

**PROBLEM FACED BY TRADERS FOR VEGETABLE
MARKETING IN DHAKA CITY**

BY

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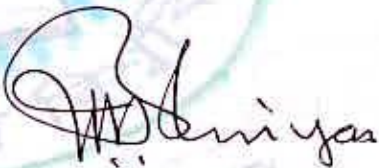
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CERTIFICATE

This is to certify that the thesis entitled **“PROBLEM FACED BY TRADERS FOR VEGETABLE MARKETING IN DHAKA CITY”** submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **Master of Science in Agricultural Extension and Information System**, embodies the result of a piece of bona fide research work carried out by **Md. Moniruzzaman**, Registration No. 11-04723 under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

I further certify that any help or source of information, received during the course of this investigation has been duly acknowledged.

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*DEDICATED
TO
MY BELOVED PARENT*

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PROBLEM FACED BY TRADERS FOR VEGETABLE MARKETING IN DHAKA CITY

ABSTRACT

The purpose of this study was to assess the extent of problems faced by the vegetable trader in Dhaka city and to explore the association between the extent of problems faced by the vegetable traders and their selected characteristics. The selected characteristics were age, education, types of shop, Nature of trading, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business. Data were gathered from 150 vegetable trader of Mirpur, Farmgate and Karwanbazar in Dhaka city by using a structured interview schedule. For harmonious representation from each area 8 percent sample were drawn following stratified random sampling method. Appropriate scales were formulated in order to assess the concerned variables. SPSS software was used to probe the data and Chi-Square was applied to examine the relationship among the variables. The findings revealed that the highest proportion of the trader 68.7 percent faced medium problem, while 23.3.5 percent faced high problem and 8 percent of low problem for vegetable marketing. Hence, overwhelming majority 92 percent of the respondents faced medium to high problem for vegetable marketing. The statistical analysis exposed Nature of trading; capital investment in vegetable business had significant association, while problem faced by the vegetable trader had not significant association with the age, education, types of shop, income from vegetable business, vegetable marketing knowledge, trading experience and daily purchase of vegetable.



CHAPTER 1

INTRODUCTION

1.1. Background of the study

Vegetables are very important food items all over the world. They supply vitamins and minerals and also provide balance and healthy diet to the people. Vegetables provide many vitamins like vitamin-A, vitamin-B, vitamin-C, vitamin-E, Iron and minerals. Bangladesh is one of the largest vegetable producing countries in the world. Bangladesh currently uses 1.55 million tons of vegetable (Molla et.al. 2012). In present time nearly 8% of cultivable land of Bangladesh is used for vegetable cultivation. Ten million of farmers are directly or indirectly related to vegetable business. Farmer produces adequate quantities of vegetables like tomato, brinjal, cabbage, cucumber and some other seasonal vegetables. Based on seasons Bangladesh grows winter vegetables and summer vegetables. Some vegetables can be grown year round. In winter spinach, cabbage, lettuces, tomato, brinjal, radish, sweet gourd, pumpkin, cauliflower, potato, and many leafy vegetables are grown. The summer vegetables are cucumber, sweet gourd, sweet potato, snake gourd, bitter melon, etc. However brinjal, papaya, green banana are grown all the year round. But the large amount of vegetable are lost before reaching to consumer. Generally, about 30% Vegetables are rendered unfit for consumption due to spoilage after harvesting (Aliet.al. 2013). This is a huge loss of valuable food even when the minimum food requirement of the population is not met. Therefore, it is important not only to grow more, but also to save what is grown at high cost. Participants in Vegetable marketing are local buyers, trader, commission agents, wholesalers, cold storage operators and

retailers. Three levels of marketing channels of vegetables are local, regional and inter regional (Ahmed et.al.1992). Vegetable marketing does not take longtime; its selling procedure is quicker than other commodities. Regional and interregional marketing are huge number of trader and middlemen involved when vegetable is transported for marketing in long distance. In the chain of marketing it has been observed that non commercial vegetable growers sell their vegetables directly to the consumers without middlemen. Most of the time vegetable trader stands between vegetable growers and consumers. The retailer visit nearest growing areas contact the growers and fix up price by negotiation and collect from the growers then transport to the market stalls and sell them (Ahmed et.al. 1992). There is another long chain of marketing system like growers-collector-wholesaler-retailer and consumer. This system exists in case of long distance transport of vegetables. The losses are occurred due to transportation and poor storage condition. Dhaka city is an important site for vegetable marketing and more than 25% vegetables of Bangladesh are traded here. For that it is very essential to know about the problem faced by traders in Dhaka city and how can we solve or minimize these problems.

Sometimes traders use some vegetables for their home consumption, it does not affect wholesaler but it affects retailer business. Vegetables trader use their surplus vegetables for their home consumption and sometimes they use for the food of animal when it is not suitable for consumption. Different organizations including NGOs and farmers grow vegetables only for commercial purpose. Most of the vegetable business is controlled by them. Several factors influence the losses of vegetable marketing. Vegetable losses caused due to physical, physiological, mechanical and

hygienic conditions. Environmental factors such as temperature, relative humidity and oxygen balance especially in storage are also greatly responsible.

Therefore, the reduction of post-harvest loss of vegetables is a complementary means for increasing quality consumable amount of vegetables. But the vegetable traders like collectors, wholesalers (commission agent) retailers are being faced several problems especially post-harvest losses in vegetable marketing. The vegetable trader faced transportation problem, infrastructure problem, storage problem, middleman problem, loan problem, preservatives problem and so one. No research work had done to find out the problems faced by the trader for vegetable marketing in Dhaka city. On the above consideration, the present researcher felt necessity to conduct piece of research work.

1.2. Statement of the Problem

Food security and nutrition accessibility largely depend upon the standardized vegetable marketing system which is accelerated by the traders. If traders accomplish their business activities perfectly having no obstacle consumer would have food security and nutrition accessibility at cheaper rate. The researcher undertook a research problem entitled “Problem faced by the traders for vegetable marketing in Dhaka city.” The purpose of this study was to have an understanding of the problems faced by the traders in respect of vegetable marketing activities. Vegetable traders faced manifold problems like storage, sorting, grading, transportation, low production of farmer field, high price and they like affect the consumers. Traders being confronted those problems are not able to serve consumers effectively. Unfortunately they face a lot of problems for which consumers suffer a lot of context. In this connection, the following research questions were raised out for solution:

1. What are the problems faced by vegetable traders?
2. What are the personal and socioeconomic characteristics of the traders?
3. Is there any association between the selected characteristics of vegetable traders and extent of problems faced by them?

1.3. Specific Objectives

Following specific objectives were formulated to give proper direction to the study:

- 1 a) To identify the problems faced by vegetable traders.
- 2 To determine and describe following selected personal and socioeconomic characteristics of the vegetable traders: age, education, types of shop, Nature of trading, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business.
- 3 To explore the association between the extent of problems faced by the vegetable traders and their selected characteristics.

1.4. Justification of study

Researcher selected the study entitled “Problems faced by the traders for vegetable marketing in Dhaka city. To make aware about it among the business community justification can be understand from the vegetable consumers, marketing department of government as well following statement. This research is supposed to provide opportunities for improvement of business condition of vegetable traders. These is a tremendous scope for solving vegetable trading problems if the marketing department organizations support the research findings

1. General public, consumers, government and other populations must understand the problems of vegetable traders.
2. There is an indication of solution of the problems and the vegetable traders themselves can take initiative to solve urgent problems.
3. Traders' characteristics namely, : age, education, types of shop, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business and association between problem with characteristics of trader. This study depends on the characteristics of vegetable traders through which some reasons of vegetable traders can be understand.
4. To measure trader's problems such as social, economic, housing, health and domestic.

1.5. Scope and Limitations of the Study

In order to conduct the research in a meaningful and manageable way considering the time, money and other necessary resources available to the researcher, it became necessary to impose certain limitations stated below:

1. The study was confined to Mirpur, Farmgate, Karwanbazar in Dhaka city.
2. Population for the study was kept confined to those who were directly associated with vegetable trading activities.
3. There are many types of vegetable trader in study area. However, some selected vegetable traders were considered for this study.
4. There were many problems which may arise in vegetable marketing activities. But, only some selected problems have been taken into consideration.
5. Characteristics of the trader are many and varied. However only some selected characteristics of the trader were selected for investigation in this study.
6. For information about the study, the researcher was depended on data that was furnished by the selected trader of the study area.
7. These study result will be used for future study, journals, DAE, ministry of statistics.
8. The findings of present study are particularly applicable to the traders of selected area in Dhaka city. However the findings may also have general implication for

other areas of the country where the physical, socio-economic and cultural conditions do not differ much from those of the study area.

1.6. Assumptions of the Study

An assumption is the supposition that an apparent fact or principle is true in the light of the available evidence (Goode, 1945). The researcher had the following assumptions in mind while undertaking the study:

1. The sample size and population were manageable and appropriate.
2. The responses furnished by the respondent trader were valid, reliable and unbiased.
3. The respondents included in the sample were capable of furnishing proper responses to the questions as contained in the interview schedule.
4. Information furnished by this trader as the sample population was the representatives of whole population considered as the representative views and opinions of the whole population of the study area.
5. The researcher himself from his part of life was adjusted to the social and cultural environment of the study area.
6. The findings may be useful for the department of agricultural marketing directorate.

1.7 Definition of Important Terms

Age: Age of a respondent trader referred to the period from his birth to the time of interview. Age is very important variable in this study the influence of age was observed in vegetable marketing.

Education: Education referred to the formal education on the basis of years of schooling (i.e., highest class passed) of a respondent. Education empowers people to perform their professional activities and it is the source of knowledge.

Types of shop: Type of shop of a respondent trader was defined as the shop use for vegetable marketing activities, the shop being estimated in terms of full benefit to him. Types of shop in this study was like as own shop, rented shop, temporary shop and mobile shop.

Income from the vegetable business: It referred to the total annual earnings of the respondent trader from vegetable marketing activities. In this study annual income was calculated based on his daily earning which was converted into monthly and annual income.

Nature of trading or categories of trading: Nature of trading referred to the marketing channel of vegetables, which is categorized based on volume and types of trading activities. It referred to a respondent trader's nature about their way of trading like collector, wholesaler and retailer.

Vegetable marketing knowledge: It referred to the extent of understanding of a respondent trader about different facts, information, causes and effects related to vegetable marketing.

Trading experience: It referred to the experience of a respondent trader which he earned through direct participation in vegetable marketing activities. It meant the length of years in his entire trading.

Capital investment for vegetable business: It referred to the total investment by vegetable traders for vegetable business. Traders invest money in vegetable business according to their ability and also how much vegetables he could sell in the market.

Daily purchase of vegetable: It referred to the respondent trader daily quantity of purchase vegetables. Daily purchase of vegetable depends upon demands of the customers from their experience vegetable trader justify the quantity of vegetables to be purchased.

Problem faced: Problem faced of an individual was defined as the consciousness of difficulties tackled by a participating trader. It referred to the problem faced by a respondent trader during the period of marketing of vegetable.

Vegetable trader: A person whose business is buying and selling of vegetable. (wikepedia).

Collector: Who buy or collect vegetable from farmer or other source then sell to wholesaler or retailer (Oxford dictionary). Collector collects vegetables from producer and accumulates in the assembly market.

Wholesaler: Person who buys large quantity of vegetable from various producers and resells to retailer (Business dictionary).The wholesalers brings vegetables from assembly market to wholesale market, sometimes wholesalers act as commission agents.

Retailer: retailer is a person one who sale of vegetable and services from individual or business to the end user. (wekepedia). Retailer procures vegetables from wholesale market comparatively at cheaper rate. They assemble them in their shop in bamboo baskets and plastic crates.



CHAPTER 2

REVIEW OF LITERATURE

The purpose of this Chapter is to review the literature having relevance to the present study. The researcher made an elaborate search of available literatures for the above purpose. But there were very little studies related to the present study. Therefore, the findings of such studies related to the present study have been reviewed in the following two sections of this chapter. The first section deals with the literature on problem faced by the traders in vegetable marketing and the second section conceptual frame work of the study. However available literatures in connection with this study are discussed below:

2.1 Studies on the Problems Faced by the Traders in vegetable marketing in Dhaka city.

Nityanaud Singh and Prachee Javadekar (2011) observed that the supply-chain management of perishable food products is a very typical issue, which is to be adequately managed to gain the competitive advantage for optimum profit in the current scenario.

Momen *et.al.*(1993) reported that a considerable amount of fruits and vegetables losses occur every year during harvesting, sorting, grading, wrapping, lining, packaging, loading, transporting, unloading, storing, selling and consuming due to its perish ability. The perish ability of these fruits and vegetables is attributed to immense physiological changes after harvest.

Hasan (2010) also revealed that 84% of the consumers of both Dhaka and Mymensingh regions are conscious about the deleterious effects of chemicals on human health. Hundred percent of the consumers were interested in purchasing safe fruits and vegetables. Only 56-64% of the consumers were willing to pay more for obtaining safe and chemical-free fruits and vegetables. Results also revealed that 64.8 and 33.8% of the consumers possessed refrigerator to store fruits and vegetables in surveyed areas of Dhaka and Mymensingh, respectively.

Buzby, *et al.* (2011) reported that food loss at the retail and consumer levels in the United States includes 23.4 billion pounds of vegetables, \$27.7 billion, respectively, in 2008 retail market prices. The total value of these losses is \$42.8 billion per year, or roughly \$141 per capita. To most efficiently reduce the annual food loss, it may be beneficial to focus efforts on the four vegetables (fresh and canned tomatoes and fresh and frozen potatoes) that have the greatest amount of loss.

Molla, *et al.* (2012) reported that the gross postharvest losses of banana were 26.63% at different levels from harvesting to consumption out of which 2.6% was at consumer level after buying to consumption.

Ali, *et al.* (2013) conducted a study to determine the post harvest losses of selected fruits and vegetables. The findings of this study revealed that among the selected fruits, highest postharvest losses from growers to consumers level was occurred for papaya (43.42%) followed by jackfruit (29.62%) and mango (28.92%). Among the selected vegetables, highest postharvest losses from growers to consumers level was observed for brinjal (32.03%) followed by tomato (31.09%), cabbage (24.94%) and cucumber (24.28%)

Mansur (1989) found that age of the farmers had no significant relationship with the feeds and feeding problem confrontation.

Bhuiyan (2002) in his study found a positive and significant relationship between age of the farmers and their constraints in banana cultivation. Similar findings were obtained by Rahman (1996) in his respective study.

Rashid (2003) found that age of the rural youth had significant negative relationship with problem confrontation in selected agricultural production activities.

Kashem (1977) in his study found a significant negative relationship between education and their problem confrontation.

Islam (1987) in his study found a significant and negative relationship between education of the traders and their problem confrontation on artificial insemination.

Similar findings were obtained by Mansur (1989), Rahman (1995), Haque (1995), Rahman (1996), Karim (1996), Farouque (1997), Pramanik (2001), Ahmed (2002), Hossain (2002), Bhuiyan (2002) and Salam (2003) in their respective studies.

Hossain (1985) found a significant relationship between income and problem confrontation of the land less labourers.

Islam (1987) reported that the relationship between income and artificial insemination problem confrontation was negatively significant.

Mansur (1989) found in his study that there was a substantial significant negative relationship between knowledge in feeds and feeding cattles of the farmer and their problem confrontation in feeds and feeding. Similar findings were obtained by Sarker (1983), Rahman (1996), Hoque (2001), Hossain (2002) and Ahmed (2002) in their respective studies.

The study of Ali (1999) revealed that knowledge of the rural youth had significant positive relationship with their anticipated problem confrontation in self employment by undertaking selected income generating activities.

2.3 Conceptual Framework of the Study

It is evident from the past studies that every occurrence or phenomenon is the outcome of a number of variables, which may or may not be interdependent or interrelated with each other. In other words, no single variable can contribute wholly to a phenomenon. Variables together are the cause and the phenomenon is effect and thus, there is cause-effect relationship every where in the universe.

Rosenberg and Hovland (1960) was kept in mind the conceptual framework while framing the structural arrangement for the dependent and independent variables. This study was concerned with the problem faced by traders on vegetable marketing activities. Thus the problem faced in vegetable marketing activities was the main focus of the study and constituted the dependent variable. The characteristics of the traders were considered as the independent variables. It is not possible to deal with all characteristics in a single study. It was therefore, necessary to limit the characteristics, which include age, education, types of shop, nature of trading, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business. Again, in order to have a clear understanding of the nature of problem, the dependent variable was considered from the view of a number of aspects such as, problem on storage ,transportation, preservation, modern technology and problem on marketing facilities. Based on this

discussion and review of literature the conceptual model of this study has been formulated and shown in the Figure 2.1

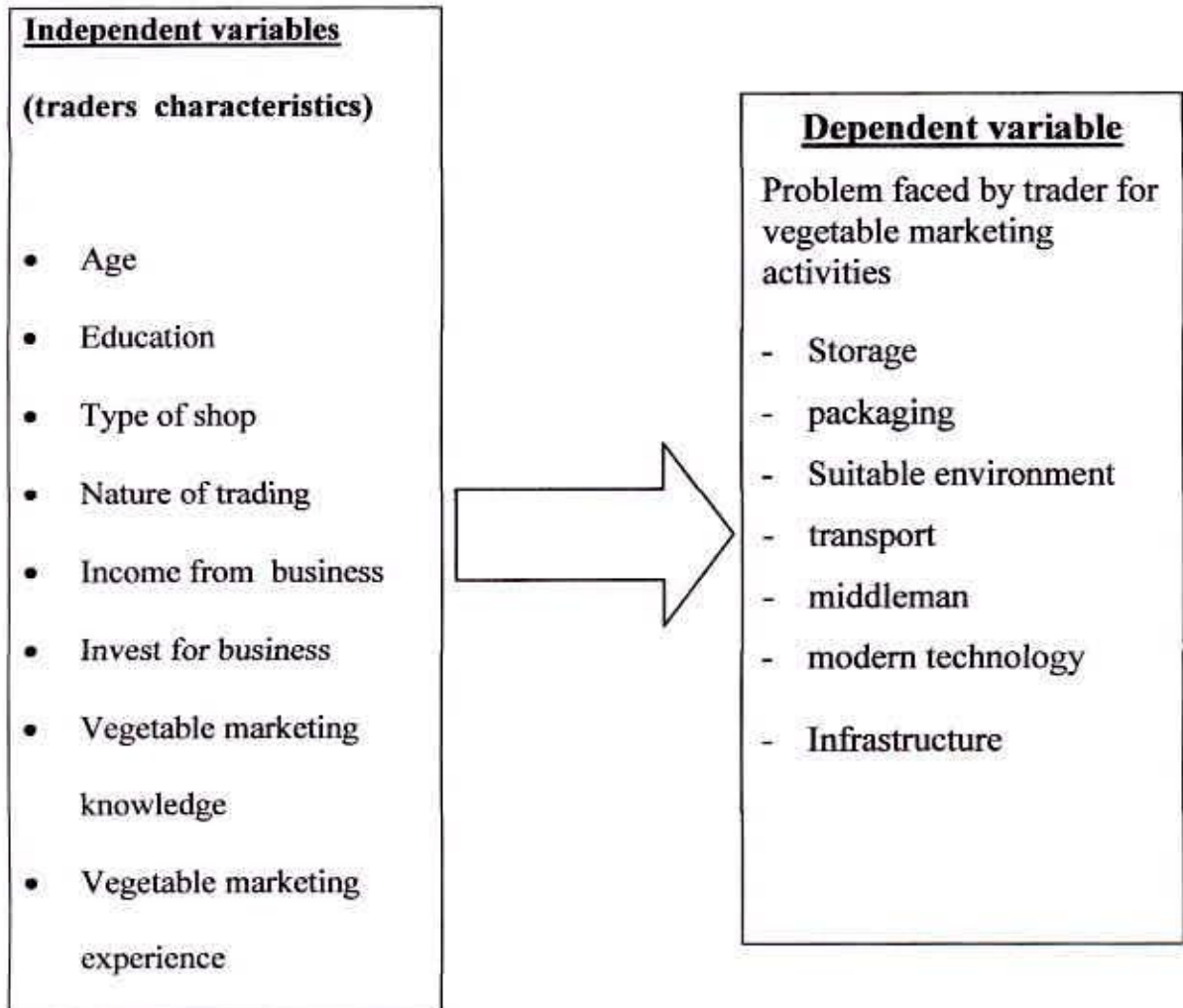


Fig. 2.1 A Simple Conceptual Framework for the problem faced by trader for vegetable marketing.

CHAPTER 3

METHODOLOGY

In any scientific research, methodology plays an important role. Appropriate methodology enables the researcher to collect valid and reliable information and to analyze the information properly in order to arrive at correct conclusions. The methods and procedures followed in conducting this study have been described in this chapter.

3.1 Locale of the Study

The study was conducted in the vegetable markets under Dhaka City Corporation. Three large vegetable markets of Dhaka city namely Mirpur, Farmgate, Karwanbazar were purposively selected as the locale of the study. However, data were collected from a sample rather than the whole population.

3.2. Population and sampling

Vegetable traders including collectors, wholesalers, retailers of Mirpur, Farmgate, and Karwanbazar were the population of the study. The researcher prepared three separate lists of all the traders of the selected areas with the help of Presidents of trade union of selected areas. There were 1202 vegetable traders in the selected areas which constituted the population of the study. One eighth of the population was selected by systematic random sampling techniques. Thus hundred and fifty trader selected as the sample of this study. A reserve list of 15 traders was also made by taking 8% of the original sample. The traders included in the reserve list were supposed to be used in case of any absence of traders included in the sample population during collection of

data. Distribution of the traders constituting the population, sample and those included in the reserve list are shown in Table 3.1.

Table 3.1 Distribution of the traders constituting the population, sample and those included in the reserve list

Sl. no.	Name of area	Population	Sample size	No. of trader included in reserve list
1	Mirpur	303	38	4
2	Karwanbazar	704	88	9
3	Farmgate	195	24	2
	Total	1202	150	15

3.3 Instrument for Data Collection

An interview schedule was used as the data gathering instrument for this study. The researcher prepared an interview schedule keeping the objectives of the study in view. The interview schedule contained both open and closed form of questions. Simple and direct questions and some scales were included in the schedule to get relevant information.

The interview schedule is prepared in Bangla for easy understanding on the part of respondents. The draft interview schedule was pre-tested in field situation before using the same for final data collection. Necessary corrections, additions, alternations and adjustment were made in the interview schedule on basis of the experience gained

during pre-test in the study area. The interview schedule was then multiplied in its final form for collection of data. An English version of the interview schedule may be seen in Appendix.

3.4 Collection of Data

Before data collection member of trade union and bazar committee were requested to extend necessary help and co-operation in connection with data collection. Data were collected personally by the researcher himself through face to face interview. Interview was usually conducted in respondents' shop during their leisure period. Desired rapport was established by the researcher with the respondent. However, if any respondent failed to understand any question, the researcher took necessary care to explain the matter.

No serious difficulty was faced in data collection. Rather, the researcher received an excellent cooperation from the respondents. Besides the people in the community rendered possible assistance especially by informing the respondents for interview in advance and locating the shop of respondents. Data collection began on June 7, 2013 and continued until October 15, 2013

3.5. Measurement of Independent Variables

3.5.1 Age

The age of a respondent trader was measured in terms of actual years from his birth to the time of interview .For the measurement of age score 01(one) was assigned for each year of age.

3.5.2 Education

Education was measured in terms of years of schooling completed. If a respondent did not know how to read and write, his education score was given as zero. If a respondent did not know how to read and write but could sign his name only then he got a score of 0.5. Besides a person got actual score for his number of years of schooling i.e. 1 for class one, 2 for class two and so on.

3.5.3 Types of shops

Types of shop were determined on the basis of the ownership of shops. Types of shops were measured by the category of shop with assigning score. The types of shop are: own shop, rented shop, roadside temporary shop and mobile shop. The score for types of shops were assigned as 4, 3, 2 and 1 respectively.

3.5.4 Nature of trading

Nature of trading was defined as types of business in the vegetable market. The types of business were identified as collector, wholesaler and retailer. The score were assigned according to the nature of trading as 1,2,3 for collector, Wholesaler and Retailer.

3.5.5 Income from vegetable business

Income from vegetable business referred to the total monthly earnings in taka of a respondent from vegetable business. The monthly income was recorded on the basis of respondents response. It was measured on the basis of assigning score of one for on thousand (000) taka.

3.5.6 Capital investment in vegetable business

Capital investment referred to how much money was invested for vegetable business. It was measured on the basis of assigning score of one for Taka one thousand (000).

3.5.7 Vegetable marketing knowledge

Vegetable marketing knowledge of a respondent was measured by asking 10 questions related to different components of vegetable trading. Each question assigned two marks (score). The total assigned scores for all the 10 questions were 20. The score of each question was equal. Full score was assigned for each correct answer, partial score was given for partially correct answer and '0' (zero) for the wrong answer or no answer. However, for correct answer to all the questions, a respondent could get a total score of 20, while for wrong answer to all the questions he could get '0' (zero). Where '0' indicating very low vegetable marketing knowledge and 20 indicating very high vegetable marketing knowledge.

3.5.8 Trading experience

Trading experience referred to how many years the respondent trader was involved in vegetable trading activities. This was expressed in terms of years i.e. a score of one was given for each year of trading experience.

3.6 Measurement of problems faced by traders

As mentioned earlier, problems faced by the traders in vegetable marketing was the dependent variable of this study. Four-point rating scale was used to determine the severity of problems in vegetable marketing. The scale contained 15 items of problems on vegetable marketing activities. Each respondent was asked to express his opinion against one out of four responses such as high, medium, low and not at all problem. Scores were assigned as 3, 2, and 1 and 0 respectively against each of the responses for an item. Problem faced on vegetable marketing activities of an individual trader was computed by adding the scores obtained by him for all the items. These the possible score of the problems faced in vegetable trader could range from 0-45, while “0” indicating no problem and “45” indicating highest problem faced.

Problem faced index was measured by using following formula

(PFI) using the following formula:

$$\text{Problem index (PFI)} = P_n \times 0 + P_l \times 1 + P_m \times 2 + P_h \times 3,$$

Where,

P_n = Percentage of traders having no problem

P_l = Percentage of traders having low problem

P_m = Percentage of traders having medium problem

P_h = Percentage of traders having high problem

3.7. Hypothesis of the Study

A hypothesis is a proposition which can be put to a test to determine its validity (Goode & Hatt, 1952). It may seem contrary to or in accord with common sense. It

may prove to be correct or incorrect. In any event, however, it leads to an empirical test. Hypothesis may be broadly classified into two types, namely, research hypothesis (H_1) and null hypothesis (H_0). In the present study it was hypothesized that traders 8 selected characteristics had association with the problem faced in vegetable marketing activities. For statistical advantage, the following major null hypothesis was tested. There is no association between the selected characteristics of the vegetable traders and their extent of problems faced in vegetable marketing.

3.8 Data Processing and Analysis

3.8.1 Compilation of data

After completion of the field survey, data from all the interview schedules were coded and compiled in accordance with the objectives of the study. In this process, all the responses in the interview schedule were given numerical coded values. Local units were converted into standard units and qualitative data were converted into quantitative data by assigning if and when necessary. The responses to the questions in the interview schedules were transferred to a master sheet to facilitate tabulation.

3.8.2 Categorization of data

For describing the different characteristics of the respondents faced and their problem confrontation, the respondents were classified into several categories. These categories were developed by considering the nature of distribution of data, general norms prevailing in the social system, possible scoring system, mean and standard deviation method. The procedure for categorization of data in respect of different variables was discussed while describing those variables in Chapter 4.

3.8.3 Statistical analysis

Statistical measures such as number, percentage, range, mean and standard deviation were used in describing the independent and dependent variables of the study. For clarity of understanding tables were also used for presenting the data. For exploring the association between selected characteristics of the respondents and their problems faced in vegetable marketing, Chi-Square Tests were done.

CHAPTER 4

RESULTS AND DISCUSSION

Purpose of this Chapter was to describe the findings of the present study. The study investigated problems faced by the traders on vegetable marketing activities and related matters. In accordance with the objectives of the study, presentation of the findings has been made in 3 sections of this Chapter.

Section 1: Selected characteristics of the traders

Section 2: Problem faced by the traders

Section 3: Association between the Selected Characteristics of the traders and problem faced by them.

4.1 Selected Characteristics of the vegetable traders

In the present study, 8 characteristics of the vegetable traders were selected for investigation. The characteristics included: age, education, types of shop, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business. The salient features of the different characteristics have been presented in (Table 4.1).

Table 4.1 Salient Features of the Selected Characteristics of the vegetable Traders

Sl No	Characteristics	Measuring units	Range		Mean value	Standard deviation
			Possible scores	Observed scores		
1	Age	Years	unknown	18-57	38.22	9.57
2.	Education	Schooling year	Unknown	0-12	5.10	3.83
3.	Types of shop	Numbers	Unknown	1-4	2.72	.614
4.	Nature of trading	Number	Unknown	1-3	1.8000	.835
5.	Income from business	Taka (000)	Unknown	15.54-214.0	60.44	40.73
6.	Business knowledge	Scores	0-20	11-18	15.046 7	1.45
7	Investment	Taka(000)	Unknown	5-400	57.14	67.03
8.	Experience	Scores	Unknown	1-35	8.52	6.39
9.	Problem	Scores	0-45	28-40	35.07	2.12



4.1.1 Age of the Traders

Age of the respondents ranged from, 18 to 57 years and the Mean was 38.22 with a standard deviation of 9.57. On the basis of their age, the traders were classified into three categories (Table 4.2).

Table 4.2 Classification of the traders according to their age

Categories according to age (years)	Traders		Mean value	Standard deviation
	Number	Percent		
Young (up to 30)	36	24	38.22	9.57
Middle-aged(above30-45)	75	50		
Old (above 45)	39	26		
Total	150	100		

Data contained in Table 4.2 reveals that the highest proportion 50 percent of the traders was middle aged, while 26 percent belonged to the old aged category. Only 24 percent of the traders were in the young aged category. It shows that 74 percent of the traders belonged to the extent of young to middle aged categories. Thus, it can be assumed that an majority of them were generally energetic.

4.1.2 Education of the traders

Education of the respondent ranged from 0 to 14 years of schooling having a mean of 5.10 with a standard deviation of 3.83. On the basis of their education the respondents were classified into four categories (Table 4.3).

Table 4.3 Classification of the traders according to their education

Categories according to education (schooling years)	Traders		Mean value	Standard deviation
	Number	Percent		
Illiterate (0)	15	10	5.10	3.83
Primary level (1-5)	67	44.7		
Secondary level (6-10)	61	40.7		
Above secondary (above 10)	7	4.7		
Total	150	100		

Data furnished in Table 4.3 indicate that 10 percent of the traders could not read and write. It was found that 44.7 percent, 40.7 percent and 4.7 percent of the traders had primary, secondary and above secondary level of education, respectively. Thus 80 percent of the traders had schooling from primary level to above secondary level.

4.1.3 Types of shop

Types of shop of the respondents ranged from 1-4 categories with a mean of 2.72, standard deviation of 0.6143. The traders were classified into four categories, as presented in (Table 4.4).

Table 4.4 Classification of the Traders according to Types of shop

Categories according to types of shop	Traders		Mean value	Standard deviation
	Number	Percent		
Own shop	4	2.66	2.72	.614
Shop rent from others	109	72.66		
Roadside temporary shop	28	18.66		
Mobile shop	9	6		
Total	150	100		

Data presented in Table 4.4 indicate that most 72.66 percent of the traders had rented shop, while 2.66 percent had own shop, 18.66 percent roadside temporary shop and 6 percent had mobile shop.

4.1.4 Income From vegetable business

Income of the respondent traders ranged from Tk. 15.54-214 thousands with the mean of 60.44 & standard deviation 40.73. The traders were classified into three categories on the basis of their income from vegetable business (Table 4.5).

Table 4.5 Classification of the traders according to Their Income from Vegetable business

Categories according to income from vegetable business	Traders		Mean value	Standard deviation
	Number	Percent		
Low income (up to- 40 thousand)	62	41.3	60.44	40.73
Medium income (41- 80 thousand)	50	33.3		
High income (above 80 thousand)	38	25.5		
Total	150	100		

Data presented in Table 4.5 indicate that the highest proportion of the traders had low income compared to 33.3 percent and 25.5 percent having medium and high income respectively. As a result a high majority 74.6 percent of the traders constituted medium to low income from vegetable business categories.

4.1.5 Investment in vegetable business

The observed invest ranged from TK 5-400 (Thousand) investment in vegetable business. The mean of the Traders investment in vegetable business was 57.14 with a standard deviation of 67. Traders were classified into three categories based on the investment in vegetable business (Table 4.6).

Table 4.6. Classification of the Traders according to Their Investment in vegetable business.

Categories according to Investment (in '000' TK)	Traders		Mean value	Standard deviation
	Number	Percent		
Low (up to 10 thousand)	81	54	57.14	67.03
Medium (10-50 thousand)	33	22		
High (above 50 thousand)	36	24		
Total	150	100		

Data presented in the Table 4.6 show that the highest proportion 54 percent of the Traders had low invest as compared to 22 percent having medium invest and 24 percent having high invest in vegetable business. Thus, most 75 percent of the traders having low to medium investment in vegetable business.

4.1.6 Nature of trading

Three chains of trading such as collectors, wholesalers and retailers are considered as the nature of traders. This distribution of the respondents is shown in (Table 4.7)

Table 4.7 Classification of the Traders according to Nature of trading

Categories according to nature of trade (score)	Traders		Mean value	Standard deviation
	Number	Percent		
Retailer	70	46.66	1.80	.835
Wholesaler	40	26.67		
Collector	40	26.67		
Total	150	100		

Data presented in the table 4.7 indicate that majority 46.66 percent of the traders were retailer 26.67 percent wholesaler 26.66 percent of trader were collector.

4.1.7 Vegetable marketing knowledge of the traders

Vegetable marketing knowledge scores of the traders ranged from 11-18 against the possible range of 0-20. The mean and standard deviation 15.04 and 1.4578 respectively. Based on the vegetable marketing knowledge scores, the traders were classified into three categories namely, poor knowledge, moderate knowledge and good knowledge (Table 4.8).

Table 4.8 Classification of the traders according to their vegetable marketing knowledge

Categories according to knowledge (score)	Traders		Mean value	Standard deviation
	Number	Percent		
Poor knowledge (up to 7)	25	16.7	15.04	1.45
Moderate knowledge (8-14)	101	67.3		
Good knowledge (15-20)	24	16.0		
Total	150	100		

Data presented in the Table 4.8 revealed that 67.7 percent of the traders had moderate agricultural knowledge, 16.7 percent had poor knowledge and 16 percent had good knowledge. Thus, an over whelming majority of the traders had moderate knowledge on vegetable marketing. It means that there is a necessity to improve the knowledge of the traders for vegetable marketing, which may be decreasing post-harvest losses of vegetables at marketing levels.

4.1.8 Vegetable marketing experience of the traders

Vegetable marketing experience scores of the traders ranged from 1-35. The mean score was 8.52 and standard deviation was 6.39. Based on vegetable marketing experience, the traders were classified into three categories namely: low experience, medium experience and high experience (Table 4.9).

Table 4.9 Classification of the traducers according to their vegetable marketing experience.

Categories according to vegetable marketing experience (years)	Traders		Mean value	Standard deviation
	Number	Percent		
Low experience (up to 12)	72	48	8.52	6.39
Medium experience (13-24)	42	28		
High experience (25-36)	36	24		
Total	150	100		

Data contained in the Table 4.9 show that the largest proportion 48 percent of Traders had low experience, 28 percent of the Traders had medium experience and 24 percent had high experience.

4.2.1 Problem faced by trader for vegetable marketing

Problem faced by the traders in vegetable marketing activities was the main focus of this study. In this study, problem faced by the traders in vegetable marketing activities referred to extent of problem faced by the traders in 15 selected ideas.

The observed scores of problems ranged from 28-37 against the possible scores being 0-45. The mean was 35.07 with a standard deviation of 2.12. On the basis of problem faced for vegetable marketing of traders were classified into 3 categories (Table 4.10).

Table 4.10 Classification of the traders according to their problem

Categories according to problem	Traders		Mean value	Standard deviation
	Number	Percent		
Low problem (up to 30)	12	8	35.07	2.12
Medium problem (31-36)	103	68.7		
High problem (above 36)	35	23.3		
Total	150	100		

Data presented in the Table 4.10 indicate that the highest proportion 68.7percent of the traders faced medium problem as compared to 8 percent having low problem and 23.3 percent faced high problem.

4.2.2 Association between the selected characteristics of the respondent traders and their problems faced in vegetable marketing activities

The purpose of this section is to examine the association of 8 selected characteristics of the traders with their problem faced in vegetable marketing activities. The 8 characteristics of the farmers included: age, education, types of shop, income from vegetable business, vegetable marketing knowledge, trading experience, nature of trading and capital investment in vegetable business. To explore the associations between the selected individual characteristics of the traders and their problem of the traders in vegetable marketing, Chi-square χ^2 has been used. Five percent level of probability was used as the basis for rejection of a null hypothesis. The computed values of χ^2 were compared with relevant tabulated values for suitable degrees of

freedom at the designated level of probability in order to determine whether the relationships between the concerned variables were significant or not. Moreover, contingency coefficient (C) was computed to measure the strength of association between the problem faced by trader and their selected characteristics. The value of C could range from 0 to 1; the more the value of C approaches to 1, the greater was the strength of association.

For examining the association between the problem faced by the traders and their selected characteristics it was necessary to classify the respondents into suitable categories according to their vegetable marketing activities and also according to each of the selected characteristics. It may be recalled that while describing the problem faced by traders in Chapter 3, the respondents were classified into three categories, namely: low problem, medium problem and high problem. These three categories in respect of the problem faced by trader have been used for conducting χ^2 test.

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Σ = Summation of (O-E)

O = Observed frequency

E = Expected frequency

The formula reads as follows "The value of chi square is the sum of (O-E) differences squared and divided by E " Categories developed for chi-square test in respect of each of the characteristics have also been described in Chapter 3. In case of chi-square, some categories were merged when expected frequencies were less than 5 in more than 25 per cent cells. For comparing the problems of different categories of the



than 25 per cent cells. For comparing the problems of different categories of the traders, adoption indices have been shown in the contingency table. It was found that the respondents were not the same in respect of extent of problem on vegetable marketing. In order to have a clear understanding on the problem faced index (PFI) was computed for each problems. The observed problem score of the traders in respect of each component were used the following formula.

(PFI) using the following formula:

$$\text{Problem index (PFI)} = P_n \times 0 + P_l \times 1 + P_m \times 2 + P_h \times 3,$$

Where,

P_n = Percentage of traders having no problem

P_l = Percentage of traders having low problem

P_m = Percentage of traders having medium problem

P_h = Percentage of traders having high problem

Problem index (PI) of any category of respondent could range from 0 to 300 where 0 indicated no problem and 300 indicate high problem

The summary of the results of the (χ^2) analysis has been presented in Table 4.11 showing the association between 8 characteristics of the traders and their problem in vegetable marketing activities.

Table 4.11. Chi square showing relationship between the selected characteristics of the traders and their problem on vegetable marketing activities

N=150

Dependent variable	Traders selected characteristics	Observed chi square(χ^2) value
Problem Faced by the vegetable traders.	Age	2.13 ^{NS}
	Education	3.99 ^{NS}
	Type of shop	4.001 ^{NS}
	Nature of trading	24.076**
	Income from vegetable business	9.232 ^{NS}
	Investment for vegetable business	18.579**
	Vegetable marketing knowledge	.784 ^{NS}
	Vegetable marketing experience	6.574 ^{NS}

^{NS} Not significant

* Significant at 0.05 level of probability

**Significant at 0.01 level of probability

4.2.3. Trader's age and problem faced by them in vegetable marketing activities

Data concerning the association between age of the traders and their problem faced in vegetable marketing activities presented in Table 4.12.1. The null hypothesis to be tested was "There is no association between age of the traders and problem faced by them in vegetable marketing activities"

Table 4.12.1 Distribution of the traders according to their age and problem faced in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
Young	2 (2.88)	28 (24.72)	6 (8.6)	36
Middle aged	7 (6)	50 (51.5)	18 (17.5)	75
Old	3 (3.12)	25 (26.78)	11 (9.1)	39
Total	12	103	35	150

$\chi^2 = 2.13$; $df = 4$; $C = 0.118$; () expected frequency

Chi-square was computed to determine whether the observed difference was statistically significant or not. Value of computed χ^2 was 2.13, which was lower than the table value of 9.48 with 4 degrees of freedom at 0.05 level of probability and the computed χ^2 was not significant at this level. Therefore, the researcher was able to accept the null hypothesis and it was concluded that there was no significant association between age of the traders and their problems in vegetable marketing. Analysis of data contained in Table 4.12.1 Indicates the distribution of the trader's problem according to their age. Percentage of traders having high problem was the highest 28.29 percent in the old age category and it decreased to 16.66 percent in the

young aged category and 24 percent in the middle aged category. Proportion of traders having medium problem was the highest 77.77 percent in the young aged category as compared to 66.66 percent in the middle age and 64.10 percent in the old aged category.

Problem index of the three categories of the traders indicated that problem was highest (PI-3=221) among the old and lowest (PI-1=211) among the young aged traders as shown in table 4.12.2. Problem of middle aged traders was slightly lower than the old aged trader. Therefore, the association observed between the concerned variables was positive. The value of C was found 0.118, which indicate the low strength of association.

Table 4.12.2. Problem index of the traders according to their age

Categories	Trader's Problem				problem index (PI)
	Low	Medium	High	Total	
Young	(5.55)	(77.77)	(16.66)	(100)	211
Middle aged	(9.33)	(66.66)	(24)	(100)	213
Old	(7.69)	(64.10)	(28.29)	(100)	221
Total	(8)	(68.66)	(23.33)	(100)	

4.2.4. Trader's education and problems faced by them in vegetable marketing

Table 4.13.1 contains the data which formed the basis for testing the association between education of the traders and their problem faced in vegetable trading

The null hypothesis to be tested was "There is no association between education of the traders and their problem faced by them in vegetable trading"

Table 4.13.1. Distribution of the traders according to their level of education and problems faced by them in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
Illiterate	1 (1.2)	11 (10.3)	3 (3.5)	15
primary level	8 (5.36)	44 (46.00)	15 (15.63)	67
Secondary level	2 (4.88)	44 (41.88)	15 (14.24)	61
Above Secondary	1 (0.56)	4 (4.80)	2 (1.63)	7
Total	12	103	35	150

$\chi^2 = 3.977$; $df = 6$; $C = 0.161$; () expected frequency

Chi-square was computed to ascertain if the observed variations were statistically significant or not. The computed value of χ^2 was 3.977 which much lower than the tables value 12.59 of χ^2 with 6 degrees of freedom. On the basis of the above findings, the null hypothesis was accepted and hence it was concluded that there was no significant relationship between the educational level of the traders and their problem faced by vegetable trading. Four categories of problem of the trader indicated that adoption was the highest among the traders having above secondary educational level, followed subsequently by up to secondary level of education, up to primary education level and signature level. Therefore, the association observed between the concerned variable was consistently positive. Data presented in the Table 4.13.1 indicate that

there was variation in the level of vegetable marketing by the traders according to their level of education. It was found that high problem was the highest 28.57 percent among the traders having above secondary educational level and followed by 24.59 percent, 22.38 percent and 20 percent of them having education up to secondary level, primary level and up to Signature level. Problem however, was low among the highest proportion 14.28 percent of the traders having education up to secondary level compared to 11.94 percent, 6.66 percent and 3.27 percent having up to primary literacy level, up to signature and secondary literacy level respectively.

Problem index of the three categories of traders age indicated that problem was highest (PI-3=221) among secondary level and lowest (PI-2=210) among the up to primary level of traders as shown in Table 4.13.2 Problem of up to secondary level of traders was slightly higher than the up to primary level of trader.

Table 4.13.2. Problem index of the traders according to their level of education

Categories	Trader's Problem				problem index (PI)
	Low	Medium	High	Total	
Illiterate	(6.66)	(73.33)	(20)	(100)	213
primary level	(11.94)	(65.67)	(22.38)	(100)	210
Secondary level	(3.27)	(72.13)	(24.59)	(100)	221
Above Secondary	(14.28)	(57.14)	(28.57)	(100)	214
Total	(8)	(68.66)	(23.33)	(100)	

4.2.5. Trader's knowledge and problems faced by them in vegetable marketing activities

Data presented in Table 4.14.1 are used to ascertain the association between knowledge of vegetable marketing and trader's problem faced in vegetable marketing. The null hypothesis in this connection 'There is no association between knowledge of vegetable marketing and trader's problem faced in vegetable marketing'

Table 4.14.1. Distribution of the traders according to their knowledge and traders problem faced in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
low	2 (2)	18 (17.16)	5 (5.84)	25
Medium level	9 (8.08)	68 (69.35)	24 (23.56)	101
High	1 (1.92)	17 (16.48)	6 (5.6)	24
Total	12	103	35	

$\chi^2 = .784$; $df = 4$; $C = 0.072$; () expected frequency

Table 4.14.1 indicated some differences in knowledge of vegetable marketing and trader's problem faced in vegetable marketing. Chi-square was computed to determine if the observed differences were statistically significant or not. Computed χ^2 was .784, which was much lower than the table value of χ^2 (9.49) at 4 degrees of freedom. The value of C was found to be 0.72, which indicates a moderate strength of association. Data presented in the Table 4.14.1 indicate that there was variation in the level of vegetable marketing by the traders according to their knowledge of vegetable marketing. It was found that high problem was the highest 25 percent among the

traders having high knowledge of vegetable marketing and followed by 23.76 percent and 20 percent of them having medium knowledge of vegetable marketing low knowledge of vegetable marketing. Problem however, was low among the highest proportion 8.9 percent of the traders having medium knowledge of vegetable marketing compared to 8 percent and 4.16 percent having low knowledge of vegetable marketing, high knowledge of vegetable marketing.

Problem faced index of the three categories of the traders indicated that problem was highest (PI-3=221) among the high knowledge and lowest (PI-1=212) among the low marketing knowledge of trader as shown in Table 4.14.2. Table indicated that the traders having more knowledge were likely to have lesser problem.

Table 4.14.2. Problem index of the traders according to knowledge of vegetable marketing

Categories	Trader's Problem				Problem Index(PI)
	Low	Medium	High	Total	
low	(8)	(72)	(20)	(100)	212
Medium level	(8.9)	(67.32)	(23.76)	(100)	215
High	(4.16)	(70.83)	(25)	(100)	221
Total	(8)	(68.6)	(23.33)	(100)	

4.2.6. Trader's types of shop and problems faced by them in vegetable marketing

Table 4.15.1 contains the data which formed the basis for testing the relationship between types of shop and traders problem faced in vegetable trading. The null

hypothesis to be tested was 'There is no association between types of shop and traders problem faced in vegetable trading'

Table4.15.1.Distribution of the traders according to their types of shop and traders problem faced in vegetable trading

Types of shop	Trader's Problem			
	Low	Medium	High	Total
Own shop	1 (0.72)	7 (6.18)	1 (2.1)	15
Shop rented from others	3 (2.24)	18 (19.22)	7 (6.53)	67
Temporary shop	7 (8.72)	75 (74.89)	27 (25.43)	61
Mobile shop	1 (0.32)	3 (2.90)	0 (0.93)	7
Total	12	103	35	150

$\chi^2=4.001$; $df = 6$; $C = 0.161$; () expected frequency

Chi-square was computed to as certain if the observed variations were statistically significant or not. The computed value of χ^2 was 4.001 which were much lower than the tabulated value (12.59) of χ^2 with 6 degrees of freedom. The value of C was computed by using the formula as discussed earlier. The value of C was found to be 0.161. This indicates a strong relationship between the concerned variables. On the basis of the above findings, the null hypothesis was rejected and hence it was concluded that there was no significant association between the types of shop and traders problem faced by vegetable trading. Data presented in the Table 4.15.1 Indicate that there was variation in the level of vegetable marketing by the traders according to their type of shop. It was found that high problem was the highest 25

percent among the traders Shop rented from others and problem faced 24.77 percent and 11.11 percent of them having own shop and temporary shop. problem was low among the highest proportion 25 per cent of the mobile shop traders compared to 11.11 percent, 10.71 percent and 6.42 percent having own shop, shop rented from others and temporary shop.

Problem faced index of the four categories of the traders indicated that problem was highest (PI-3=218) among the temporary shop and lowest (PI-4=175) among the mobile shop of traders as shown in Table 4.15.2.

Table4.15.2.Problem index of the traders according to their types of shop

Types of shop	Trader's Problem				problem index (PI)
	Low	Medium	High	Total	
Own shop	(11.11)	(77.77)	(11.11)	(100)	200
Shop rented from others	(10.71)	(64.28)	(25)	(100)	214
Temporary shop	(6.42)	(68.80)	(24.77)	(100)	218
Mobile shop	(25)	(75)	(0)	(100)	175
Total	(8)	(68.66)	(23.33)	(100)	

4.2.7. Trader's nature of trading and problems faced by them in vegetable marketing

Data concerning the association between nature of trading and problem faced in vegetable marketing activities. Presented in Table 4.16.1 the null hypothesis to be

tested was “There is no association between nature of trading and problem faced in vegetable marketing activities”

Table 4.16.1 Distribution of the traders according to their nature of trading and problem faced in vegetable marketing activities

Categories	Trader's Problems			
	Low	Medium	High	Total
Retailer	9 (5.6)	35 (48.07)	26 (16.33)	70
Wholesaler	(0) (3.20)	33 (27.47)	7 (9.33)	42
Collector	3 (3.2)	35 (27.46)	2 (9.33)	40
Total	12	103	35	150

$\chi^2 = 24.076$; $df = 4$; $C = 0.372$; () expected frequency

Chi-square was computed to determine whether the observed difference was statistically significant or not. Value of computed χ^2 was 24.076, which was higher than the table value of 9.49 with 4 degrees of freedom at 0.05 level of probability and hence the computed χ^2 was significant at this level. Therefore, the researcher was able to reject the null hypothesis and it was concluded that there was association between nature of trader and problem faced by trader for vegetable marketing.

Analysis of data contained in Table 4.16.1 indicates the differences in problem of the traders according to their nature of trading. Percentage of Traders having high problem was the highest 37.14 percent in the retailer category and it decreased to 17.5 percent in the wholesaler category and 5 percent in the collector category. Proportion of trader's having medium problem was the highest 87.5 percent in the collector

category as compared to 82.5 percent in the wholesaler and 50 percent in the retailer category. Problem index of the three categories of the traders indicated that problem was highest (PI-1=224) among the retailer and lowest (PI-3=197) among the collector as shown in Table 4.16.2. Problem of collector and wholesaler is lower than retailer. Therefore, the relationship observed between the concerned variables was negative. These findings indicate that problems are highest in the end seller categories of trader in state of other traders like collector, wholesaler. The value of C was found 0.372, which indicate the low strength of association

Table 4.16.2. Problem index of the traders according to their nature of trading

Categories	Trader's Problems				problem index (PI)
	Low	Medium	High	Total	
Retailer	(12.85)	(50)	(37.14)	(100)	224
Wholesaler	(0)	(82.5)	(17.5)	(100)	217
Collector	(7.5)	(87.5)	(5)	(100)	197
Total	(8)	(68.66)	(23.33)	(100)	

4.2.8. Trader's experience and problem faced by them in vegetable marketing activities

Data concerning the association between experience and problem faced in vegetable marketing activities presented in Table 4.17.1 the null hypothesis to be tested was "There is no association between experience of the traders and problem faced in vegetable marketing activities"

Table 4.17.1 Distribution of the traders according to their experience and problem faced in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
Low	3 (5.76)	52 (49.44)	17 (16.8)	72
Medium	3 (3.36)	31 (28.84)	8 (9.8)	42
High	6 (2.88)	20 (24.72)	10 (8.4)	30
Total	12	103	35	150

$\chi^2 = 6.574$; $df = 4$; $C = 0.118$; () expected frequency

Chi-square was computed to determine whether the observed difference was statistically significant or not. Value of computed χ^2 was 6.574, which was lower than the tabulated value of 9.488 with 4 degrees of freedom at 0.05 level of probability and hence the computed χ^2 was not significant at this level. Therefore, the researcher was able to accept the null hypothesis and it was concluded that there was no association between age of the traders and problem faced by them for vegetable marketing. Analysis of data contained in Table 4.17.1 indicates the differences in problem of the traders according to their experience. Percentage of Traders having high problem was the highest 27.77 percent in the high experience category and it decreased to 23.61 percent in the low experience category and 19.04 percent in the medium experience category. Proportion of traders having medium problem was the highest 73.80 percent in the medium category as compared to 72.22 percent in the low experience and 55.55 percent in the high experience category. 7.14 percent of the medium experience trader

had low problem compared to 6.66 percent high experience category and 4.16 percent low experience category. Low experience trader faced more problem than high experience trader.

Problem index of the three categories of the traders indicated that problem was highest (PI-1=219) among the low experience and lowest (PI-3=211) among the high experience traders as shown in Table 4.17.2. Problem of medium experience traders was slightly lower than the low experience trader. Therefore, the relationship observed between the concerned variables was negative. The value of C was found 0.118, which indicate the low strength of association.

Table 4.17.2 Problem index of the traders according to their experience

Categories	Trader's Problem				problem index (PI)
	Low	Medium	High	Total	
Low	(4.16)	(72.22)	(23.61)	(100)	219
Medium	(7.14)	(73.80)	(19.04)	(100)	212
High	(6.66)	(55.55)	(27.77)	(100)	211
Total	(8)	(68.66)	(23.33)	(100)	

4.2.9.Trader's income and problems faced by them in vegetable marketing activities

Data concerning the association between income and problem faced in vegetable marketing activities presented in Table 4.18.1 the null hypothesis to be tested was

“There is no association between income of the traders and problem faced in vegetable marketing activities”

Table 4.18.1 Distribution of the traders according to their income and problem faced by them in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
Low	3 (2.88)	19 (24.72)	14 (8.4)	36
Medium	6 (4.88)	12 (41.88)	14 (14.23)	61
High	3 (4.24)	43 (36.39)	7 (12.36)	53
Total	12	103	35	150

$\chi^2 = 9.23$; $df = 4$; $C = 0.241$; () expected frequency

Chi-square was computed to determine whether the observed difference was statistically significant or not. Value of computed χ^2 was 9.23, which was lower than the table value of 9.488 with 4 degrees of freedom at 0.05 level of probability and hence the computed χ^2 was not significant at this level. Therefore, the researcher was able to accept the null hypothesis and it was concluded that there was no association between income of the Traders and problem faced by trader for vegetable marketing.

Analysis of data contained in Table 4.18.1 indicates the differences in problem of the traders according to their income. Percentage of Traders having high problem was the highest 38.88 percent in the low income category and it decreased to 24.95 percent in the medium income category and 13.20 percent in the high income category. Proportion of traders having medium problem was the highest 81.13 percent in the

high income category as compared to 67.21 percent in the medium income and 52.77 percent in the low income category. 8.33 percent of the low income trader had low problem compared to (9.83 percent) medium income category and 5.66 percent high income category.

Problem index of the three categories of the traders indicated that problem was highest (PI-1=231) among the low income and lowest (PI-3=208) among the high income traders as shown in Table 4.18.2. Problem of medium income traders was slightly lower than the low income trader. Therefore, the relationship observed between the concerned variables was negative. The value of C was found 0.241, which indicate the low strength of association.

Table 4.18.2 Problem index of the traders according to their income

Categories	Trader's Problem				Problem Index (PI)
	Low	Medium	High	Total	
Low	(8.33)	(52.77)	(38.88)	(100)	231
Medium	(9.83)	(67.21)	(24.95)	(100)	213
High	(5.66)	(81.13)	(13.20)	(100)	208
Total	(8)	(68.66)	(23.33)	(100)	

4.2.10. Trader's investment and problems faced by them in vegetable marketing activities

Data concerning the relationship between investment and problem faced in vegetable marketing activities presented in Table 4.19.1. The null hypothesis to be tested was

“There is no association between Investment of the traders and problem faced by them in vegetable marketing activities”

Table 4.19.1 Distribution of the traders according to their investment and problem faced in vegetable marketing activities

Categories	Trader's Problem			
	Low	Medium	High	Total
Low	4 (8.33)	24 (50)	20 (41.66)	48 (100)
Medium	7 (13.46)	37 (71.18)	88 (15.38)	52 (100)
High	1 (2)	42 (84)	7 (14)	50 (100)
Total	12	103	35	150

$\chi^2 = 18.57$; $df = 4$; $C = 0.332$; () expected frequency

Chi-square was computed to determine whether the observed difference was statistically significant or not. Value of computed χ^2 was 18.57, which was higher than the table value of 9.488 with 4 degrees of freedom at 0.05 level of probability and hence the computed χ^2 was significant at this level. Therefore, the researcher was able to rejected the null hypothesis and it was concluded that there was association between invest of the Traders and problem faced by trader for vegetable marketing. Analysis of data contained in Table 4.19.1 indicates the differences in problem of the traders according to their investment. Percentage of traders having high problem was the highest 41.66 percent in the low category and it decreased to 15.38 percent in the medium category and 14 percent in the high investment category. Proportion of traders having medium problem was the highest 84 percent in the high Invest category as compared to 71.15percent in the medium Invest and 50 percent in the low Invest category. 8.33 percent of the low Invest trader had

low problem compared to 13.46 percent medium category and 2 percent high Investment category. Low investment trader faced more problem than high investment trader.

problem index of the three categories of the traders indicated that problem was highest (PI-1=233) among the trader with low investment and lowest (PI-2=201) among the trader with medium investment traders as shown in Table 4.19.2. Problem of medium invest traders was slightly lower than the high invest trader. Therefore, the relationship observed between the concerned variables was negative. The value of C was found 0.332, which indicate the low strength of association.

Table 4.19.2 Problem index of the traders according to their investment

Categories	Trader's Problem				Problem Index (PI)
	Low	Medium	High	Total	
Low	(8.33)	(50)	(41.66)	(100)	233
Medium	(13.46)	(71.18)	(15.38)	(100)	201
High	(2)	(84)	(14)	(100)	212
Total	(8)	(68.66)	(23.33)	(100)	

Table 4.20. Rank order of 15 selected problems faced by the vegetable trader for vegetable marketing activities.

Problems	Extent of Problem faced				PFI	Rank Order
	High problem (3)	Medium problem (2)	Little problem (1)	No problem (0)		
Price fluctuation	77	33	0	0	297	1
Inadequate storage facilities	81	17	2	0	279	2
Lack of capital	59	40	1	0	258	3
Lack of transport system	57	42	1	0	256	4
Harassment during transport	56	43	1	0	255	5
Low quantity production	49	51	0	0	249	6
Lack of proper packaging system	49	47	4	0	245	7
Lack of well-developed infrastructure	46	52	2	0	244	8
*Lack of suitable environment for business	45	53	2	0	243	9
Political violence and unstable market condition	28	71	1	0	227	10
Middleman disturbance	23	77	0	0	223	11
Lack of management system	4	92	4	0	200	12.5
Lack of training in adoption of modern vegetable marketing technologies	4	92	4	0	200	12.5
Lack of technical information	6	70	24	0	182	13
Inadequate knowledge about use of preservatives	4	69	23	4	173	14

PFI = Problem Faced Index
N = 150

On the basis of PFI, it was observed that 'Vegetable marketing problem' ranked first followed by 'Price fluctuation, 'Inadequate storage facilities, 'Lack of capital ', 'Lack of transport system, 'Harassment during transport, 'Low quantity production', 'Lack of proper packaging system, 'Lack of well-developed infrastructure, "Lack of suitable environment for business, 'Political violence and unstable market condition 'Middleman disturbance, Lack of management system Lack of training in adoption of modern vegetable marketing technologies Lack of technical information and Inadequate knowledge about use of preservatives

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

5.1.1 Selected characteristics of the traders

Age: The highest proportion (50 percent) of the respondent traders was middle aged while (24 percent) of the traders were young and (26 percent) were old.

Education: The highest proportion (44.7percent) of the respondent traders had primary level, while (40.7 percent) had secondary level and (4.7 percent) had higher secondary level education.(10 percent) of the traders could not read and write.

Types of shop: The highest proportion (72.66percent) of the respondent traders shop rented from others, while (18.66 percent) had temporary shop and (6 percent) had own shop other (2.66 percent) had mobile shop .

Nature of trading: (46.66 percent) of the traders are retailer, while (26.66 percent) traders are wholesaler and (26.66 percent) trader are collector.

Income from vegetable business: The highest proportion (41.3 percent) of the traders had low income compared to (33.3 percent) and (25.3 percent) having medium and high income respectively.

Invest for vegetable business: The majority (54 percent) of the traders had low invest as compared to (22 percent) having medium invest, (24 percent) high invest.

Vegetable marketing knowledge: The highest proportion (67.7 percent) of the traders had moderate agricultural knowledge, while, (16.7 percent) had poor knowledge and (16 percent) had good knowledge.

Vegetable marketing experience: The largest proportion (48percent) of the traders had low experience, (28 percent) had medium experience and (24 percent) had high experience.

5.1.2 Problem faced by traders for vegetable marketing activities

The observed overall problem of the traders on vegetable marketing activities ranged from 28 to 40 against the possible range of 0 to 45. The mean was 35.07, the standard deviation 2.12. The highest proportion (68.7 percent) of the traders had medium problem while (23.3 percent) had high problem. On the other hand, only (8 percent) had low problem. This meant that majority (90 percent) of the traders had medium to high problem on vegetable marketing activities.

5.1.3. Summary of statistical analysis

Null hypotheses were tested to explore the association of the traders' characteristics with their problem on vegetable marketing activities. The results of Chi-square analysis are presented below:

- ❖ The result of Chi-square test between age, types of shop, education, vegetable marketing knowledge, income, vegetable marketing experience, and problem was smaller than the tabulated value at 0.05 level of probability. As such, the null hypothesis involving these variables could not be rejected. Therefore, the relationship between these and problem on vegetable marketing activities was not significant.

- ❖ The result of chi-square test between invest for business, nature of trading and problem was larger than the tabulated value at 0.05 level of probability. As such, the null hypothesis involving these variables was rejected. Therefore, the relationship between invest for vegetable business, nature of trading and problem on vegetable marketing activities was significant.

5.2 Conclusions

Conclusions drawn on the basis of findings of this study and the interpretation of their meaning in the light of other relevant facts are presented below:

- ✓ Seventy percent of the traders were literate and the remaining 30 percent of them were either illiterate or could sign only.
- ✓ An over-whelming majority (50 percent) of the traders are retailer, while there was a significant association between traders' nature of trading and their problem. Thus, it may be concluded that larger and permanent shop would be helpful for minimizing problem on vegetable marketing activities.
- ✓ The highest proportion (75 percent) of the traders had medium to low income, while there were significant association between traders' income and their problems.
- ✓ Majority (75 percent) of the traders had medium to low invest for vegetable business. Traders' invest for vegetable business had significant association with their problem confrontation. One would, therefore, conclude that a very large proportion of the traders will continue to high investment vegetable business activities..

- ✓ A considerable proportion of trader (75 percent) had medium to low experience, while there existed a very strong association between traders experience and their problems. The above facts lead to the conclusion that more experience of the traders will be highly helpful for minimizing their problem confrontation on vegetable marketing activities.

5.3 Recommendations

Recommendations based on the findings and conclusions of the study are presented below:

- Findings of the study indicate that the traders faced highest problem in business credit. They also faced considerable problems in adopting modern marketing technology, marketing facilities, Storage, use of preservatives. It was also observed that the overall problem confrontation was either high or medium for (80 percent) of the traders. Considerable problem in using the vegetable business credit by a very large majority of the traders will, therefore, adversely affect the effort for increasing vegetable marketing activities. In view of the urgent need for increasing vegetable marketing activities, it is recommended that steps should be taken on a priority basis to remove the various problems causing hindrance to the vegetable marketing activities.
- Traders with good vegetable marketing knowledge want to use improved storage, Balance preservatives, vegetable protection measures and vegetable marketing credit for increasing vegetable marketing activities. But in their

effort to use the vegetable marketing inputs, they face considerable difficulty due to lack of proper arrangement for supply of those inputs and thus become frustrated. It is therefore recommended that extension work for educating the traders in the improved vegetable marketing practices should be supported by adequate arrangement for supply of necessary commodities and services at fair price from convenient sources.

- Findings of the study indicate that the education in primary and secondary schools is not helpful in creating awareness about the improved vegetable marketing activities. But the schools can play a very useful role in dissemination of vegetable marketing technology among the trader. It is, therefore, recommended that arrangement should be made for imparting education in the primary and secondary schools.
- Low income traders face great difficulties in using the improved practices due to economic difficulties. The following recommendations are made in view of the need for increasing the income of the traders and providing financial support to them at the time of need:
 - (a) Extension workers need to help traders prepare trading plans such a way as will ensure optimum economic benefit from the limited invest.
 - (b) Arrangement should be made for setting more storage facilities. It will help increasing their income.

- (c) There should be an effective system for distribution and realization of vegetable marketing credit in order to help the needy traders use the inputs of vegetable marketing activities.
- Extension contact helps the people to become more conscious and more dynamic. So extension contact is necessary for reducing problem confrontation on vegetable marketing activities of the traders. It is, therefore, recommended that extension personnel should take appropriate and suitable steps so that the traders can come in contact with different media.
 - Higher training exposure seems to minimize their problem. Therefore, it is highly recommended that the concerned authority should take steps that traders are to get more opportunity to receive training and increase their efficiency in vegetable marketing.

5.4 Recommendation for Further Study

A small piece of study having conducted in some specific locations can not provide all information for proper understanding about problem on vegetable marketing activities and related matters. Future studies should be undertaken covering more dimensions in the related matters.

- This study investigated problem on vegetable marketing activities of the traders in some aspects. There is need for investigation of the problem on vegetable marketing activities of the traders in other aspects of vegetable marketing. Relationships of the characteristics of the traders with their overall problem confrontation on vegetable marketing activities covering some selected aspects were investigated in this study. It is necessary to examine the association of the characteristics of the traders with their problem confrontation on vegetable marketing activities in each aspect separately.
- This study was conducted on the population of traders of three selected area in Dhaka city namely, Mirpur, farmgate and karwanbazar. Findings of this study need to be verified by undertaking similar research in other parts of the country.
- Traders characteristics namely : age, education, types of shop, income from vegetable business, vegetable marketing knowledge, trading experience, daily purchase of vegetable, capital investment in vegetable business. Further research should be conducted to verify those findings.

- In addition to problem on vegetable marketing activities, the traders also face other problems such as social, economic, housing, health and domestic. All these problems affect the performance of the traders. There is need for undertaking research on the various problems of the traders which affect their performance.

CHAPTER 6

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APPENDIX

(English Version of the Interview Schedule)

Dept.of Agricultural Extension and Information System

Sher-e-Bangla Agricultural University

Dhaka-1207

AN INTERVIEW SCHEDULE ON: PROBLEM FACED BY VEGETABLE TRADER IN CITY CORPORATION MARKETS OF DHAKA

Serial No. : Area :

Name of the respondent :

1. Nature of trading. Collector/Wholesaler/Retailer

Please answer the following question:

2.Age

How old are you?..... Years

3.Level of education

What is your level of education?

- a) I cannot read and write.....()
- b) I can sign only.....()
- c) I studied up to class.....()

4.Types of shop: Please furnish your information about types of shop

Sl.No	Types of shop	
1	Own shop	
2	Shop rent from others	
3	Roadside temporary shop	
4	Mobile shop	

5. Vegetable marketing knowledge: Please reply the following questions

Sl. No.	Questions	Score	
		Weighted	Obtained
1	Mention about system of vegetable	2	
2	Name two types grading system of vegetables	2	
3	Name two vegetables that suitable for long time storage	2	
4	Name two common vegetables that require cold storage	2	
5	What do you mean by balanced preservatives	2	
6	Mention about packaging system of tomato	2	
7	Mention about packaging system of papaya	2	
8	Mention about transport system cabbage	2	
9	Mention about transport system of leafy vegetables	2	
10	Mention about storage system of potato	2	

6. Training Experience

How many years you are involved in vegetable business: () years

7. Use of preservatives

What preservatives at what doses do you apply for the following vegetables?

Name of vegetable	Preservatives name	Recommended dose	Dose used	Not used
Tomato				
Cucumber				
Brinjal				
Papaya				
Carrot				
Leafy vegetable				

8. Daily purchase of vegetable and income from them

Please furnish information according to the following schedule against the vegetables mentioned.

Vegetable name		Purchase Quantity	Price Taka	Sell Quantity (kg)	Price taka	Profit Taka	Left Over (kg)
Brinjal	Trip-1						
	Trip-2						
	Trip-3						
Potato	Trip-1						
	Trip-2						
	Trip-3						
Tomato	Trip-1						
	Trip-2						
	Trip-3						
Cabbage	Trip-1						
	Trip-2						
	Trip-3						
Leafy vegetable	Trip-1						
	Trip-2						
	Trip-3						
Others	Trip-1						
	Trip-2						
	Trip-3						
Total							

Other miscellaneous cost:.....taka

Total profit:.....Taka

9. Capital Investment in vegetable business

Please mention your amount of capital investment in vegetable business

Amount:.....()Thousand Taka

10. Problems faced by traders for vegetable marketing activities

Sl. No	Problem	Extent of problem			
		High	Medium	Low	Not at all
1)	Inadequate knowledge about use of preservatives				
2)	Lack of training in adaption of modern vegetable marketing technologies				
3)	Inadequate storage facilities				
4)	Lack of technical information				
5)	Lack of capital				
6)	Lack of suitable environment for business				
7)	Political violence and unstable market condition				
8)	Lack of proper packaging system				
9)	Lack of transport system				
10)	Harassment during transport				
11)	Low quantity production				

12)	Price fluctuation				
13)	Middleman disturbance				
14)	Lack of management system				
15)	Lack of well-developed infrastructure				

11. Suggestions of solving the problems:

- a)
- b)
- c)



Signature of the interviewer

Thanks you for your cooperation.

.....

Date:

Sher-e-Bangla Agricultural University
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