

A
Seminar Paper
On
**A Comparative Financial Evaluation of Selected
Vegetables Production in Bangladesh**

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Abstract

Bangladesh is an agricultural country. The most of her inhabitants directly or indirectly are involved in agricultural activities for their livelihood. Agriculture has a great contribution to the Gross Domestic Product (GDP) of the country. Earlier more than 50% of GDP came from this sector. At the beginning of industrialization, the activities of the population got diversification towards different sectors. Though there is a trend of transformation of the share of agricultural and industry sector over the last two decades, the share of service sector remained constant for the same period except minor year to year variation. The agricultural sector contributed 33% to GDP at the beginning of eighties which reduced gradually to 29% in 1990-91 and 25% in 2001. The varieties of vegetables produced during the wet season are small and limited to raised homesteads, high land and floating beds. The price of vegetables goes up mostly during this season due to shortage of supply. Production during the summer season in recent times has substantially gone up compared to that in the 1980s because of hybrid varieties of vegetables. This has been possible due to remarkable advancement in seed technology and modern farm management. Net return per kg for potato Tk. 10.01 for tomato is Tk. 6.22 for cauliflower Tk. 4.5 and for cabbage Tk. 4.45; and the potato growing farmers obtained higher income than the other growers. The BCR for potato (2.07) is the highest and followed by BCR (1.7) for the cabbage, BCR (1.51) for the tomato and BCR (1.4) for the cauliflower growers. Although the area under vegetable cultivation in Bangladesh is small, the importance of vegetables cannot be overstated. It is important to develop business based on growing vegetables to encourage the growers

Keywords: Benefit cost ratio, profitability, yield, production, cost, price.

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CHAPTER I

Introduction

Bangladesh is an agricultural country. The most of her inhabitants directly or indirectly are involved in agricultural activities for their livelihood. Agriculture has a great contribution to the Gross Domestic Product (GDP) of the country. Earlier more than 50% of GDP came from this sector. At the beginning of industrialization, the activities of the population got diversification towards different sectors. As a result, the contribution of the agriculture sector is slowly reducing and now reached 13.75% share of GDP (GOB, 2017-18). Still agriculture plays vital role and is taken as the most important sector of the economy. Bangladesh by birth possesses very fertile land in which diversified crops grow very easily. Various types of crops are produced in this country. Bangladesh has been striving for rapid development of its economy. Economic development in Bangladesh could not be achieved unless a breakthrough is achieved in the agricultural sector. The overall contribution of the agriculture sector is 13.75 percent to Gross Domestic Product (GDP) at current price (GOB, 2017-18). Agriculture, the main occupation of the people, witnessed a growth rate of 2.1% per annum with 47.35% of total labor force engaged in agriculture. Its total food grain and vegetable production are 375.08 lakh Metric Ton (MT) per year (BBS, 2014). Furthermore, export of agricultural commodities such as, frozen food, tea, raw jute and others covered about 7.49% of the total earnings (BBS, 2013). Though there is a trend of transformation of the share of agricultural and industry sector over the last two decades, the share of service sector remained constant for the same period except minor year to year variation. The agricultural sector contributed 33% to GDP at the beginning of eighties which reduced gradually to 29% in 1990-91 and 25% in 2001 (Wikipedia, 2013). This share stands at 20.87% in 2007-08 and 18.70% in 2012-13 and 16.33% in 2013-14 (FAO, 2014). The industry sector contributes 17% to gross domestic product at the beginning of eighties which reduces gradually to 21% in 1990-91 and 26% in 2000-01. This share is about 29.66% in 200708 and 31.98% in 2012-13 (GOB, 2014). The growth and stability of the economy of Bangladesh primarily depends largely on the growth of agriculture. About 75% of the total population live in rural areas and are directly or indirectly engaged in a wide range of agricultural activities (FAO, 2013). The agricultural sector comprises crops, forests, fisheries, and livestock. Vegetable crops are attractive because: (1) they are labor intensive cash crops; (2) they are considered more profitable than staple crops and less risky as compared to the production of pulses and mustard; (3) they have relatively short production cycles as compared to many field crops;(4)

they are suitable in some high land areas, particularly after irrigation has become available; and (5) they serve social purposes, occasionally given away as gifts to visiting neighbors, (Fatema, 2006). But above all the demand for vegetables has been increasing, while demand for other crops, such as jute has declined. Vegetable sub-sector can play important role to solve these problems in the shortest possible time. Here importance of vegetable can be realized from two stand points such as, economic point of view and nutritional point of view. They provide dietary fiber necessary for digestion and health and combating malnutrition, curing nutritional disorders and diseases like anemia, blindness, scurvy, goiter etc. including physical and mental growth and help increase efficiency of labor and span of working life, which eventually influence the economic potentials of the nation. Statistics over the past decade show a nearly 25 percent increase in the consumption of fruits and vegetables between the years 2000 and 2010. However, the average per capita fruit and vegetable consumption in 2010 was still low: 211g/capita/day (HIES, 2010) compared the desirable intake of 400 g/capita/day recommended by WHO and FAO. Bangladesh has three distinct production seasons: Rabi or winter season (November to February); Kharif-1 or summer season (March to June) and Kharif-2 or wet/rainy season (July to October). The main season for vegetable production is Rabi, which is dry and cool, when due to availability of large land areas and irrigation, farmers produce vegetables, pulses and oil seeds. This is followed by summer when summer varieties of vegetables are produced. The varieties of vegetables produced during the wet season are small and limited to raised homesteads, high land and floating beds. The price of vegetables goes up mostly during this season due to shortage of supply. Production during the summer season in recent times has substantially gone up compared to that in the 1980s because of hybrid varieties of vegetables. This has been possible due to remarkable advancement in seed technology and modern farm management.

Objectives:

- ✓ To determine the current status of selected vegetables in terms of area, yield and production;
- ✓ To determine the financial aspects of the selected vegetables;
- ✓ To identify the problems associated with the production and marketing of the selected vegetables

CHAPTER II

MATERIALS AND METHODS

This seminar paper is exclusively a review paper. All data and information has been collected from the secondary sources. During preparation of this paper, I went through various articles published in different journals, books, proceedings, reports, publications and annual report etc. Different published reports of different journals mainly supported in providing data for this paper. Findings related to my topic have been reviewed with the help of the library facilities of Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU) and Bangladesh Agricultural University (BAU). Information also collected from Department of Agricultural Economics, BSMRAU. I have also searched related internet websites to collect information. I got valuable suggestion and information from my major professor and course instructors. After collecting all the available information, I myself compiled and prepared this seminar paper.

CHAPTER III

Results and Discussion

Potato:

Potato is a prominent crop in consideration of production and its internal demand in Bangladesh. Potato cultivation has been getting popular over the last couple of years. The weather condition for potato cultivation was favorable during the sowing, growing and harvesting period of the survey year 2015-16. It was found that the farmers were interested to grow more high yielding variety. In a subjective manner, farmers were interviewed on some points relating to management and distribution system of seed and fertilizer. They opined that proper management and timely distribution of seed and fertilizer led to a substantial higher production this year. At the same time no natural calamity was reported during potato cultivation and its harvesting. (BBS, 2016).

Table:3.1 Area and Production of Potato by Division 2013-14 to 2015-16

Division		2013-14		2014-15		2015-16	
		Area (acres)	Production (MT)	Area (acres)	Production (MT)	Area (acres)	Production (MT)
1	Barisal	20044	156317	22473	175588	22219	173008
2	Chittagong	87517	656825	90002	672650	89254	683110
3	Dhaka	174268	1730193	139640	1553862	142040	1584814
4	Khulna	33318	262803	36861	298152	35692	289415
5	Rajshahi	380374	2872645	378777	2879602	390134	3059845
6	Rangpur	434193	3221393	446291	3401846	445844	3407606
7	Sylhet	12013	43847	12123	51555	13010	217149
	BANGLADESH	1141727	8950024	1163921	9254285	1174978	9474098

Source: BBS (2015). BBS (2016)

Table3.1 shows that in the year 2013-14 production of potato was 8950024MT and land used for potato cultivation is 1141727 acres. But the amount of potato production increases in the year 2015-16 to 9474098MT using the area of 1174978 acres.

Table:3.2 Yield of Potato 2013-14 to 2015-16

Division	2013-14	2014-15	2015-16
	Yield(kg)/acre	Yield(kg)/acre	Yield(kg)/acre
Barisal	7799	7813	7786
Chittagong	7505	7473	7653
Dhaka	9928	11127	11157
Khulna	7888	8088	8108
Rajshahi	7552	7602	7843
Rangpur	7419	7622	7643
Sylhet	3650	4252	16690
Average	7839	7950	8063

Source: Prepared by author

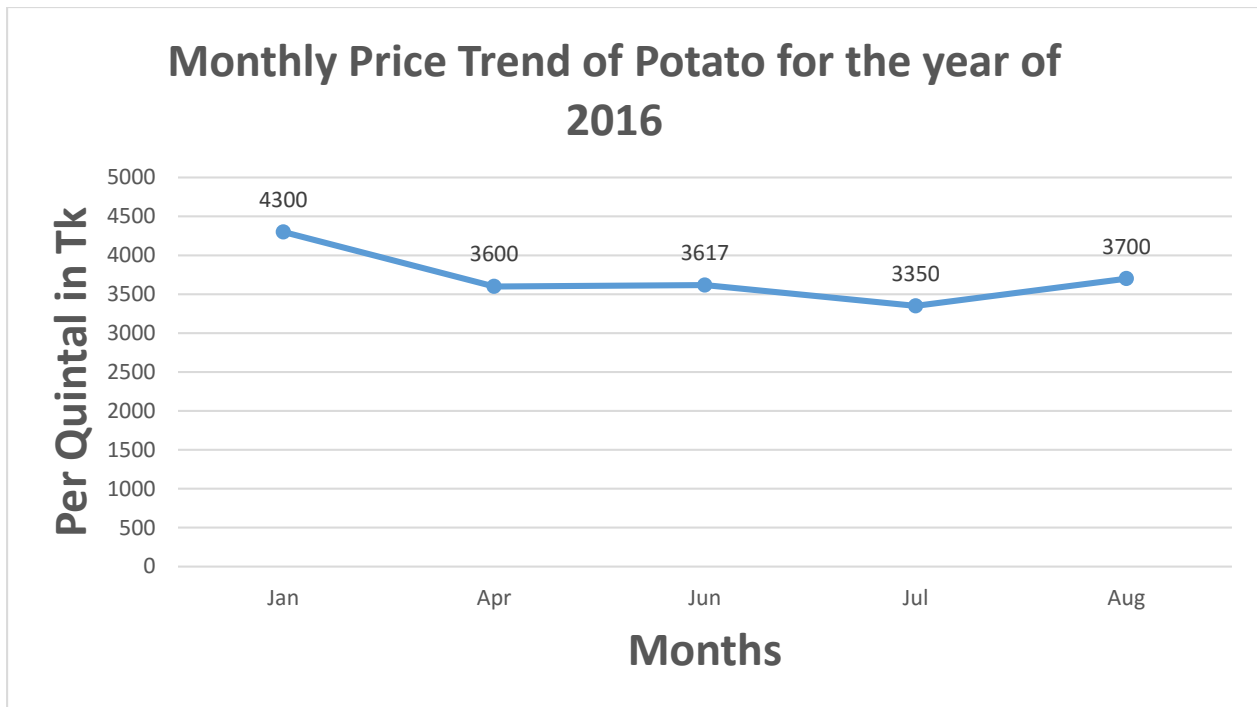


Figure 3.1: Monthly price trend of potato for the year 2016

Source: DAM (2016)

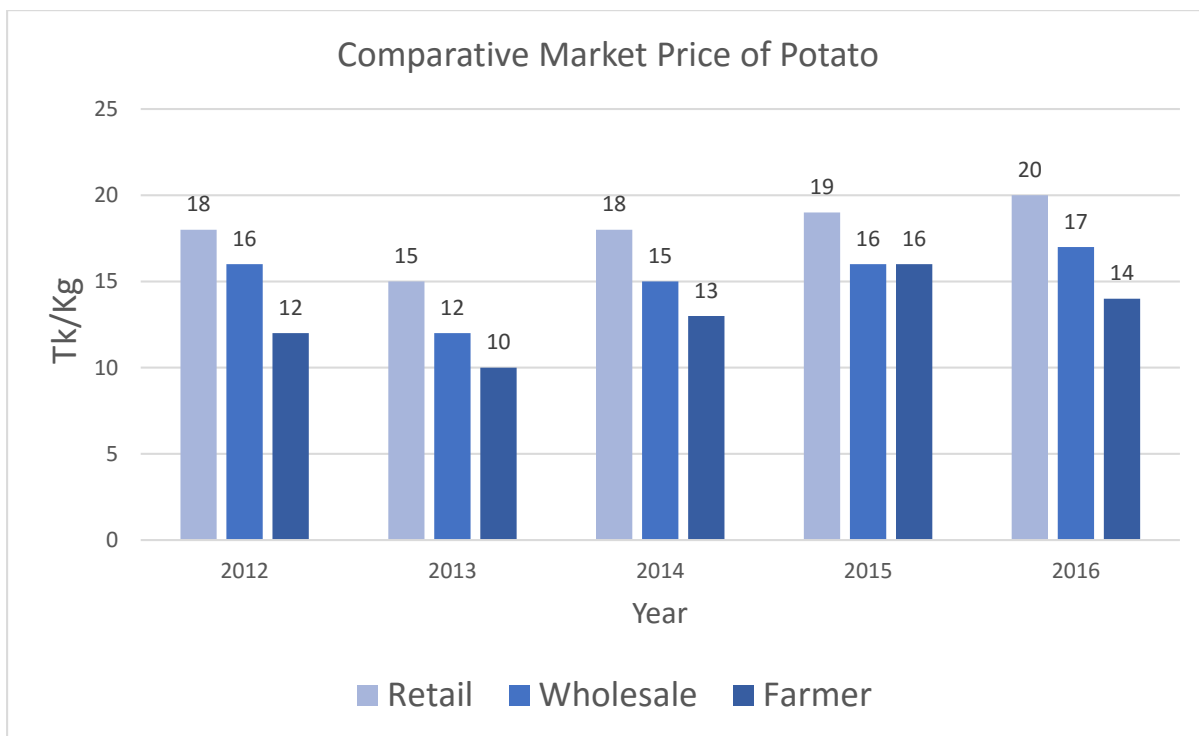


Figure 3.2: Comparative market price of potato

Source: DAM (2017)

Table:3.3 Cost of Potato Production per acre

Description of Items	Cost of Producing Potato
Seed	15208
Chemical Fertilizer	12744
Insecticides	4478
Labor	18870
Tillage	4138
Irrigation	3273
Land Rent	11372
Others	2464
Cost of Operating Capital	3245
Cost of Production per acre	75792
Cost of Production per kg	7.40
Total Return	157229
Net Return	81437

Source: DAM (2017)

Table 3.4. Profitability of Potato for the year 2015-16

Item	Gross Return per acre (Tk.)	Production(Kg.)	Price per Kg. (Tk.)	Cost per Acre	Net Return per acre(Tk.)	Net Return per Kg.(Tk.)
Potato	157229	8063	19.5	75792	81437	10.1

Source: Prepared by author

Table 3.5. Benefit-Cost Analysis of Potato for the Farmers for the year 2015-16

Name of the vegetables	Gross Return per acre(Tk.)	Gross cost per acre (Tk.)	Benefit cost ratio
Potato	157229	75792	2.07

Source: Prepared by author

Cauliflower:

Cauliflower is a very popular winter vegetable in Bangladesh. This is one of the main vegetable in other countries of the world. Cauliflower is cultivated in the winter season in almost all parts of Bangladesh. It is an annual plant that is reproduced by seed. Typically, only the head (the white curd) of aborted floral meristems is eaten, while the stalk and surrounding thick, green leaves are used in vegetable broth or discarded. Cauliflower is low in fat, but high in dietary fiber, folate, water, and vitamin C, possessing a high nutritional density. Cauliflower contains several phytochemicals, usually occurring in the cabbage family that may be beneficial to human health. A high intake of cauliflower has been associated with reduced risk of aggressive prostate cancer. (PASDACP, 2015)

Cauliflower is an important vegetable crop which contributes mentionable shares of total vegetable production. The production of cauliflower largely depends on the use of seeds, fertilizers, irrigation, pesticide, etc. The Government of Bangladesh has, therefore, provided priority to the agriculture sector to increase the production of cauliflower by giving subsidy to the farmers on different inputs such as seeds, fertilizer, irrigation etc. to achieve self-sufficiency in cauliflower production. Poverty cannot be reduced to a desired level excepting increasing productivity of agriculture sector and at the same time it is to be assured that farmers get fair price of the crops. Natural calamities like draught, flood, cyclone, tornado etc. are a very regular phenomenon which hinder the production of agriculture to a great extent. Cultivable land is being decreased due to the pressure of massive population. As a result, food security is being threatened and the risk of poor people is being increased. Bangladesh government is remarkably concerned about this agriculture sector. Notable portion of annual budget has consistently been allocated for the last couple of years for the

development of the sector. Government has also been launching many programs one after another in order to boost up the agriculture production. (PASDACP, 2015)

Production of Cauliflower:

Cauliflower is grown mainly as Rabi crop during winter. The production of vegetables including cauliflower is increasing day by day in Bangladesh. Among all the vegetables produced in the country, cauliflower dominates a major share in terms of total cropping area and production. It grows in all the districts of Bangladesh but plenty of cauliflower are produced in the region of Dhaka, Jessore, Rajshahi, Rangpur, Tangail and Kushtia. Cauliflower is grown on many different types of soil, but does best in a rich, well-drained soil with a high moisture-holding capacity. High humus content in the soil will provide better aeration and water penetration. If a soil is low in organic matter, stable or green manures can be supplied. Cauliflower grows best on a neutral or slightly acid soil (pH 6.0 to 6.5). Well-drained, sandy loam soils are suited to early varieties, whereas loamy and clay loam soils are suited to late ones because they are to some extent tolerant of poor drainage. Good soil preparation is important when planting cauliflower. The best way to determine soil conditions is to have a soil test performed. (PASDACP, 2015)

In general, cauliflower is not difficult to grow, but it is sensitive to extreme temperatures. Primarily a cool-weather crop, cauliflower won't produce heads in hot weather and is frost-tolerant only as a mature fall crop. Most cultivators need about 3 months of cool weather to mature. To grow cauliflower successfully, the key steps are to choose the right cultivar for climate, plant at the proper time, and provide a steady supply of moisture. It grows best in cool moist climate and is very hardy to frost. It is very sensitive to temperature depending on varieties so, selection of varieties depends on time of planting. Its growth is best at a temperature of about 15°C to 25°C. Temperatures below this and above are not suited for it. In Cauliflower harvesting is done depending on the maturity of the head and demand in market. Normally harvesting is done when head are firm. After appearance of head harvesting may be done 90-100 days after seedling. If prices are high in the market harvesting is done earlier when head are small. Proper grading is followed before heads are sent to market. The yield of cauliflower depends upon the variety, growing season and management practices, Hybrid cauliflower yields up to 40 ton per hectare. The yield of early varieties ranges between 12 to 15 tones/ha. The yield of late season varieties is about 25 to 28 tones /ha. (PASDACP, 2015)

Farmers of Bangladesh are growing cauliflower following indigenous methods with the poor yield rate. The reasons behind such low yield due to lack of high yielding variety and method of production practices followed by the local growers. The yield of cauliflower can be increased by adopting improve production technology like proper plant spacing. Although cauliflower is an important vegetable crop of Bangladesh, but its production technologies has not been standardized from the scientific and economic point of view. Therefore, research needs to bring improvement in production technologies as well as considering economic return. If nature favors, farmers get moderately good harvest. (PASDACP, 2015)

Table:3.6 Percentage Distribution of Cauliflower cultivation area by tenancy and farming time

Farming time					Tenancy									
	Total		Owned		Share Crop		Mortgage		Lease		Other			
	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%		
					All Area									
Bangladesh	21472	100.00	14785	68.86	835	3.89	1506	7.01	4209	19.60	137	0.64		
Advance	5458	25.42	3808	17.74	234	1.09	478	2.23	937	4.36	1	0.01		
Seasonal	16014	74.58	10977	51.12	601	2.80	1028	4.79	3272	15.24	136	0.63		

* 1 hectare=2.47 acre, Source: PASDACP (2015)

Table 3.6 provides the area of cauliflower crop by all tenure ship of owned land, share crop, mortgage, lease and others for the survey year 2014. Percentage distribution of land by tenancy type is also shown in the table. It shows that a total of 21472 acres of land are under cauliflower crop of which an overwhelming majority of 14785 acres are owned land (68.86%) followed by 4209 acres lease land (19.60%), 1506 acres of mortgage land (7.01%), 835 acres share crop land (3.89%) and 137 acres' other land (0.64%). It is observed from the table that 16014 acres of land are under seasonal farming (74.58%) followed by 5458 acres in advance farming time (25.42%) showing that

a great majority of the cauliflower cultivation is under seasonal farming and only about one-fourth of the cauliflower cultivation is under advance farming time.

Table:3.7 Percentage distribution of Cauliflower producing area by cultivation type and farming time

Farming time	Type of cultivation					
	Total		Single		Mixed	
	Area	%	Area	%	Area	%
	All Area					
Bangladesh	21472	100.00	18433	85.85	3039	14.15
Advance	5458	25.42	4569	21.28	889	4.14
Seasonal	16014	74.58	13864	64.57	2150	10.01

Source: PASDACP (2015)

Table 3.7 shows the cultivation type of single and mixed crops by farming time of advance and seasonal. Table shows that out of total 21472 acres of land an overwhelming majority 18433 acres (86%) are used for single cropped area trailing far behind by mixed cropped area of 3039 acres of land (14%).

Table: 3.8 Area and Production of Cauliflower by Division 2013-14 to 2015-16

Division		2013-14		2014-15		2015-16	
		Area (acres)	Production (MT)	Area (acres)	Production (MT)	Area (acres)	Production (MT)
1	Barisal	1185	2956	1274	3143	1303	3209
2	Chittagong	6099	22584	6551	24772	6353	21537
3	Dhaka	10447	50540	11405	67797	11962	72484
4	Khulna	8513	38020	9465	42602	8794	38852
5	Rajshahi	6091	27430	7063	42015	7143	44202
6	Rangpur	6691	35247	10134	71436	9935	70687
7	Sylhet	1749	6168	2403	16715	2259	17513
	BANGLADESH	40775	182945	48295	268480	47749	268484

Source: BBS (2015). BBS (2016)

Table 3.8 shows that in the year 2013-14 production of potato was 182945 MT and land used for potato cultivation is 40775 acres. But the amount of potato production increases in the year 2015-16 to 268484 MT using the area of 47749 acres.

Table:3.9 Yield of Cauliflower 2013-14 to 2015-16

	2013-14	2014-15	2015-16
Division	Yield(kg)/acre	Yield(kg)/acre	Yield(kg)/acre
Barisal	2495	2467	2462
Chittagong	3703	3781	3390
Dhaka	4838	5944	6059
Khulna	4466	4501	4418
Rajshahi	4503	5949	6188
Rangpur	5268	7049	7114
Sylhet	3527	6956	7752
Average	4487	5559	5622

Source: Prepared by author

Table:3.10 Comparative Market Price of Cauliflower (Taka per kg)

Year	2013-14	2014-15	2015-16
Farmer	16	13	16

Source: BBS (2016)

Table 3.11 presents that overall per acre production cost in all areas is Taka 64650 on an average for the year 2014. Whereas the average per acre production cost in own land is 64289 and all other tenure ship it is Taka 64849. As regard the production cost by type of ingredient, the highest cost is found in seed/seedling plantation cost which is of Taka 16849, followed by fertilizer cost of Taka 13613, weeding cost of Taka 7818, harvesting cost of Taka 5546 etc. It is noticeable that per acre transport cost for the owned tenure ship is Taka 5053 whereas the cost of all other category of tenancy is Taka 5803

Table:3.11 Per acre production cost (Tk.) by tenancy & ingredients

Production ingredient	Tenancy					
	All		Owned		All others	
	Cost	%	Cost	%	Cost	%
Total	64650	100.00	64289	100.00	64849	100.00
Land preparation	4843	7.49	4879	7.59	4792	7.39
Seed/seedling & plantation	16849	26.05	16865	26.23	16802	25.91
Weeding	7818	12.09	7586	11.80	8146	12.56
Irrigation	3844	5.95	3746	5.83	3984	6.14
Pesticides/insecticide	4351	6.73	4606	7.16	3966	6.12
Fertilizer	13613	21.05	13785	21.44	13098	20.20
Hormone	952	1.47	965	1.50	923	1.42
Harvesting	5546	8.58	5483	8.53	5637	8.69
Transport	5360	8.28	5053	7.86	5803	8.95
Others	1475	2.31	1321	2.05	1698	2.62

Source: PASDACP (2015)

In the table below, it is observed that the average number of required laborers for per acre plantation at national level is 24.41 persons and their cost is Tk. 4976. The average number of required laborers in advance farming time is 25.76 persons and their cost is Taka 5194 which is higher by 5.90% than that of seasonal farming time. The table also reveals that labor cost per acre is 22.25% higher in the average farming time than that in seasonal farming when it is higher by 12.57% than that in advance farming time.

Table:3.12 Per acre number of laborer engaged and cost of plantation by farming time

Farming time	All			
	Number of Labor			Labor cost
	Family	Hired	Total	
Average	8.87	15.54	24.41	4976
Advance	8.99	16.77	25.76	5194
Seasonal	8.82	15.13	23.95	4902

Source: PASDACP (2015)

Table:3.13 Per acre number of labor engaged and cost of weeding by farming time

Farming time	All areas			
	Number of Laborer			Labor cost
	Family	Hired	Total	
Average	9.93	24.77	34.70	7818
Advance	7.91	31.54	39.45	8759
Seasonal	10.62	22.46	33.08	7497

Source: PASDACP (2015)

Table 3.13 shows that the average number of required laborer per acre for weeding at national level is 34.70 persons and their cost is Taka 7818. The average number of required laborer is higher in the advance farming at 39.45 persons and their cost is Taka 8759 which are lower in the seasonal farming with 33.08 persons and labor cost of Taka 7497 respectively

Table:3.14 Per acre number of laborer engaged and cost of harvesting by farming time

Farming time	All areas			
	Number of Laborer			Labor cost
	Family	Hired	Total	
Average	10.55	15.98	26.53	5546
Advance	8.51	21.23	29.74	5982
Seasonal	11.24	14.19	25.43	5397

Source: PASDACP (2015)

The above table provides the average number of required laborers for per acre harvesting at national level which is 26.53 persons and their cost is Taka 5546 during the survey year. The average number of required laborers is higher in the advance farming time which is 29.74 persons and their cost is Taka 5982 and the average number of required laborers is lower in the seasonal farming time which is 25.43 persons and their cost is Taka 5397.

Table 3.15 Profitability of Cauliflower for the year 2015-16

Item	Gross Return per acre (Tk.)	Production (Kg.)	Price per Kg. (Tk.)	Cost per Acre	Net Return per acre(Tk.)	Net Return per Kg. (Tk.)
Cauliflower	89952	5622	16	64650	25302	4.50

Source: Prepared by author

Table 3.16 Benefit-Cost Analysis of Cauliflower for the Farmers for the year 2015-16

Item	Gross Return per acre(Tk.)	Gross cost per acre (Tk.)	Benefit cost ratio
Cauliflower	89952	64650	1.4

Source: Prepared by author

Cabbage:

Table:3.17 Area and Production of Cabbage by Division 2013-14 to 2015-16

Division		2013-14		2014-15		2015-16	
		Area (acres)	Production (MT)	Area (acres)	Production (MT)	Area (acres)	Production (MT)
1	Barisal	1377	10397	1465	4683	1523	5039
2	Chittagong	5729	24907	5917	28537	5960	28540
3	Dhaka	9725	57192	10395	67597	10701	89792
4	Khulna	9772	54905	9987	57723	10071	58951
5	Rajshahi	5405	32559	6086	39777	6157	38292
6	Rangpur	6305	31298	7586	45949	7688	53043
7	Sylhet	1758	6114	2333	14342	2242	22087
	BANGLADESH	40071	217372	43769	258608	44342	295744

Source: BBS (2015). BBS (2016)

Table:3.18 Yield of Cabbage 2013-14 to 2015-16

Division	2013-14	2014-15	2015-16
	Yield(kg)/acre	Yield(kg)/acre	Yield(kg)/acre
Barisal	7550	3197	3308
Chittagong	4348	4823	4788
Dhaka	5881	6503	8390
Khulna	5619	5780	5853
Rajshahi	6024	6596	6219
Rangpur	4964	6057	6899
Sylhet	3478	6147	9851
Average	5425	5908	6669

Source: Prepared by author

Table 3.19. Cost of Production and Factor Share in Total Cost

Item	Factor Share in Total Cost
Gross cost per acre (Tk.)	45,093
Land Preparation	8.87
Seed	1.86
Fertilizer	22.90
Irrigation	3.00
Pesticide	1.77
Labor	44.35
Land rent	13.31
Interest on Capital	3.94

Total factor Share %	100
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Source: Zaman, M., Hemel, R. A., & Ferdous, T. (2010).

Table 3.20: Comparative Market Price of Cabbage (Taka per kg)

Year	2013-14	2014-15	2015-16
Farmer	11.14	9.29	11.22

Source: BBS (2016)

Table 3.21 Profitability of Cabbage for the year 2015-16

Item	Gross Return per acre (Tk.)	Production (Kg.)	Price per Kg. (Tk.)	Cost per Acre	Net Return per acre(Tk.)	Net Return per Kg. (Tk.)
Cabbage	74,826	6669	11.22	45,093	29733	4.46

Source: Prepared by author

Table 3.22. Benefit-Cost Analysis Cabbage for the Farmers for the year 205-16

Name of the vegetable	Gross Return per acre(Tk.)	Gross cost per acre (Tk.)	Benefit cost ratio
Cabbage	74,826	45,093	1.7

Source: Prepared by author

Tomato:

Table:3.23 Area and Production of Tomato by Division 2013-14 to 2015-16

Division		2013-14		2014-15		2015-16	
		Area (acres)	Production (MT)	Area (acres)	Production (MT)	Area (acres)	Production (MT)
1	Barisal	2366	6414	2390	6951	2547	6920
2	Chittagong	15508	70511	16277	64937	16459	65109
3	Dhaka	14192	70462	14457	75553	14712	78884
4	Khulna	7176	28282	7228	29439	7156	30296
5	Rajshahi	15141	96777	23332	148656	13265	85376
6	Rangpur	9663	80276	7959	67258	8964	77932
7	Sylhet	2580	7213	3959	20816	4432	23604
BANGLADESH		66626	359935	75602	413610	67535	368121

Source: BBS (2015). BBS (2016)

Figure 3.3: Comparative Market price of tomato

Source: DAM (2017)

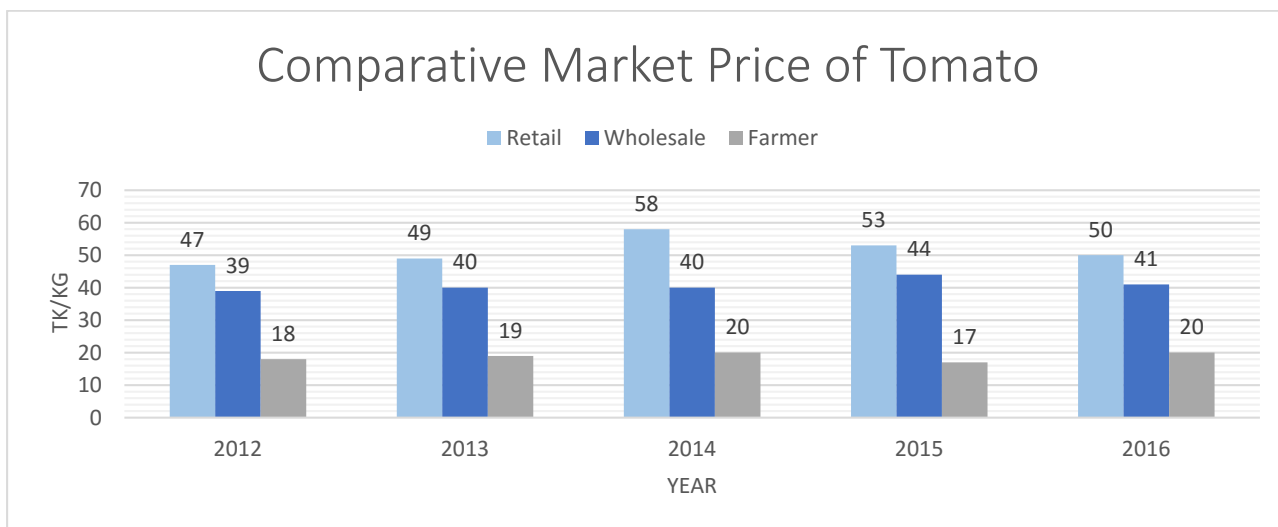


Table:3.24 Yield of tomato 2013-14 to 2015-16

Division	2013-14	2014-15	2015-16
	Yield(kg)/acre	Yield(kg)/acre	Yield(kg)/acre
Barisal	2710	2908	2716
Chittagong	4546	3989	3955
Dhaka	4964	5226	5361
Khulna	3941	4072	4233
Rajshahi	6391	6371	6436
Rangpur	8307	8450	8693
Sylhet	2795	5257	5325
Average	5402	5470	5450

Source: Prepared by author

Table 3.25 Cost of Production of Tomato and Factor Share in Total Cost

Item	Factor Share in Total Cost
Gross cost per acre (Tk.)	66,900
Land Preparation	5.98
Seed	0.45
Fertilizer	48.27
Irrigation	2.99
Pesticide	2.99
Labor	29.90
Land rent	5.98

Interest on Capital	3.44
Total factor Share %	100

Source: Zaman, M., Hemel, R. A., & Ferdous, T. (2010).

Table 3.26 Profitability of Tomato for the year 2015-16

Item	Gross Return per acre (Tk.)	Production (Kg.)	Price per Kg. (Tk.)	Cost per Acre	Net Return per acre(Tk.)	Net Return per Kg. (Tk.)
Tomato	1,00,825	5450	18.5	66,900	33925	6.22

Source: Prepared by author

Table 3.27 Benefit-Cost Analysis of Tomato for the Farmers for the year 2015-16

Item	Gross Return per acre(Tk.)	Gross cost per acre (Tk.)	Benefit cost ratio
Tomato	1,00,825	66,900	1.51

Source: Prepared by author

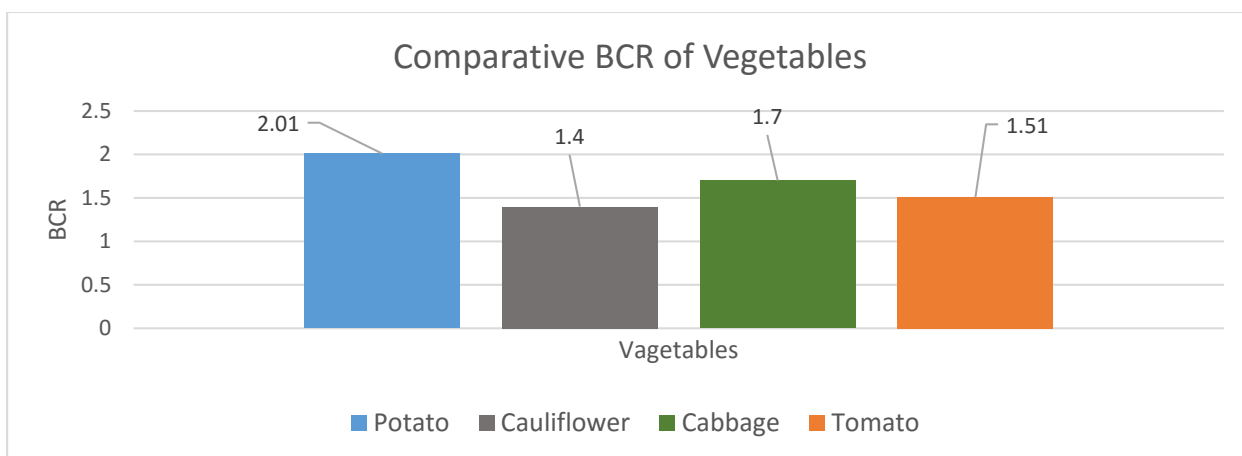


Fig:3.4 Comparative BCR of Vegetables

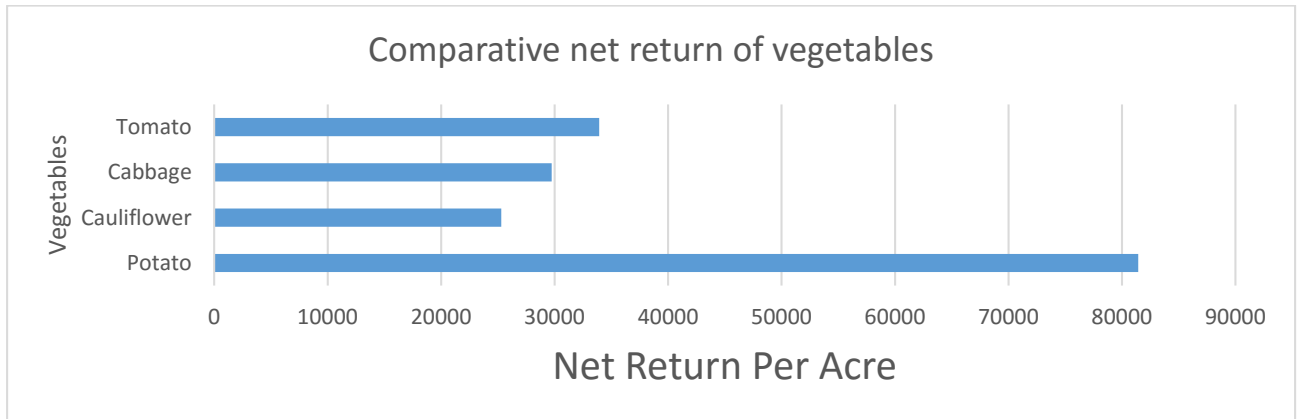


Fig:3.5 Comparative Net Return of Vegetables

Problems faced by the farmers:

- Low prices at peak harvest period
- Damage caused by insects.
- Unavailability of quality fertilizers in time.
- Labor crisis
- Unavailability of good quality seed
- Lack of Government attention.
- Farmers did not get proper price due to improper marketing channel/system.
- Lack of farmers' knowledge on good quality seed and access to the seed.
- Lack of linkage between farmers and exporter

Conclusion:

- ✓ The analysis of the study comes up with some important conclusions. Net return per kg for potato Tk. 10.01 for tomato is Tk. 6.22 for cauliflower Tk. 4.5 and for cabbage Tk. 4.45; and the potato growing farmers obtained higher income than the other growers.
- ✓ The BCR for potato (2.07) is the highest and followed by BCR (1.7) for the cabbage, BCR (1.51) for the tomato and BCR (1.4) for the cauliflower growers. Although the area under vegetable cultivation in Bangladesh is small, the importance of vegetables cannot be overstated. It is important to develop business based on growing vegetables to encourage the growers. Promoting vegetable cultivation can be an important instrument to increase the income of small farmers and to generate additional jobs.

CHAPTER IV

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