

Value Addition of Onion Markets of Pabna District in Bangladesh

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Abstract

Bangladesh is principally an agricultural based country dominated by crop production. In Bangladesh onion mostly use for species which gives aroma taste and flavor to the food materials. The present study was designed to measure supply chain analysis of onion markets and to estimate the value addition of onion in selected areas of two upazilas of Pabna district. Primary data were collected from the onion growing area of Sujanager upazila and Santhiya upazila under Pabna district. Twenty farmers and fifty traders were selected through purposive sampling and simple random sampling procedure. Simple descriptive methods were used to analyze the data. The major findings of the study reveal that onion production is profitable. In the production and marketing system of Onion, many supply chain actors were involved such as *Faria*, *Bepari*, *Arathdar*, wholesaler and retailer. Marketing of onion produced in Sujanager and Santhiya upazila was moved from the hands of producers to the hands of consumers through six separate chains. The highest sales price per 40Kg of onion

received by retailer was Tk. 1625 and the lowest sales price received by farmer was Tk. 1190. In value chain, highest value (29.14 percent) was added by farmer and lowest value (3.97 percent) was added by *Arathder* of the total value addition. Farmers had the highest proportion of net marketing margin which was about 42.51 percent of total net marketing margin. Retailers had the second highest portion of net marketing margin of onion. On the contrary, *Arathdar* had the lowest net marketing margin of onion which was only 3.82 percent of total net marketing margin of onion. The study also identified some problems and constraints faced by the onion farmers and trader suggested some recommendations to improve the present production and marketing situation so that per hectare yield of onion and marketing facilities would possibly be increased.

Keywords: Bangladesh, Economic Development, Sustainable Agricultural System, Agricultural Sector, Gross Domestic Product, Value Chain.

1. Introduction

1.1 Introduction

Bangladesh is primarily an agricultural based country subjugated by crop production. In Bangladesh onion mostly use for species which gives aroma taste and flavor to the food materials. As a developing country, it has been striving for rapid development of its economy. The economic development is inextricably linked with the performance of this sector. The performance of this sector has an overwhelming impact on major macroeconomic objectives like employment generation, poverty alleviation, human resources development and food security. The overall performance of the economy is, therefore, yet inextricably linked to the performance of the agricultural sector. In order to ensure long-term food security for the people, a profitable, sustainable and environment-friendly agricultural system is critical.

The country has a vast delta with a population of 155.8 million encompassing an area of 147570 sq. km (BER, 2015). About 76.75 percent of total population of this country lives in rural areas (BBS, 2014). Agriculture provides employment to nearly about 47.33 percent of its total labor forces (BER, 2015). Agriculture occupies a key position in the overall economic sphere of the country in terms of its contribution to Gross Domestic Product (GDP). Figure 1.1 represents the sectorial share of GDP at constant prices (Base Year: 2005-06). Broad agriculture sector which includes crops, livestock, fisheries and forestry contributes 16.33 percent to the gross domestic product (GDP) as a whole in the FY 2013-14 (BER, 2015).

The major onion producing countries are China, India, USA, Iran, Russia, Egypt, Turkey, Pakistan, Brazil, Netherland, Nigeria, Mexico, Korea, Spain, Algeria, Bangladesh, Ukraine, Myanmar, Japan and Uzbekistan (FAOSTAT, 2013a). Onion stand first among the spice crops in Bangladesh both in area (3.25 lakh ha) and production (17.55 lakh metric tons) (BBS, 2014). The special quality of onion is its smell (flavor) on account of which it is commonly used in food and masala preparation.

1.2 Justification of the Study

The economic growth of an agro-based country like Bangladesh mainly depends on the

development of agriculture sector. The agro-climatic conditions of Bangladesh are suitable for the cultivation of a wide variety of crops but 80% of the gross cropped areas are at present confined to the production of cereal crops mainly rice. Due to increasing population, demand for cereal food increased significantly. In 50 decades spices were exported outside the country. But their production and per capita availability had been decreasing from 80 decades. Thus, to improve income, provide gainful employment and save natural resources from further degradation, diversification from grain crops to high-value crops like species has emerged as an important strategy for agricultural growth (Sekhon & Kaur, 2004).

There was a clear economic advantage in producing onion as compared to the traditional crops, but lack of marketing facilities has been the major impediment. Transportation costs and marketing margins of both retailers and wholesalers were identified as the major reasons for high marketing costs of onion, adversely affecting the profitability of such crops. To mitigate this demand, the land of spices is being diverted to cereal food crop cultivation. Bangladesh is endowed with a favorable climate and soil for the production of spices.

1.3 Objective

The present study was undertaken to achieve the following objectives:

1. To estimate the value addition of onion at different stages in onion supply chain; and
2. To identify the constraints and opportunities in onion supply chain and to recommend measures for improvement.

2. Review of Literature

Assessment of related literatures in any research is necessary in the good judgment that it allows for an extent for reviewing the collection of knowledge & information appropriate to the future research. This knowledge & information give an instruction in designing the potential research problem & validating the new determinations.

Saha (1999) studied comparative profitability of different varieties of onion in a selected area of Pabna districts. All the varieties studied were found profitable. But Faridpuri variety was found more profitable than other varieties. Gross return per hectare for the Taherpuri, Indian and Faridpuri varieties of onion were Tk.112389.81, Tk. 106570.00, Tk. 135640.89, respectively; net returns were Tk.467756.28, Tk.50405.65, and Tk.67945.41, respectively. It was found that variation in the net returns was greatly influenced by the use of human labor, tillage, seed, fertilizer, insecticides and irrigation water.

Rahman (2004) studied effect of growth regulators on growth and yield of three varieties of onion growth from set. Three varieties of onion viz; Taherpuri, Zhitka, kalashnagar and four different growth regulators, namely IAA (200ppm), GA3 (100ppm), NAA (200ppm), CCC (500ppm) and control were used. The Taherpuri produced the highest, number of leaves per plant, bulb diameter, mean bulb weight, and bulb yield compared to control plants of onion.

Haque (2005) conducted a comparative economic analysis of onion and garlic production in a selected area in Santhiya upazila of Pabna district. Both onion and garlic were profitable. Onion cultivation was more profitable than garlic cultivation. Per hectare average yield of

onion and garlic was 8412 and 4510Kg respectively. Per hectare total cost of production, gross margin and net return of onion were Tk 49437, 101230 and 93567, respectively. On the other hand, the corresponding figures for producing garlic were Tk 49386, 43693 and 36304 respectively.

Ullah (2008) carried out experiments at the Regional Agricultural Research Station, Rahmatpur, and Barisal to study the impact of different sulphur levels on bulb yield, storability and economic return of onion. The highest bulb yields (19.75t/ha and 19.88t/ha) were obtained from sulphur levels between 60Kg/ha and 75Kg/ha in two consecutive years. Both the cumulative weight and rotten loss were significantly influenced by sulphur fertilization. The highest (9146 percent) marginal rate of return (MRR) with gross margin of Tk. 181844/ha was obtained from the sulphur level S60Kg/ha.

Haque et al. (2009) were conducted a study on economic assessment of onion and garlic under zero tillage and traditional methods of cultivation in major growing areas of Bangladesh. The study revealed that the cost of onion cultivation was Tk. 93517, Tk. 87696 and Tk. 72001 per hectare on full cost, variable cost and cash cost basis. The net return of onion cultivation was Tk. 64236 per hectare. The benefit cost ratio was 1.68, 1.80 and 2.19 for full cost, variable cost and cash cost basis, respectively. Human labor, seed/seedling, manures, urea, TSP irrigation and insecticide for onion and garlic had positive effect on yield. Non-availability of HYV seed at proper time, lack of technical knowledge, high price and non-availability of fertilizer in time, infestation of insects and diseases, low market price and lack of appropriate storage facility were the major problems of onion and garlic cultivation.

Hasan et al. (2009) were conducted a study on returns to investment in summer onion research and extension in Bangladesh. The results revealed that the growth of area and production of onion increased manifolds due to farm level adoption of summer onion. The summer onion adoption rate was found increasing trend over the period. The yield of summer onion was 57.04 percent higher than the local variety. The internal rate of return (IRR), net present value (NPV), and benefit cost ratio (BCR) were estimated to be 25 percent, Tk. 35.29 million and 3.09 respectively. Sensitivity analysis revealed that under various assumptions IRR ranged from 20 percent to 41 percent, NPV from Tk. 18.37 to Tk. 64.05 million, and BCR from 2.31 to 5.95. The results indicated that investment in research and development of summer onion was a good investment.

Hasan (2010) was conducted an economic study on onion production in selected area of Bangladesh. The major findings of the study reveal that onion production is profitable. Gross returns for small, medium and large farmers were Tk. 218989, Tk. 189880 and Tk. 164129 respectively and their corresponding net returns were Tk. 94350, Tk. 78098 and Tk. 67545 respectively. Per hectare yields of onion bulb those of produced were 14217Kg, 12202Kg and 10637Kg respectively. Per hectare human labour was used 292 man-days. Compared to other farmers BCR was highest in the case of small farmers and it was 1.77. The coefficients of parameters like cropped area, seed, inorganic and inorganic fertilizer and training of the farmers were significant and indicated positive effect on onion production. In the technical inefficiency effects model farm size was significant and showed negative sign which mean that farmers with larger farm holdings are technically more efficient than farmers with

smaller farm holdings.

Ibrahim et al (2011) were conducted a study on evaluation of herbicides on weed control, performance and profitability of onion (*Allium cepa*) in the forest zone of Nigeria. The results revealed that all the weed control methods significantly ($P < 0.05$) decreased weed population. Similarly, survival percentage of onion was affected by the use of chemical. Bulb diameter, number of bulbs and onion yield were affected by the application of chemicals. The use of oxyflorfen gave the best performance in all the parameters measured. It can be concluded that the profitability of producing onion is higher in the Guinea savannah than in the Forest zone and the profitability in the Forest zone can be increased by the use of selective herbicides (Oxyflorfen) at the recommended rate.

Shah et al. (2011) were conducted a study on onion production potential, limitations and its prospects for improvement in the farming system of Punjab, Pakistan. Area under onion crop has been increasing even up-to 17 percent of jump from the previous year but the productivity is declining monotonically due to number of threats including pest and diseases attack, lack of improved varieties and quality seed and in conjunction of high costs of all purchased inputs. The main reasons appraised in yield reduction were low quality seed, insects/pests and diseases attack, water stress, marketing and costly inputs (Urea, DAP) in order of priority ranking. All these reasons have adverse impact on the quality and profitability of the onion due to which Pakistan has not been able to earn significant foreign exchange and exploit full export potential.

The daily star (2011) observes that The Farmers in Pabna have achieved remarkable success in onion cultivation, officials said. Although a majority of the onions produced in the country come from Pabna, the farmers in the district are more frustrated over poor market prices. According to the Department of Agricultural Extension (DAE) in the district, a total of 36,040 hectares of land in 9 upazilas in the district were brought under onion cultivation this year although the target was 33,100 hectares. Each hectare produced at least 10 to 10.5 tons of onions, while the amount was 8.5 tons last year, officials said.

Baree (2012) was conducted a study on measuring technical efficiency of onion (*Allium cepa* L.) farms in Bangladesh. The elasticity of output with respect to land, labour, and capital cost was estimated to be positive values of 0.3026, 0.0718, and 0.0442, respectively, and also significant. With respect to seed and irrigation, it was found to be insignificant with negative values of 0.0045 and 0.0007. The coefficients of age, experience, and farm size were significant with expected negative signs, which means that the inefficiency effects in onion production decreases with increase in age, experience, and farm size. The technical efficiency of onion farms varied from 58 percent to 99 percent with mean value of 83 percent. It denotes that there is a scope to increase output per hectare of onion farm by 17 percent through the efficient use of production technology without incurring any additional costs.

3. Methodology of the Study

3.1 Research Design

Methodology is the systemic steps of action which involves collection of reliable data from

the selected sample farmers as per objectives of the research. The study was based on the survey methodology. The word survey refers to a method of study in which an overall picture of a given universe is obtained by a systematic collection of all available data on the subject (Efferson, 1963, p. 50).

3.2 Selection of the Study Area

On the basis of high concentration of onion cultivation and production, Pabna district is considered as one of the leading Onion producing zones in Bangladesh. Two upazilas namely Sujanagar and Santhiya of Pabna district were selected.

3.3 Selection of Onion

Onion is an important spice crop of Bangladesh widely grown. It covers almost 40% of the total areas under spices. Mostly two types of onions are commercially produced by the farmers in the study area. These are faridpurivati, taherpuri-BARI onion-1.

3.4 Sampling Size

The population for this research is defined as those persons involved in value chain of onion such as *Farmers, Farias, Beparis, Aratdars*, Wholesalers, Retailers, and final users or customers in both Pabna district. Samples were randomly selected in order to meet the objectives. Twenty onion growers, fifty others supply chain actors (*Faria, Bepari, Aratdars*, wholesaler and retailer) were selected from the study area in the following manner. Thus total sample size was 70.

3.5 Preparation of Survey Schedule

For collecting data through survey method preparation of interview schedule is of crucial need. According to the objectives of the study two sets of interview schedules were prepared one for farmers and others for the onion traders. The data regarding volume of sales, place of sales and purchase, production cost, marketing cost and sales prices and purchase price, whom to buy and whom to sell and volume of post-harvest loss of the farmers and intermediaries, problems faced by the stakeholders in the supply chain and their possible recommendation would be faced by the stakeholders in the supply chain and their possible recommendation would be collected through the interview schedule. All the schedules were pre-tested and finalized after necessary correction, modification and adjustment.

3.6 Study Period

Data would be collected by survey method with the help of pre-designed and pretested interview schedule during February to March 2017. The collected data will be edited, summarized, tabulated, and analyzed to fulfill the objectives of the study. For collecting supplementary data, the author personally visited the area several times.

3.7 Method of Data Collection

Generally, most of the farmers did not keep their written records. So it was very difficult to collect data from the farmers. Primary data from respondents were collected through face to face contact. For the research purpose secondary data would also be collected from different

sources like books, journals, newspaper, and document of BBS.

3.8 Tabulation and Analysis of Data

After collecting information, the filled up schedule were scrutinized and checked to avoid irrelevant information. The collected data were edited, coded and finally tabulated according to objectives of the study. In order to minimize error data were collected in local unit (e.g. bigha) and later it was converted into standard unit. Finally, tabulated data are analyzed and condensed by using average, percentage and ratio. A list of relevant tables was prepared to obtain the result.

3.9 Analytical Techniques of the Study

Whether a farm was performing well or not, could be judged by the analytical technique. The data may be adequate, valid and reliable to any extent, it does not serve any worthwhile purpose unless it is carefully edited, systematically classified and tabulated, scientifically analyzed, intelligently interpreted and rationally concluded (Gupta & Kapur, 1994). Data were analyzed with the purpose of achieving the objectives of the study. In the present study following analytical technique were used:

3.9.1 Value Addition of Onion

Value addition is mainly interpreted as the difference between the total expenses involved in making or buying of a commodity and the total revenue accruing from its sales. Value addition activities are mainly concerned with the changes of utilities.

3.9.2 Tabular Analysis

Tabular analysis was mainly used to analyze the data and derived meaningful findings by using simple statistical measures like sum, percentage, average and ratios.

3.9.3 Cost and Return Analysis

Gross Return

Gross return was calculated by multiplying the total volume of output of an enterprise by the average price in the harvesting period (Dillon & Hardaker, 1993). It consisted of sum of the volume of main product and by product. The following equation was used to estimate gross return

$$GR = \sum QM \cdot PM$$

Where:

GR= Gross return from product,

QM = Quantity of product

PM =Avg. price of product

Net Return

Net return was calculated by deducting all costs (variable and fixed) from gross return. To determine the net return of onion production the following equation was used in the present study:

$$\Pi = \text{Gross return} - (\text{Variable cost} + \text{fixed cost})$$

Here, Π = Profit per cycle

Gross return = Total production X per unit price of onion

Variable Costs

- Production cost of onion

Fixed Costs

- Land use cost
- Interest on operating capital

Marketing Cost of Onion

- Transportation
- Market toll
- Personal expenses
- Storage cost
- Wastage
- Grading
- Loading and unloading
- Salary & wages
- Packaging
- *Arathdari* commission
- Tips and donation
- Rent
- Tax
- Entertainment
- License fee
- Miscellaneous

Gross Margin

The following equation was used to assess the gross margin.

$$GM = GR - VC$$

Where,

GM= Gross Margin

GR= Gross Return

VC= Variable Cost

Net Marketing Margin

Net margin was calculated by deducting all cost (total production cost and total marketing cost) from gross return.

$$NM = GM - (\text{Production \& Marketing cost})$$

Value Addition by Traders

$$\text{Value Addition (\%)} = \frac{(\text{Sales Price} - \text{Purchase Price})}{\text{Purchase Price}} \times 100$$

Benefit Cost Ratio (BCR)

The BCR is a relative measure, which is used to compare benefits per unit of cost. The BCR estimated as a ratio of total return and total costs.

$$BCR = \frac{\text{Total Return (Gross Return)}}{\text{Total Cost}}$$

4. Data Analysis & Findings

4.1 Cost & Onion Value Addition

In production, cost plays a dominant role in farmer's decision making. Considering its importance, the present study placed emphasis on different cost items of onions. In onion production various inputs like human labor, power tiller, seed/seedling, manure, fertilizer, insecticides, pesticides, irrigation, operating capital and land are required. These items that go into the cost of production are both variable costs and fixed costs. Variable costs are those which changes as the size of operation changes and fixed cost remain the same regardless of the volume of output. The cost and return of farmer and cost and margin of intermediaries were estimated per 40Kg of onion basis. We also estimated the marketing cost of onion at different stages of the supply chain.

Table 1. Production Cost of Onion Per 40Kg of Production

Items of Cost	Cost (Tk./ 40Kg)
Land preparation	23.93
Human labor	290.02
Seed	75.95
Urea	10.08
TSP	19.76
MoP	5.84
Cost of Insecticides	21.45
Cost of Irrigation	72.74
A. Total Variable Cost (TVC)	519.77
Interest on operating capital @ of 10% for 4 months	15.57
Rental value of land	196.97
B. Total Fixed Cost (TFC)	212.54
C. Total Production cost (A+B)	732.31

Source: Field Survey, 2017

In the study area the land use cost per 40Kg of onion was Tk. 196.97 for onion production.

Interest on operating capital was computed by taking all variable cost incurred for all the field operation. Table 1 shows the interest on operating capital for onion was Tk. 15.57. The cost on operating capital was calculated at the rate of 10 per cent per for 4 months.

4.2 Marketing Costs of Farmer

The cost of marketing represents the cost of performing the various marketing functions.

Marketing cost of onion at the actors, at intermediaries' level includes the expenses incurred by different actors for movement of the product through the value chain. Major items of marketing cost of farmer were transportation, storage, wastage, grading, market toll, and personal expenses. It was estimated per 40Kg of onion Tk. 25. If the marketing cost is included than total cost becomes Tk. 757.31.

Table 2. Marketing Costs of Farmer

Cost items	Cost (Tk./ 40Kg)	Cost (Tk./Kg)	Percentage
Transportation	6	0.15	24.00
Marker toll	4	0.1	16.00
Personal expense	2	0.05	8.00
Storage	4	0.1	16.00
Wastage	7	0.18	28.00
Grading	2	0.05	8.00
Total	25	0.63	100.00

Source: Field Survey, 2017

Gross return was calculated by multiplying the total amounts of products by average sales price. It was seen that gross return per 40Kg of onion was Tk. 1171.75. Variable cost per 40Kg of onion was Tk. 519.77. Total cost per 40Kg of onion cultivation (with marketing) was Tk. 757.31. Gross margin was obtained by deducting total variable cost from gross return. Gross margin per 40Kg of onion was Tk. 651.98. Net return was estimated by subtracting total cost from gross return. Net return per 40Kg of onion was Tk. 414.44. The undiscounted benefit cost ratio (BCR) was found 1.55 (**Table 3**).

Table 3. Profitability of Onion Farmer

Particulars	Tk. Per 40Kg
i. Gross return	1171.75
ii. Variable cost	519.77
iii. Total cost	757.31
iv. Gross margin (i-ii)	651.98
v. Net return (i-iii)	414.44
vi. BCR (i/iii)	1.55

Source: Field Survey, 2017

Farm gate price is that price which farmer gets through selling their produce at the farm yard. The average farm gate price of onion was Tk. 870 per 40Kg. Average market price per 40Kg of

onion was Tk. 1090. The estimated average marketing cost per 40Kg of onion incurred by the farmers was Tk. 25. Marketing margin per 40Kg of onion was Tk. 220 and Tk. 5.50 per Kg respectively. Among the value addition farmers covered the 25.29 per cent of total value addition (**Table 4**).

Table 4. Value Addition of Onion by Farmer

Average farmgate price (Tk. Per40Kg)	Market price (Tk. Per 40Kg)	Average marketing cost (Tk. Per 40Kg)	Marketing Margin (Tk.Per40Kg)	Marketing Margin (Tk. PerKg)	Value Addition (%)
870	1090	25	220	5.5	25.29

Source: Field Survey, 2017

4.3 Share of Different Actors in Value Addition, Marketing Cost and Net Marketing Margin of Onion

Table 5 & Figure 2 described about the share of different actors in value addition, marketing cost and net marketing margin of onion marketing. According to the table, it is clear that farmers had the highest portion of value addition in the marketing chain of onion which was about 29.14 percent followed by retailer's 21.99 percent of total value addition. The lowest portion of value addition was occurred by *Arathdar* which was about 4 percent of total value addition. In case of marketing cost, the highest proportion was incurred by *Bepari* which was about 30.44 percent followed by wholesaler's 26.80 percent. In contrast, the lowest portion of marketing cost was incurred by *Arathdar* which was 4.22 percent of total marketing cost. Although farmers had the second lowest marketing cost of onion, they had the highest proportion of net marketing margin which was about 42.51 percent of total net marketing margin. Retailers had the second highest portion of net marketing margin of onion. On the contrary, *Arathdar*, incurring lowest marketing cost, had the lowest net marketing margin of onion which was only 3.82 percent of total net marketing margin of onion.

Table 5. Value Addition, Marketing Cost and Net Marketing Margin of Different Market Actors of Onion

Actors	Value addition		Marketing cost		Net marketing margin	
	Tk. per Kg	Percentage	Tk. per Kg	Percentage	Tk. per Kg	Percentage
Farmer	5.5	29.14	0.63	8.44	4.88	42.51
<i>Faria</i>	2.5	13.25	0.88	11.81	1.63	14.17
<i>Bepari</i>	2.88	15.23	2.26	30.44	0.62	5.41
<i>Arathdar</i>	0.75	3.97	0.31	4.22	0.44	3.82
Wholesaler	3.1	16.42	1.99	26.80	1.12	9.72
Retailer	4.15	21.99	1.36	18.29	2.80	24.37
Total	18.88	100	7.43	100	11.49	100

Source: Field Survey, 2017

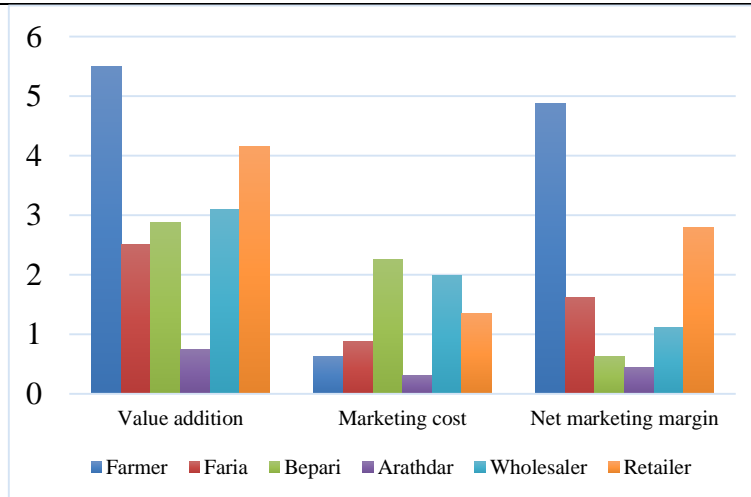


Figure 1. Value Addition, Marketing Cost and Net Marketing Margin of Different Market Actors in Onion Marketing

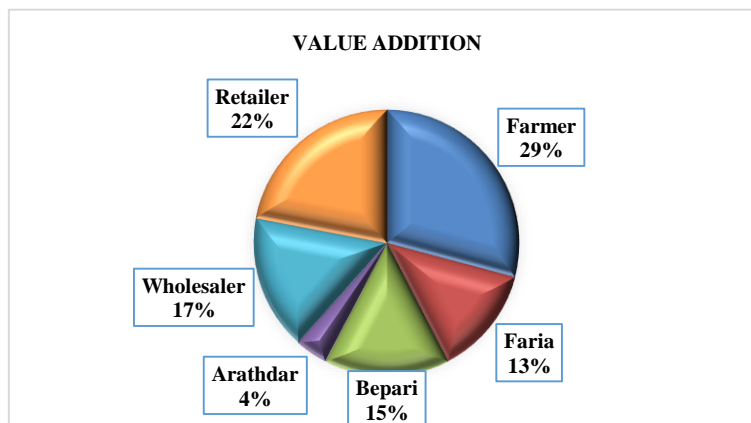


Figure 2. Share of Different Actors in Value Addition of Onion

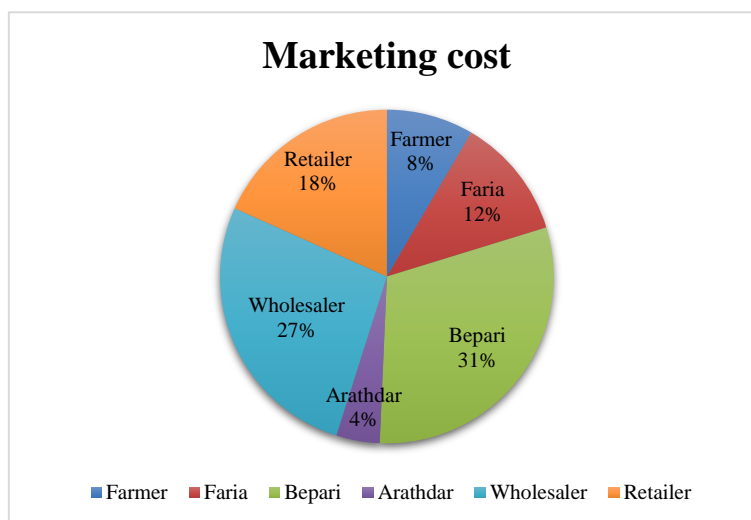


Figure 3. Share of Different Actors in Marketing Cost of Onion

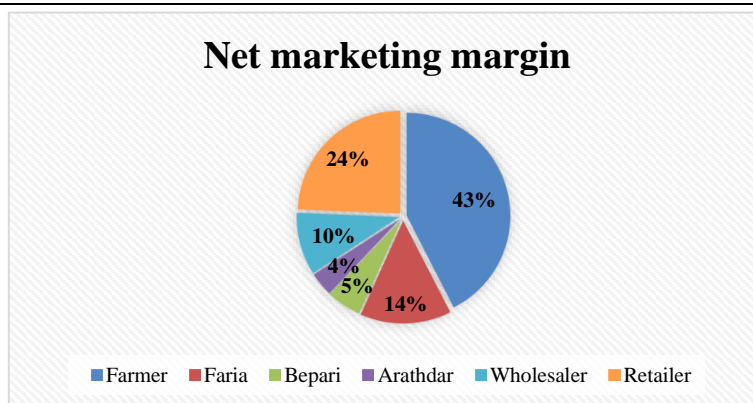


Figure 4. Share of Different Actors in Net Marketing Margin of Onion

5. Problems Faced by Actors in Value Addition & Measures Suggested for Improving Marketing of Onion

5.1 Problems Faced by Actors in Value Addition

Different types of problem found during data collection from respondents are ranked and described in Table 6.

Table 6. Problems Faced By Actors in Value Addition

Problem faced by actors	Percent	Rank
Inadequate good transport	80%	1
Inadequate marketing information	72%	2
Inadequate capital	68%	3
Inadequate market facilities	65%	4
Inadequate storage facilities	56%	5

Source: Field Survey, 2017

5.2 Measures Suggested for Improving Marketing of Onion

The Value addition actors, who identified their problems, also provided some suggestions for improving the existing onion marketing system. The problems stated in **Table 6** always hampered the sound marketing of onion.

The Value addition actors needed much more cash money for conducting their businesses. They suggested that provision should be made by the Government for adequate and easy loan from institutional sources against the security of their produce.

The Value addition actors suggested especially for the improvement of transportation as well as communication system in the study area.

The price of onion in different terminal markets should be disseminated through radio, television and newspapers which could reduce the uncertainty of price. Necessary effort should be taken to reduce marketing cost.

High rate of transportation cost was a serious problem for onion business. So, the supply chain actors suggested that reasonably low rate of commission and tax should be charged for marketing their onion.

Other remedial measures which would greatly facilitate the marketing operation in the study areas including building pucca floor in the market place, electric connection to the market places, and dissemination of market information were also suggested by the Value addition actors.

6. Conclusion

Onion is extensively cultivated species in Sujanagar and Santhiya upazilla of Pabna district. However, onion production was more profitable than any other spices production. The management practice of based on the findings of the study it can be concluded apparently that considerable scope exists to increase the productivity of onion and to develop the value chain. Expanded onion cultivation can upgrade the living standard of the function areas of value chain. Onion enterprise in the study area was not found efficient enough.

The marketing channel of onion is so long. Long marketing channel increase the product damage. The well planned management training and the marketing practice in accordance to with their problems, need, goals, and resource base can lead to viable marketing practice and sustainable income from the onion production.

7. Recommendations

On the basis of the finding of the study it was evident that onion was profitable enterprises and they can generate income earnings and employment opportunity to the rural people of Bangladesh. But some problems and constraints bared to attain the above mentioned objectives. The policy makers should, therefore, take necessary measures. According to the findings of the study; some policy recommendations may be advanced which are likely to be useful for policy formulation.

On the basis of the findings of the study, the following specific recommendation may be made for the development of onion sector.

a) As most of the onion farmers are technically efficient at present production technology, improved method of production technology with sufficient storage ability should be introduced.

b) Operating capital is a problem for the resource poor farmers of the study area. Institutional credit program should be launched aiming at particularly the small and medium farmers. The commercial bank should be encouraged to provide loans at a low interest rate to enable farmers to operate their farming on commercial basis.

c) As onion are profitable enterprise, government and concern institutions should provide adequate extension program to expand their area and production.

- d) To avoid price fluctuation, support price should be ensured to the farmers.
- e) Onion based cropping pattern should be developed and disseminated to those areas of Bangladesh where their production is suitable.
- f) Government should take necessary measures to lower the price of inputs which have positive significant impact on yield. It will increase the net benefit of onion producers.
- g) Onion farmers had to sell their product at low price during harvesting or just after harvest. An appropriate storage scheme should be developed so that the farmers are not forced to sell their product at low price in harvest period.
- h) Development of transportation system is essential for the improvement of trading and reducing cost of onion.
- i) Steps should be taken to ensure – fair price, quality of product, floor price, and the stability of production.
- j) Market cost is high because of inadequate information, infrastructure, high price risk etc.

8. Limitations of the Study

There are some limitations of the study as the study conducted on the farmers and traders of the country through interview schedules.

- a) Most of the data collected through interview of the farmers and traders, so sometimes they were not well-cooperated with the interviewer.
- b) The information gathered mostly through the memories of the farmers and traders which were not always correct.
- c) In the resource and time constraints, broad and in-depth study got hampered to some extent.

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