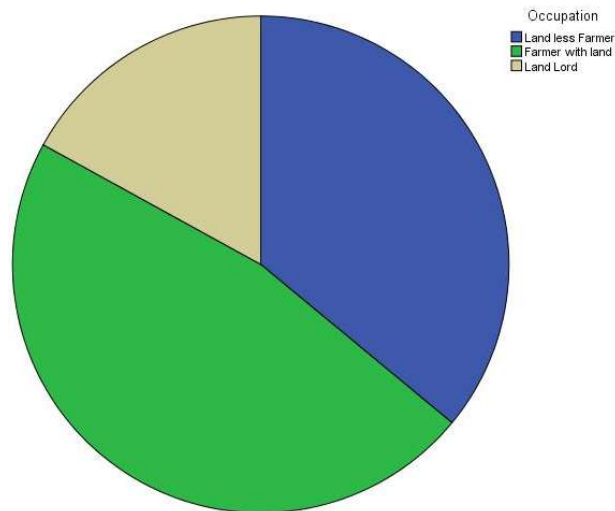


Figure 7.4: Pie Chart of Occupation Status.

Table 7.5 shows the experience distribution of the sample. From table we can see that 50% respondents had above 10 years of experience. About 42% had 5-10 years of experience and the rest 8% had an experience lesser than 5 years.

Table 7.5: Experience Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5 years	8	8.0	8.0	8.0
	5-10 years	42	42.0	42.0	50.0
	10+ years	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

Figure is a bar chart showing the percentage count of the years of experience of the respondents.

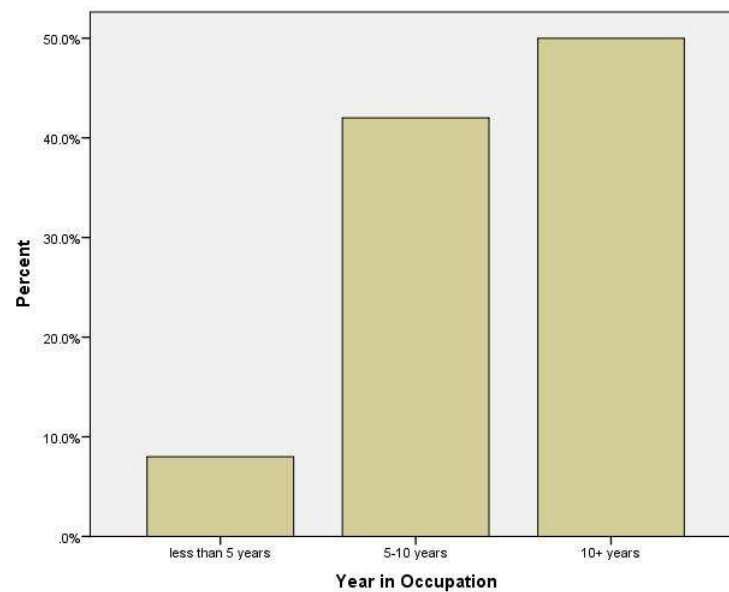


Figure 7.4: Experience Distribution.

Difficulty Distribution of the Sample:

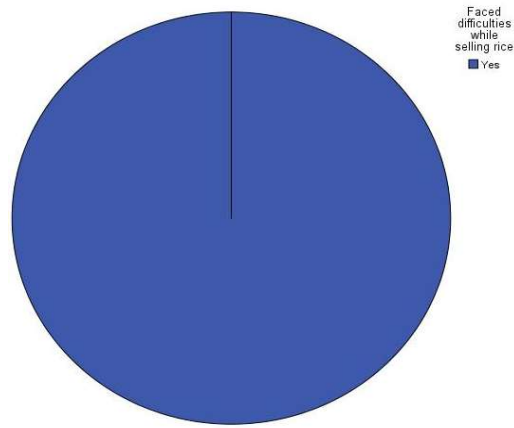


Figure 7.6: Pie chart of Difficulty Distribution.

Figure is a pie chart that shows the percentage of difficulty that the sample faced while selling rice. From the pie chart it can be seen that almost the whole sample faced problems while selling rice.

Factor Analysis

In survey we have asked farmers about sixteen observed variables and then used SPSS software to identify the underlying factors by exploratory factor analysis. This means the analysis will give a clue about the variables which are highly correlated so that we can assign them into groups. The mathematical approach that is used is known as Principal Component Analysis (PCA). With this approach we can find out how many underlying major factors there can be to give us a clear idea. This will also unveil how many variables are in each factor.

Now the factor analysis output of communalities and total variance explained both indicate that there can be only 5 factors. They both are included in the appendix section.

Rotated Component Matrix:

The most important question which variable makes up which factor, can be answered by the rotated component matrix. The rotation method that was used is Varimax with Kaiser Normalization. This matrix shows the correlation between a variable and a factor, which is known as Pearson Correlation. The output of our analysis gives us the following table

Table 7.6: Rotated Component Matrix

Rotated Component Matrix^a

	Component
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	1	2	3	4	5
Previous Engagement			.764		
Business Experience			.627		
Line Experience			.660		
Training			.708		
Campaigning	.435				
Adequate Field Worker	.776				
Direct Facilitation	.860				
Policies	.778				
Capital					.851
Loan Riskfully					.830
Collaborate with Others		.832			
Commitment		.755			
Share Assets		.786			
Conflict over competition				.791	
Third Party Interference				.664	
Overexpansion				.848	

As we can see that the sixteen variables are clearly grouped into the five factors. These underlying traits represent some crucial information. After evaluating the similarity of variables within the factors, the following conclusion has been reached:

Component 1: Government Factor (v5, v6, v7, v8)

Component 2: Personal Cause (v11, v12, v13)

Component 3: Experience Factor (v1, v2, v3, v4)

Component 4: Managerial Factor (v14, v15, v16)

Component 5: Financial Factor (v9, v10)

Reliability of Survey Items

Reliability is a measure how a concept is consistent and to what extent. The internal consistency or reliability was measured by calculating Cronbach's Alpha. Cronbach's alpha can measure the questions in a Likert survey or latent variables are reliable. The following table shows what Cronbach's Alpha means according to its value.

Table 7.7: Alpha Value Interpretation.

Alpha Cronbach Value	Interpretation
0.91-1.00	Excellent
0.81-0.90	Good
0.71-0.80	Good and Acceptable
0.61-0.70	Acceptable
0.01-0.60	Non acceptable.

From alpha values of the following tables of 7.8 to 7.12, it can be seen that reliability of survey data is acceptable.

Experience Factor: To capture any reasons associated with the farmers and their knowledge or experience the experience factor is created. With this factor we can see that the number of items is four and they are 1.Previous Engagement, 2.Business Experience, 3.Line Experience and, 4.Training. After analysis it is seen that the value of Cronbach's Alpha is 0.641. So the reliability of the variables is acceptable.

Table 7.8: Reliability statistics of data for 'Experience Factor'.

Cronbach's Alpha	N of Items
0.641	4

Government factor: Any reasons that the government was unable or failed are put under this factor. This factor is consistent of four items i.e. 1.Campaigning, 2.Adequate Field Worker, 3.Direct facilitation and, 4.Policies. From its statistics, the Cronbach's Alpha value is found to be 0.742 and this puts the reliability in good and acceptable range.

Table 7.9: Reliability statistics of data for 'Government Factor'.

Cronbach's Alpha	N of Items
0.742	4

Financial Factor: Assuming that all other resources are available, the financial factor tries to capture the underlying financial reasons with the farmers that may attribute to the failure of the cooperatives. With only two items, this factor becomes the component with minimum variables. Items in this factor are 1. Capital and, 2. Loan Risk fully. The reliability test reveals that that alpha value is 0.709 and that the reliability is good and acceptable.

Table 7.10: Reliability statistics of data for ‘Financial Factor’.

Cronbach’s Alpha	N of Items
0.709	2

Personal Cause: The personal decisions and choices that may cause failure and also the establishment of cooperative societies are attributed in this factor. This factor consists of 1. Collaborate with others, 2. Commitment, and 3. Share assets. With these three variables the statistics gives 0.720 value of Cronbach’s Alpha. As it is within 0.70 and 0.80, we can say that the reliability is good and acceptable.

Table 7.11: Reliability statistics of data for ‘Personal Cause’.

Cronbach’s Alpha	N of Items
0.720	3

Managerial Factor: This factor tries to capture the possible causes in the organization in upper level that may halt and hinder the cooperatives progress with three variables. They are 1. Conflict over competition, 2. Third party interference and, 3. Overexpansion. Analysis yields that the value of alpha to be 0.688. With this value reliability falls under range of 0.60 to 0.70 and becomes acceptable.

Table 7.12: Reliability statistics of data for ‘Managerial Factor’.

Cronbach’s Alpha	N of Items
0.688	3

8. Findings and Discussion:

Here one sample T test is used to identify the main causes. The test procedure results in 99% confidence level for a given factor. Based on T test score a conclusion is drawn on Null Hypothesis.

All the questions for Experience Factor, Government Factor, Financial Factor and Personal Cause were asked negatively in the survey. So, if these factors were to be the cause then the response of the respondents should be ‘most unlikely (1)’, or ‘somewhat unlikely (2)’. Hence the population mean for these 4 factors should be 1.5. So, for H_{10} , H_{20} , H_{30} and H_{40} the reference value (population mean) is considered to be **1.5**.

Similarly all the questions for Managerial Factor was asked in positive terms indicating the response of the respondents should be ‘somewhat likely (4)’ or ‘most likely (5)’ for this factor to pose a threat. So, the reference value is considered to be **4.5** for this case.

H1₀: Experience Factor

Comparing the sample mean of Experience Factor that at 99% confidence level with standard population mean it is deduced that the null hypothesis is not reject able. Which advices the Experience Factor is indeed a key cause.

H2₀: Government Factor

For 1% significance level the P-value of Government Factor (0.024) is tested greater than 0.01. So we fail to reject the null hypothesis in the absence of sufficient evidence. This indicates the Government is held responsible.

H3₀: Financial Factor

Financial Factor has a P-value (0.249) greater than the α -value (0.01). Therefore ‘Fail to Reject’ null Hypothesis. So Financial Factor is another key component of unsuccessful Rice Farmers’ Cooperative Societies.

H4₀: Personal Cause

The Personal Cause Factor obtained the P-value of 0.00 which is less than 0.01. In this case we are forced to reject the null hypothesis. So Personal Cause is not an issue here.

H5₀: Managerial Factor

Here population mean is considered to be 4.5. The T test indicates the P-value of Managerial Factor (0.00) is less than) 0.01 at 99% confidence interval. So we are to Reject the null hypothesis and conclude that the red label can be removed from Managerial Factor.

9. Conclusion and Recommendation:

This article serves as an investigation as to what keeps the cooperatives in the rice supply to be founded with the help of data collected from the rice farmers in different areas of Bangladesh. As evidenced by many research in different countries and also in Bangladesh, the beneficial outcome of cooperatives was never a question. But the lack of these societies in rice supply chain is surprising as this supply chain has always been the first and foremost concern of the country’s agricultural sector. After analysis of the survey data the findings of this article indicates that the all the reasons can be attributed to five major factors and among these factors three of them are found to be the main acting forces which halts the development of rice cooperative society at farmers’ level. These factors i.e. government, financial and experience are made up of several variables. Among these variables the inability of government to raise awareness, insufficient capital and willingness from farmers can be considered the main culprit as per the analysis. It was surprising a little that experience factor came to be a less dominant reason than other two as per the confidence level. Addressing these factors with a view to mitigate them can finally help farmers to get a fair price and increase their living condition. These factors also indicate that farmers themselves

cannot improve their situation without the help from those who understands these problems and are willing to act upon these problems.

Policy Recommendation:

1. Efforts to increase awareness about the benefits of cooperative societies at the root level with the help of the Ministry of Local Government and Cooperative Society, through advertisements, fruitful action have to be increased. Information about cooperatives must reach the remote corner of the country for widespread adaptation. Then the hope that farmers can pave the way to cooperate farming can be reignited.
2. Competent people with leadership skill should be appointed at the managerial level of these societies rather than people with only farming knowledge. These people must always keep farmers interest at heart.
3. Ensuring that produces will distributed according to their lands among farmers, to increase the trustworthiness of the cooperatives. This may empower farmers and increase their willingness to join in cooperatives.
4. Development of enough infrastructure such as road for transportation of crops from farmland to local market without the help of middleman, power pumps and proper drainage for irrigation. All these can be used as great incentives.
5. After sometime efforts should be made to make these societies self -sufficient financially. This will prevent third party interference and future bankruptcy.
6. One more attractive point can be initial financial funding from government and stoppage of spending these funds in unproductive sectors. This initiative will boost moral and prevent maleficence within cooperatives.
7. Experimentation with the idea of cooperative and helping farmers with this program can be considered. This programs can not only encourage others to adopt cooperative societies in other areas but also can serve as the first step to the sweeping beneficial actions of cooperative in the rice supply chain.

Future Study Recommendation:

The limitations of this study can mainly be attributed to the time constraint and the lockdown situation in Bangladesh due to COVID-19. Because of these reasons sample size could not be large and data was only collected from certain areas rather than areas with most potential. The data collected was primarily from the farmers.

So future studies, by concentrating on those problems can expand horizon and experiment with a large sample size. Many variables can also be incorporated along with the sixteen variables and may come up other factors. Data can also be collected from different cooperatives to get an idea about conducting cooperatives in Bangladesh.

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