Report on The Productivity Survey of Onion Crop 2014

August, 2015

Productivity Assessment Survey of Different Agricultural Crops Programme

BANGLADESH BUREAU OF STATISTICS (BBS)
Statistics and Informatics Division (SID)
Ministry of Planning

Secretary
Statistics and Informatics Division (SID)
Ministry of Planning

Foreword

Agriculture sector alone contributes 16.33% of annual GDP of Bangladesh. In addition, it offers both the opportunities of employment and livelihood to a large extent. It is worth mentioning here that, the country has a strong agriculture structure to maintain a sustainable development of the agriculture production of major and minor crops. As such the country enjoys the food security, sometimes with a buffer stock of major crops. Farmers of Bangladesh simultaneously produce various minor crops which also fulfill the demand of internal consumption of huge population. In persuasion of the demand of statistics on production, cost of production and market price of various crops, Bangladesh Bureau of Statistics, has also been putting efforts in conducting surveys on a series of minor crops simultaneously with the regular estimation of major and minor crops.

Onion is one of the major spices crops in Bangladesh. It is used as a common ingredient for their own unique flavour in preparing various types of cooking in our country. It has curative power that makes it important for using them in the medicinal plant too. This onion report is the seventh of its series of nine other minor crop surveys. I believe that the data presented in the report would be useful for the policy formulation and planning process of the development initiatives.

I would like to take this opportunity to extend my thanks to the Director General, BBS and his colleagues who were involved in different stages of the survey and finalizing the report. I believe that the policy makers, researchers, users and all other stakeholders will find this report very useful.

Dhaka
August, 2015

Kaniz Fatema, *ndc*
Secretary

Director General
Bangladesh Bureau of Statistics (BBS)

Preface

Bangladesh is predominantly an agricultural country. As the sector is playing a pivotal role in the development of the economy, there is no other alternative but to develop agriculture sector for alleviation of poverty. Since provision of food security, improvement of the living standard and generation of employment opportunity of our population are directly linked to the development of agriculture, there have been continued efforts by the government for the overall development of this sector.

Production of crops, cost of production of crops and market price of both for major and minor crops are directly interrelated. Government has to give proper attention on these three factors so that the farmers get fair price of the crops produced during the harvest time.

In order to formulate proper policy and planning for the development of agriculture sector reliable and realistic data regarding production cost of crops in different phases such as cost relating to land preparation, seeds, weeding, insecticides, fertilizers, harvesting, transportation, leasing of land etc. are needed. Keeping these in view, the Productivity Assessment Survey of different Agricultural Crops (PASDAC) Program under the Bangladesh Bureau of Statistics has been given the responsibility of nine minor crops for obtaining the cost of production of the individual crops by following the scientific survey methods. This report contains the findings of the survey on Onion conducted during July 2014.

I express my sincere gratitude to the members of the Technical Committee and the Sub-Committee of the PASDAC Program for providing technical guidance for choosing nine minor crops for study, sample design, finalizing questionnaire and other related matters. I would like to convey thanks to Mr. Md. Nurul Islam, Joint Secretary (Rtd), Local consultant, Ms. Salima Sultana, Director, Agriculture wing, BBS and Mr. Md. Akhter Hassan Khan, Programme Director of this study and other officers/staff who worked hard in bringing out this report in time.

Any comments or constructive suggestions for improvement of such report in future will be appreciated.

Dhaka
August, 2015

Mohammad Abdul Wazed
Director General
(Additional Secretary)

Acknowledgement

Now-a-days agriculture production statistics and cost of production statistics of different crops have wide demand among the users. This Statistics provide necessary information to development planners & Policy makers. It also helps business community with market related information. The report on “The Productivity Survey of Onion Crop-2013” will be of great informative publication relating to minor crops production and cost of production.

I would like to express my gratitude to the honorable Secretary, Statistics and Informatics Division for his valuable guidance and directions provided during the survey Programme. I would also remain grateful to Mr. Md. Baitul Amin Bhuiyan (Additional Secretary), Director General (Additional Charge) BBS for his continued suggestions and support to me in doing all the things during the survey and for preparing the report. I would like to extend my gratitude to Dr. Kazi Mostafa Sarwar, Joint Secretary (Admin), Statistics and Informatics Division (SID) for his continuous follow-up implementation of the activities of the programme.

I would like to appreciate Mr. Md. Nurul Islam, Joint Secretary (Rtd) for developing the methodology of the survey as well as the report and also thanks to Ms Salima Sultana, Director of Agriculture Wing, for her valuable guidance and support that helped to conduct the survey. My thanks also go to Mr Md. Rezaul Karim, Assistant Statistical Officer for his works in data processing. I acknowledge the valuable suggestions and hard work of officials and staff of Agriculture Wing.

I am also grateful to the respondents who extended their cooperation for filling questionnaire and spending their valuable time in spite of their busy occupations. My sincere thanks to the field officials and staff involved in the survey.

Finally I acknowledge the work of the officers and staff who were involved in typing questionnaire, manuals and this report.

Dhaka
August, 2015

Md. Akhter Hassan Khan
Programme Director

Contents

Key Findings

SL. No	Items	Results
1	2	3
1.	Area (in acre) under onion (farm holding)	296414
2.	Percentage of area growing onion by tenancy;	100.00
	a. Owned	75.29
	b. Share crop	6.30
	c. Mortgage	7.64
	d. Lease	10.32
	e. Others	0.45
3.	Percentage of area growing onion by cultivation type	
	a. Single	85.77
	b. Mixed	14.23
4.	Number of labourers employed by component for per acre production of onion	
	a. Planting	106
	b. Weeding	31
	c. Harvesting	32
	Total	167
5.	Per acre production cost (Tk.) by type of input	
	a. Land preparation	4912
	b. Seed and seedbed related	5103
	c. Seedling/onion	4484
	d. Plantation	6186
	e. Weeding	6186
	f. Irrigation	3645
	g. Fertilizer	6699
	h. Pesticide/Insecticide/Hormone	2818
	h. Harvesting	10651
	i. Transport	1893
	j. Others	373
	Total	53399
6.	Per acre Production cost (Tk.) by varieties	
	a. Murikata	61643
	b. Local and others	50356
	c. Hybrid	57160
7.	Per acre leasing value (Tk.)	6170
8.	Per acre Production value by varieties	
	a. Murikata	107082
	b. Local and others	119139
	c. Hybrid	126881

SL. No	Items	Results
1	2	3
9.	Per acre yield rate (Kg) by variety	
	a. Murikata	4912
	b. Local and others	4618
	c. Hybrid	5979
	Average	4668
10.	Per acre benefit cost ratio by variety	
	a. Murikata	1.93
	b. Local and others	2.03
	c. Hybrid	2.22
	Average	2.01

Chapter 1

Introduction

Introduction

Introduction

Bangladesh predominantly is an agricultural country. Most inhabitants of the country are involved directly or indirectly to agriculture for their livelihood. The sector contributed to 16.33% share of the national Gross Domestic Product (GDP). In earlier decades, the sector contribute more than 50% of GDP. Due a gradual transformation of the economy from agriculture to industry and service sectors, this sector decreases gradually around 50% in 1970 to 16.33% in 2013-14. Still it is the single largest sector of manpower engaged in the economy as it plays supplementary role in supplying raw materials of different industries, such as jute & jute products, food & food products and so on.

Bangladesh has inherited very fertile land in which diversified crops are grow very easily. Various types of crops are produced in the country. Onion is one of the major spices in Bangladesh. It ranks first in production among the spice crops and is used as salad while its stalk becomes green. Onion is cooked in many ways in preparing curries and other delicious foods which are important ingredient in the list of spices. Moreover, has been used as a common ingredient in various dishes since past in different cultures in the South East Asia. There are many different varieties of onion, red, yellow, white, and green. Each has its own unique flavor for its own far its strong & mildly sweet essence.

Yellow onion is particularly hardy, and its flavor is complex and spicy. Yellow onion has more sulfur compared to other onion varietals, so that it is much more pungent, difficult to eat in raw, and more cases it makes one's tear up. Among all spice crops, onion has great significance for its diversified use. It can be eaten raw, cooked, fried, dried or roasted. It is commonly used for flavor dips, salads, soups, spreads, stir-fry and in preparing other dishes. It contains vit-A, vit-C, iron and calcium. Onion also reduces blood sugar and is seen wide uses.

Onion is the most essential and important spices crop. The production of onion largely depends on the use of seeds, fertilizers, irrigation, pesticide etc. The Government of Bangladesh has, therefore, provided priority to the agriculture sector to increase the production of onion by giving subsidy to the farmers and inputs support such as seeds,

fertilizer, irrigation, pesticide etc. to achieve self-sufficiency of agricultural crops including onion production.

Production of crops, cost of production and market price of crops are directly interrelated. Government has to give proper attention on these three factors as stated, so that the farmer will get fair price of the crop to be produced during the harvest time. Generally, government has to declare procurement price at the harvesting time of the crop so that producers may get proper price. Procurement price of the crop has to be fixed considering all these matters. If procurement price is lower than the production cost, producers get looser and will be discouraged to produce more crops and if selling price is higher than the production cost, producers will show keen interest to continue production. Due to importance of onion and it's widely uses in the country as spice, it was essential to BBS to conduct the Productivity Survey of Onion like eight other productivity surveys among all agricultural crops

1.1 Production of the Onion:

Onion is grown much in the fertile land where no water logging exists. Sandy loams are also good for its production as they contain low in sulpher. Onion is generally are grown from seeds or from sets. Onion seeds are short lived and fresh seed germinates better. The seeds sown thinly with shallow drills or plant not densly by stages. In suitable climates, sometimes cultivators may sow in late autumn to winter in the ground and produce early crops in the following year. Agro-ecological conditions may influence greatly to its seed production. Basically, onion crop needs cool weather during its early development of bulb and early growth of seed stalk. It is necessary to fertilize it for few weeks applying nitrogen to get the big bulbs.

The bulbs can be gathered when needed to eat fresh, but it is required keep in store, for further harvest while the leaves are dried back naturally. In dry weather, onion may keep on the surface of the ground for a few days to dry them properly. Then dried onion may keep hanging in nets or rope them with strings in a open and dry place. Even it should be stored in a well-ventilated, cool place under shed.

At present, total production of onion in Bangladesh cannot meet the country requirement. In each year the country has a shortfall around 6-7 lac tons of onion. Bangladesh has to import onion every year at the cost of its hard earned foreign currency. The possibility of further

expansion of area under onion cultivation seems unlikely because of intense crop competition during dry season. One option is that onion production could be to expand during summer months.

Farmers of Bangladesh grow onion following indigenous methods with a poor yield rate. The reasons behind the such low yield occur due to lack of high yielding variety and follow the inproper production practices. About 300.0 thousand acres of land in the country is under onion cultivation and the production is about 1052.0 M ton (BBS 2011). In Bangladesh, onion is commercially cultivated in the greater districts/regions of Faridpur, Pabna, Rajshahi, Kushtia, Jessore, Dhaka and Rangpur (BBS, 2011). It is grown extensively during winter season in Bangladesh, at its maximum level both in area and production (BBS, 2011). It is grown more or less in all the districts of the country. However, the average yield rate is 3.33 M ton per acre, which is lower as compared to many other onion producing neighboring countries.

Although the area and production have been raised compared to earlier period, still per unit yield rate of onion is comparatively lower. The yield of onion can be increased by following improve production technology like proper plant spacing. Although onion is one of the major spice crops of Bangladesh, but its production technologies has not been standardized from the scientific and economic point of view. Therefore, more research is needed to bring the improvement of onion production using modern technologies as well for obtaining between considering economic return.

1.2 Scope and coverage of the survey:

The productivity survey of Onion crop 2014 is a household based survey. Under the purview of this survey the target population was having at least five decimal area of land under Onion cultivation of dwelling households. The survey covers the whole country. A total of 170 PSUs were taken in the survey from two strata on the basis production. Stratum-1 covers only nine districts and stratum -2 consists of remaining 55 districts of Bangladesh.

1.3 Objectives of the Survey:

The Onion Survey-2013 is designed to provide national estimates for various indicators those are needed for national accounts and policy purposes.

The objectives of the survey are to estimate

(a) Per acre production cost

(b) Per acre yield rate

(c) Per acre production value and

(d) The total area under Onion cultivation

Chapter 2

Methodology

Methodology

2.1 Sample Design

The Onion Survey has been conducted in the whole country using the Agriculture Census-2008. In this survey, households having at least one decimal area of land under Onion crop cultivation has been considered as ultimate sampling units. For the better estimate, sixty four districts are divided into two stratum based on onion production. In statum-1 covers the nine districts are Faridpur, Rajbari, Kushtia, Magura, Jhenidah, Rajshahi, Natore, Noagaon and Pabna. Rests of the fifty five districts are stratum-2. A total 170 PSUs are selected in the whole country. From the first stratum, 70 mauzas and in second stratum 100 mauzas are selected in this survey. A two stage cluster sampling design has been adopted in this survey. In the first stage, PSUs has been selected in the whole country using the systematic random sampling. In the second stage, all the Onion producing households were listed from the selected PSUs and then 30 households were selected following the systematic random sampling, where a mauza were treated as the primary sampling unit (PSU) and within the selected mauzas, Onion crop producing households are chosen as ultimate sampling unit. Form the selected mauzas all the onion producing households are listed and then 30 households are selected. However, if a selected mauza posses less than 25 Onion producing farm households than the remaing householeds are taken from the adjacent mauza or mauzes.

2.2. Data Collection

As data collection has a noteworthy impact on the quality of survey results, it is treated as a significant part of a survey. Considering its importance, the following measures were taken during the preparation of questionnaire as the tool of data collection:

- Questionnaire Design;
- Questionnaire has been pre-tested;
- Comprehensive manual of data collection with clearly defined concepts and definitions have been made;
- Training programme for the enumerators and supervisors were conducted;
- Required number of field survey staff were set up in order to ensure smooth data collection;
- Extra-care was taken for the data collection activity, sufficient number of supervisors was assigned.

2.2.1. Questionnaire Design

A questionnaire is a powerful evaluation tool that allows the collection of data through the use of multi-dimensional questions. A questionnaire written without a clear goal and purpose is inevitably going to overlook important issues and waste enumerators' as well as respondents' time by asking and responding useless questions. All these matters were addressed to the extent possible for developing the questionnaire of survey.

2.2.2. Process of questionnaire design

A working committee comprising of all the Directors of Bangladesh Bureau of Statistics (BBS), headed by the Deputy Director General was formed in order to facilitate the questionnaire development activity. Programme Director and some other members of the working committee had paid several visits to the field with a view to be knowledgeable about the factors of production and the pros and cons of the whole process of the production of Onion. They discussed the matter with the farmers who grow Onion. After having the knowledge on the issue, they provided feedback to the meeting of the working committee. Working committee had thoroughly examined the feedback and selected the topics of the survey. Programmme Director was assigned to form a questionnaire on the selected topics and eventually, he developed a questionnaire with seven questions. Subsequently the questionnaire was brought forward to the Technical Committee, the highest statistical body comprising of representatives from different Ministries, Universities and BBS, which had finally approved the questionnaire.

2.2.3. Pre-testing the questionnaire

The questionnaire was pre-tested to examine the time necessary to complete the interview, test the reliability i.e. whether it captured the information desired, and also investigated the consistency whether the information gathered by it was related to the whole purpose of the survey. The test had also targeted to check the logistics required for successful operation of the survey.

In order to ensure the best performance of the questionnaire in respect of data collection, processing and analyzing, the pre-testing was carried out during the month of March and June 2013 prior to the survey at rural area of Madhupur Upazila under Tangail District and Naniarchar Upazila belonging to Rangamati District. A group including Programme Director, some members of the working committee had gone to the two places mentioned to take part in testing the questionnaire. They had chosen some of the farmers at random as the respondents.

2.2.4. Findings of the Pre-test

Depending on the findings of the pretest, modifications to the questionnaire had been made in the structure and wording of the questionnaire. It has also taken care of semblance of the question, that is, the meaning and clarity which yields the intended information from the respondent. Furthermore, considerable amendment was also taken place in the enumerator's manual in view of ensuring proper questionnaire administration.

After pre-testing some significant suggestions from the respective team had been made, this had been eventually adopted properly in the final questionnaire. During the pre-test, it had been found that farmers, the respondents did not feel comfortable to respond to the questions relating to the total area of the land under Onion crop. Considering the fact, the structure of the questionnaire had been changed. Deleting the aggregate area in a single row, the new concept, area by farming year/land type had been incorporated.

2.2.5. Finalization of the Questionnaire

After addressing all the changes following the recommendations evolved from the pre-test, the questionnaire was placed to the Technical Committee. The committee also put notable contribution to the questionnaire. Eventually, the questionnaire had been finalized with the approval of the Technical Committee.

2.2.6. Training of the Supervisors and Enumerators

A two days training had been arranged in order to make the Supervisors and Enumerators perfectly conceptualized with the concepts and definitions of each word of the questionnaire as well as to convey the proper way of data collection. Two days training programme conducted by the Programme Director had been arranged at the head office of

BBS in Dhaka. On the first day the participants received rigorous training on the concepts, definitions and the questionnaire and on the next day they had gone to the rural area of Gazipur Upazila with a view to having hands-on exercise on the questionnaire. In the second phase, Enumerators had been trained for two days by the Master Trainers at the Regional Statistical Offices (RSOs) following the same sequence as the training arranged at the first phase. At first, Enumerators received training on the questionnaire and in the next day they also visited field at remote area of the respective region in order to have experience on hand. However, most of the trainees- both Supervisors and Enumerators actively participated in the training and also made some suggestions which were subsequently taken into consideration.

2.2.7. Method of Data Collection

Face to face interview had been carried out following Paper and Pencil (PAPI) method.

2.2.8. Data Collection and Supervision

Data collection had taken place during October-November, 2013 at the homestead of the household. Usually the respondents are the head of household. The total of 50 enumerators, who were the employees of BBS and had proven experience in this field, had been engaged in data collection from the farm households and the totals of 11 Supervising Officers were responsible for supervising the data collection task. All Supervising Officers had been directed to stay at the respective region during the period of data collection so that they could extensively supervise data collection task and address instantly any untoward problem arising during data collection. Four Divisional Coordinators including Program Director were also responsible to oversee all activities at field level relating to data collection. Furthermore, all possible measures had been taken to obtain a good quality of data.

2.2.9. Data Editing and Coding

Data editing and coding were other vital phases of the survey, which were indispensable for data processing. It should be completed before data processing. In case of this survey coding had been done along with questionnaire development so that the enumerator could easily and accurately mark the right answers.

Data editing referred to the activity of checking and cleaning data that had already been collected from the field. A group of experienced staff from Agriculture Wing under the supervision of two officers from the same Wing had carried out the work of data editing with careful attention.

2.3 Data Processing

Data processing involved many steps that were very important because it affected survey results according to the involved steps. During data processing following steps had been taken.

- Data entry
- Appending and Merging files
- Data validation (further computer checking, editing, and imputation)
- Final decision on errors
- Completion of data processing and generation of data files
- Final documentations
- Conversion of data files to another software.
- Storage of all files.

2.3.1 Data Entry

After editing, all questionnaires had been sent to Computer Lab of Agriculture Wing of BBS in order to do all works of data processing. Programmer had maintained the steps as mentioned aiming to ensure perfect data processing:

(1). Software Used

Five soft ware named CSPro, FoxPro, Oracle (SQL), SPSS and Excel had been used for processing the survey data. CSPro had been used for data entry, FoxPro also for editing, Oracle for tabulation, SPSS for data analysis and Excel for printing output.

(2). Designing data entry application

The first thing to do was to create the data dictionary based on the questionnaire. The data dictionary had consisted of ID items, records, items of the records, and also values of the items. Logic check was also maintained to avoid errors of inconsistency. After finishing the

data dictionary, the data entry forms had been developed depending on data dictionary. After that, the data entry form were tested and, therefore, readily available for use.

(3). Data capturing and Preliminary Validation

Just after the completion of data editing manually, data had been captured in computer. During data capturing, a variety of common errors had been identified. As a result data had been checked and cross checked with questionnaire depending on error message. During data processing, the appropriate corrective measures mentioned below have been used to have clean data.

- **Wrong data and out of range codes:** Firstly, the data collection instrument restricted the enumerator to a set of codes within the acceptable range for most of the questions. Secondly, the values had been set for avoiding wild codes for most of the questions. For example, the code for ownership of land had been set 1 to 5.
- **Inconsistency checking:** It had been done during designing the data entry program to avoid errors and inconsistency.
- **Treatment of Missing values:** The data entry program had been designed not to allow blanks that ensure not having missing values in the data.
- **Incomplete records and dropped cases.** The data entry program had designed to accept the complete data case; otherwise, it would not be saved. This had been set to avoid incomplete records and dropped cases.
- **Duplication of entries.** The data entry program had been designed in view of rejecting duplication of entries based on the identifiers.

(4). Appending and Merging files

After data entry, files had properly been appended and merged in order to bring all data in a single file.

(5). Data Validation

Validation had been accomplished after appending and merging files by checking the number of variables, the cases, wild codes, missing value and consistency. It had been made

sure that the number of variables generated matched with the number of variables in the data set.

(6). Final decision on errors

If there had been found any error during data validation, it was checked and rechecked; and sometimes it had been sent back to the survey authority to decide how it would be treated.

(7). Completion of data processing and generation of data file

Addressing the final decision on error, data processing task had been completed and generated a data file which contained micro data.

(8). Data preservation

After completion of processing, data had been stored in ASCII format. The data had also been converted to Microsoft Excel format in order to have the print out. Both original and new format had been preserved. The questionnaires had also been filed for safe storage. A copy of the data set had been put forward to the survey authority for tabulation and analysis.

2.4 Tabulation

Twenty five tables focusing on the vital components such as total number of labours engaged in production of Onion, cost of land preparation, seedlings used and their price, fertilizer used and their price, cost of insecticides, cost of production by phases etc. had been generated. All these tables had been given in the part of analysis and annexure.

2.5 Data Analysis

Survey results had been analyzed in tabular form. Major variable was explained vertically (columns) and cross tabulation by another related variable(s) horizontally. In the analysis, it had described the variation of the magnitude of the major variables by national. Many aspects of production and the cost of production of Onion had also been explained nationally.

2.6. Data Dissemination

The final report had been disseminated both in electronic form and hard copy as book. Results are available in the website of BBS. Some data may also be published in other publications of BBS such as Statistical Year Book of Bangladesh, Yearbook of Agriculture Statistics of Bangladesh, and Monthly Statistical Bulletin etc.

Chapter 3

Area and Households

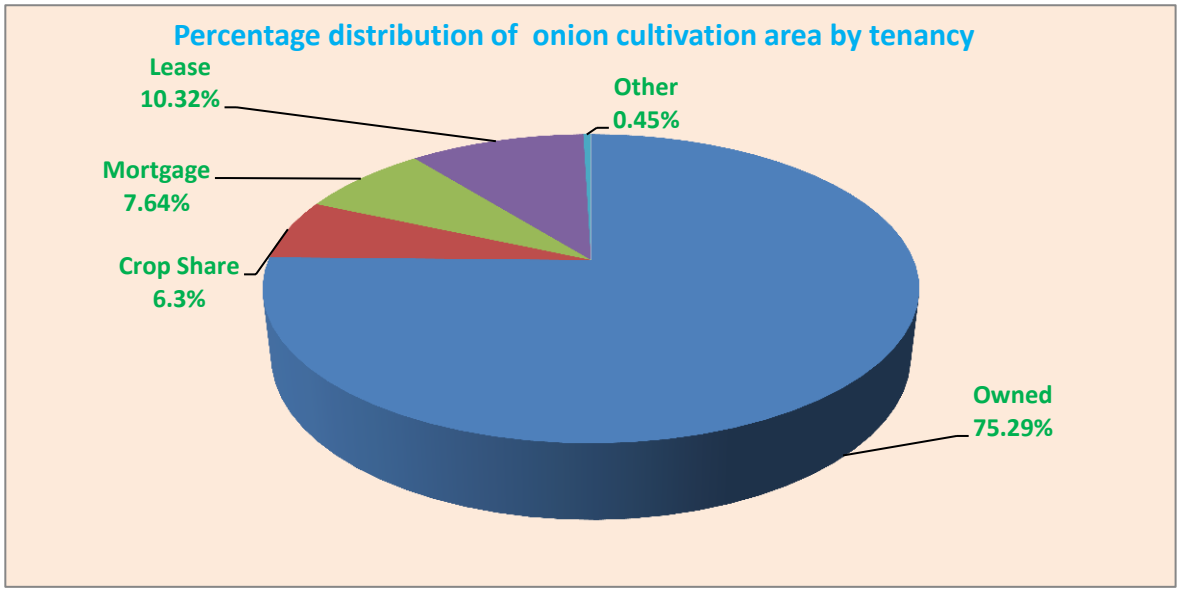
Area and Households

The chapter contains data on onion cultivation area and concern households relating to mixed crops cultivation area and households, varieties of production area including leasing value of the cultivated land. This information is obtained from the Productivity Survey 2014 of onion in Bangladesh.

Table-3.1: Percentage distribution of onion crop area (acres) by stratum & tenancy

Tenancy	Stratum					
	All		Stratum-1		Stratum-2	
	Area	%	Area	%	Area	%
Total	296414	100.00	202321	68.26	94094	31.74
Owned	223184	75.29	148975	50.26	74209	25.04
Crop share	18684	6.30	11857	4.00	6827	2.30
Mortgage	22630	7.64	16689	5.63	5941	2.00
Lease	30594	10.32	23968	8.09	6625	2.24
Other	1322	0.45	831	0.28	490	0.17

Note: Stratum-1: Faridpur, Rajbari, Kushtia, Magura, Jhenidah, Rajshahi, Natore, Noagaon and Pabna Stratum-2: Rest of the 55 districts



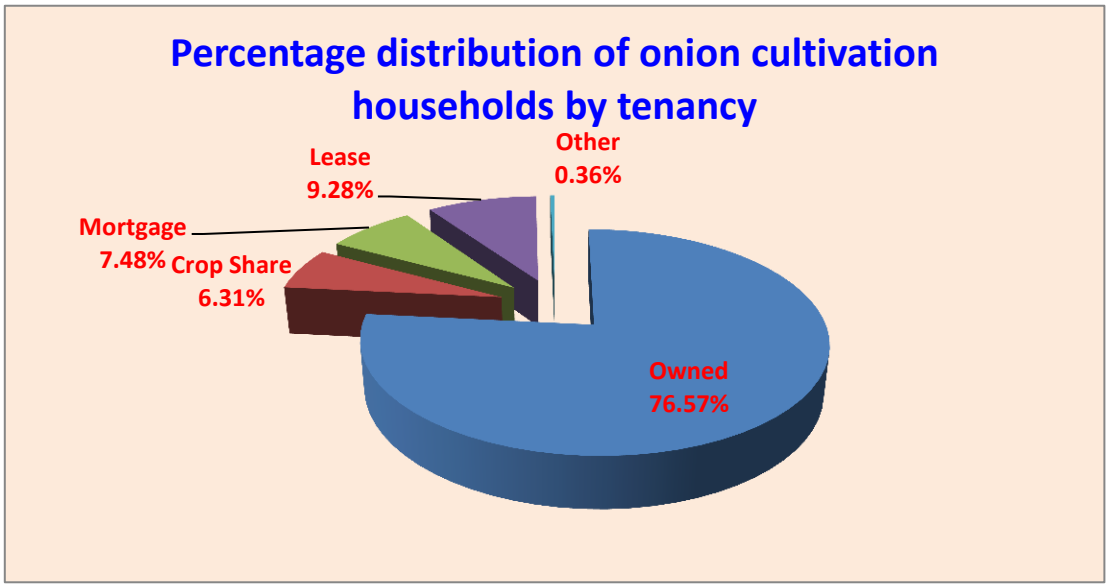
From the above table, it is seen that the total onion producing area in the country in 296414 acres of which 202321 acres of land area are cultivated under stratum-1and remaining 94094 acres are used under stratum-2 for onion production. In percentage share, a major portion of land, i.e 68.26% land area is used only in nine districts in stratum-1 for onion production

while remaining fifty five districts in stratum-2 use 31.74% area of land to total for the same purview.

In respect to tenancy, an overwhelming 223184 acres (75.29%) of land are used by owners for onion cultivation and 30594 acres (10.32%) are leased land, followed by 22630 acres (7.64%) mortgage area, 18684 acres (6.30%) crop sharing and others 1322 acres (0.45%).

Table-3.2: Percentage distribution of onion cultivation households by stratum and tenancy

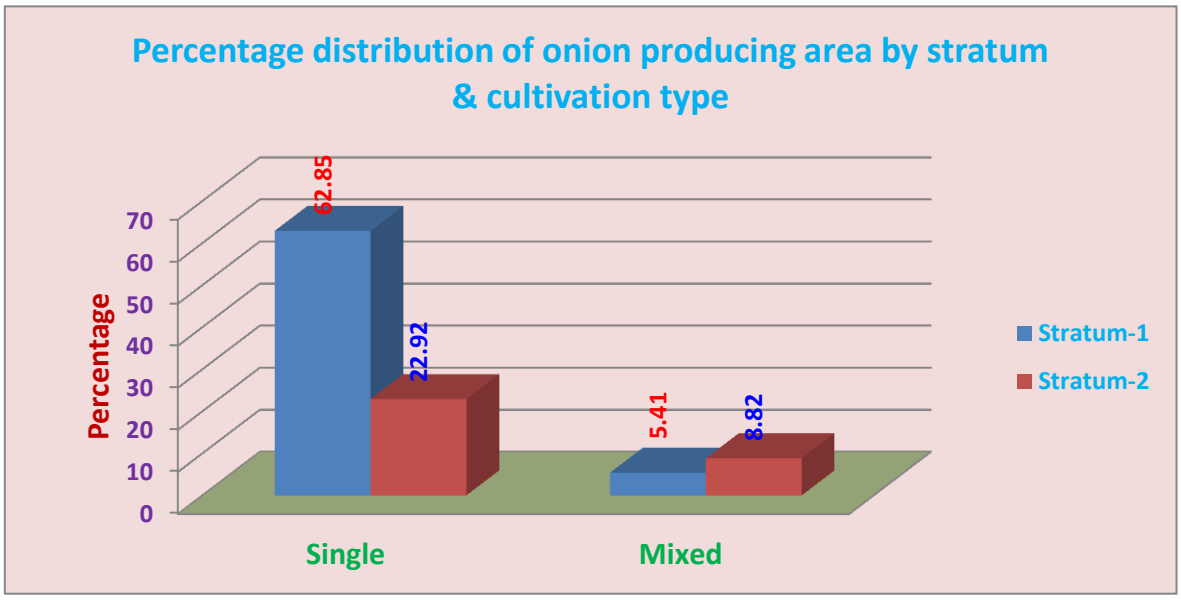
Tenancy	Stratum					
	All		Stratum-1		Stratum-2	
	Household	%	Household	%	Household	%
Total	1300187	100.00	810903	62.37	489284	37.63
Owned	995544	76.57	586337	45.10	409207	31.47
Crop share	82052	6.31	53521	4.12	28531	2.19
Mortgage	97212	7.48	73568	5.66	23645	1.82
Lease	120754	9.28	94803	7.29	25851	1.99
Other	4624	0.36	2575	0.20	2049	0.16



It is observed from above table that out of total 1300187 onion producing households, 76.57% are owned households, 9.28% are leased households, 7.48% mortgage tenureship households, 6.31% share cropping tenureship and only 0.36% others category type of tenureship households not mentioned elsewhere. On the other hand, among total households onion producing households are seen respectively 62.37% and 37.63% in stratum-1 and stratum-2.

3.3: Percentage distribution of onion producing area (acres) by stratum & cultivation type

Stratum	Cultivation type					
	All		Single		Mixed	
	Area	%	Area	%	Area	%
Total	296414	100.00	254246	85.77	42168	14.23
Stratum-1	202321	68.26	186309	62.85	16012	5.41
Stratum-2	94092	31.74	67937	22.92	26156	8.82



The above table shows that out of total 296414 acres of land are used for onion production, single cropped area is seen 254246 acres and mixed cropped area is 42168 acres of land. Stratum-wise crop pattern for onion land is seen different in some extent. In the single crop area, cultivation is 68.26% in stratum-1 and 31.74% in stratum-2. On the other hand, in the mixed crop area, cultivation area is seen only 5.41% in stratum-1 and 8.82% in stratum-2.

3.4: Percentage distribution of onion producing households by stratum & cultivation type

Stratum	Cultivation type					
	All		Single		Mixed	
	Household	%	Household	%	Household	%
Total	1300187	100.00	1102617	84.80	197570	15.20
Stratum-1	810903	62.37	742117	57.08	68786	5.29
Stratum-2	489284	37.63	360500	27.73	128784	9.91

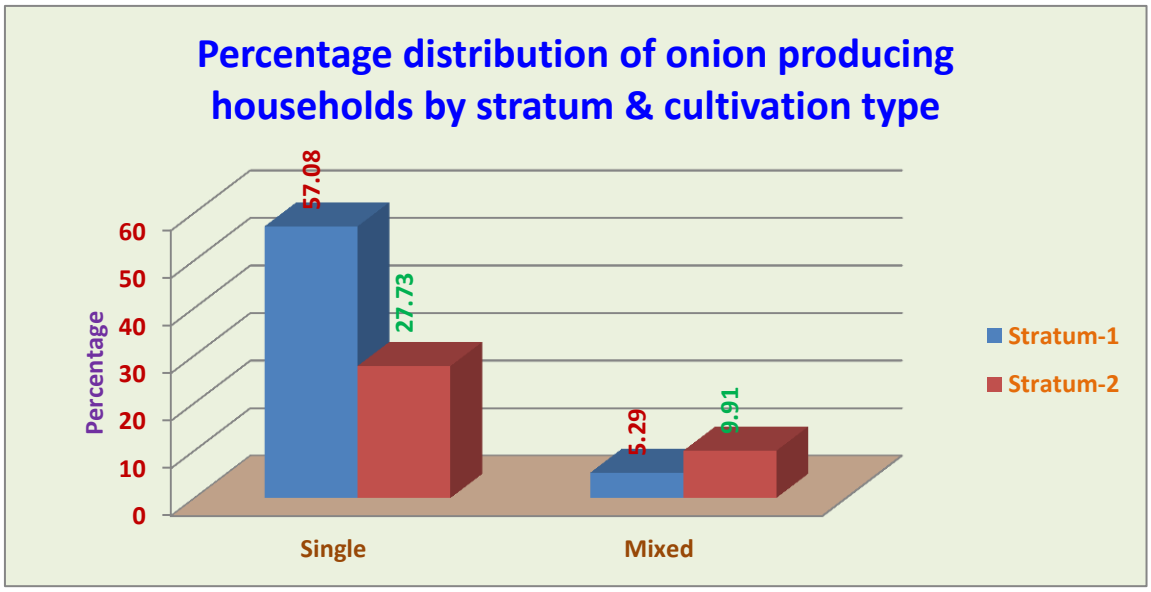


Table-3.4 indicates that 84.80% of the total households are producing onion crop and 15.20% of the households producing onion along with other crops. In stratum-1, 68786 households (8.48%) are producing onion along with other crops. On the other hand, 128784 households (26.32%) are producing onion along with other crops under stratum-2.

3.5: Percentage distribution of onion producing area (acre) by variety and stratum

Variety	Stratum					
	Total	%	Stratum-1	%	Stratum-2	%
Total	296414	100.00	202321	68.26	94092	31.74
Murikata	47732	16.10	24139	8.14	23592	7.96
Local	230063	77.62	165427	55.81	64636	21.81
HYV	17683	5.97	12028	4.06	5654	1.91
Others	936	0.32	726	0.25	210	0.07

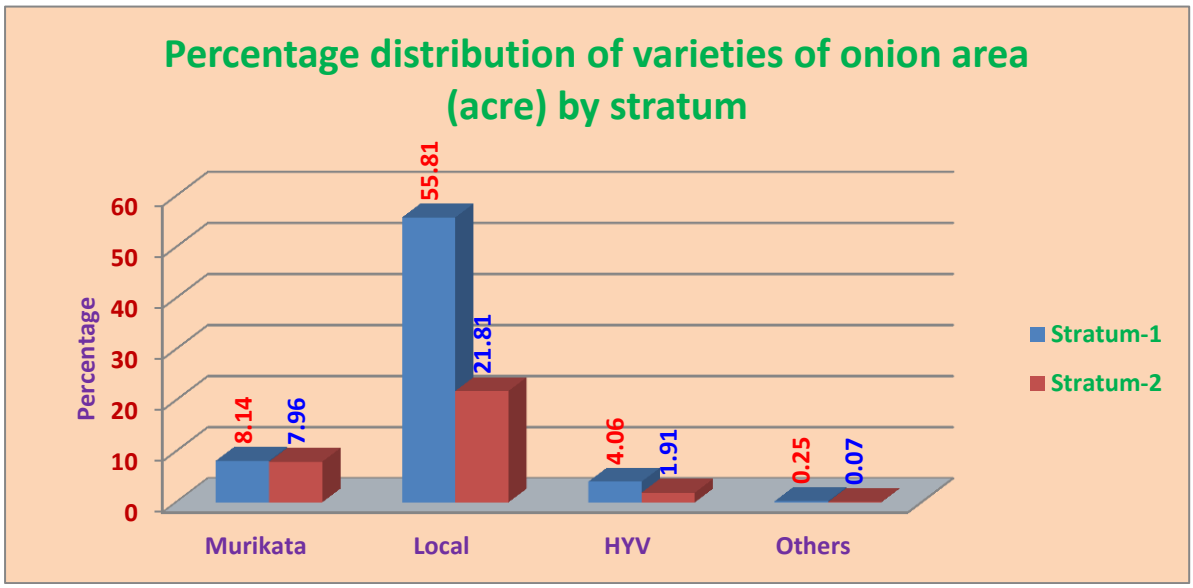


Table-3.5 presents varieties of onion crop areas (murikata, local, HYV and others) grown in area by stratum. Out of the four varieties, local has the highest onion cultivation area, which is 77.62%, and murikata is far behind with 16.10%, hybrid 5.97% and others are seen 0.32%. The table further shows that 202321 acres of land (68.26%) under stratum-1 and 94093 acres of land (31,74%) are under stratum-2 out of the total land.

3.6: Percentage distribution of onion producing households by variety & stratum

Variety	Stratum					
	Total	%	Stratum-1	%	Stratum-2	%
Total	1300187	100.00	810903	62.37	489284	37.63
Murikata	223950	17.22	103363	7.95	120587	9.27
Local	1011159	77.77	674619	51.89	336540	25.88
HYV	59561	4.58	29611	2.28	29950	2.30
Others	5517	0.42	3311	0.25	2207	0.17

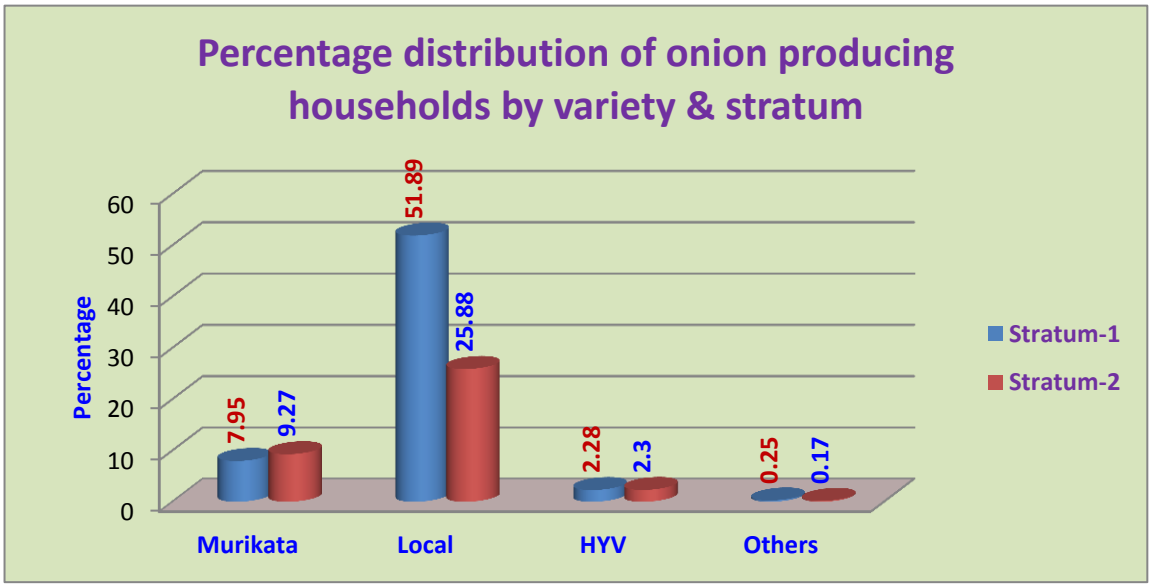


Table 3.6 provides the percentage distribution of onion cultivation by variety for the year 2014. The table shows that the highest 77.77% of onion producing households is local, followed far behind by 17.22% of murikata, 4.58% HYV and 0.42% other variety. In Stratum-wise, the highest 62.37% households is producing onion under stratum-1 which is much lower at 37.63% under stratum-2.

Table-3.7: Per acre leasing cost (Tk.) of onion crop by stratum

Stratum	Per acre leasing cost (Tk.)
All	6170
Stratum-1	6055
Stratum-2	6242

Table 3.7 presents leasing cost of onion crop per acre by stratum for the year 2014. Leasing means the land taken from others by the households for the cultivation of onion only on some payment of money to the land owner. Leasing value per acre is found to very significant different between two strata. Local leasing value has also been counted in case of households who cultivate the crop in their own lands. The average per acre leasing cost of onion crop in country is Taka 6170.

Chapter 4

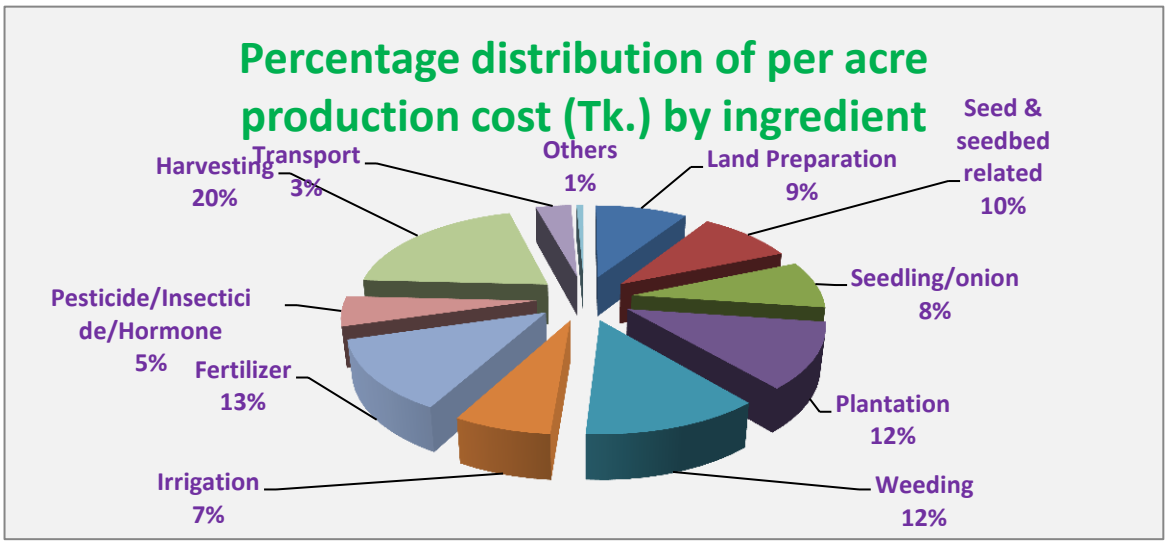
Production Cost

Production Cost

This chapter contains data on per acre production cost based on stratum, tenancy and varieties of onion productivity. The cost includes per acre production cost, per kilogram production cost by tenancy and varieties of onion. The various ingredient of onion production viz land preparation, seed & seedbed related, seedling/onion, plantation, weeding, irrigation, fertilizer, pesticides/insecticide/hormone, harvesting, transport and others have been taken into consideration in estimating the cost of production

Table-4.1: Percentage distribution of per acre production cost (Tk.) by ingredient cost stratum

Production Cost	Stratum					
	All		Stratum-1		Stratum-2	
	Cost	%	Cost	%	Cost	%
Total	53399	100.00	54120	100.00	51568	100.00
Land Preparation	4912	9.20	4823	8.91	5105	9.90
Seed & seedbed related	5103	9.56	5532	10.22	3892	7.55
Seedling/onion	4484	8.40	3607	6.66	6372	12.36
Plantation	6186	11.58	6891	12.73	4670	9.06
Weeding	6635	12.43	6408	11.84	7125	13.82
Irrigation	3645	6.83	3886	7.18	3125	6.06
Fertilizer	6699	12.55	6813	12.59	6455	12.52
Pesticide/Insecticide/Hormone	2818	5.28	3219	5.95	1957	3.79
Harvesting	10651	19.95	10829	20.01	10270	19.92
Transport	1893	3.55	1801	3.33	2092	4.06
Others	373	0.70	311	0.57	505	0.98



The above table presents average per acre production cost in all areas at Taka 53399 on an average for the year 2014. Per acre production cost is the highest of Taka 54120 in stratum-1 and the lowest of Taka 51568 in stratum-2 respectively. The table also shows that seed & seed bed related cost, plantation cost and pesticide/insecticide/hormone costs are much higher for onion cultivation in percent(10.22% and 12.73% and 5.95%) in stratum-1 compared much lower proportion (7.55%, 9.06% and 3.79% respectively) for onion cultivation in stratum-2. Similarly, seedling/onion cost and weeding costs are seen much higher percentages for onion cultivation (12.36% and 13.82%) in stratum-2 compared to much lower proportion (6.66% and 11.84%) of onion cultivation in stratum-1.

Table-4.2: Percentage distribution of per acre production cost (Tk.) by ingredient cost and tenancy

Production Cost	Tenancy					
	All		Owned		All others	
	Cost	%	Cost	%	Cost	%
Total	53399	100.00	54700	100.00	49303	100.00
Land Preparation	4912	9.20	4909	8.97	4922	9.98
Seed & seedbed related	5103	9.56	5255	9.61	4497	9.12
Seedling/Onion	4484	8.40	4515	8.25	4391	8.91
Plantation	6186	11.58	7212	13.18	3059	6.20
Weeding	6635	12.43	6604	12.07	6731	13.65
Irrigation	3645	6.83	3595	6.57	3795	7.70
Fertilizer	6699	12.55	6703	12.25	6689	13.57
Pesticide/Insecticide/Hormone	2818	5.28	2861	5.23	2690	5.46
Harvesting	10651	19.95	10807	19.76	10179	20.65
Transport	1893	3.55	1861	3.40	1993	4.04
Others	373	0.70	378	0.69	357	0.72

Note: Other means land taken from others

Table 4.2 presents that overall per acre production cost in all areas is Taka 53399 on an average for the year 2014. Whereas, the average per acre production cost of own land is seen Taka 54700 and in all other tenancy it is Taka 49303. As regard the production cost by type of ingredient, the highest cost is found in harvesting, which is Taka 10651 (19.95%), followed by fertilizer cost of Taka 6699 (12.55%), weeding cost of Taka 6635 (12.43%), plantation cost of Taka 6286 (11.58%) etc. It is noticeable that per acre plantation cost for owned tenancy is Taka 7212 (13.18%) whereas, the cost of all other is seen Taka 3059 (6.20%).

Table-4.3: Per acre production cost (Tk.) by variety and ingredient

Production cost	Variety							
	Total	%	Murikata	%	Local & Others	%	HYV	%
Total	53399	100.00	61643	100.00	50356	100.00	57160	100.00
Land Preparation	4912	9.20	5566	9.03	4817	9.57	4391	7.68
Seed & seedbed related	5103	9.56	-	0.00	5099	10.13	5149	9.01
Seedling/Onion	4484	8.40	14730	23.90	2494	4.95	2832	4.95
Plantation	6186	11.58	4601	7.46	6387	12.68	7846	13.73
Weeding	6635	12.43	7359	11.94	6410	12.73	7623	13.34
Irrigation	3645	6.83	2397	3.89	3836	7.62	4507	7.88
Fertilizer	6699	12.55	7157	11.61	6529	12.97	7695	13.46
Pesticide/Insecticide/Hormone	2818	5.28	1986	3.22	2971	5.90	3072	5.37
Harvesting	10651	19.95	14574	23.64	9717	19.30	12281	21.49
Transport	1893	3.55	2659	4.31	1773	3.52	1397	2.44
Others	373	0.70	615	1.00	323	0.64	368	0.64

It is seen from the above Table 4.3 that the highest average production cost for the murikata variety is Taka 61643, followed by HYV variety which is Taka 57160 and local (local and others) variety Taka 50356 respectively. The table also indicates that seedling/onion cost for murikata variety is more than five times higher than to local or HYV variety. Further it indicates that seed and seed related cost for local variety is Taka 5099 and Taka 5149 is for HYV variety respectively.

Table-4.4: Per Kg Production cost (Tk.), per acre production cost (Tk.) and quantity (Kg) by variety

Variety	**Per Kg Production cost (Tk.) , per acre production cost (Tk.) and quantity (Kg)**								
	All			Stratum-1			Stratum-2		
	Per Kg production cost (Tk.)	Per acre production		Per Kg production cost (Tk.)	Per acre production		Per Kg production cost (Tk.)	Per acre production	
		Cost (Tk.)	Quantity (kg.)		Cost (Tk.)	Quantity (kg.)		Cost (Tk.)	Quantity (kg.)
All	11.44	53399	4668	11.07	54120	4887	12.31	51568	4190
Murikata	12.54	61643	4912	12.27	64041	5221	12.88	59190	4595
Local	10.97	50656	4618	11.03	52375	4746	11.75	46249	3934
HYV	9.56	57160	5979	8.85	54653	6174	11.19	62494	5586

Table-4.4 presents overall average per kilogram production cost of onion is Taka 11.44, whereas the cost under stratum-1 is Taka 11.07 and under stratum-2 is Taka 12.31

respectively. The average highest per kilogram production cost is Taka 12.54 for murikata variety, followed by local variety, which is seen Taka 10.97 and for HYV variety it is Taka 9.56. The table shows that per acre production cost is found a significantly different in between two strata. The table also shows that production of HYV onion is higher at 5979 kilograms compared to 4912 kilograms of the murikata variety and local variety is seen 4618 kilograms.

Table-4.5: Per Kg Production cost (Tk.), per acre production cost (Tk.) & quantity (Kg) by tenancy

Tenancy	Per Kg Production cost (Tk.) , per acre production cost (Tk.) and quantity (Kg)								
	All Areas			Stratum-1			Stratum-2		
	Per Kg production cost (Tk.)	Per acre production		Per Kg production cost (Tk.)	Per acre production		Per Kg production cost (Tk.)	Per acre production	
		Cost (Tk.)	Quantity (kg.)		Cost (Tk.)	Quantity (kg.)		Cost (Tk.)	Quantity (kg.)
All	11.44	53399	4668	11.07	54120	4887	12.31	51568	4190
Owned	11.72	54699	4669	11.50	56912	4948	12.23	50256	4109
All others	10.55	49302	4674	9.85	46558	4725	12.44	56465	4540

Table 4.5 shows that the average production cost per kilogram of owned tenancy is Taka 11.72 and all others tenancy is Taka 10.55. The production cost of onion per kilogram is Taka 12.44 in all others tenancy under stratum-2 and is higher than that of stratum-1 and is 26.29% different in between stratum-1 and stratum-2.

Chapter 5

Labour and Labourer's Cost

Labour and Labourer's Cost

This chapter deals with information related especially the number and labourers for plantation, weeding and harvesting of onion cultivation for the year 2014

Table-5.1: Per acre number of labourer engaged & their cost (Tk.) of seedling raising & plantation by stratum

Stra by stratum tum	Number of Labourer							Per acre cost (Tk.)	Per labour cost Tk.)
	Family		Hired		Total				
	Male	Female	Male	Female	Male	Female	All		
Total	31.60	1.06	69.25	4.43	100.85	5.49	106.34	20479	192.58
Stratum-1	28.62	0.84	84.30	0.82	112.92	1.66	114.58	23404	204.25
Stratum-2	38.29	1.58	35.76	12.62	74.05	14.20	88.25	13921	157.75

In the above table it is observed that the average number of required labourers for per acre plantation at the national level is 106.34 persons and their cost is Taka 20479. The average number of required labourers is higher in the stratum-1 at 114.58 persons and the concern cost is Taka 23404, which are lower in the stratum-2 with 88.25 persons and their cost is Taka 13921 respectively. It is mentionable that per acre average number of required labourer and their cost are significantly different in between two strata.

Table-5.2: Per acre number of labourer engaged & their cost (Tk.) of weeding by stratum

Stratum	Number of Labourer							Per acre cost (Tk.)	Per labour cost (Tk.)
	Family		Hired		Total				
	Male	Female	Male	Female	Male	Female	All		
Total	7.60	0.60	18.49	3.81	26.09	4.41	30.50	6635	217.54
Stratum-1	6.38	0.49	17.95	4.05	24.33	4.54	28.87	6408	221.96
Stratum-2	10.23	0.83	19.66	3.30	29.89	4.13	34.02	7125	209.43

The above table shows that the average number of required labourer per acre for weeding at the national level is 30.50 persons and their involved cost is Taka 6635. The average number of required labourers is lower in the stratum-1 with 28.87 persons and their cost is Taka 6635, which are seen higher in the stratum-2 with 34.02 persons and their cost is Taka 7125 respectively. The table also shows that per acre number of required labourer is 17.84% higher in stratum-2 than that of stratum-1 but it is slightly lower by 11.19% per acre labourer cost.

Table-5.3: Per acre number of labourer engaged and their cost (Tk.) of harvesting (excluding cutting) by stratum.

Stratum	Number of Labourer							Per acre cost (Tk.)	Per labour cost (Tk.)
	Family		Hired		Total				
	Male	Female	Male	Female	Male	Female	All		
Total	9.52	1.23	19.68	1.63	29.20	2.86	32.06	7652	238.68
Stratum-1	8.29	0.60	21.84	1.08	30.13	1.68	31.81	8005	251.65
Stratum-2	12.15	2.59	15.05	2.83	27.20	5.42	32.62	6893	211.31

Table 5.3 shows that the average of required labourer per acre for harvesting at the national level is 32.o6 persons and involved cost is Taka 7652 during the survey year. It is mentionable that per acre harvesting labourer is almost similar (31.81 persons in stratum-1 and 32.62 persons in stratum-2) but labourer cost in the two stratums is 16.13% different with Taka 800 in stratum-1 and Taka 6893 in stratum-2 respectively.

Chapter 6

Production and Production Value

Production and Production Value

The estimated per kilogram production value (Taka), per acre production (kilogram) and per acre production value (Taka) by stratum, tenureship and varieties of onion productivity in Bangladesh have been presented in this chapter.

Table-6.1: Per kg production value (Tk.), per acre production (Kg) & value (Tk.) by tenancy

Tenancy	Per KG Production cost (TK) , per acre production cost and quantity (KG)								
	All Areas			Stratum-1			Stratum-2		
	Per Kg production value (Tk.)	Per acre production		Per Kg production value (Tk.)	Per acre production		Per Kg production value (Tk.)	Per acre production	
		Value (Tk.)	Quantity (Kg.)		Value (Tk.)	Quantity (Kg.)		Value (Tk.)	Quantity (Kg.)
All	22.93	107082	4668	22.78	111346	4887	23.37	97912	4190
Own	22.99	107348	4669	22.86	113135	4948	24.74	95731	3870
All others	22.74	106269	4674	22.50	106350	4725	25.81	106052	4109

Table 6.1 shows that the per kilogram production value (Taka), per acre production value (Taka) and per acre production quantity (kilogram) by tenancy and stratum. On averages per kilogram production (Taka), per acre production value (Taka) and per acre production quantity (kilogram) of onion in Bangladesh are estimated at Taka 22.93, Taka 107082 and 4668 kilograms respectively. The highest per acre production value of Taka 107348 and per kilogram production value of Taka 22.99 is found for owned land. Per acre yield rate in stratum-1 is 4887 kilograms with its value at Taka 111346 and per acre yield rate in stratum-2 is 4190 kilograms with its value Taka 97912.

Table-6.2: Per acre production kilogram and value (Tk.) for seedling, flower & onion by stratum

Stratum	Total value (Tk.)	Onion		Flower		Seedling	
		Pere acre production		Pere acre production		Pere acre production	
		Quantity (Kg.)	Value (Tk.)	Quantity (Kg.)	Value (Tk.)	Quantity (Kg.)	Value (Tk.)
Bangladesh	107082	4409	100945	129	2622	130	3515
Stratum-1	111346	4687	106580	106	2147	94	2619
Stratum-2	97912	3812	88828	178	3643	208	5441

Table 6.2 shows that per acre production value (Taka), category wise per acre quantity (kilogram) and value (Taka) of onion crops by stratum for the survey year. The table shows that on an average per acre production value in all areas is estimated at Taka107082 of which

Taka 100945 is for onion, Taka 2622 for flower and Taka 3515 for seedling crops respectively. It is seen from the table that per acre production value and yield rate is significantly different in between the two strata, which is 13.72% higher in stratum-1 than that of stratum-2.

Table-6.3: Per kg production value (Tk.), per acre production (Kg) and value (Tk.) by variety

Variety	All Areas			Stratum-1			Stratum-2		
	Per Kg production Value (Tk.)	Per acre production		Per Kg production Value (Tk.)	Per acre production		Per Kg production Value (Tk.)	Per acre production	
		Quantity (Kg.)	Value (Tk.)		Quantity (Kg.)	Value (Tk.)		Quantity (Kg.)	Value (Tk.)
All	22.93	4668	107082	22.78	4887	111346	23.37	4190	97912
Murikata	24.25	4912	119139	24.49	5221	127883	23.98	4595	110193
Local	22.32	4618	103075	22.63	4746	107433	23.36	3934	91908
HYV	21.22	5979	126881	21.41	6174	132214	20.68	5586	115537

It is seen from the above table that the highest per acre yield rate of HYV onion is 5979 kilogram and its value is estimated at Taka 126881, followed by murikata variety of onion 4912 kilogram with its value Taka 119139 and local variety 4618 kilogram with its value Taka 103075 respectively. The highest per kilogram production value (Taka) is found for murikata variety, which is Taka 24.25. Per acre yield rate of HYV variety is 6174 kilogram in stratum-1 & their value Taka 132214, followed by murikata variety 5221 kilograms & their value Taka 127883 and local variety 4746 kilograms and their value Taka 107433 respectively. On the other hand, per acre yield rate of HYV variety is 5586 kilograms in stratum-2 with its value Taka 115537, followed by murikata variety 4595 kilograms with its value Taka 110193 and local variety 3934 kilograms with its value Taka 91908 respectively.

Table-6.4: Per acre benefit cost ratio of onion crops by variety

Variety	All Areas			Stratum-1			Stratum-2		
	Per acre production		Benefit cost ratio	Per acre production		Benefit cost ratio	Per acre production		Benefit cost ratio
	Cost (Tk.)	Value (Tk.)		Cost (Tk.)	Value (Tk.)		Cost (Tk.)	Value (Tk.)	
All	53399	107082	2.01	54120	111346	2.06	51568	97912	1.90
Murikata	61643	119139	1.93	64041	127883	2.00	59190	110193	1.87
Local	50656	103075	2.03	52375	107433	2.05	46249	91908	1.99
HYV	57160	126881	2.22	54653	132214	2.42	62494	115537	1.85

Table-6.4 reveals the benefit cost ratio of the cost by varieties of onion in both stratum-1 and 2. It is the most significant component of production because it determines whether the producer will continue the production of the respective crops or not. If the benefit cost ratio of a onion crop is greater than one, it means that the producer will be benefited and he will be interested to continue the production of the onion crop; and if it is less than one it means that the producer will be looser and he will quit the production of the crop. It is evident from the table that benefit cost ratio of onion crop at national level is 2.01, in stratum-1 it is 2.06 and in stratum-2 is 1.90. This means that the productivity is greater than one in both the strata and farmers get some profit from the production of onion. At the national level, the highest benefit cost ratio is 2.22 for HYV onion and minimum/lowest productivity is 1.93 in murikata variety of onion.

Chapter 7

Sampling Error and Data Reliability

Sampling Error and Data Reliability

In estimating variance of R, using the Random Group Method the following formula is used:

$$\text{Var}(R) = \frac{\sum_{g=1}(R_g - R)^2}{K(K-1)}$$

Where: R= the estimated average cost (land preparation / seedling/ fertilizer / Pesticide//harvesting)

R_g= the estimated mean for the g^{th} random group

K = the number of random group

Table-7.1: Estimated farming year wise per decimal average production cost (excluding leasing) for the 2013 and their standard errors.

Stratum	Production Cost (Tk.)	Standard Error	Percentage of Relative Standard Error
All	53399	261.800	0.4903
Stratum-1	54120	189.435	0.3500
Stratum-2	51568	259.233	0.5027

The table shows that the average production cost per acre for national level of 53399 taka is not significantly different from the 54120 taka average highest production cost for stratum-1 at 95% confidence interval. Similarly, the average production cost per acre for national level of 53399 taka is not significantly different from the 51568 taka average lowest production cost for stratum-2 at 95% confidence interval. Production cost per acre for all estimates have acceptable reliability in terms of sampling error.

Table-7.2: Estimated farming year wise per decimal average production value (Tk.) for the year 2013 and their standard errors.

Stratum	Production Cost (Tk.)	Standard Error	Percentage of Relative Standard Error
All	100945	173.400	0.1718
Stratum-1	106580	403.524	0.3786
Stratum-2	88828	1158.132	1.3038

The table shows that the average production value per acre for national level of 100945 taka is significantly different from the 106580 taka average highest production cost

for stratum-1 at 95% confidence interval. Similarly, the average production cost per acre for national level of 100945 taka is significantly different from the 88828 taka average lowest production value for stratum-2 at 95% confidence interval.

Although the estimated per acre production value for both strata is subject to the higher standard error than for national level. Production values per acre for all estimates have acceptable reliability in terms of sampling error

Annex

Annex-A: Statistical Table
Annex-B: Concepts and Definitions
Annex-C: Questionnaire (Bangla)
Annex-D: Questionnaire (English)
Annex-E: Reference

Annex-A: Statistical Table

Table-1: Distribution of area (acres) and households under onion cultivation by tenancy & stratum

Tenancy	Stratum					
	Total		Stratum-1		Stratum-2	
	Area	Household	Area	Household	Area	Household
1	2	3	4	5	6	7
Bangladesh	296414	1300187	202321	810903	94092	489284
Owned	223184	995544	148975	586337	74209	409207
Share crop	18684	82052	11857	53521	6827	28531
Mortgage	22630	97212	16689	73568	5941	23645
Lease	30594	120754	23968	94903	6625	25851
Other	1322	4624	831	2575	490	2049

Note: Stratatum-1= Khulna, Rajshahi & Rangpur division Stratum-2= Barisal, Chittagong, Dhaka & Sylhet division

Table-2: Distribution of area (acres) and households under onion cultivation by variety and stratum

Variety	Stratum					
	Total		Stratum-1		Stratum-2	
	Area	Household	Area	Household	Area	Household
1	2	3	4	5	6	7
Bangladesh	296414	1300187	202321	810903	94092	489284
Murikata	47732	223950	24139	103363	23592	120587
Local	230063	1011159	165427	674619	64636	336540
Hybrid	17683	59561	12028	29611	5654	29950
Others	936	5517	726	3311	210	2207

Table-3: Distribution of area (acres) & households under onion cultivation by stratum & cultivation type.

Stratum	Type of cultivation					
	All		Single		Mixed	
	Area	No. of H/H	Area	No. of H/H	Area	No. of H/H
1	2	3	4	5	6	7
Bangladesh	296414	1300187	254246	1102617	42168	197570
Stratum-1	202321	810903	186309	742117	12012	68786
Stratum-2	94092	489284	67937	360500	26156	128784

Table-4: Per acre land preparation cost (Tk.) by Stratum

Stratum	Land preparation cost (Tk.)					
	Total cost (Tk.)	Plough/kodal		Power tiller		Other cost (Tk.)
		Number	Cost (Tk.)	Number	cost (Tk.)	
1	2	3	4	5	6	7
Bangladesh	4912	1.98	223	4.07	4154	535
Stratum-1	4823	1.90	209	3.87	4166	448
Stratum-2	5105	2.14	254	4.51	4129	722

Table-5: Per acre seedbed preparation, quantity (Gm.) & their cost of seed and with related cost (Tk.) by stratum

Stratum	Area under seedbed (acre)	Per acre seed and their cost (Tk.) with related cost (Tk.)						
		Seedbed preparation cost (Tk.)	Seed		Irrigation cost (Tk.)	Fertilizer cost (Tk.)	Weeding cost (Tk.)	Total cost (Tk.)
			Qty. (Gm.)	Value (Tk.)				
1	2	3	4	5	6	7	8	9
Bangladesh	28166	7414	3746	7297	6025	4984	7209	32929
Stratum-1	19554	7452	3898	7752	7596	6053	8870	37723
Stratum-2	8611	7329	3402	6264	2457	2556	3437	22043

Table-6: Per acre number of seedling raising labour & their cost (Tk.) for seedbed, seedling/onion own/purchase value (Tk.) by stratum

Stratum	No. of seedling raising labour & their cost (Tk.)					Seed (onion) (own)		Seedling/onion (purchase)	
	Number of labour								
	Family		Hired		Cost (Tk.)	Qty. (Kg)	Cost (Tk.)	Qty. (Kg)	Cost (Tk.)
	Male	Female	Male	Female					
1	2	3	4	5	6	7	8	9	10
Bangladesh	23.56	0.55	38.90	3.81	14293	80	1392	134	4260
Stratum-1	21.06	0.39	48.33	0.34	16513	87	1502	107	3428
Stratum-2	29.23	0.92	17.48	11.68	9251	74	1279	191	6051

Table-7: Per acre number of plantation labourer and their cost (Tk.) by stratum

Stratum	No. of plantation labouerr & their cost (Tk.)				
	Number of labourer				Cost (Tk.)
	Male	Female	Male	Female	
1	2	3	4	5	6
Bangladesh	8.04	0.51	30.35	0.62	6186
Stratum-1	7.56	0.45	35.97	0.48	6891
Stratum-2	9.06	0.66	18.28	0.94	4670

Table-8: Per acre number of weeding labourer & their cost (Tk.) and irrigation cost (Tk.) by stratum

Stratum	Per acre number of weeding labourer & their cost (Tk.)					Per acre no. of irrigation & their cost (Tk.)	
	Number of labourer				Cost (Tk.)		
	Family		Hired			Number	Cost (Tk.)
	Male	Female	Male	Female			
1	2	3	4	5	6	7	8
Bangladesh	7.60	0.60	18.49	3.81	6635	4	3645
Stratum-1	6.38	0.49	17.95	4.05	6408	4	3886
Stratum-2	10.23	0.83	19.66	3.30	7125	5	3125

Table-9: Per acre use of fertilizer quantity (Kg) and their cost (TK.) by stratum

Stratum	Per acre fertilizer quantity (Kg) and cost (Tk.)										
	Total cost (Tk.)	Urea		TSP/DAP		MOP		Boron		Cake (Tk.)	Others (Tk.)
		Qty. (Kg)	Cost (Tk.)	Qty. (Kg)	Cost (Tk.)	Qty. (Kg)	Cost (Tk.)	Qty. (Kg)	Cost (Tk.)		
1	2	3	4	5	6	7	8	9	10	11	12
Bangladesh	6699	89	1641	96	2843	56	953	37	279	570	414
Stratum-1	6813	89	1647	98	2975	58	1016	39	285	571	320
Stratum-2	6455	91	1630	92	2558	51	816	31	265	570	616

Table-10: Per acre number of harvesting labourers & their cost (TK.) by stratum

Stratum	Total cost (Tk.)	No.of labourer & their cost for flower					No.of labour & their cost for onion					Cutting cost (Tk.)
		Family		Hired		Cost (Tk.)	Family		Hired		Cost (Tk.)	
		Male	Fem.	Male	Fem		Male	Fem	Male	Fem		
1	2	3	4	5	6	7	8	9	10	11	12	13
Bangladesh	10799	2.24	0.58	2.14	0.15	1082	7.28	0.65	17.54	1.48	6583	2986
Stratum-1	10829	1.86	0.34	2.29	0.08	1039	6.43	0.26	19.55	1.00	6985	2805
Stratum-2	10678	3.06	1.10	1.83	0.31	1175	9.09	1.49	13.22	2.52	5718	3376

Table-11: Per acre pesticide, insecticide and Harmon cost (Tk.).) by stratum

Stratum	Pesticide, Insecticide and Harmon cost (Tk.)				Transport cost (Tk.)	Others cost (Tk.)
		Pesticide	Insecticide	Harmon		
1	2	3	4	5	6	7
Bangladesh	2872	1451	997	424	1893	313
Stratum-1	3169	1723	1025	421	1801	311
Stratum-2	2122	868	826	428	2092	505

Table-12: Per acre production quantity (Kg) and value (Tk.) by stratum

Stratum		Seedling		Flower		Onion	
	Total value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6	7	8
Bangladesh	107082	63	3515	136	2622	4409	100945
Stratum-1	111342	61	2619	115	2147	4687	106580
Stratum-2	97912	68	5441	182	3643	3812	88828

Table-12.a: Per acre production cost (Tk.) by stratum & size of land

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/onion	Plantation	Weeding	Irrigation	Pesticide/insecticide/Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
All												
Total	53399	4912	5103	4484	6186	6635	3645	2818	6699	10651	1893	373
0.01-0.04	58626	5727	8686	8944	7063	5487	3577	2736	4020	10582	1597	207
0.05-0.49	56901	5098	3145	6598	5191	7627	3547	3499	7624	11977	2099	496
0.50-0.99	53364	4885	7518	3985	5829	6102	3422	2725	6525	10078	1955	340
1.00-1.49	52454	4914	7238	2967	7160	6202	3910	2408	5892	9645	1818	300
1.50-2.49	51241	4582	7584	2016	8102	5846	4023	1991	5794	9725	1396	182
2.50-4.99	46158	4328	5331	1516	8583	5273	4001	1217	5215	9117	1286	291
5.00-7.49												
7.50+												
Stratum-1												
Total	54120	4823	5542	3607	6891	6408	3886	3219	6813	10829	1801	311
0.01-0.04	46615	3590	-	5000	5050	5625	5625	5500	4475	10875	875	-
0.05-0.49	59899	5045	2590	5891	5793	7063	4113	4927	8482	12515	2080	400
0.50-0.99	53136	4811	6241	3650	6413	6210	3494	2982	6620	10572	1822	321
1.00-1.49	52002	4866	6325	2455	7550	6430	4029	2509	5729	10032	1804	273
1.50-2.49	50693	4544	7017	1449	8582	5887	4021	2018	5912	9746	1360	157
2.50-4.99	46095	4323	5196	989	8737	5433	4108	1262	5295	9079	1359	314
5.00-7.49												
7.50+												
Stratum-2												
Total	51568	5105	3892	6372	4670	7125	3125	1957	6455	10270	2092	505
0.01-0.04	55029	6223	4395	9602	7398	5464	3236	2275	3945	10534	1716	241
0.05-0.49	53680	5155	2666	7356	4544	8232	2940	1966	6702	11399	2120	600
0.50-0.99	48385	5100	5552	4950	4150	5791	3215	1986	6253	8658	2336	394
1.00-1.49	49450	5100	6003	4931	5662	5323	3453	2023	6520	8160	1870	405
1.50-2.49	49282	4765	5724	4746	5786	5649	4031	1863	5222	9626	1567	303
2.50-4.99	41605	4381	1725	8143	6648	3250	2645	651	4210	9582	370	-
5.00-7.49												
7.50+												

Table-12.b: Per acre production value (Tk.) for seedling, flower & onion by stratum and size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
All							
Total	107075	130	3508	129	2622	4409	100945
0.01-0.04	99490	-	-	279	2484	3675	97005
0.05-0.49	107737	171	4410	224	4675	4275	98652
0.50-0.99	107111	136	3624	106	1911	4457	101576
1.00-1.49	105482	82	2347	53	924	4513	102211
1.50-2.49	107179	82	2972	17	913	4521	103293
2.50-4.99	106750	32	630	19	294	4583	105826
5.00-7.49							
7.50+							
Stratum-1							
Total	111336	93	2609	106	2147	4687	106580
0.01-0.04	86100	-	-	-	-	3288	86100
0.05-0.49	120464	199	5387	215	4363	4822	110714
0.50-0.99	109815	72	2003	97	1783	4664	106029
1.00-1.49	104480	33	1193	52	839	4577	102448
1.50-2.49	106602	28	978	16	1047	4614	104577
2.50-4.99	107964	34	680	7	58	4665	107224
5.00-7.49							
7.50+							
Stratum-2							
Total	97912	208	5441	178	3643	3812	88828
0.01-0.04	101721	-	-	325	2898	3739	98823
0.05-0.49	94065	141	3362	235	5010	3688	85694
0.50-0.99	99326	319	8291	134	2282	3859	88754
1.00-1.49	10933	267	6782	57	1248	4266	101302
1.50-2.49	109958	340	12591	21	265	4068	97102
2.50-4.99	91491	-	-	163	3254	3560	88237
5.00-7.49							
7.50+							

Table-13.a: Per acre production cost (Tk.) for own land by stratum and size of land.

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/onion	Plantation	Weeding	Irrigation	Pesticide/insecticide/Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
Own land												
Total	54700	4909	5255	4515	7212	6604	3595	2861	6703	10807	1861	378
0.01-0.04	56210	5353	8671	7821	6858	5246	3411	2722	3714	10984	1160	270
0.05-0.49	56999	5094	3321	6621	5690	7393	3521	3524	7520	11745	2073	497
0.50-0.99	53534	4811	6949	3775	7404	5878	3335	2798	6388	10087	1791	318
1.00-1.49	54115	5032	6657	2518	8784	6472	3985	2391	6040	10051	1892	293
1.50-2.49	52067	4415	6982	1827	9402	6005	3963	1734	5836	10327	1385	191
2.50-4.99	47777	4526	4180	2217	9975	5336	3632	1200	5137	9900	1312	362
5.00-7.49												
7.50+												
Stratum-1												
Total	56912	4885	6099	3767	8224	6534	3841	3280	6908	11206	1850	319
0.01-0.04	52356	3419	8775	5238	6306	4688	4331	3594	3206	11875	613	313
0.05-0.49	61619	5071	4770	5962	6509	6933	4069	4937	8372	12402	2187	407
0.50-0.99	56313	4813	7001	3787	8181	6295	3409	3113	6669	10905	1824	316
1.00-1.49	55265	5147	6666	2247	9283	6754	4059	2443	5973	10584	1846	261
1.50-2.49	52827	4424	7131	1586	10003	6206	3960	1725	5914	10388	1323	168
2.50-4.99	48523	4543	4477	1502	10376	5588	3751	1266	5249	9939	1426	405
5.00-7.49												
7.50+												
Stratum-2												
Total	50255	4957	3560	6017	5180	6745	3102	2019	6291	10006	1881	497
0.01-0.04	57567	6034	8634	8731	7053	5443	3087	2415	3892	10670	1353	255
0.05-0.49	52232	5119	1811	7307	4837	7872	2952	2094	6633	11061	1954	592
0.50-0.99	46303	4808	6815	3743	5383	4793	3142	1976	5657	7958	1706	322
1.00-1.49	49496	4568	6621	3608	6778	5335	3689	2180	6307	7913	2075	422
1.50-2.49	46797	4352	5951	3498	5245	4617	3982	1794	5293	9903	1810	352
2.50-4.99	41605	4381	1725	7143	6648	3250	2645	1651	4210	9582	370	-
5.00-7.49												
7.50+												

Table-13.b: Per acre production value (Tk.) for own land by stratum and size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
All							
Total	107340	138	3720	131	2581	4400	101038
0.01-0.04	97403	-	-	179	1439	3564	95965
0.05-0.49	107321	175	4702	212	4319	4273	98300
0.50-0.99	107874	152	4146	107	1895	4469	101834
1.00-1.49	107053	101	2397	57	873	4509	103783
1.50-2.49	107407	59	2113	17	733	4484	104561
2.50-4.99	104949	-	-	27	429	4650	104520
5.00-7.49							
7.50+							
Stratum-1							
Total	113122	94	2789	114	2234	4739	108112
0.01-0.04	83925	-	-	-	-	2975	83925
0.05-0.49	120799	196	5780	202	4117	4846	110902
0.50-0.99	111709	78	1996	115	2110	4738	107603
1.00-1.49	107633	29	1179	63	837	4650	105617
1.50-2.49	108193	16	686	19	839	4599	106667
2.50-4.99	106575	-		11	88	4782	106487
5.00-7.49							
7.50+							
Stratum-2							
Total	95731	224	5616	164	3277	3721	86838
0.01-0.04	102151	-	-	242	1945	3772	100206
0.05-0.49	93304	152	3581	222	4530	3676	85193
0.50-0.99	97899	346	9740	86	1334	3770	86824
1.00-1.49	104721	393	7295	33	1017	3945	96409
1.50-2.49	101971	351	11979	-	-	3693	89992
2.50-4.99	91491	-	-	163	3254	3560	88237
5.00-7.49							
7.50+							

Table-14.a: Per acre production cost (Tk.) for share crop & all other tenancy by stratum & size of land

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/ onion	Plantation	Weeding	Irrigation	Pesticide/ insecticide/ Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
Share crop & all other												
Total	49303	4922	4497	4391	3059	6731	3795	2690	6689	10179	1993	357
0.01-0.04	53090	7125	-	10625	8875	5938	3513	3550	2750	6863	3538	313
0.05-0.49	52664	5138	2721	5200	3701	7700	3702	3061	7551	11252	2192	446
0.50-0.99	48069	4975	5283	4086	2653	6179	3814	2495	6229	10043	2000	312
1.00-1.49	43412	4492	7078	3063	2024	5735	3628	2089	5194	8251	1569	289
1.50-2.49	44252	3741	8644	3144	2622	4992	4754	2344	5486	7063	1331	131
2.50-4.99	33462	4700	5420		1944	3000	3600	1200	7060	5363	1175	-
5.00-7.49												
7.50+												
Stratum-1												
Total	46557	4648	4185	3160	3168	6055	4011	3048	6550	9778	1663	291
0.01-0.04	-	-	-	-	-	-	-	-	-	-	-	-
0.05-0.49	55908	4877	8242	3824	3905	6697	3924	3723	7620	10914	1823	359
0.50-0.99	49177	4722	7893	3192	2948	5861	4086	2747	6113	9720	1618	277
1.00-1.49	41876	4247	7078	2162	2018	5625	3730	2173	4985	8079	1524	255
1.50-2.49	40834	3521	8644	1312	2161	4533	4746	2508	5069	7004	1265	71
2.50-4.99	33462	4700	5420		1944	3000	3600	1200	7060	5363	1175	-
5.00-7.49												
7.50+												
Stratum-2												
Total	56465	5654	5133	7693	2767	8544	3213	1728	7063	11255	2880	534
0.01-0.04	53087	7125	-	10625	8875	5938	3513	3550	2750	6863	3538	313
0.05-0.49	59039	5646	4663	7882	3303	9656	3267	1770	7416	11909	2911	614
0.50-0.99	53833	5812	6081	7042	1676	7231	2917	1661	6614	11108	3264	426
1.00-1.49	48011	5534	5163	6883	2049	6203	3193	1733	6084	8978	1759	431
1.50-2.49	55995	4753	4682	11561	4741	7098	4788	1593	7401	7338	1633	408
2.50-4.99												
5.00-7.49												
7.50+												

Table-14.b: Per acre production value (Tk.) for share crop & all other tenancy by stratum & size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
Share crop & all other tenancy							
Total	106269	107	2863	131	2746	4436	100661
0.01-0.04	107600	-	-	925	17600	4125	90000
0.05-0.49	108465	119	3120	197	4312	4425	101033
0.50-0.99	105283	115	2557	87	1714	4426	101012
1.00-1.49	104718	46	3547	85	1232	4690	99939
1.50-2.49	101161	96	1916	-	-	4439	99245
2.50-4.99	87500	-	-	-	-	2500	87500
5.00-7.49							
7.50+							
Stratum-1							
Total	106350	91	2145	92	1902	4542	102303
0.01-0.04	-	-	-	-	-	-	-
0.05-0.49	112064	127	3333	144	2976	4659	105755
0.50-0.99	103282	64	1311	68	1415	4491	100556
1.00-1.49	101214	49	795	52	979	4608	99440
1.50-2.49	101143	117	2333	-	-	4392	98810
2.50-4.99	87500	-	-	-	-	2500	87500
5.00-7.49							
7.50+							
Stratum-2							
Total	106052	149	4789	237	5008	4154	96255
0.01-0.04	107600	-	-	925	17600	4125	90000
0.05-0.49	101443	103	2704	300	6919	3970	91820
0.50-0.99	111899	285	6675	150	2703	4211	102521
1.00-1.49	119564	37	15228	221	2307	5037	102058
1.50-2.49	101243	-	-	-	-	4655	101243
2.50-4.99							
5.00-7.49							
7.50+							

Table-15.a: Per acre production cost (Tk.) for murikata variety by stratum & size of land

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/onion	Plantation	Weeding	Irrigation	Pesticide/insecticide/Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
Murikata variety												
Total	65296	5566	3653	14730	4601	7359	2397	1986	7157	14574	2659	615
0.01-0.04	64984	5415	15744	11795	5540	4903	1694	3246	3592	11809	1024	223
0.05-0.49	68808	5789	5138	14330	4814	7923	2607	2221	7419	15230	2624	713
0.50-0.99	61507	5572	2141	14372	4202	6693	2084	1813	6767	14381	2932	549
1.00-1.49	60872	4808	656	17453	4501	6346	2439	1587	7257	12871	2540	413
1.50-2.49	54264	3989		16138	4607	7383	1748	976	6344	10922	1846	311
2.50-4.99	57636	5160		20000	5148	4800	1920	360	7000	12720	528	-
5.00-7.49												
7.50+												
Stratum-1												
Total	68914	4733	4873	16572	4955	6968	2477	2368	6957	16556	1955	500
0.01-0.04	71496	5065	13283	10591	4809	7796	2083	6370	6604	14066	657	174
0.05-0.49	74616	5191	8316	16060	5010	7305	2690	2727	7217	17369	2183	547
0.50-0.99	66567	4889	2290	16919	5141	6618	2257	2146	6781	17154	1828	543
1.00-1.49	59351	3327		18282	4388	6452	2432	1909	6444	14126	1680	312
1.50-2.49	52097	2694		15201	4608	7238	1956	1318	6860	10705	1283	235
2.50-4.99												
5.00-7.49												
7.50+												
Stratum-2												
Total	61594	6417	2404	12845	4238	7759	2316	1595	7362	12546	3379	734
0.01-0.04	62336	5558	16558	12285	5838	3727	1534	1976	2367	11078	1173	242
0.05-0.49	64228	6260	2631	12966	4659	8411	2541	1823	7579	13542	2972	844
0.50-0.99	55029	6446	1951	11111	2999	6789	1862	1385	6749	10831	4347	558
1.00-1.49	64384	8226	2172	15540	4764	6103	2456	842	9135	9976	4524	647
1.50-2.49	59724	7252		18500	4606	7750	1223	117	5043	11467	3267	500
2.50-4.99	57636	5160		20000	5148	4800	1920	360	7000	12720	528	-
5.00-7.49												
7.50+												

Table-15.b: Per acre production value (Tk.) for murikata variety by stratum and size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
Murikata variety							
Total	119139	-	-	467	9577	4445	109562
0.01-0.04	79115	-	-	482	4570	2859	74545
0.05-0.49	119366	-	-	539	8176	4507	111190
0.50-0.99	114849	-	-	390	6577	4406	108273
1.00-1.49	115612	-	-	359	5421	4448	110191
1.50-2.49	115801	-	-	239	4849	4372	110953
2.50-4.99	52992	-	-	400	7992	2500	45000
5.00-7.49							
7.50+							
Stratum-1							
Total	127883	-	-	504	9471	4717	118412
0.01-0.04	76691	-	-	365	4265	2830	72426
0.05-0.49	129449	-	-	616	9556	4884	119893
0.50-0.99	126569	-	-	415	6994	4669	119575
1.00-1.49	114445	-	-	414	5569	4398	108876
1.50-2.49	127229	-	-	228	5463	4262	121766
2.50-4.99							
5.00-7.49							
7.50+							
Stratum-2							
Total	110193	-	-	428	9686	4167	100507
0.01-0.04	80100	-	-	529	4694	2871	75406
0.05-0.49	111205	-	-	479	6877	4209	104328
0.50-0.99	99842	-	-	358	6042	4070	93801
1.00-1.49	118307	-	-	231	5081	4564	113226
1.50-2.49	87000	-	-	267	3300	4650	83700
2.50-4.99	62992	-	-	400	7992	2500	55000
5.00-7.49							
7.50+							

Table-16.a: Per acre production cost (Tk.) for local & all other variety by stratum & size of land

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/onion	Plantation	Weeding	Irrigation	Pesticide/insecticide/Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
Local & all other variety												
Total	50656	4817	5399	2494	6387	6410	3836	2971	6529	9717	1773	323
0.01-0.04	53249	5060	6973	4108	5415	6084	3491	4802	5847	10269	932	265
0.05-0.49	53233	4942	2540	4473	5369	7472	3719	3830	7430	11078	1950	421
0.50-0.99	49425	4729	7226	1706	6182	5850	3618	2770	6280	8998	1767	300
1.00-1.49	50813	5044	6994	1278	7564	6252	4054	2506	5700	9386	1759	278
1.50-2.49	48479	4514	7253	746	8167	5365	4239	1987	5977	8616	1446	169
2.50-4.99	40883	4168	5670	358	7008	4384	4483	1294	5185	6934	1160	239
5.00-7.49												
7.50+												
Stratum-1												
Total	52375	4875	6082	1859	6967	6351	4125	3420	6838	9738	1831	291
0.01-0.04	53440	4420	2800	3768	3572	6740	3864	6260	7896	13036	740	344
0.05-0.49	57534	5090	3433	3807	6025	7107	4383	5425	8479	11361	2066	360
0.50-0.99	50753	4748	7196	1496	6541	6118	3683	3032	6511	9295	1833	300
1.00-1.49	52187	5131	7112	970	7956	6520	4253	2637	5719	9751	1861	277
1.50-2.49	49359	4597	7593	427	8509	5699	4277	1984	6264	8349	1507	155
2.50-4.99	43639	4192	5873	384	6959	4546	4581	1327	5397	6898	1226	256
5.00-7.49												
7.50+												
Stratum-2												
Total	46249	4669	3650	4122	4898	6563	3097	1821	5736	9662	1625	406
0.01-0.04	51251	5565	9205	4376	6868	5568	3197	2865	4232	8089	1084	203
0.05-0.49	47675	4752	1391	5329	4525	7941	2864	1778	6080	10714	1802	499
0.50-0.99	44770	4659	7331	2442	4924	4914	3390	1851	5471	7958	1533	297
1.00-1.49	44899	4666	6487	2602	5873	5094	3193	1945	5618	7819	1323	280
1.50-2.49	43056	4005	5158	2707	6063	3308	4000	2007	4212	10266	1074	255
2.50-4.99	32994	3846	2909	2400	7679	2185	3143	852	2293	7425	261	-
5.00-7.49												
7.50+												

Table-16.b: Per acre production value (Tk.) for local & all other variety by stratum and size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
Local & all other variety							
Total	103066	164	4433	64	1288	4390	97346
0.01-0.04	196120	238	3174	74	792	3535	92154
0.05-0.49	102949	230	5856	133	2695	4144	94398
0.50-0.99	103879	169	4603	35	548	4383	98728
1.00-1.49	103795	94	3296	20	276	4424	100222
1.50-2.49	103810	82	2286	3	647	4394	100877
2.50-4.99	91686	49	988	-	-	4044	90698
5.00-7.49							
7.50+							
Stratum-1							
Total	107421	110	3099	52	1137	4583	103185
0.01-0.04	98884	540	7200	120	1412	3308	90272
0.05-0.49	117294	240	6514	124	2724	4739	108055
0.50-0.99	106462	87	2428	36	557	4624	103477
1.00-1.49	102151	29	1066	23	306	4512	100780
1.50-2.49	102661	34	1179	3	752	4455	100730
2.50-4.99	89757	53	1060			4026	88696
5.00-7.49							
7.50+							
Stratum-2							
Total	91908	301	7850	92	1674	3541	82384
0.01-0.04	93941	-	-	38	303	3714	93638
0.05-0.49	84509	219	5028	145	2658	3380	76823
0.50-0.99	94831	455	12224	31	519	3537	82088
1.00-1.49	100871	374	8900	7	149	4042	97821
1.50-2.49	110888	381	9104	-	-	4015	101784
2.50-4.99	117932	-	-	-	-	4288	117932
5.00-7.49							
7.50+							

Table-17.a: Per acre production cost (Tk.) for hybrid variety by stratum & size of land

Size of land (acre)	Per acre production cost (Tk.)											
	Total	Land Preparation	Seed, seedbed, seedling related	Seedling/onion	Plantation	Weeding	Irrigation	Pesticide/insecticide/ Harmon	Fertilizer	Harvesting	Transport	Others
1	2	3	4	5	6		7	8	9	10	11	12
Hybrid variety												
Total	57160	4391	5149	2832	7846	7623	4507	3072	7695	12281	1397	368
0.01-0.04	-	-	-	-	-	-	-	-	-		-	-
0.05-0.49	57096	4652	3039	4033	5356	8115	4921	3947	10416	10547	1628	441
0.50-0.99	59006	5075	7263	1288	7284	8131	5569	4507	9552	10234	1702	399
1.00-1.49	57518	4195	7362	1778	6159	8958	6287	3720	8365	8697	1467	530
1.50-2.49	52102	4114	4666	2684	10494	6408	3062	1355	3684	14514	968	153
2.50-4.99	50741	3525	3114	2829	12076	6427	2821	1096	3841	13710	999	304
5.00-7.49												
7.50+												
Stratum-1												
Total	54653	4279	5383	1738	9724	6069	3417	2152	6185	14410	1076	221
0.01-0.04	-	-	-	-	-	-	-	-	-	-	-	-
0.05-0.49	55113	4582	6214	1640	6003	4989	4659	3425	8822	12878	1454	450
0.50-0.99	56813	5372	7466	1207	9498	6461	4001	3022	6660	11827	1115	185
1.00-1.49	51661	3912	7762	-	9366	6546	3265	2692	6174	11109	835	-
1.50-2.49	55654	4020	5050	1875	10934	6148	2542	1196	3319	19613	893	63
2.50-4.99	50741	3525	3114	2829	12076	6427	2821	1096	3841	13710	999	304
5.00-7.49												
7.50+												
Stratum-2												
Total	62494	4628	4650	5160	3849	10928	6828	5031	10908	7751	2080	681
0.01-0.04	-	-	-	-	-	-	-	-	-	-	-	-
0.05-0.49	60402	4701	4873	5667	4915	10249	5100	4303	9456	8958	1747	434
0.50-0.99	76401	4152	8975	1543	1389	13333	10453	9131	10559	5272	3529	1064
1.00-1.49	67698	4562	9436	4081	2004	12084	10201	5052	11204	5572	2285	1217
1.50-2.49	61534	5244	-	12500	5159	9563	9375	3281	8118	5172	1875	1250
2.50-4.99												
5.00-7.49												
7.50+												

Table-17.b: Per acre production value (Tk.) for hybrid variety by stratum and size of land

Size of land (acre)	Per acre production seedling, flower and onion value(Tk.)						
	Total Value (Tk.)	Seedling		Flower		Onion	
		Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)	Qty. (Kg)	Value (Tk.)
1	2	3	4	5	6		
Hybrid variety							
Total	126881	33	901	82	1274	5864	124706
0.01-0.04	-	-	-	-	-	-	-
0.05-0.49	125669	85	2448	221	3423	5456	119798
0.50-0.99	121669	18	175	15	292	5831	121202
1.00-1.49	116377	-	-	5	46	6136	116331
1.50-2.49	130557	-	-	-	-	6396	130557
2.50-4.99	138589	-	-	-	-	5982	138589
5.00-7.49							
7.50+							
Stratum-1							
Total	132214	42	1081	64	1398	6068	129735
0.01-0.04	-	-	-	-	-	-	-
0.05-0.49	143362	176	4886	286	6234	6089	132241
0.50-0.99	121073	23	231	19	386	5687	120456
1.00-1.49	118322	-	-	-	-	6175	118322
1.50-2.49	130933	-	-	-	-	6346	130933
2.50-4.99	138589	-	-	-	-	5982	138589
5.00-7.49							
7.50+							
Stratum-2							
Total	115537	15	519	119	1012	5452	114007
0.01-0.04	-	-	-	-	-	-	-
0.05-0.49	113597	22	785	177	1506	5024	111306
0.50-0.99	123527	-	-	-	-	6280	123527
1.00-1.49	113856	-	-	11	105	6086	113751
1.50-2.49	123000	-	-	-	-	6400	123000
2.50-4.99							
5.00-7.49							
7.50+							

Table-18: Distribution of number household, amount of loan and money used for onion farming by source of loan.

Items	Source of loan						
	Total	Bank	NGO	Mahajon	Foria/ Pikar	Relative/ Neighbor	Others
1	2	3	4	5	6	7	8
All							
No. of HH loaner	84731	12138	44770	5544	2154	17445	2680
Amount (Tk.) of loan	1511631418	379230170	797899542	49359926	16933400	236429930	31778450
Money (Tk.) used for onion farming	1173816074	352560263	538646616	51206980	17393200	182939955	31069060
Stratum-1							
No. of HH loaner	52417	7725	27588	3494	1839	9564	2207
Amount (Tk.) of loan	940033512	250131200	502028032	33565400	13150280	112375120	28783480
Money (Tk.) used for onion farming	841838624	287411784	373725440	35128720	13610080	103730880	28231720
Stratum-2							
No. of HH loaner	32314	4414	17182	2049	315	7882	473
Amount (Tk.) of loan	571597906	129098970	295871510	15794526	3783120	124054810	2994970
Money (Tk.) used for onion farming	331977450	65148479	164921176	16078260	3783120	79209075	2837340

Table-19: Distribution of type of problem wise household by level of problem

Serial Number	Type of problem	Problem		
		Principal	Medium	Minimum
1	2	3	4	5
Total		845676	845676	845676
01.	Shortest of high quality seed	300743	64263	55778
02.	Excess cost of high quality seed	113524	140166	37702
03.	Shortest of fertilizer	12270	29426	65789
04.	High cost of fertilizer	32448	113501	60062
05.	Shortest of accurate insecticide	15186	64185	40593
06.	Shortest of accurate pesticide	12086	34890	36284
07.	High cost of insecticide	5964	22936	21675
08.	High cost of pesticide	2706	8591	6279
09.	Lack of marketing	23672	43586	30923
10.	Produced onion low value	146080	106355	98628
11.	Produced seedling low value	3468	6647	7829
12	Lack of capital	113265	100284	85702
13	Lack of adequate government support	42562	73669	172980
14	Lack of technical knowledge	14345	28611	74588
15	Shortest of technical cooperation	7356	8565	50863

Annex-B: Concepts and Definitions

Mauza:

Mauza is the demarcated lowest administrative territorial unit having separate jurisdiction list (JL) number in the revenue records. Every mauza has its well demarcated Cadastral Survey (CS) map. Mauza should be distinguished from local village since a mauza may consist of one or more villages or part of a village.

Primary Sampling Unit (PSU):

PSU, here in this Onion survey refers to one or more than one mauzas or any part of a mauza. For effective implementation of this survey, 100 primary sampling units have been selected from the whole country.

Ultimate Sampling Units (USUs):

All the households having at least 5 decimal area of land under Onion cultivation were listed from the selected PSUs and then 25 households have been drawn following the systematic random sampling, where a mauza was treated as the primary sampling unit (PSU) and within the selected mauzas, Onion crop producing households were the ultimate sampling unit.

Household (HH):

A household means a group of persons normally living together under the same house/shed and eating with common arrangement of cooking with their dependents, relatives, servants etc. A household may be a one person household or a multi-person household. In other words, when a group of persons living together generally maintain a family or family like relations and take meals from the same kitchen is termed as a household. Popularly, it is described as "*Khana*". In some cases there may be more than one household in a single house or in one dwelling arrangement. Similarly, a household may have more than one house or structure or shed. The household must be distinguished from a family which consists of blood related members who may live in different places but members of the household must share the same kitchen and live together.

Owned land:

Owned land means the area of the land owned by the holder including members of this household having a title of land with the right to determine the nature and extent of its use and to transfer the same. Moreover, there might be some land over which the holder or any member of the households has owner-like possession.

Share crop:

Land under share cropping is treated as the land which is cultivated under the condition of sharing the crops between land owner and the cultivator. The ratio of share cropping might vary from place to place. It might be one third (1/3) or half (1/2) or two-thirds (2/3) between owner and cultivator.

Mortgage:

The land which is taken in exchange of money paid by the mortgagee to the land owner for a fixed period of time under the condition that land would be released upon refunding the money to the mortgagee by the owner is considered as the land under mortgage.

Lease:

The land which is taken by the cultivator from the owner in exchange of a certain amount of money for one year or for any period of time for the purpose of cultivating crop is treated as land under lease. Under this criterion, land will automatically be released from the occupancy of the cultivator after the certain period of time.

Loan:

Loan taken in survey year for Onion crops purposes from any bank, cooperatives, NGOs, and other institution as well as from non-institutional sources like friends, relatives, money lenders, and others have been considered in the survey.

Others:

The land which does not satisfy any of the four criterions mentioned earlier is treated as the land under others.

Single cropped areas:

Single cropped area means wherein one crop has been grown in survey year.

Mixed cropped areas:

Mixed cropped area is defined an area where two or more crops are grown simultaneously in a survey year.

Reference period:

The year 2013, prior to the survey year 2014, was considered as reference period.

Onion farm holding:

The households having at least five decimal area of land under Onion cultivation was considered as the Onion farm holding.

গোপনীয়

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ পরিসংখ্যান ব্যুরো
এগ্রিকালচার উইং
প্রোডাক্টিভিটি এ্যাসেসমেন্ট সার্ভে অব ডিফারেন্ট
এগ্রিকালচারাল ক্রপস্ কর্মসূচি
ই-২৭/এ, আগারগাঁও, ঢাকা-১২০৭

পেঁয়াজ ফসলের উৎপাদনশীলতা জরিপ-২০১৪

প্রথম অংশ

১। খানার পরিচিতি

খানার ক্রমিক নং					স্ট্যাট্রাম নম্বর		পিএসইউ নম্বর			নমুনা খানা নম্বর				
খানা প্রধানের নামঃ							পিতা/স্বামীর নামঃ							
বিভাগের নাম:		কোড					চাষীর মোবাইল নম্বরঃ							
জেলার নাম:		কোড					উপজেলার নাম:			কোড				
ইউনিয়নের নাম:		কোড					মৌজা/গ্রামের নাম:			কোড				

দ্বিতীয় অংশ

২। পেঁয়াজ ফসলের জমির পরিমাণ, মালিকানা, চাষের প্রকার, চাষের ধরন এবং খরচ (টাকায়)

জমির প্লট/খন্ড	জমির পরিমাণ		জমির মালিকানা কোড	জাতের প্রকার কোড	চাষের প্রকার কোড	চাষের ধরন (নিজস্ব হলে বাজার দরে লিখতে হবে) এবং খরচ					মোট খরচ (টাকা) (৮+১০+১১=১২)
						লাঙ্গল/কোদাল		যান্ত্রিক		অন্যান্য খরচ (টাকা)	
	একর	শতক				সংখ্যা	খরচ (টাকা)	সংখ্যা	খরচ (টাকা)		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২
১ম											
২য়											
৩য়											
৪র্থ											
৫ম											

* জমির মালিকানা কোডঃ নিজস্ব-১, বর্গা-২, বন্ধক-৩, লীজ-৪ এবং অন্যান্য-৫ জাতের কোডঃ মুড়িকাটা-১, দেশী-২, হাইব্রিড-৩, অন্যান্য-৪ চাষের কোডঃ একক-১, মিশ্র-২

৩। পেঁয়াজ ফসলের বীজতলা প্রস্তুত, বীজ এবং নিড়ানি ও চারা উত্তোলন খরচ (টাকায়)

জমির পরিমাণ		বীজতলা প্রস্তুত খরচ (টাকা)	বীজ		সেচ খরচ (টাকা)	সার খরচ (টাকা)	নিড়ানি খরচ (টাকা)	চারা উত্তোলনে শ্রমিকের সংখ্যা ও খরচ					মোট খরচ (টাকা) (৩+৫+৬+৭+৮+১৩=১৪)
একর	শতক		পরিমাণ (গ্রাম)	মূল্য (টাকা)				পারিবারিক (সংখ্যা)		ভাড়া (সংখ্যা)		খরচ (টাকা)	
								পুরুষ	মহিলা	পুরুষ	মহিলা		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪

৪। পেঁয়াজ ফসলের চারার প্রকার ও পরিমাণ, ক্রয়কৃত চারার মূল্য, চারা রোপণ এবং নিড়ানি/কোদলানো খরচ (টাকায়)

জমির প্লট/খন্ড	চারা/পেঁয়াজ (নিজস্ব)		ক্রয়কৃত চারা/পেঁয়াজের		চারা/পেঁয়াজ রোপণের জন্য শ্রমিকের সংখ্যা এবং খরচ					পেঁয়াজ ফসলের জমি নিড়ানি/কোদলানো শ্রমিকের সংখ্যা ও খরচ					মোট খরচ (টাকা) (৩+৫+১০+১৫= ১৬)
	পরিমাণ (কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)	পারিবারিক(সংখ্যা)		ভাড়া (সংখ্যা)		খরচ (টাকা)	পারিবারিক(সংখ্যা)		ভাড়া (সংখ্যা)		খরচ(টাকা)	
					পুরুষ	মহিলা	পুরুষ	মহিলা		পুরুষ	মহিলা	পুরুষ	মহিলা		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪	১৫	১৬
১ম															
২য়															
৩য়															
৪র্থ															
৫ম															

৫। পেঁয়াজ ফসলে সেচ ও সার ব্যবহারের পরিমাণ (কেজিতে) ও মূল্য (টাকায়)

জমির প্লট/খন্ড	সেচের সংখ্যা ও খরচ		ইউরিয়া		টিএসপি/ডিএপি		এমওপি		বোরন		গোবরের মূল্য (টাকা)	অন্যান্য (টাকা)	মোট মূল্য(টাকা) (৩+৫+৭+৯ +১১ +১২ +১৩=১৪)
	সংখ্যা	খরচ (টাকা)	পরিমাণ(কেজি)	মূল্য (টাকা)	পরিমাণ(কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)			
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪
১ম													
২য়													
৩য়													
৪র্থ													
৫ম													

৬। পেঁয়াজ ফসলে ব্যবহৃত বালাইনাশক (পোকা মাকড় ও রোগ দমন) এবং হরমোনের খরচ(টাকায়)

জমির প্লট/খন্ড	কীট নাশক বাবদ খরচ (টাকা)	রোগনাশক বাবদ খরচ (টাকা)	হরমোন ব্যবহারের খরচ (টাকা)
১	২	৩	৪
১ম			
২য়			
৩য়			
৪র্থ			
৫ম			

কীটনাশকের নামঃ ক্যারাট, ভলিউম, প্রোক্লেম, একতারা, এডমায়ার-, সবিক্রন, সেভিন-৮৫ এবং অন্যান্য।
রোগনাশকের নামঃ টিল্ট,রিডোমিল এম জেড, স্কোর, এ্যামিষ্টার টপ, ভারটিমেক, ডাইথেনএম-৪৫, নিউবেন, বর্দ্দো মিকচার,সিকিউর, ইনডোফিল-এম-৪৫ এবং অন্যান্য।

৭। পেঁয়াজ ফসল চাষে ঋণ সংক্রান্ত তথ্য

ঋণ সংক্রান্ত তথ্য			
কোন ঋণ নিয়েছেন কি? হ্যাঁ-১, না-২	হ্যাঁ হলে উৎস (কোড)	টাকার পরিমাণ	ঋণের টাকার মধ্যে কত টাকা পেঁয়াজ ফসল চাষের জন্য ব্যয় করেছেন
১	২	৩	৪

উৎস কোডঃ ব্যাংক-১, এনজিও-২, মহাজন-৩, ফঁড়িয়া/পাইকার-৪, আত্মীয়/প্রতিবেশী-৫, অন্যান্য-৬

৮।পেঁয়াজ ফসলের উত্তোলন ,ডাটা কর্তন ও পরিবহন খরচ(টাকায়)

জমির প্লট/খন্ড	ফুল/কলি উত্তোলনে শ্রমিকের সংখ্যা ও খরচ					পেঁয়াজ উত্তোলনে শ্রমিকের সংখ্যা ও খরচ					ডাটা/গাছ কর্তন খরচ (টাকা)	পরিবহন খরচ (টাকা)	অন্যান্য খরচ (টাকা)	মোট খরচ (টাকায়) (৬+১১+১২+১৩+১৪=১৫)
	পারিবারিক (সংখ্যা)		ভাড়া (সংখ্যা)		খরচ (টাকা)	পারিবারিক (সংখ্যা)		ভাড়া (সংখ্যা)		খরচ (টাকা)				
	পুরুষ	মহিলা	পুরুষ	মহিলা		পুরুষ	মহিলা	পুরুষ	মহিলা					
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪	১৫
১ম														
২য়														
৩য়														
৪র্থ														
৫ম														

৯। পেঁয়াজ ফসলের বীজ প্রস্তুত সংক্রান্ত তথ্যঃ

আপনি বীজ প্রস্তুত করেন । হ্যাঁ-১, না-২	হ্যাঁ হলে জমির পরিমাণ	বীজ প্রস্তুত বাবদ খরচ (টাকা	**বীজ সংরক্ষণ করলে তা বাবদ খরচ (টাকা)**
১	২	৩	৪

১০। পেঁয়াজ ফসলের চারা, বীজ, ফুল/কলি এবং উৎপাদিত পেঁয়াজের পরিমাণ ও মূল্য (টাকায়)

জমির প্লট/খন্ড	পেঁয়াজের চারা বিক্রয়		উৎপাদিত ফুল/কলি		উৎপাদিত পেঁয়াজ		উৎপাদিত বীজ		মোট মূল্য (টাকা) (৩+৫+৭+৯=১০)
	পরিমাণ(কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)	পরিমাণ (কেজি)	মূল্য (টাকা)	
১	২	৩	৪	৫	৬	৭	৮	৯	১০
১ম									
২য়									
৩য়									
৪র্থ									
৫ম									

১১। পেঁয়াজ ফসলের লীজ নেয়া জমি সংক্রান্ত তথ্যঃ

আপনি কোন জমি লীজ নিয়েছেন কি? হ্যাঁ-১, না-২	হ্যাঁ হলে উক্ত জমিতে আর কি কি ফসল চাষ করেছেন?	উক্ত জমি লীজ নেওয়ার জন্য মালিককে 'এক বছরের জন্য' কত টাকা দিতে হয়		শুধু **পেঁয়াজ** ফসল চাষের জন্য এক একর জমি 'এক বছরের জন্য' লীজ নিতে মালিককে কত টাকা দিতে হয়। (টাকা)
		জমির পরিমাণ	**টাকা**	
১	২	৩	৪	৫
	১। ২। ৩।			

১২। পেঁয়াজ ফসল চাষে প্রধান তিনটি সমস্যা আপনি কি মাত্রায় অনুভব করেন তা নির্দিষ্ট স্থানে কোড দিন।

অতি সমস্যা ☐ মধ্যম সমস্যা ☐ স্বল্প সমস্যা ☐

- **সমস্যার নাম ও কোড ঃ** উন্নত বীজের অভাব-১, উন্নত বীজের উচ্চ মূল্য-২, সারের অভাব-৩, সারের উচ্চ মূল্য-৪, সঠিক কীট নাশকের অভাব-৫, সঠিক রোগনাশকের অভাব-৬, কীট নাশকের উচ্চ মূল্য-৭,রোগ নাশকের উচ্চ মূল্য-৮, বাজারজাত করণের অভাব-৯, উৎপাদিত পেঁয়াজের নিম্ন মূল্য-১০, উৎপাদিত চারার নিম্ন মূল্য-১১, প্রয়োজনীয় মূলধনের অভাব-১২, সরকারী সহযোগিতার অভাব-১৩, কারিগরি জ্ঞানের অভাব-১৪, কারিগরি সহযোগিতার অভাব-১৫।

স্বাক্ষর
তথ্য সংগ্রহকারীর নামঃ .....

পদবীঃ .....

তারিখঃ.....

স্বাক্ষর
সুপারভাইজারের নাম .....

পদবীঃ .....

তারিখঃ .....

মোবাইল নম্বর:

মোবাইল নম্বর:

Government of the People's Republic of Bangladesh
Bangladesh Bureau of Statistics
Agriculture Wing
Productivity Assessment Survey of Different Agicultural Crops Program
E-27/A, Agargoan, Dhaka-1207

Confidential

Onion Productivity Survey-2014

First Part

1. Indentification of Household

Household SI No. | | | | **Statrum No.** | | **PSU NO.** | | | **Selected Sample Household No.** | |

Name of Head of Household :				Father/Husband Name:			
Division name :	Code			Farmer/Respondent Mobile No:			
District Name :	Code			Upazila Name :	Code		
Union Name :	Code			mauza/Village Name :	Code		

Second Part

2. Area under Onion Crop, Land ownership, Variety and Land preparation cost (Tk.)

Land plot/ part	Land area		Land ownership (code)	Variety of onion (code)	Cultivation type (code)	Land preparation and cost (Tk.) (Market price is shown when cultivated is own)					Total Cost (Tk.) (8+10+11=12)
	Acre	Decimal				Plough/Hoe		Mechanized		Others Cost (Tk.)	
						No.	Cost (Tk.)	No.	Cost (Tk.)		
1	2	3	4	5	6	7	8	9	10	11	12
1st											
2nd											
3rd											
4th											
5th											

*** Land ownership code:** Owned-1, Share crop-2, Mortgage-3, Lease-4 and others-5 *** Variety of Onion code:** Murikata-1, Local-2, Hybrid-3 and Others-4
*** Caltivation type code**: Single-1, Mixed-2

3. Regarding seed bed preparation, seed and Weeding & plucking of seedling of Onion crops and cost (Tk.)

Land area		Seed bed preparation cost (Tk.)	Seed		Irrigation cost (Tk.)	Fertilizer cost (Tk.)	Weeding cost (Tk.)	Number of labour & cost of Plucking of seedling					Total cost (Tk.) (3+5+6+7+8+13)=14
								Family (Number)		Hired (Number)		Cost (Tk.)	
Acre	Decimal		Quantity (gm)	Price (Tk.)				Male	Female	Male	Female		
1	2	3	4	5	6	7	8	9	10	11	12	13	14

4. Type of seedling & Quantity, purchase of seedling, Seedling of plantation and weeding/hoe cost (Tk.)

Land plot/ part	Seedling/Onion (Owned)		Purchase seedling		Number of labour regarding plantation of seedling & cost					Number of labour & cost regarding weeding/Hoe					Total cost (Tk.) (3+5+6+10+15) =16
	Quantity (kg.)	Cost (Tk.)	Quantity (kg.)	Cost (Tk.)	No. of labour (Family)		No. of labour (Hired)		Cost (Tk.)	Family (Number)		Hired (Number)		Cost (Tk.)	
					Male	Female	Male	Female		Male	Female	Male	Female		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1st															
2nd															
3rd															
4th															
5th															

5. Irrigation and use of fertilizer (Kg.) & cost (Tk.)

Land plot/ part	No of Irrigation & cost		Urea		TSP/DAP		MOP		Boran		Cowdung cost (Tk.)	Other Cost (Tk.)	Total cost (Tk.) (3+5+7+9+11+12+13)=14
	Number	Cost (Tk.)	Quantity (Kg.)	Cost (Tk.)	Quantity (Kg.)	Cost (Tk.)	Quantity (Kg.)	Cost (Tk.)	Quantity (Kg.)	Cost (Tk.)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1st													
2nd													
3rd													
4th													
5th													

6. Use of Insecticide & Pesticide and Harmone cost (Tk.)

Land plot/ part	Insecticide cost (Tk.)	Pesticide cost (Tk.)	Harmon cost (Tk.)
1	2	3	4
1st			
2nd			
3rd			
4th			
5th			

Inseticide name : Karate, Voliam, Proclaim, Actara, Admire, Shobicron, Sevin-85 and Others.
Pesticide name: Tilt, Ridomil Gold MZ, Score, Amistar top, Vertimec, Dithan-M-45, Nuben, Boudeaux mixture, Secure, Indofil-M-45 & Others.

7. Production of Onion crops loan related information (Tk.)

Loan related Information			
Loan taken? Yes-1, No-2	If yes, source (Code)	Amount of Taka	Loan(money) used for Onion crop under cultivition
1	2	3	4

Loan source code: Bank-1, NGO-2, Mahajan-3, Foria/Paikar-4, Relative/Neghbour-5 and Others-6

8. Harvesting, Data cutting & transport cost (Tk.)

Land plot/ part	Number of Labour regarding Hervesting (flower/kali) & Cost					Number of Labour regarding Hervesting & Cost					Data/Plant cutting cost (Tk.)	Transport cost (Tk.)	Other Cost (Tk.)	Total Cost (Tk.) (6+11+12+13 +14)=15
	Family (Number)		Hired (Number)		Cost (Tk.)	Family (Number)		Hired (Number)		Cost (Tk.)				
	Male	Female	Male	Female		Male	Female	Male	Female					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1st														
2nd														
3rd														
4th														
5th														

9. Onion seed preparation related Information:

Seed preparation taken? Yes-1, No-2	If yes, Land area	Seed preparation related cost (Tk.)	Seed storage related cost (Tk.)
1	**2**	**3**	**4**

10. Onion seedling, seed, flower/kali and produced Onion crops Quantity & cost (Tk.)

Land plot/ part	Seedling sell		Produced flower/kali		Produced onion crops		Produced seed		Total Cost (Tk.) (3+5+7+9)=10
	Quantity (kg.)	Cost (Tk.)	Quantity(kg)	Cost (Tk.)	Quantity(kg)	Cost (Tk.)	Quantity(kg)	Cost (Tk.)	
1	2	3	4	5	6	7	8	9	10
1st									
2nd									
3rd									
4th									
5th									

11. Land leasing for Onion crops related Information:

Land leasing taken? Yes-1, No-2	If Yes, Mantion the crops name			Per year leasing value to be paid for using land		Per acre yearly leasing value for Onion crops cultivation (Tk.)
				Land area	Taka	
1	2			3	4	5
	1	2	3			

12. Mention three main problems for Onion cultivation.

Principal ☐ **Medium** ☐ **Minimum** ☐

- **Problems name & code:** Lack of high quality seed-1, High price of high quality seed-2, Shortest of fertilizer-3, High price of fertilizer-4, Lack of appropriate Insecticide-5, Lack of appropriate Pecticide-6, High price of Insecticide-7, High price of Pecticide-8, Lack of merkating-9, Produced Onion low value-10, Produced seedling low value-11, Lack of capital-12, Lack of government support-13, Lack of technical knowledge-14, Shortest of technical cooperation-15

Signature:
Data collector name: .....
Designation: .....
Date:.....
Mobile No.:. . . . . .

Signature:
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Annex-E: Reference

1. **Statistical Year Book of Bangladesh, 2012**
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2. **Agriculture Sample Census, 2005**
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3. **Agriculture Sample Survey, 2008**
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7. **Census of Agriculture, 1996**
   - Bangladesh Bureau of Statistics
8. **Yearbook of Agriculture Statistics of Bangladesh, 2011**
   - Bangladesh Bureau of Statistics
9. **Report on the cost of production of 10 Crops (Aus, Aman, Boro, Wheat, Jute, Potato, Onion, Maize, Oil-seeds & Pulses), 2008-09**
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Acronyms

BBS	Bangladesh Bureau of Statistics
GDP	Gross Domestic Product
GOB	Government of Bangladesh
HH	Household
Kg	Kilogram
M. Tons	Metric Tons
No.	Number
PASDAC	Productivity Assessment Survey of Different Agricultural Crops
PSU	Primary Sampling Unit
RSE	Relative Standard Error
SE	Standard Error
Tk	Taka
T/ha	Ton per hector
USUs	Ultimate Sampling Units
%	Percentage

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