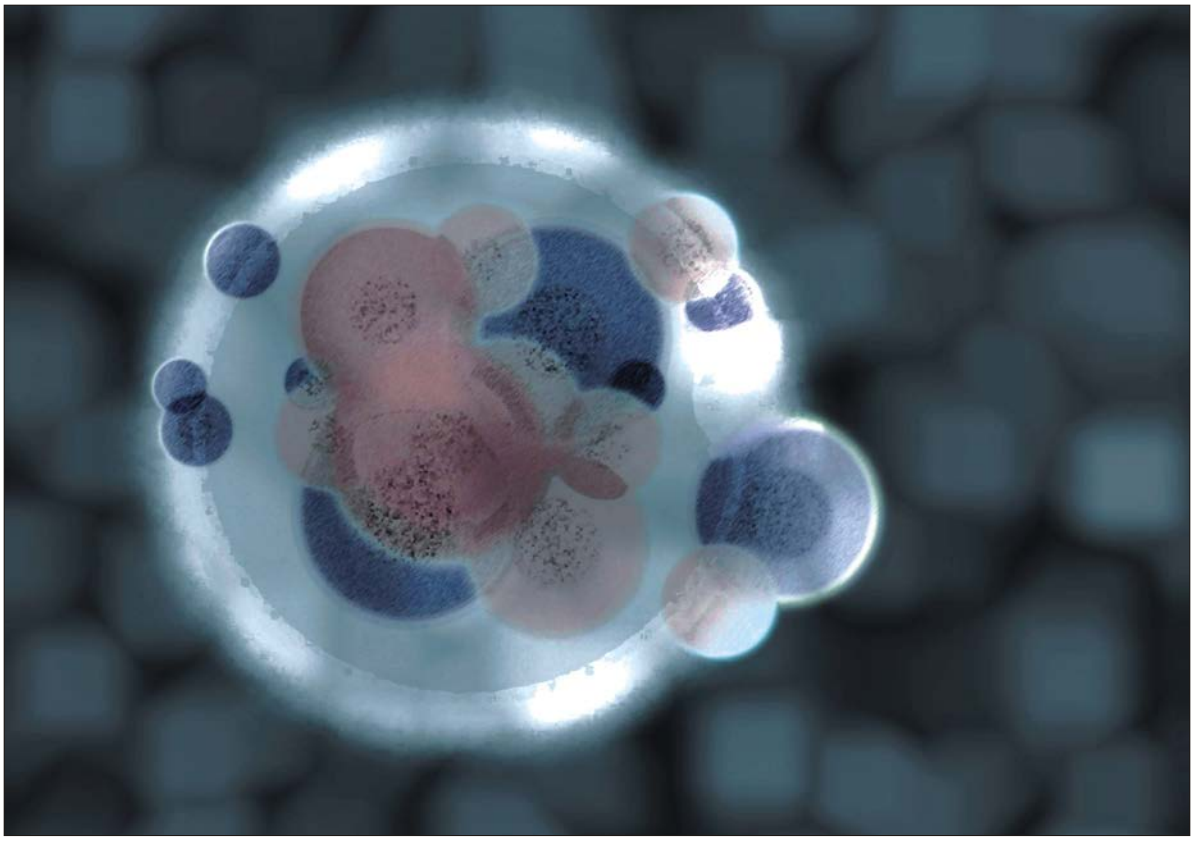

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Vegetable Seed Marketing System in Some Selected Areas of Bangladesh

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Abstract: The study was undertaken to investigate the marketing of vegetable seed in private sector as well as public sector in five selected areas of Bangladesh. Besides for traders' survey apart from above mentioned areas Mymensingh town and Dhaka city were selected. Three types of respondents, such as vegetable growers, seed traders and seed importers/producers were interviewed with the help of pretested questionnaire during January to April, 1998. 50% of the seeds used were either retained by farmers from previous seasons or purchased from other farmers. Traders handled 48 per cent of the seed and the remaining two per cent was marketed by public sector. Importers and traders purchased seed at Tk. 502190.47 and 140913.33 per quintal, respectively. The production cost of seed producing farm was Tk. 162236.84. Seed was sold by importers, traders and producing farms at Tk.590790.47, 157836.66 and Tk. 212052.63 per quintal, respectively. So the gross return of importers, traders and seed producing farms were Tk. 88600.00, 16923.33 and Tk.49815.79 per quintal, respectively. Their marketing costs were Tk. 1177.45, 719.48 and Tk.353.04 respectively and net returns were Tk. 87422.55, Tk.16203.85 and Tk. 49462.75 respectively. The problems in vegetable production were: adulteration of seed, low germination of seed, problem of collecting import permit, lack of capital, problem of collecting clearing permit, lack of technological facilities, non-availability of experienced farmer and lack of modern storage facilities. To solve the above problems, the respondents suggested for ensuring the supply of required quality of seed in appropriate time at reasonable price, provision for Bank loan, improving Banking procedure, providing training facilities to the farmers, paying reasonable wage to farmers and development of storage facility.

Key words: Breeder seed, foundation seed and phytocenory certificate

Introduction

Agricultural productivity depends to a great extent on the use of quality seeds. All other inputs like fertilizers, pesticides and improved implements will go for naught unless accompanied by improved quality seeds. Large yield depends to a large extent on suitable varieties of seeds which are capable of producing higher yields, provided other associated factors are available in proper combination. Improved varieties of seeds are one of the most important components of strategic inputs. Bangladesh is one of the most densely populated countries in Asia, with a rapidly growing population of 120 million (1991 census). The country is predominantly rural in the sense that over 65% of the population are living outside the cities. Although Bangladesh has declared herself self-sufficient in staple foods (rice), she faces malnutrition problems because of imbalance diet. Increasing the amount of vegetables in the diet is viewed as an easy way of providing the missing vitamin, minerals and proteins. Unfortunately, the present per capita consumption of fresh vegetables in Bangladesh is one of the lowest in the world. There are two principal reasons for this shortage: (1) cultivation of insufficient quantities of vegetables for the country's needs and (2) very low productivity per unit area (IFDC, 1997).

The first of these reasons can be addressed through crop diversification (Beez, 1997). It should be possible to divert farmers from traditional rice cultivation (a low-income group) to vegetable cultivation, which is a comparatively high income crop that can be incorporated in current cropping patterns.

The second reason of low productivity is very serious. Statistical report tells that Bangladesh has one of the lowest productivity in the world. The reasons for this are many including; poor seed quality (both genetic and physical quality can be responsible for crop failure), extreme climatic conditions during the monsoon season, making it difficult to grow any crop other than rice, the poor technological knowledge of farmers contributing to an inability to use maximum agricultural inputs for higher production. Poor soil conditions, mostly as a result of intensive cultivation (300 per cent in some places) has depleted the soil of most macro and micro nutrients, and the farmer's lack of resources and low income which are considered serious constraints to improving vegetable cultivation (Monohar, 1987).

Of these limitations and constraints the easiest one to address is seed quality. The specific objectives of the study were, to examine the marketing practices of vegetable seed in private sector and to identify the problems relating to vegetable seed distribution by public and private sector.

Materials and Methods

The study was conducted in five vegetable growing villages in Mymensingh district such as Dariapara in Gouripur Thana, Birguchina in Haluaghat Thana, Charkalibari in Mymensingh sadar thana, Sahapur in Fulpur thana and Sripur in Fulbaria thana. For surveying the traders, Mymensingh town and Dhaka city and above mentioned Thanas were selected.

Data were obtained from a sample of each of the earlier mentioned respondents. Sample of 18 seed trader taking 5, each from Mymensingh sadar and Dhaka city and 2, each from Haluaghat, Gouripur, Fulpur and Fulbaria Thana were chosen. There were 40 traders in the study area. Out of 16 importers/producers in Dhaka city four importers/producers were randomly chosen. Data were collected during January to April in 1998.

Marketing Channel of Vegetables

Seed: The marketing channel of vegetable seeds is shown in Fig. 1. The participants in vegetable seed marketing channel were importers, seed producing farm, dealer, wholesaler, retailer and faria/bepari (Rahman, 1995).

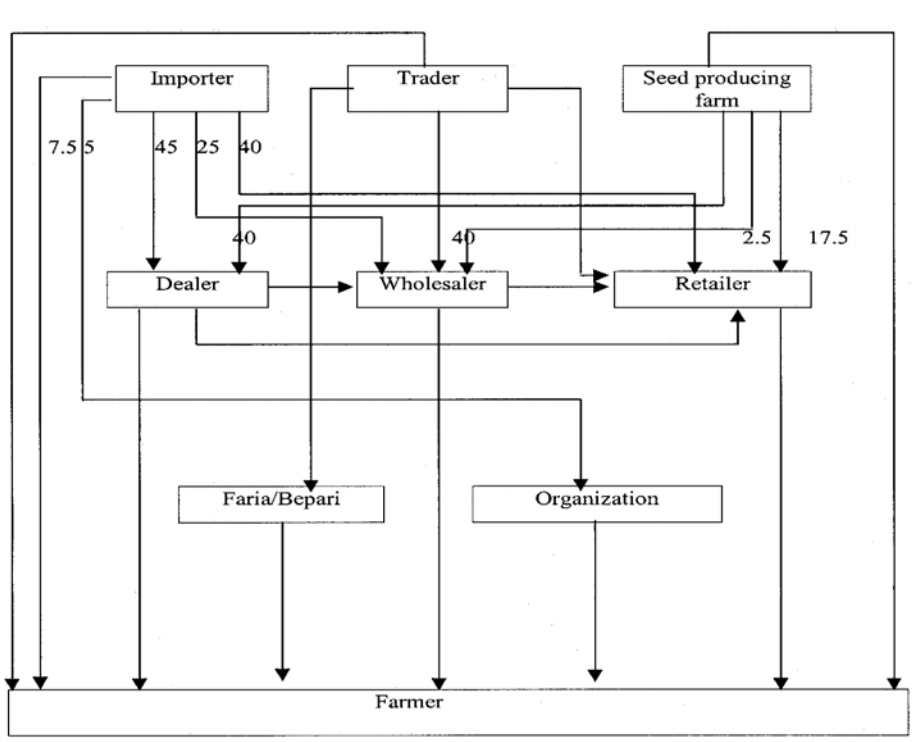

Fig. 1: Marketing channels of vegetable seed

The importers import vegetable seed from foreign countries through credit letters. On the basis of importers" invoices designated Banks placed orders to the exporting farms. Indenting farms on behalf of the importers handled importation procedures and in country port clearance. The import of vegetable seed was duty free except for potato seed on which a 7.5% import duty was imposed. But for importing any vegetable seed an additional 2.5% advance income tax as well as a 2.5% development surcharge were imposed. Seven and a half per cent imported seeds were sold directly to the farmers and the rest 92.5% were sold through different traders i.e., deales, wholesalers, retailers and their corresponding percentage were 45% 40% and 2.5%.

The Bangladesh climate and soil is favourable to produce vegetable seed. Presently, more than 20 farms are engaged in producing vegetable seed. The seed producing farms produce various types of vegetable seeds through contract growers. Seed producing farms sold each 40% of their seed to dealers and wholesalers. Only 2.5% were sold to the retailers. However, they sold 17.5% of their product directly to the farmers (Sutradhar, 1995).

The dealers constituted a larger group in the business of vegetable seeds. They were the main traders who purchased seeds from the importers and seed producing farm. The importers fixed up a particular rate of sold seed to the dealers. The dealers could sell seed to businessmen or to the farmers directly. At the end of the year they got commission from importers and seed producing farms on the basis of quantity of seeds sold. The wholesellers were also big merchants in seed trade.

They collected seed in large quantities from the importers, seed producers or big traders. They sold it to retailers or directly to farmers. The retailers used to buy seeds either from importers, seed producing farms, dealers, wholesalers or traders and sold it directly to farmers. Finally, Faria and Beparis collected seeds from the traders and sold them in local hat/bazars (village markete) to the farmers.

Marketing Cost: In this study, importers marketing costs start from the point of receiving vegetable seeds from indenting farm. The costs of the vegetable seed importers are presented in Table 1 that reveals the total costs incurred by importers, estimated at Tk. 1177.45 per quintal of seed. Their cost items included rentals, salary of employees, electricity charge, telephone bill, entertainment, transportation & labour charge. They generally employed some labourers on monthly salary or on daily wage basis for performing various functions at their stores. The average estimated cost per quintal of seed incurred by importers was Tk. 507.83 which was 43.13% of the total cost. It constitutes the major part of the total cost for importers (Monohar, 1987).

Winnowing, bagging, transportation and labour charge were the major items of marketing cost of seed producing farm (Table 1). The total average marketing cost of seed was estimated to be Tk. 353.04 per quintal. For seed producing farms winnowing charge was the highest cost item, followed by transportation, bagging and labour charge.Except contract growers' bill the producers had to pay some amount to farmers for removal of inert matters, weed seeds and other crop seed, which was called winnowing charge. Average winnowing charge per quintal of seed was estimated at Tk. 150 i.e. 42.49% of total cost. For carrying seeds from contract growers to producer's go down, transport was needed. The transportation cost was amounting to Tk. 147.95 i.e. 41.91% of the total marketing cost.

The traders are the important functionaries in vegetable seed

Table 1: Marketing cost of intermediaries (Tk./quintal)

Cost items	Importers	Seed producing farms	Traders
Rentals	21.16	-	83.91
	(1.80)		(11.67)
Salary of employees	507.83	-	121.48
	(43.13)		(16.88)
Electricity charge	63.48	-	32.49
	(5.39)		(4.50)
Telephone bill	211.60	-	76.28
	(17.97)		(10.60)
Entertainment	207.36	-	-
	(17.61)		
Transportation	148.72	147.95	167.44
	(12.63)	(41.91)	(23.27)
Labour charge	17.30	16.32	25.55
	(1.47)	(4.62)	(3.56)
Winnowing charge	-	150.00	-
		(42.49)	
Bagging	-	38.77	-
		(10.98)	
Storage cost	-	-	56.51
			(7.86)
Personal cost	-	-	40.55
			(5.64)
Miscellaneous	-	-	115.27
			(16.02)
Total	1177.45	353.04	719.48
	(100.00)	(100.00)	(100.00)

Table 2: Marketing cost of vegetable seed incurred by market participants

Market participants	Marketing Cost (Tk/quintal)	Per cent of total cost
Importers	1177.45	52.33
Seed producing farms	353.04	15.69
Traders	719.48	31.98
Total	2249.97	100.00

Table 3: Marketing margin of the importers

Name of vegetables	Average sale price (Tk/kg)	Average purchase price (Tk/kg)	Gross margin (Taka/kg)
Cauliflower	7967	6772	1195
Cabbage	7300	6205	1095
Radish	482	410	72
Brinjal	12500	10625	1875
Tomato	15220	12937	2243
Chilli	17000	14450	2550
Khol rabi	4367	3712	655
Cucumber	5300	4505	795
Bitter gourd	6367	5412	955
Bottle gourd	4000	3400	600
White gourd	20000	17000	3000
Okra	533	454	79
Pumpkin	3500	2975	525
Khira	7000	5950	1050
Ridge gourd	4000	3400	600
Carrot	850	723	127
Squash	2600	2210	390
Letuce	3250	2763	487
Beet	1350	1148	202
Yard-long-bean	330	281	49
Kangkong	150	128	22

marketing. These traders perform various functions in seed marketing. Their cost items included rentals, salary of employees, electricity charge, telephone charge, go down charge, transportation, labour charge, personal cost and miscellaneous cost (Table 1). Average marketing cost of seed

Table 4: Margin of seed producing farms

Name of vegetables	Average sale price (Tk/kg)	Average purchase price (Tk/kg)	Gross margin (Taka/kg)
Radish	187	234	47
Cauliflower	3000	4000	1000
Stem amaranth	150	200	50
Red amaranth	150	180	30
Brinjal	1200	1300	300
Yard-long-bean	255	300	45
Bottle gourd	110	130	20
Spinach beet	51	60	9
Hyacinth bean	240	300	60
Tomato	12450	16600	4150
Okra	119	140	21
Kangkong	50	60	10
Ceylon spinach	80	120	40
Sweet gourd	3000	4000	1000
Snake gourd	280	380	100
Bitter gourd	3087	4116	1029
Cucumber	2420	2750	330
Carrot	576	720	144
Ridge gourd	3420	4500	1080

Table 5: Marketing margin of traders

Name of vegetables	Average purchase (Tk/kg)	Average sale price (Tk/kg)	Gross margin (Taka/kg)
Radish	273	321	48
Cauliflower	7823	8606	783
Cabbage	4980	5727	747
Water melon	3246	3408	162
Tomato	1352	1488	136
Okra	239	267	28
Stem amaranth	233	259	26
Bginjal	1471	1632	161
Red amaranth	77	87	10
Sweet gourd	78	86	8
Ceylon spinach	93	103	10
Cucumber	332	366	34
Yard-long-bean	667	734	67
Bitter gourd	173	190	17
Carrot	1100	1265	165
Turnip	729	803	74
Bati shak (Pakchoi)	350	385	35
Kangkong	280	309	29
Spinach beet	41	46	5
Squash	3625	3823	198
Khira	122	140	18
Bottle gard	718	803	85
White gourd	50	54	4
Ridge gourd	68	78	10
Snake gourd	225	248	23
Chilli	8691	9996	1305
Papaya	3000	3600	600
Letuce	750	825	75
Beet	350	393	43
Kholrabi	1138	1309	171

per quintal was estimated at Tk. 719.48. Transportation cost was the major cost of marketing of vegetable seeds. It involved cost of transporting seed. Seeds were transported from Dhaka and other places to trader's shops. The average transportation cost per quintal seed was worked out to be Tk. 167.44 which represented 23.27% of total marketing cost.

Some of the selected traders generally employed one labour on monthly salary basis for performing various functions at trader's shop. The average cost of salary per quintal of seed was estimated at Tk. 121.48 which was16.88 % of total cost. It was the second highest cost item.

Total cost of marketing of vegetable seed included all costs

Table 6: Marketing margin of market participants in vegetable seed marketing

Market participants	Average sale price (Tk/Quintal)	Average purchase price/ production cost (Tk/Quintal)	Gross margin (Tk/Quintal)	Marketing cost (Tk/Quintal)	Net margin (Tk/Quintal)	Return on investment
Importers	590790.47	502190.47	88600.00	1177.45	87422.55	0.17
Seed producing farms	212052.63	162236.84	49815.79	353.04	49462.75	0.30
Traders	157838.66	140913.33	16923.33	719.48	16203.85	0.11

Table 7: Problem faced by market participants

Problems	Importers	Seed producing farms	Traders
Problem of collecting import permit	75	-	-
Lack of capital	75	75	72
Problem of collecting clearing permit	75	-	-
Problem of collecting phytocenory certificate	75	-	-
Lack of technological facilities	-	75	-
Diseases	-	25	-
Insect attack	-	25	-
Non-availability of experienced farmers	-	75	-
Natural calamities	-	25	-
Non-availability of cleaning and grading machine	-	25	-
Lack of modern storage facilities	-	50	61
High cost of seed production	-	50	-
Problem of sowing breeder seed in right time	-	25	-
Non cooperation of BADC's field supervising officer	-	25	-
Scarcity of seed during peak period	-	-	39
Loss arising from unsold seed	-	-	44
Lack of bank loan facility	-	-	100
Lack of quality seed	-	-	39
Non-existance of quality control	-	-	16

Table 8: Measures suggested by market participants

Suggestions	Importers	Seed producing farms	Traders
Provision for Bank loan	75	100	72
Improve Banking procedures	75	-	-
Providing training facilities to the farmers	-	50	-
Setting up cleaning and grading machines in various places by government	-	25	-
Building up modern warehouse by government	-	25	-
Developing public sector research	-	25	-
Paying reasonable wage to farmers	-	50	-
Supply of seed at right time	-	-	67
Ensure supply of quality seed	-	-	72
Arrangement for seed inspection	-	-	17
Development of storage facility	-	-	61

incurred by different market participants. Table 2 reveals that on an average the total marketing cost was Tk.2249.97 per quintal of seed. The costs incurred by the importers, producers and traders were 52.33, 15.69 and 31.98 % of the total marketing cost respectively. The marketing costs per quintal seed was the highest for importers because they had to perform various complicated functions in case of importing seeds. On the other hand, seed producers marketing cost was the lowest because they perform very limited marketing functions (Kohls and Uhl, 1980).

Marketing Margin: Marketing margin at a particular stage of product flow may be defined as the difference between purchase and sale price of a commodity. In this study marketing margins of importers, seed producing farms and traders were calculated by deducting the purchase price of seed from the sale price and margin of seed producing farms were calculated by deducting the production cost of seed from the sale price; while the profit component was calculated by deducting the marketing cost from their marketing margin. Gross marketing margin of different vegetable seeds of the importers are shown in Table 3. From white gourd the highest gross margin was obtained. The importers who purchased seed from abroad and sold to the traders had a gross margin of Tk. 88,600 per quintal. They incurred marketing cost of Tk. 1177.45. Thus, the net margin earned by them was Tk. 87,422.55 per quintal. Return on investment was estimated to be 17.00%.

The margin of seed producing farms are shown in Table 4. The average gross margin of seed producing farm was calculated at Tk. 49815.79 per quintal. When they incurred a marketing cost of Tk.353.04 per quintal, the net margin earned by them was at Tk. 49462.75, which is 30.00 % of total investment.

The marketing margin of the traders are shown in Table 5. The average gross marketing margin of trader as depicted in table Tk. 16923.33 per quintal seed. They incurred marketing cost of Tk. 719.48 per quintal. The average net marketing margin of trader was worked out to be Tk. 16203.85 per quintal of seed, which is 11.00% of total investment (Table 6).

Gross margin = Saleprice - Purchase price/Production cost
Net margin = Gross margin–marketing cost.

$$\text{Return on Investment} = \frac{\text{Net margin}}{\text{Total investment}}$$

Total investment = Purchase price/ production cost + marketing cost

The highest return on investment was earned by the seed producing farms followed by the importers and traders.

Problems and Solutions: The various problems faced by seed importers as reported by them have been presented in Table 7. Lack of capital, problem of collecting import permit and problem of collecting clearing permit were the major problems as reported by 75 % of respondents. Collecting phytocenory certificate was another problem of the importers. Problem of collecting import permit and problem of collecting phytocenory certificate are closely related. Phytocenory certificate means the standard of insect attack free and disease free which is supplied by the DAE, Dhaka. This standard varies from one vegetable seed to another. Sometimes many importers could not maintain the standard. For this it created the problem of collecting import permit. Problem of collecting clearing permit means delay in providing permit by Bangladesh Bank.

Lack of capital, lack of technological facilities and non-availability of experienced farmer were the major problems as reported by 75% of seed producing farms. Lack of modern storage facilities and high cost of seed production were the second major problem as reported by 50% of the respondents. The other problems was diseases, insect attack, natural calamities, non-availability of cleaning and grading machine, problem of sowing breeder seeds in right time, non-cooperation of BADC's field supervising officer.

Lack of bank loan facility was a major problem as reported by cent per cent of traders, which is followed by lack of capital (72%), lack of storage facility (61%), loss arising from unsold seed (44%), scarcity of seed in time period, lack of quality seed (39%) and non-existence of quality control.

For the solution of problems faced by seed importers, they suggested some measures, which are presented in Table 8. 75% of the importers suggested for provision for bank loan and improved banking procedures.

The seed producing farms also suggest measures for the solution of the problems they faced. Cent per cent producers advocated for extending credit by government. One-half each of the respondents suggested providing training facilities and paying reasonable wage to farmers. One fourth each of the respondents suggested setting up cleaning and grading machines at various places by government, building up modern warehouses and developing research in public sector.

72% of traders advocated for provision of loan facility and ensuring supply of quality seed. 67% traders suggested for supply of seed in time. 61% of them suggested for development of storage facility. 17% of traders expressed their opinion for arrangement of seed inspection.

The National seed policy has accepted seed as an industry but government circular on this matter has not yet been issued to the banks and financial institutions. Also, seed industry has not been included in the Industrial Investment Schedule of the Ministry of Industry. A quick action on this issue is essential. BADC should gradually reduce the production and marketing of commercial vegetable seeds and concentrate on production of foundation seeds, maintain a buffer stock as seed security and continue providing technical support to the private sector. Duty free import of equipment, chemicals and packing materials and waive 2.5% development surcharge from the import of vegetable seed are important requirements to promote indigenous vegetable seed production. The water, soil and climate of Bangladesh is favourable for the production of vegetable seed and had potential for producing large quantity of quality vegetable seed for both the export and local consumption. Seed production through contract growers is the best suited way for producing more and more quantity of quality seed for replacing poor quality seed from the market and meeting future needs. With the expansion of contract growers system, import of seed can be avoided and hard earned foreign exchange be saved. It will also generate employment in the rural sector and help to improve the economy of small farmers as well as other concerned with the system. As a follow up of the current national seed policy of the country, many large farmers in collaboration with many donar agencies, have been showing interest in vegetable seed production in private sector for the last 3-4 years. This is a good and timely step to the development of vegetable seed industry in country. Given the circumstances, it is essential for public sector, government Institutions, foreign donors, bank and other financial institution to collaborate with the development of vegetable seed industry at the primary stage. All concerned have to extend their hands of financial and technical co-operation for a long term assistance to the vegetable seed producers. If the seed producers can be assisted with finance for investment and technical skill it is confident of achieving the goals of quality seed production. And if the governmental financial institutions and donor agencies provide credit at easy conditions and technical support, a revolution is likely to take place in vegetable seed sector in next 5 to 7 years.

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