Report on The Productivity Survey of Cauliflower Crop

2014

Productivity Assessment Survey of Different Agricultural Crops Programme
BANGLADESH BUREAU OF STATISTICS
Statistics and Informatics Division
Ministry of Planning

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May, 2015

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

Secretary
Statistics and Informatics Division(SID)
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Foreword

Agriculture plays a pivotal role in the economy of Bangladesh. This sector alone contributes 16.33% of annual GDP of the country. On the other hand, it offers both the opportunities of employment and livelihood to a large extent. It is worthy to mention 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 bulk of the population. In persuasion of the demand of statistics on production, cost of production and market price of various crops, Bangladesh Bureau of Statistics (BBS), apart from major crops, has also been putting efforts in conducting surveys on a series of minor crops.

Cauliflower is an important vegetable in Bangladesh for its great economic importance as well as nutritional value. This cauliflower report is the fifth of its series among other nine different crops. Cauliflower is a seasonal vegetable and widely consumed all over Bangladesh for its food value and availability.

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, consumers and all other stakeholders will find this report very useful.

Dhaka
May, 2015

Kaniz Fatema *ndc*
Secretary

Director General (AC)
Bangladesh Bureau of Statistics (BBS)

Preface

Bangladesh is predominantly an agriculture country. Agriculture being the engine of growth 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 major and minor crops are directly interrelated. Government has to give proper attention on these three factors so that the farmer 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 conducted survey on nine minor crops to obtain cost of production of each individual crop by following the scientific survey methods. This report contains the findings of the survey on Cauliflower conducted during March-April 2014.

I express my sincere gratitude to the members of the Technical Committee and the Working Committee of the PASDAC Program for providing technical guidance for choosing spices 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(Joint secretary), 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
May, 2015

Md. Baitul Amin Bhuiyan
(Additional Secretary)

Acknowledgement

Now-a-days agriculture production statistics and cost of production statistics of different crops have wide demand among the users. These statistics provide necessary information to development planners & Policy makers. They help business community with market related information. The report on "The Productivity Survey of Cauliflower Crop-2014" will be 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 Secretary), BBS for his continued suggestions and support to me in performing 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 am happy to appreciate the assistance of 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 (Joint secretary) of Agriculture Wing, BBS for her valuable guidance and support that helped in conducting 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 in filling the 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
May, 2015

Md. Akhter Hassan Khan
Programme Director

Contents

Key Findings

SL. No.	Items	Result
(1)	(2)	(3)
1	Area(in acre) under cauliflower (cauliflower farm holding)	21472
2	Percentage of area growing cauliflower by tenancy	
	a. Own	68.86
	b. Share cropping	3.89
	c. Mortgage	7.01
	d. Lease	19.60
	e. Others	0.64
3	Percentage of area growing cauliflower by stratum	
	a. Stratum-1(Khulna, Rajshahi and Rangpur division)	60.67
	b. Stratum-2 (Barisal, Chittagong, Dhaka & Sylhet division)	39.33
4	Percentage of area growing cauliflower by varieties	
	a. Local	17.35
	b. Hybrid	80.56
	c. Others	2.09
5	Percentage of area growing cauliflower by cultivation type	
	a. Single	85.85
	b. Mixed	14.15
6	Percentage of area growing cauliflower by farming time	
	a. Advance	25.42
	b. Seasonal	74.58
7	Number of labourers employed by component for per acre production of cauliflower	
	a. Planting	24
	b. Weeding.	35
	c. Harvesting	27
	Total	86
8	Per acre leasing value (Tk.)	7752
9	Per acre production cost (Tk.) by varieties	
	a. Local	65942
	b. Hybrid	64176
	Average	64650
10	Per acre production cost (Tk.) by stratum	
	a. Stratum-1(Khulna, Rajshahi and Rangpur division)	63127
	b. Stratum-2 (Barisal, Chittagong, Dhaka & Sylhet division)	67001

SL. No.	Items	Result
(1)	(2)	(3)
11	Per acre production cost (Tk.) by type of input	
	a. Land preparation	4843
	b. Seed/seedling and plantation	16849
	c. Weeding	7818
	d. Irrigation	3844
	e. Pesticide/insecticide	4351
	f. Fertilizer	13613
	g. Harmon	952
	h. Harvesting	5546
	i. Transport	5360
	j. Others	1475
	Total	64650
12.	Per acre yield rate (Kg.) by stratum	
	a. Stratum-1(Khulna, Rajshahi and Rangpur division)	13176
	b. Stratum-2 (Barisal, Chittagong, Dhaka & Sylhet division)	12901
	Average	13068
13	Per acre yield rate (Kg.) by varieties	
	a. Local	10965
	b. Hybrid	13575
	Average	13068
14	Per acre yield rate (Kg.) by seasonality	
	a. Advance	9942
	b. Seasonal	14133
	Average	13068
15	Per acre production value (Tk.) by stratum	
	a. Stratum-1(Khulna, Rajshahi and Rangpur division)	133538
	b. Stratum-2 (Barisal, Chittagong, Dhaka & Sylhet division)	134202
	Average	133799
16	Per acre production value (Tk.) by varieties	
	a. Local	122257
	b. Hybrid	136584
	Average	133799
17	Per acre production value (Tk.) by seasonality	
	a. Advance	148076
	b. Seasonal	128934
	Average	133799
18	Per acre benefit cost ratio by varieties	
	a. Local	1.85
	b. Hybrid	2.12
	Average	2.06
19	Per acre benefit cost ratio by stratum	
	a. Stratum-1(Khulna, Rajshahi and Rangpur division)	2.12
	b. Stratum-2 (Barisal, Chittagong, Dhaka & Sylhet division)	2.00
	Total	2.06

Chapter-1

Introduction

Introduction

Bangladesh is an agricultural country. The most of her inhabitants directly or indirectly are involved in agricultural activities for their livelihood. Agriculture has a great contribution to the Gross Domestic Product (GDP) of the country. Earlier more than 50% of GDP came from this sector. At the beginning of industrialization the activities of the population got diversification towards different sectors. As a result, the contribution of the agriculture sector is slowly reducing and now reached 16.33% share of GDP (BBS). Still agriculture plays vital role and is taken as the most important sector of the economy.

Bangladesh by birth possesses very fertile land in which diversified crops grow very easily. Various types of crops are produced in this country. Cauliflower is a very popular winter vegetables in Bangladesh. This is one of the main vegetable in other countries of the world. Cauliflower is cultivated in the winter season in almost all parts of Bangladesh. It is an annual plant that is reproduced by seed. Typically, only the head (the white curd) of aborted floral meristems is eaten, while the stalk and surrounding thick, green leaves are used in vegetable broth or discarded.

Cauliflower is low in fat, but high in dietary fibre, folate, water, and vitamin C, possessing a high nutritional density. Cauliflower contains several phytochemicals, usually occurring in the cabbage family that may be beneficial to human health. A high intake of cauliflower has been associated with reduced risk of aggressive prostate cancer.

Cauliflower is an important vegetable crop which contributes mentionable shares of total vegetable production. The production of cauliflower largely depends on the use of seeds, fertilizers, irrigation, pesticide, etc. The Government of Bangladesh has, therefore, provided priority to the agriculture sector to increase the production of cauliflower by giving subsidy to the farmers on different inputs such as seeds, fertilizer, irrigation etc. to achieve self-sufficiency in cauliflower production.

Poverty cannot be reduced to a desired level excepting increasing productivity of agriculture sector and at the same time it is to be assured that farmers get fair price of the crops. Natural calamities like draught, flood, cyclone, tornado etc. are a very regular phenomenon which hinder the production of agriculture to a great extent. Cultivable land is being decreased due to the pressure of massive population. As a result, food security is being threatened and the risk of poor people is being increased.

Bangladesh government is remarkably concerned about this agriculture sector. Notable portion of annual budget has consistently been allocated for the last couple of years for the development of the sector. Government has also been launching many programmes one after another in order to boost up the agriculture production.

Production of crops, cost of production of crops and market price of crops are directly interrelated. Government has to give proper attention to these three factors as stated so that the farmer get fair price of the crop produced during the harvest time. Generally, government has to declare procurement price at the harvesting time of the crop so that producer 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 discouraged to produce more crops and if procurement price is higher than the production cost, producers get profit and encouragement. This type of loss and profit influence positively or negatively on the cultivation of next year's crops. So, an objective survey is necessary to know the cost of production of crops at farmer's level. And as such the 'Productivity Assessment Survey of different Agricultural Crops (PASDAC) Program' of BBS has been given the responsibility of conducting a survey on the yield and cost of production of cauliflower crop.

1.1 Production of Cauliflower

Cauliflower is grown mainly as Rabi crop during winter. The production of vegetables including cauliflower is increasing day by day in Bangladesh. Among all the vegetables produced in the country, cauliflower dominates a major share in terms of total cropping area and production. It grows in all the districts of Bangladesh but plenty of cauliflower are produced in the region of Dhaka, Jessore, Rajshahi, Rangpur, Tangail and Kustia.

Cauliflower is grown on many different types of soil, but does best in a rich, well-drained soil with a high moisture-holding capacity. High humus content in the soil will provide better aeration and water penetration. If a soil is low in organic matter, stable or green manures can be supplied. Cauliflower grows best on a neutral or slightly acid soil (pH 6.0 to 6.5). Well-drained, sandy loam soils are suited to early varieties, whereas loamy and clay loam soils are suited to late ones because they are to some extent tolerant of poor drainage. Good soil preparation is important when planting cauliflower. The best way to determine soil conditions is to have a soil test performed.

In general, cauliflower is not difficult to grow, but it is sensitive to extreme temperatures. Primarily a cool-weather crop, cauliflower won't produce heads in hot weather and is frost-tolerant only as a mature fall crop. Most cultivators need about 3 months of cool weather to mature. To grow cauliflower successfully, the key steps are to choose the right cultivar for climate, plant at the proper time, and provide a steady supply of moisture. It grows best in cool moist climate and is very hardy to frost. It is very sensitive to temperature depending on varieties so, selection of varieties depends on time of planting. Its growth is best at a temperature of about 15°C to 25°c. Temperatures below this and above are not suited for it.

In Cauliflower harvesting is done depending on the maturity of the head and demand in market. Normally harvesting is done when head are firm. After appearance of head harvesting may be done 90-100 days after seedling. If prices are high in the market harvesting is done earlier when head are small. Proper grading is followed before heads

are sent to market. The yield of cauliflower depends upon the variety, growing season and management practices, Hybrid cauliflower yields up to 40 ton per hectare. The yield of early varieties ranges between 12 to 15 tones/ha. The yield of late season varieties is about 25 to 28 tones /ha.

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

1.2 Scope and coverage of the survey

The productivity survey of cauliflower crop-2014 is a household based survey. Under the purview of this survey the target population was having at least one decimal area under cauliflower cultivation of dwelling households. The survey covers the whole country. A total of 170 PSUs were taken in the survey from the country.

1.3 Objectives of the survey

The Cauliflower Survey-2014 is designed to provide national estimates for various indicators that 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 Cauliflower cultivation

Chapter-2

Methodology

Methodology

2.1 Sample Design

The Cauliflower Survey has been conducted in the whole country using the frame of Agriculture Census-2008. In this survey, households having at least one decimal area of land cauliflower cultivation has been considered as ultimate sampling units. For the better estimate, the whole country has been divided into two strata on the basis of production. Khaulna, Rajshahi and Rangpur divisions were treated as the first stratum and the remaining divisions were treated as the second stratum. In both the stratum, a single stage cluster sampling method has been used to conduct this survey. In the first stratum, 70 PSUs were selected and 100 PSUs were selected from the second stratum using the systematic random sampling, i.e. a total of 170 PSUs were selected from the whole country. In the second stage, all the households were listed with some basic characteristics from the selected PSUs and then 30 households were selected following the systematic random sampling, where a mouza has been treated as the primary sampling unit (PSU) and the selected cauliflower crop producing households were the ultimate sampling unit. From the selected mouzas possesses less than 25 cauliflower producing farm households and then the remaining households were taken from the adjacent mouza or mouzas.

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 programmes for the enumerators and supervisors have been 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 were 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 Cauliflower. They discussed the matter with the farmers who grow Cauliflower. After having the knowledge on the issue, they provided feedback to the meeting of the working committee. Working committee has 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 twelve 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. 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 December 2013 prior to the survey at rural area of Shibganj Upazila under Bogra District and Gobindoganj Upazila under Gaibandha 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 has 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 Cauliflower 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. Thus, 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 was 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 at Savar 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 District Statistical Office (DSO) 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 gather experience. 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 Interview (PAPI) method.

2.2.8 Data Collection and Supervision

Data collection had taken place during March-April 2014 at the household level. Usually the respondents were the head of household. A total of 170 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 total of 58 Supervising Officers named District Coordinators 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. Seven 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 was 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 proper 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 software namely CSPro, FoxPro, Oracle (SQL), SPSS and Excel had been used for processing the survey data. CSPro had been used for data entry, FoxPro for editing & 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 was 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 4.

- **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 had 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 tables focusing on the vital components such as total number of labours engaged in production of Cauliflower, 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 Cauliflower 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 Yearbook of Bangladesh, Yearbook of Agriculture Statistics and Monthly Statistical Bulletin etc.

Chapter-3

Area and Household

Area and Household

The information as obtained from the Productivity Survey 2014 of cauliflower crop in Bangladesh has been discussed in this chapter. It contains data related to:

i. Area and tenancy of land ownership under cauliflower cultivation by framing time (advance and seasonal);
ii. Households cultivating cauliflower by tenancy and framing time;
iii. Cultivation type of single and mixed crops by farming time;
iv. Cauliflower producing households by cultivation type and farming time;
v. Varieties of cauliflower (local, hybrid and others) by farming time;
vi. Varieties of cauliflower households by farming time; and
vii. Per acre leasing cost of cauliflower crop by stratum.

Table-3.1 Percentage distribution of cauliflower cultivation area by tenancy and farming time

Farming time	Tenancy											
	Total		Owned		Share Crop		Mortgage		Lease		Other	
	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%
All Area												
Bangladesh	21472	100.00	14785	68.86	835	3.89	1506	7.01	4209	19.60	137	0.64
Advance	5458	25.42	3808	17.74	234	1.09	478	2.23	937	4.36	1	0.01
Seasonal	16014	74.58	10977	51.12	601	2.80	1028	4.79	3272	15.24	136	0.63
Stratum-1												
Total	13038	60.67	9356	43.57	435	2.03	687	3.20	2538	11.82	12	0.06
Advance	3795	17.67	2657	11.96	163	0.75	259	1.21	716	3.33	-	-
Seasonal	9233	43.00	6699	31.20	272	1.27	428	1.99	1822	8.49	12	0.06
Stratum-2												
Total	8444	39.33	5430	23.90	400	1.86	819	3.81	1671	7.78	125	0.58
Advance	1663	7.75	1151	5.07	71	0.23	220	1.02	220	1.02	1	0.01
Seasonal	6781	31.58	4278	18.83	330	1.54	600	2.79	1450	6.75	123	0.57

* 1 hectare=2.47 acre

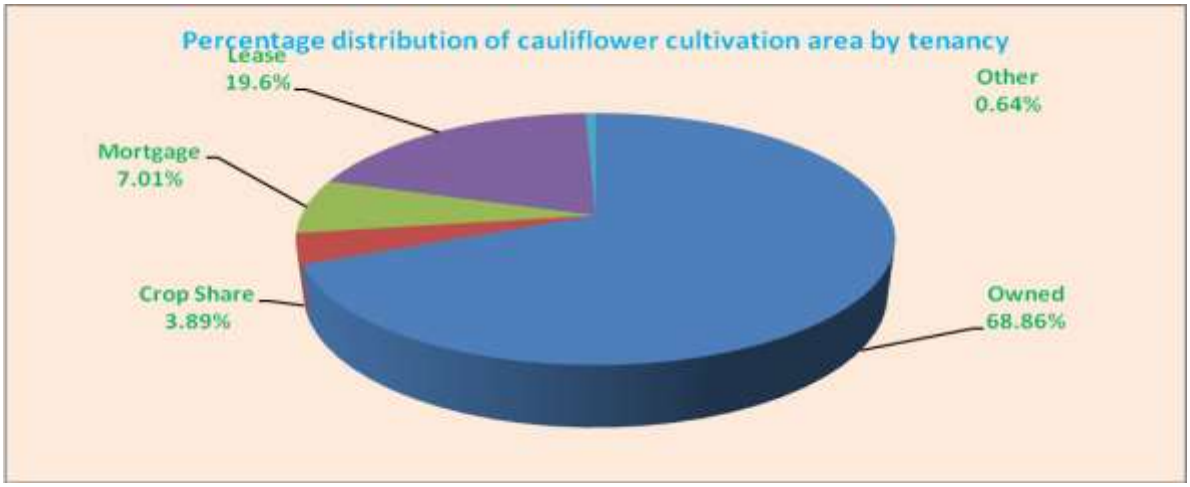

Table 3.1 provides the area of cauliflower crop by all tenureship of owned land, share

crop, mortgage, lease and others separately for Stratum-1 and Stratum-2 for the survey year 2014. Percentage distribution of land by tenancy type is also shown in the table. It shows that a total of 21472 acres of land are under cauliflower crop of which an overwhelming majority of 14785 acres are owned land (68.86%) followed by 4209 acres lease land (19.60%), 1506 acres of mortgage land (7.01%), 835 acres share crop land (3.89%) and 137 acres other land (0.64%). It is observed from the table that 16014 acres of land are under seasonal farming (74.58%) followed by 5458 acres in advance farming time(25.42%) showing that a great majority of the cauliflower cultivation is under seasonal farming and only about one-fourth of the cauliflower cultivation is under advance farming time. The table also shows that 13038 acres of land are under Stratum-1 (60.67%) and 8444 acres are under stratum-2 (39.33%) of the total land.

Table-3.2 Percentage distribution of cauliflower cultivation household by tenancy & farming time

Farming tie	Land tenancy											
	Total		Owned		Share Crop		Mortgage		Lease		Other	
	H/H	%	H/H	%	H/H	%	H/H	%	H/H	%	H/H	%
mAll Area												
Bangladesh	50371	100.00	39877	79.17	2369	4.07	4042	8.02	7937	15.76	2.90	0.52
	10919	21.68	8469	16.81	537	1.07	1023	2.03	1740	3.45	9	0.02
Seasonal	39451	78.32	31409	62.36	1832	3.63	3019	5.99	6198	12.31	281	0.56
Advance Stratum-1												
Total	24763	49.16	20157	40.02	1086	2.16	1676	3.33	4143	8.23	17	0.04
Advance	6542	12.99	5001	9.93	337	0.67	522	1.04	1221	2.43	-	-
Seasonal	18221	36.17	15156	30.09	749	1.49	1154	2.29	2922	5.80	17	0.04
Stratum-2												
Total	25607	50.84	19720	39.15	1283	2.55	2366	4.70	3795	7.53	273	0.54
Advance	4377	8.69	3467	6.88	200	0.40	501	0.99	519	1.03	9	0.02
Seasonal	2130	42.15	16253	32.27	1083	2.15	1866	3.71	3276	6.50	264	0.52

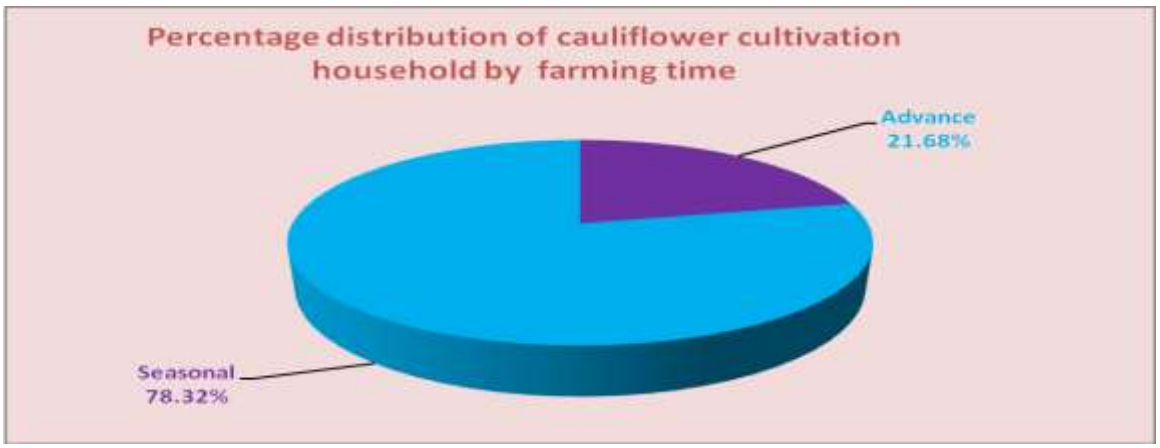

Table 3.2 presents households cultivating cauliflower by all tenureship of own land, share crop, mortgage, lease and others by farming time separately by stratum for the survey year 2014.The above table 3.2 shows that out of 50371 cauliflower producing households, the highest 79.17% have owned the land trailing far behind by 15.76% households having leased tenureship, 8.02% households having mortgaged tenureship, 4.07% households having share crop tenureship and only 0.52% households havening other category of tenureship. (The percentage of total tenureship households exceeds 100% as the same households repeats cultivation in different tenureship). It is interesting to mention that almost similar number (approximately 25000) and percentages (50%) of households produce cauliflower crops respectively in Stratum-1 and Stratum-2.

Table-3.3: Percentage distribution of cauliflower producing area by cultivation type & farming time

Farming time	Type of cultivation					
	Total		**Single**		**Mixed**	
	Area	%	Area	%	Area	%
All Area						
Bangladesh	21472	100.00	18433	85.85	3039	14.15
Advance	5458	25.42	4569	21.28	889	4.14
Seasonal	16014	74.58	13864	64.57	2150	10.01
Stratum-1						
Total	13028	60.68	12034	56.05	994	4.63
Advance	3795	17.68	3096	14.42	700	3.26
Seasonal	9233	43.00	8938	41.63	294	1.37
Stratum-2						
Total	8444	39.33	6399	29.80	2046	9.53
Advance	1663	7.75	1473	8.86	190	0.88
Seasonal	6781	31.58	4926	22.94	1856	8.64

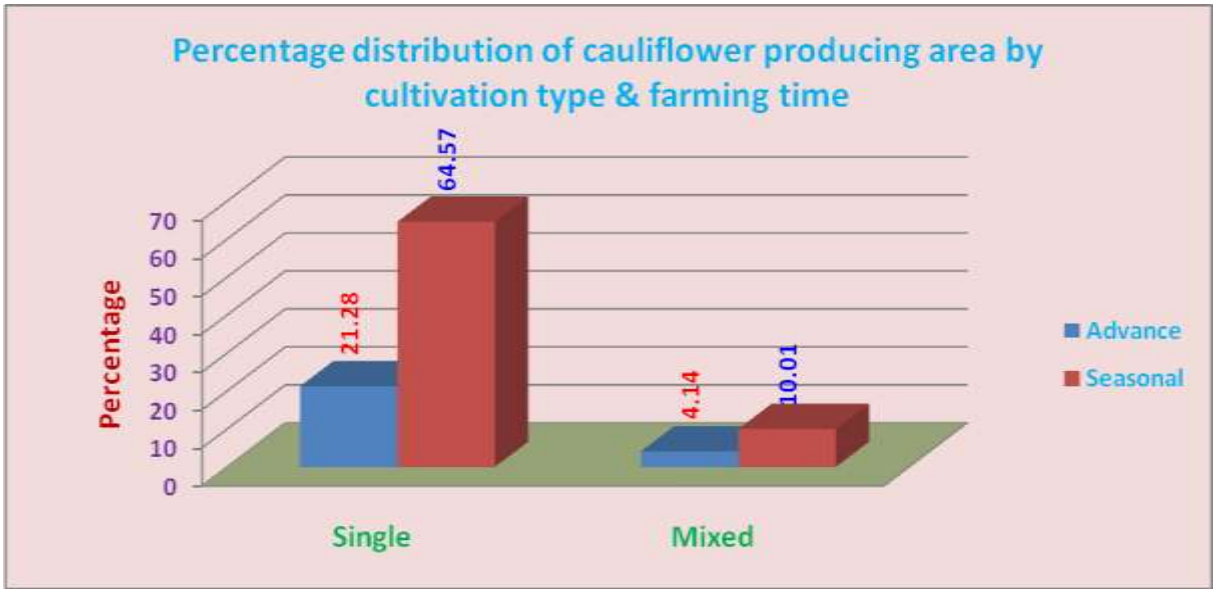

Table 3.3 shows the cultivation type of single and mixed crops by farming time of advance and seasonal. Table 3.3 shows that out of total 21472 acres of land an overwhelming majority 18433 acres (86%) are used for single cropped area trailing far behind by mixed cropped area of 3039 acres of land (14%). Stratum-wise cropping pattern for cauliflower land is seen in different to some extent. In the mixed crop, cultivation area is 4.63% in stratum-1 and 9.53% in stratum-2. On the other hand, cauliflower cultivation is 60.68% in single crop area in stratum-1 and is only in 39.33% in stratum-2.

Table-3.4 Percentage distribution of cauliflower producing households by cultivation type and framing time

Farming time	Type of cultivation					
	Total		**Single**		**Mixed**	
	Household	%	Household	%	Household	%
All Area						
Bangladesh	50371	100.00	42222	83.82	8149	16.18
Advance	10919	21.68	8745	17.36	2174	4.32
Seasonal	39451	78.32	33477	66.46	5974	11.86
Stratum-1						
Total	24763	49.16	21884	43.45	2880	5.72
Advance	6542	12.99	4959	9.85	1583	3.14
Seasonal	18221	36.17	16924	33.60	1297	2.58
Stratum-2						
Total	25607	50.84	20339	40.38	5269	10.46
Advance	4377	8.69	3786	7.52	592	1.18
Seasonal	21230	42.15	16553	32.86	4677	9.28

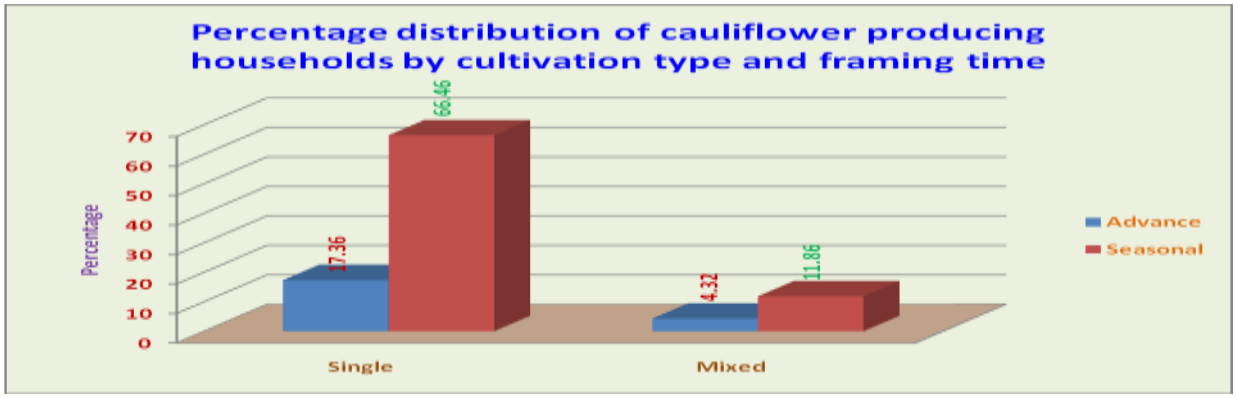

Table 3.4 gives the cauliflower producing households by cultivation type of single and mixed crops and framing time. The table shows that cauliflower crops are being produced in much higher proportion (88.37%) as single crop in stratum-1 compared to a lower 79.43% whereas it is significantly different and reverse for mixed crops which is 11.63% in stratum-1 and 20.58% in stratum-2. It is revealed from the table that much higher proportion of 78.32% households grow the crops seasonally compared to a much lower 21.68% households growing in advance time in Bangladesh. The seasonal pattern of growing the crop is more prominent in stratum-2 where the crop is grown in much higher proportion of 82.91% households compared to a lower 73.58% household in stratum-1. The table 3.4 as shown above indicates that a great majority of 83.82% households in Bangladesh are producing single crop of only cauliflower crop and a much lower 16.18% of households are producing cauliflower as mixed crop along with other crops.

Table-3.5 Percentage distribution of varieties of cauliflower (area) by farming time

Framing time	Varieties of cauliflower							
	Total		Local		Hybrid		Others	
	Area	%	Area	%	Area	%	Area	%
All Area								
Bangladesh	21472	100.00	3725	17.35	17298	80.56	449	2.09
Advance	5458	25.42	1127	5.25	4233	19.71	98	0.46
Seasonal	16014	74.58	2598	12.10	13065	60.85	351	1.63
Stratum-1								
Total	13028	60.67	2543	11.84	10219	47.59	265	1.23
Advance	3795	17.67	758	3.53	2985	13.90	53	0.25
Seasonal	9233	43.00	1785	8.31	7235	33.69	212	0.98
Stratum-2								
Total	8444	39.33	1182	5.50	7079	32.97	184	0.86
Advance	1663	7.75	368	1.71	1249	5.82	45	0.21
Seasonal	6781	31.58	813	3.79	5830	27.15	139	0.65

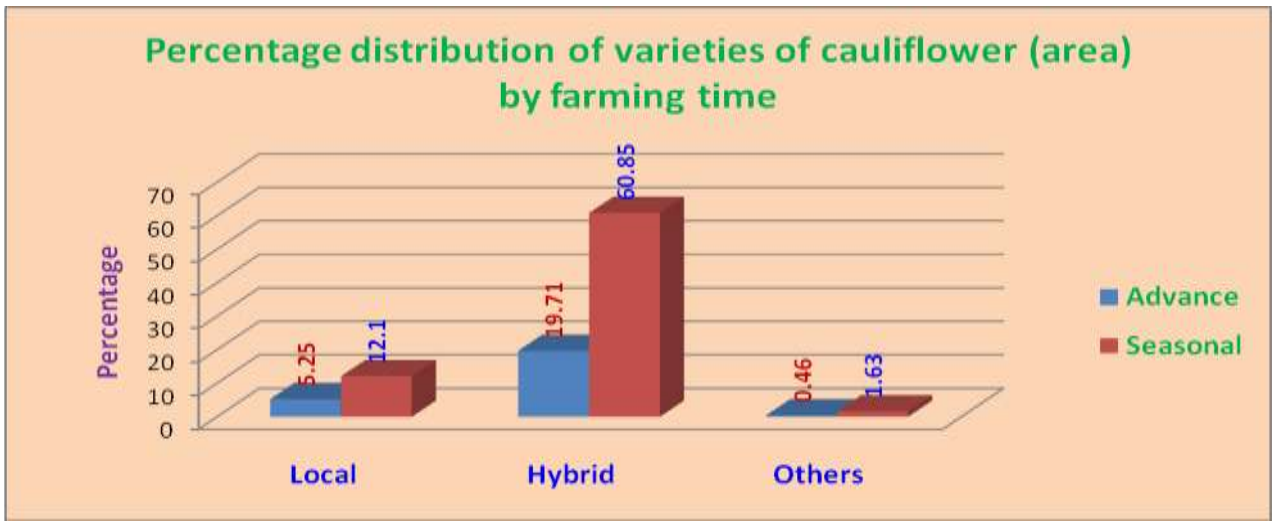

Table 3.5 presents varieties of cauliflower crop (local, hybrid and others) grown in area by farming time of advance and seasonal. The table-3.5 distributes the varieties of cauliflower that are cultivated in advance and seasonal farming time in the 2014. Out of the total varieties, hybrid has the highest cultivation area of cauliflower which is 80.56%. The second highest 17.35% land is used for the local variety of cauliflower. And the remaining land areas of 2.09% have been used for other varieties of cauliflower.

The table also shows that the hybrid type cauliflower is grown the highest 75.53% in seasonal time and the lowest 24.47% in advance farming. Hybrid cauliflower is found to grow in higher proportion in stratum-2 compared to a lower 70.80% in stratum-1 as seasonal farming but is reverse as advance farming which is higher at 29.21% in stratum-1 and lowers at 17.64% in stratum-2.

Table-3.6 Percentage distribution of varieties of cauliflower household by farming time.

Framing time	Varieties of cauliflower							
	Total		Local		Hybrid		Others	
	Household	%	Household	%	Household	%	Household	%
All Area								
Bangladesh	50371	100.00	11348	22.53	37595	74.63	1427	2.83
Advance	10919	21.68	3012	5.98	7662	15.21	246	0.49
Seasonal	39451	78.32	8337	16.55	29933	59.42	1181	2.34
Stratum-1								
Total	24763	49.16	6753	13.41	17539	34.82	472	0.94
Advance	6542	12.99	1810	5.59	4623	9.18	109	0.22
Seasonal	18221	36.17	4943	9.81	12916	25.64	362	0.72
Stratum-2								
Total	25607	50.84	4596	9.12	20056	39.82	956	1.90
Advance	4377	8.69	1201	2.38	3039	6.03	137	0.27
Seasonal	21230	42.15	3394	6.74	17017	33.78	819	1.63

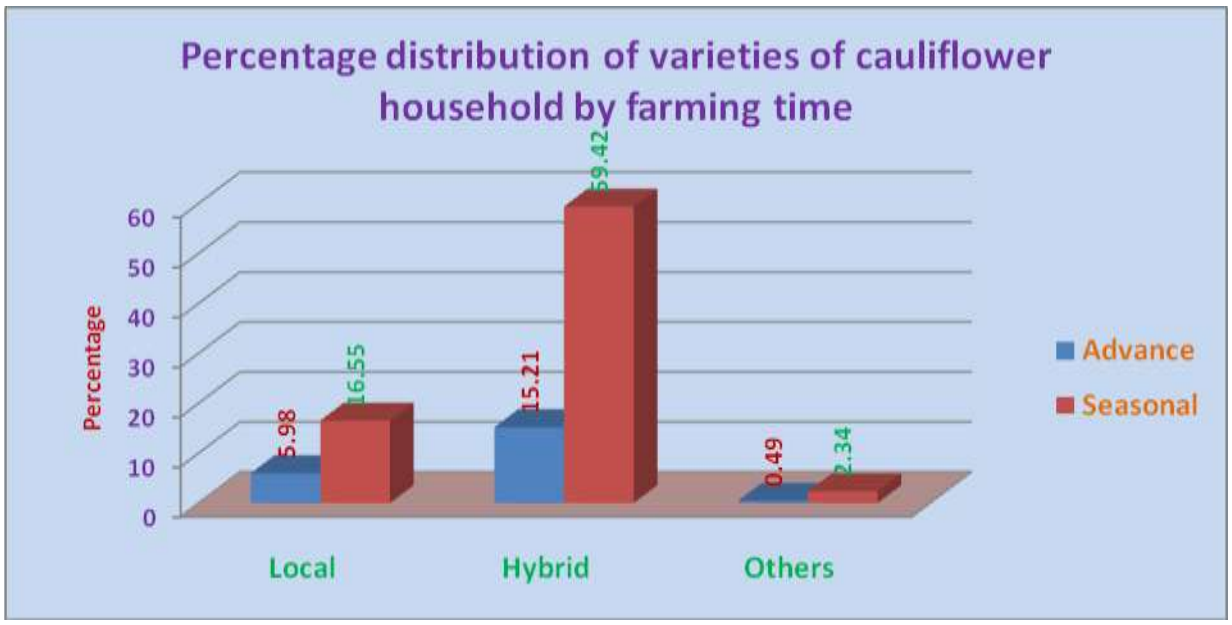

Table 3.6 gives varieties of cauliflower crop (local, hybrid and others) grown in households by farming time of advance and seasonal. Table-3.6 gives the percentage distribution cauliflower cultivation and by variety of cauliflower & farming time for the year 2014. The table shows that the highest percentage (74.63%) of cauliflower producing households is hybrid, followed by local (22.53%) and others (2.83%) for the survey year. Stratum-wise we can see that the highest percentage (84.85%) of households is producing seasonal hybrid cauliflower in stratum-2 which is slightly lower at 73.64% in statum-1. Advance farming hybrid cauliflower is however grown in much lower percentage of 26.37% in stratum-1 and still lower percent 15.15% in stratum-2.

Table-3.7 Per acre leasing cost of cauliflower crop by stratum.

Stratum	**Per acre leasing cost (Tk.)**
Bangladesh	7752
Statum-1	7835
Stratum-2	7670

Table 3.7 presents leasing cost of cauliflower crop per acre by stratum for the year 2014. Leasing means the land taken from others by the household for the cultivation of cauliflower crop only on payment of money to the land owner. Leasing value per acre is found to be significantly different between two areas. 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 for cauliflower crop in Bangladesh is taka 7752.

Chapter-4

Production Cost

Production Cost

This chapter contains data on per acre production cost based on stratum, tenureship and farming time of cauliflower productivity. The cost includes per acre production cost, per kilogram production cost, tenureship and varieties of cauliflower. The various ingredient of cauliflower production viz. land preparation, seed and seedling related, weeding, irrigation, pesticide, fertilizer, harmon, harvesting, transport and other have been taken into consideration in obtaining the cost of production.

Table-4.1 Per acre production cost (Tk.) by tenancy & ingredients

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

* 1 hectare=2.47 acre

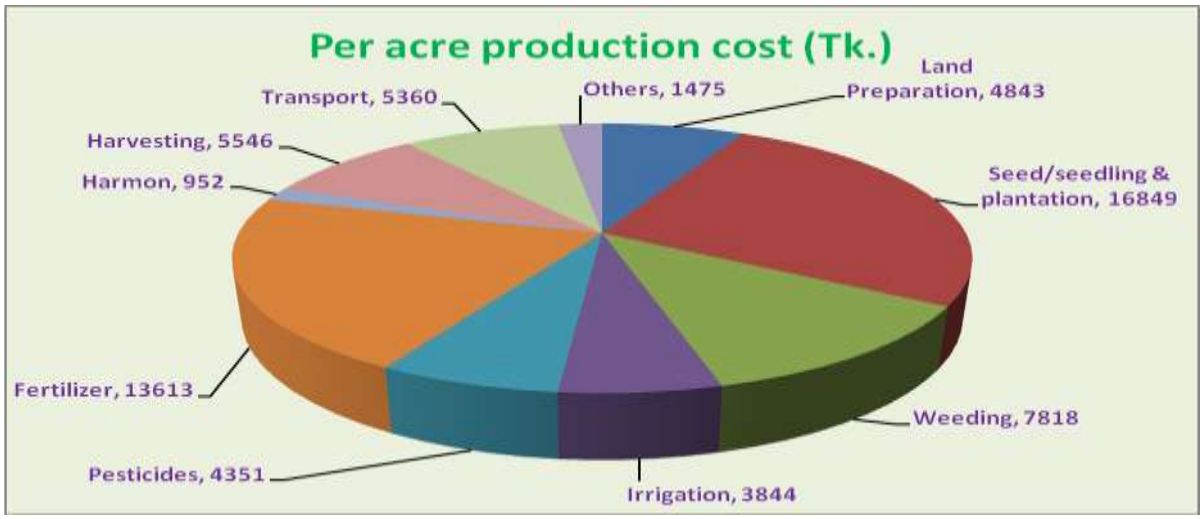

Table-4.1 presents that overall per acre production cost in all areas is Taka 64650 on an average for the year 2014. Whereas the average per acre production cost in own land is 64289 and all other tenureship it is Taka 64849. As regard the production cost by type of

ingredient, the highest cost is found in seed/seedling plantation cost which is of Taka 16849, followed by fertilizer cost of Taka 13613, weeding cost of Taka 7818, harvesting cost of Taka 5546 etc. It is noticeable that per acre transport cost for the owned tenureship is Taka 5053 whereas the cost of all other category of tenancy is Taka 5803.

Table-4.2: Per acre production cost (Tk.) by varieties of cauliflower & ingredients

Production ingredient	Varieties of cauliflower					
	All		Local		Hybrid	
	Cost	%	Cost	%	Cost	%
Total	64650	100.00	65942	100.00	64176	100.00
Land Preparation	4843	7.49	4950	7.51	4818	7.51
Seed/seedling & plantation	16849	26.05	16820	25.51	16846	26.25
Weeding	7818	12.09	8093	12.27	7747	12.07
Irrigation	3844	5.95	3730	5.66	3871	6.03
Pesticides/insecticide	4351	6.73	5677	8.61	4024	6.27
Fertilizer	13613	21.05	15200	23.05	13095	20.40
Hormone	952	1.47	893	1.35	961	1.50
Harvesting	5546	8.58	5440	8.25	5571	8.68
Transport	5360	8.28	3944	5.98	5701	8.88
Others	1475	2.31	1196	1.81	1542	2.40

It is found from the above table- 4.2 that average per acre production cost of cauliflower in Bangladesh is Taka 64650 in 2014. However, the highest average per acre production cost in the local variety which is Taka 65942 and the lowest production cost is in hybrid variety which is Taka 64176 respectively. The table shows that in both the varieties seed/seedling plantation cost is almost the same at Taka (16820.00) per acre, which is followed by fertilizer at Taka 13613 and weeding is the third highest ingredient to contribute to the cost of cauliflower proportion per acre at Taka 7818 .

Table-4.3 Per acre production cost (Tk.) by seasonality and ingredients

Production ingredient	Seasonality					
	All		**Advance**		**Seasonal**	
	Cost	%	Cost	%	Cost	%
Total	64650	100.00	70497	100.00	62657	100.00
Land Preparation	4843	7.49	5579	7.91	4592	7.33
Seed/seedling & plantation	16849	26.05	16958	24.05	16811	26.83
Weeding	7818	12.09	8759	12.42	7497	11.97
Irrigation	3844	5.95	3812	5.41	3855	6.15
Pesticides/insecticide	4351	6.73	5135	7.28	4083	6.52
Fertilizer	13613	21.05	14767	20.95	13220	21.10
Hormone	952	1.47	1281	1.82	839	1.34
Harvesting	5546	8.58	5982	8.49	5397	8.61
Transport	5360	8.28	6027	8.55	5132	8.19
Others	1475	2.31	2197	3.12	1229	1.96

Table-4.3 shows that the average cost of production is found Taka 70497 for advance farming which is Taka 62657 for seasonal farming and is lower by 11.12 % compared to advance farming time that presenting the per acre cost of production of cauliflower for the survey year, 2014. By components of the cost, the highest cost is involved in seed/seedling & plantation items which is Taka 16849 (26.05%) followed closely by fertilizer costing Taka 13613 (21.05%) weeding Taka 7818 (12.05%), etc.

Table-4.4: Per acre production cost (Tk.) by stratum and ingredients

Production ingredient	Stratum					
	All		Stratum-1		Stratum-2	
	Cost	%	Cost	%	Cost	%
Total	64650	100.00	63127	100.00	67001	100.00
Land Preparation	4843	7.49	4406	6.98	5518	8.24
Seed/seedling& plantation	16849	26.05	16084	25.48	18028	26.91
Weeding	7818	12.09	7580	12.01	8185	12.22
Irrigation	3844	5.95	3729	5.91	4022	6.00
Pesticides/insecticide	4351	6.73	4949	7.84	3428	5.12
Fertilizer	13613	21.05	14524	23.01	12209	18.22
Hormone	952	1.47	1115	1.77	699	1.04
Harvesting	5546	8.58	4829	7.65	6651	9.93
Transport	5360	8.28	4161	6.59	7209	10.76
Others	1475	2.31	1748	2.77	1053	1.57

It is observed from the above table- 4.4 that average per acre production cost of cauliflower by stratum in 2014, is seen the highest of Taka 67001 in stratum-2 and the lowest production cost of Taka 63127 in Stratum-1 respectively. The table also reveals

that transport cost in stratum-2 is nearly 75% higher than that of stratum-1 besides the high costs involved in seed/seedling & plantation items, fertilizer and weeding in both the strata.

Table-4.5 Per Kg. production cost (Tk.), per acre production cost (Tk.) & quantity (Kg.) of cauliflower by varieties of cauliflower and stratum

Varieties of cauliflower	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)	Qty. (Kg)		Cost (Tk)	Qty. (Kg)		Cost (Tk)	Qty. (Kg)
All	4.95	64650	13068	4.79	63127	13176	5.19	67001	12901
Local	6.02	65962	10965	5.86	66318	11310	6.35	65167	10256
Hybrid	4.73	64176	13575	4.54	62144	13688	5.00	67109	13412

Note: Local = local & other variety

The above table-4.5 shows that the average per Kilogram production cost of cauliflower in Bangladesh is Taka 4.95 whereas the cost in stratum-1 is Taka 4.79 and in straum-2 is Taka 5.19 respectively. The average per kilogram production cost in local variety is Taka 6.02 and the average per kilogram production cost in hybrid variety is Taka 4.73 respectively. The table also reveals that per acre production of hybrid cultivation is higher at 13575 kilogram than that of local at 10968 kilogram and is higher by 23.80%.

Table-4.6 Per Kg production cost (Tk), per acre production cost (Tk.) & quantity (Kg) of cauliflower by tenancy and stratum

Tenancy	Per Kg Production cost (Tk) , per acre production cost (Tk) and quantity (Kg)								
	All Areas			Stratumm-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)	Qty. (Kg)		Cost (Tk)	Qty. (Kg)		Cost (Tk)	Qty. (Kg)
All	4.95	64650	13068	4.79	63127	13176	5.19	67001	12901
Own	5.14	64289	12501	4.93	62475	12665	5.49	67191	12238
All others	4.67	64849	13889	4.58	63898	13943	4.80	66243	13810

Note: All others tenancy means all tenancy excluding owned land

The above table 4.6 shows that the average production cost per kilogram of owned tenureship is Tk.5.14 and by all others tenureship is Taka 4.67. The production cost of

per kilogram is Taka 5.49 in owned tenancy in stratum-2 and is higher than that in Stratum-1 and is significantly (11.14%) different between stratum-1 & stratum-2. The table also displays that per kilogram production cost is much in all others tenancy than in owned (Taka 4.58 and Taka 4.93 respectively) in Stratum-1 and in Stratum-2

Table-4.7 Per Kg. production cost (Tk.), per acre production cost (Tk.) & quantity (Kg.) of cauliflower by farming time and stratum

Farming time	Per KG Production cost (Tk) , per acre production cost (Tk) and quantity (Kg)								
	All			Stratumm-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.)	Qty. (Kg)		Cost (Tk.)	Qty. (Kg)		Cost (Tk.)	Qty. (Kg)
All	4.95	64650	13068	4.79	63127	13176	5.19	67001	12901
Advance	7.09	70497	9942	7.18	70550	9821	6.89	70377	10218
Seasonal	4.43	62657	14133	4.12	60075	14555	4.88	66173	13559

The above table shows that the average production cost per kilogram of cauliflower in advance farming time is Taka 7.09 which is must lower at Taka 4.43 in seasonal farming. This pattern is followed in both the strata. The average per acre production of cauliflower is 14133 kilogram in seasonal time and 9942 kilogram in advance time showing 42.15% higher production in seasonal than in part time. By stratum the higher seasonal production compared to advance time is more pronounced (40.20%) in strata-1 than in stratum-2 (32.70%).

Chapter-5

Labour and Labourer’s Cost

Labour and Labourer's Cost

Information related to number and cost of labourers for plantation, weeding and harvesting have been discussed in this chapter.

Table-5.1 Per acre number of labourer engaged and cost of plantation by farming time

Farming time	All				Advance				Seasonal			
	Number of Labour			Labour cost	Number of Labour			Labour cost	Number of Labour			Labour cost
	Family	Hired	Total		Family	Hired	Total		Family	Hired	Total	
Average	8.87	15.54	24.41	4976	7.89	17.82	25.71	4555	10.38	12.07	22.45	5623
Advance	8.99	16.77	25.76	5194	7.58	20.04	27.62	5230	12.21	9.3	21.51	5108
Seasonal	8.82	15.13	23.95	4902	8.03	16.89	24.92	4278	9.93	12.73	22.66	5750

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

Table-5.2 Per acre number of labour engaged and cost of weeding by farming time

Farming time	All areas				Stratum-1				Stratum-2			
	Number of Labourer			Labour cost	Number of Labourer			Labour cost	Number of Labourer			Labour cost
	Family	Hired	Total		Family	Hired	Total		Family	Hired	Total	
Average	9.93	24.77	34.70	7818	8.87	28.85	37.72	7580	11.58	18.48	30.06	8185
Advance	7.91	31.54	39.45	8759	6.60	36.34	42.94	8757	10.92	20.63	31.55	8763
Seasonal	10.62	22.46	33.08	7497	9.79	25.78	35.57	7096	11.74	17.95	29.69	8043

Table-5.2 shows that the average number of required labourer per acre for weeding at national level is 34.70 persons and their cost is Taka 7818. The average number of required labourer is higher in the advance farming at 39.45 persons and their cost is Taka 8759 which are lower in the seasonal farming with 33.08 persons and labour cost of Taka 7497 respectively. It is mentionable that per acre labourer cost in advance farming is almost similar (Taka 8757) in both strata but are lower in the two strata (Taka

7096 in strata-1 and Taka 8043 in stratum-2) in seasonal farming by 18.97% and 9.22% respectively.

Table-5.3 Per acre number of labourer engaged and cost of harvesting by farming time and strata

Farming time	All areas				Stratum-1				Stratum-2			
	Number of Labourer			Labour cost	Number of Labourer			Labour cost	Number of Labourer			Labour cost
	Family	Hired	Total		Family	Hired	Total		Family	Hired	Total	
Average	10.55	15.98	26.53	5546	8.02	16.95	24.97	4829	14.44	14.47	28.91	6651
Advance	8.51	21.23	29.74	5982	8.19	20.99	29.18	5765	9.23	21.75	30.98	6476
Seasonal	11.24	14.19	25.43	5397	7.95	15.29	23.24	4445	15.71	12.69	28.40	6694

The above table provides the average number of required labourers for per acre harvesting at national level which is 26.53 persons and their cost is Taka 5546 during the survey year. The average number of required labourers is higher in the advance farming time which is 29.74 persons and their cost is Taka 5982 and the average number of required labourers is lower in the seasonal farming time which is 25.43 persons and their cost is Taka 5397. The average number of required labourers for per acre harvesting in stratum-1 is 24.97 persons and their cost is Tk. 4829, which is 14.47 persons and their cost is Taka 6651 in stratum-2. The table also shows that the labour cost of harvesting in stratum-2 is higher than that of stratum-1 in both advance farming (12.33%) and seasonal farming (50.60%).

Chapter-6

Production and Production value

Production and Production Value

The estimated per kilogram production value (Tk.), per acre production (kilogram) and per acre production value (Tk) by stratum, tenureship and varieties of cauliflower 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 (Tk) 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.)
Average	10.23	133799	13068	10.13	133538	13176	10.40	134202	12901
Own	10.50	131317	12501	10.15	128587	12665	11.09	135685	12238
All others	9.89	137413	13889	10.11	140973	13943	9.57	132199	13810

Table-6.1 shows the per kilogram production value (Tk.), per acre production (Kg) and per acre production value (Tk.) by tenureship and stratum. The average per acre production value, per acre kilogram production and per kilogram production value of cauliflower crops in Bangladesh are estimated at Taka 133799, 13068 kilograms and Taka 10.23 respectively. The highest per acre production value of Taka 137413 and per acre production of 13889 kilogram is found in the all other tenancy. It is seen that the average per kilogram production and per acre production value (Tk.) in stratum-1 is not significantly lower than that of stratum-2.

Table-6.2 Per kg production value (Tk.), per acre production (Kg) and value (Tk.) by variety of cauliflower

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.)
Average	10.24	13068	133799	10.13	13176	133538	10.40	12901	134202
Local	11.15	10965	122257	10.57	11310	119648	12.44	10256	127622
Hybrid	10.06	13575	136584	10.03	13688	137355	10.10	13412	135471

It is seen from table-6.2 that the highest per acre yield rate of hybrid cauliflower is 13575 kilograms and its value is recorded at Tk.136584, followed by local variety of cauliflower (10965 kilograms) with its value as Tk. 122257. The lowest per kilogram production value is in hybrid cauliflower which is only Tk. 10.06. The highest per

kilogram production value is found in local variety which is Tk. 11.15. Per acre yield rate of hybrid cauliflower is 13688 kilograms in stratum-1with its value of Tk 137355, followed by local variety (11310 kilograms) with its value at Tk. 119648. Per acre yield rate of hybrid cauliflower is 13412 kilograms in stratum-2 with its value of Tk. 135471, followed by local variety (10256 kilograms) with its value at Taka 127622.

Table-6.3 Per kg production value (Tk.), per acre production (Kg) and value (Tk.) by farming time and stratum

Farming time	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)
Average	10.24	13068	133799	10.13	13176	133538	10.40	12901	134202
Advance	14.89	9942	148076	14.99	9821	147007	14.73	10218	150514
Season	9.12	14133	128934	8.79	14555	128002	9.60	13559	130203

Table-6.3 shows the per kilogram production value(Tk), per acre production (Kg) and per acre production of cauliflower value (Tk.) by farming time. It is observed that the highest per acre production and lowest per acre production value in seasonal farming time are 14133 kilogram and Tk.128934 respectively. It is noticeable that per kilogram production value is highly significantly different in the two farming time in both the strata.

Table-6.4 Per acre benefit cost ratio of cauliflower crops by variety and stratum

Variety	All			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.)	
Average	64650	133799	2.07	63127	133538	2.12	67001	134202	2.00
Local	65962	122257	1.85	66318	119648	1.80	65167	127622	1.96
Hybrid	64176	136584	2.13	62144	137355	2.21	67109	135471	2.02

Table-6.4 exposes the benefit cost ratio of the cost by varieties of cauliflower 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 cauliflower crop is greater than one it means that the producer will

be benefited and he will be interested to continue the production of the 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 cauliflower crop at national level is 2.07, in stratum-1 it is 2.17 and in stratum-2 it is 2.00. This means that the productivity is greater than one in both the strata and farmers get some profit from the production of cauliflower. At the national level the highest benefit cost ratio is 2.13 for hybrid cauliflower and minimum/lowest productivity is 1.85 in local variety of cauliflower.

Chapter-7

Sampling Error and Data Reliability

Sampling Error and Data Reliability

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

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

Where: R= the estimated average production cost

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

K = the number of random group

Table-7.1 Estimated per acre production cost (excluding leasing value) for the year 2014 & their standard errors by stratum and farming time.

Stratum	Production Cost			Standard Error			Relative Standard Error (%)		
	Total	Advance	Seasonal	Total	Advance	Seasonal	Total	Advance	Seasonal
All	64650	70497	62657	1.612	10.623	3.549	0.00250	0.01507	0.00568
Stratum-1	63127	70550	60075	4.167	12.737	5.902	0.00660	0.01805	0.00982
Stratum-2	67001	70377	66173	4.407	6.564	5.094	0.00658	0.00933	0.00770

The table shows that the average production cost per acre for stratum-1 of 63127 taka is significantly different from the 67001 taka average production for stratum-2 at 95% confidence interval. Similarly, the average production cost per acre for seasonal cultivation in stratum-1 of 60075 taka is significantly different from the 66173 taka average production cost for stratum-2 at 95% confidence interval. On the other hand the average production cost per acre for advance cultivation in stratum 70550 taka is not significantly different from the 70377 taka average production for stratum-2 at 95% confidence interval.

Although the estimated per acre production cost for advance cultivation is subject to the higher standard error than for seasonal cultivation. Production cost per acre for all estimates have acceptable reliability in terms of sampling error.

Table-7.2 Estimated per acre production value (excluding leasing value) for the year 2014 and their standard errors by stratum and farming time

Stratum	Production value			Standard Error			Relative Standard Error (%)		
	Total	Advance	Seasonal	Total	Advance	Seasonal	Total	Advance	Seasonal
All	133799	148076	128934	5.730	37.102	5.767	0.004	0.026	0.005
Stratum-1	133538	147007	128002	13.329	47.815	12.470	0.010	0.033	0.038
Stratum-2	134202	150514	130203	19.939	27.945	19.386	0.015	0.022	0.015

The estimated average production values per acre for advance cultivation of 148076 is significantly different 128934 from the average production value for seasonal cultivation at 95% confidence interval. The highest average production values for advance cultivation in stratum-2 of 150514 taka are significantly different 130203 from the seasonal cultivation in stratum-2 at 95% confidence interval. 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 (acre) under cauliflower cultivation by tenancy & farming time

Farming time	Tenancy					
	Total	Owned	Share crop	Mortgage	Lease	Other
1	2	3	4	5	6	7
All Areas						
Bangladesh	21472	14785	835	1506	4209	137
Advance	5458	3808	234	478	937	1
Seasonal	16014	10977	601	1028	3272	136
Stratum-1						
Total	13028	9356	435	687	2538	12
Advance	3795	2657	163	259	716	-
Seasonal	9232	6699	272	428	1822	12
Stratum-2						
Total	8444	5430	401	820	1671	124
Advance	1663	1151	71	220	220	1
Seasonal	6782	4278	330	600	1450	123

Table-2: Distribution of number households under cauliflower cultivation by tenancy & farming time

Farming time	Tenancy					
	Total	Owned	Share crop	Mortgage	Lease	Other
1	2	3	4	5	6	7
All Areas						
Bangladesh	50371	39877	2369	4042	7937	290
Advance	10919	8469	537	1023	1740	9
Seasonal	39451	31408	1832	3019	6198	281
Stratum-1						
Total	24763	20157	1086	1676	4143	17
Advance	6542	5001	337	522	1221	-
Seasonal	18221	15156	749	1154	2922	17
Stratum-2						
Total	25607	19720	1283	2366	3795	273
Advance	4377	3467	200	501	519	9
Seasonal	21230	16253	1083	1865	3276	264

Table-3: Distribution of area (acres) under cauliflower cultivation by variety & farming time

Farming time	Variety			
	Total	Local	Hybrid	Others
1	2	3	4	6
All				
Bangladesh	21472	3725	17298	449
Advance	5458	1127	4233	98
Seasonal	16014	2598	13065	351
Stratum-1				
Total	13028	2543	10219	265
Advance	3795	758	2985	53
Seasonal	9232	1785	7235	212
Stratum-2				
Total	8444	1182	7079	184
Advance	1663	368	1249	45
Seasonal	6782	813	5830	139

Table-4: Distribution of households under cauliflower cultivation by variety and farming time

Farming time	Variety			
	Total	Local	Hybrid	Others
1	2	3	4	6
All				
Bangladesh	50371	11348	37595	1427
Advance	10919	3012	7662	246
Seasonal	39451	8337	29933	1181
Stratum-1				
Total	24763	6753	17539	472
Advance	6542	1810	4623	109
Seasonal	18221	4943	12916	362
Stratum-2				
Total	25607	4595	20056	956
Advance	4377	1201	3039	136
Seasonal	21230	3394	17017	819

Table-5: Distribution of area (acre) & number of households by cultivation type & farming time & stratum

Farming time	Type of cultivation					
	Total		**Single**		**Mixed**	
	Area	Household	Area	Household	Area	Household
1	2	3	4	5	6	7
All Areas						
Bangladesh	21472	50371	18433	42222	3039	8149
Advance	5458	10919	4569	8745	889	2174
Seasonal	16014	39451	13864	33477	2150	5974
Stratum-1						
Total	13028	24763	12034	21884	994	2880
Advance	3795	6542	3096	4959	700	1583
Seasonal	9232	18221	8938	16924	294	1297
Stratum-2						
Total	8444	25607	6399	20338	2046	5269
Advance	1663	4377	1473	3786	190	592
Seasonal	6782	21230	4926	16553	1856	4677

Table-6: Per acre land preparation cost (Tk.) by farming time & stratum

Farming time	Area	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	8
All Areas							
Bangladesh	21472	4843	2.92	882	8.57	3269	691
Advance	5458	5579	2.75	1098	7.80	3522	960
Seasonal	16014	4592	2.98	809	8.84	3183	600
Stratum-1							
Total	13028	4406	3.40	923	7.09	2807	677
Advance	3795	5143	3.28	1068	6.31	3094	982
Seasonal	9232	4103	3.45	863	7.40	2689	552
Stratum-2							
Total	8444	5518	2.19	821	10.87	3983	714
Advance	1663	6575	1.54	1166	11.19	4499	910
Seasonal	6782	5258	2.36	736	10.79	3857	666

Table-7: Per acre seed and seedbed related cost (Tk.) by farming time & stratum

Farming time	Total cost (Tk.)	Seed		Seedbed related cost			
		Qty. (Kg)	Cost (Tk.)	Seedbed	Seed sowing	Irrigation	Cleaning
1	2	3	4	5	6	7	8
All Areas							
Bangladesh	9191	99	5406	1219	664	759	1143
Advance	10376	112	5939	1377	869	966	1225
Seasonal	8787	95	5224	1165	595	689	1115
Stratum-1							
Total	10575	114	6291	1506	786	1025	967
Advance	11539	119	6706	1553	990	1205	1085
Seasonal	10179	111	6121	1486	703	951	918
Stratum-2							
Total	7057	77	4039	777	476	349	1415
Advance	7722	94	4189	976	592	420	1546
Seasonal	6893	73	4002	728	448	332	1384

Table-8: Per acre number of labour engaged in seedling lifting & their cost (Tk.) by farming time & stratum

Farming time	Total Cost (TK.)	Number of labour engaged in seedling lifting			
		Family		Hired	
		Male	Female	Male	Female
1	2	3	4	5	6
All Areas					
Bangladesh	1110	2.87	0.24	2.37	1.12
Advance	1398	3.27	0.29	3.01	2.60
Seasonal	1012	2.73	0.22	2.16	0.62
Stratum-1					
Total	1226	3.04	0.23	3.25	1.83
Advance	1525	2.65	0.30	3.88	3.74
Seasonal	1104	3.21	0.21	2.99	1.04
Stratum-2					
Total	930	2.61	0.25	1.03	0.04
Advance	1107	4.70	0.26	1.03	0.01
Seasonal	887	2.09	0.25	1.03	0.04

Table-9: Per acre number of labour engaged in seedling plantation cost (Tk.) by farming time & stratum

Farming time	Total Cost (TK.)	Seedling plantation cost (Tk.)					Purchase cost (Tk.)	Others cost (Tk.)
		Family		Hired		Cost (Tk.)		
		Male	Female	Male	Female			
1	2	3	4	5	6	7	8	9
All Areas								
Bangladesh	6548	5.38	0.38	10.77	1.28	3866	2300	382
Advance	5184	4.87	0.56	10.72	0.44	3796	896	493
Seasonal	7012	5.55	0.32	10.78	1.57	3890	2779	344
Stratum-1								
Total	4283	4.35	0.27	11.78	0.96	3329	618	336
Advance	4454	4.10	0.53	11.82	0.60	3705	244	504
Seasonal	4213	4.45	0.16	11.76	1.10	3174	771	267
Stratum-2								
Total	10041	6.96	0.56	9.21	1.79	4693	4895	452
Advance	6850	6.63	0.62	8.20	0.06	4001	2383	466
Seasonal	10824	7.05	0.54	9.45	2.21	4863	5511	449

Table-10: Per acre number of labour engaged in weeding & irrigation cost (Tk.) by farming time & stratum

Farming time	Total Cost (TK.)	Weeding cost (Tk.)					Irrigation cost (Tk.)	Irrigation related cost (Tk.)
		Family (No.)		Hired(No.)		Cost (Tk.)		
		Male	Female	Male	Female			
1	2	3	4	5	6	7	8	9
All Areas								
Bangladesh	3844	9.58	0.35	23.14	1.63	485	7818	3359
Advance	3812	7.55	0.36	26.94	4.60	609	8759	3203
Seasonal	3855	10.27	0.35	21.84	0.62	443	7497	3413
Stratum-1								
Total	3729	8.51	0.36	26.43	2.42	526	7580	3203
Advance	4024	6.18	0.42	29.88	6.46	739	8757	3286
Seasonal	3608	9.46	0.33	25.02	0.76	439	7096	3169
Stratum-2								
Total	4022	11.23	0.35	18.05	0.43	422	8185	3600
Advance	3328	10.68	0.24	20.25	0.38	314	8763	3014
Seasonal	4192	11.36	0.38	17.51	0.44	448	8043	3744

Table-11: Per acre pesticide and insecticide cost (Tk.) by farming time & stratum

Farming time	Total cost (Tk.)	Pesticide cost (Tk.)	Insecticide cost (Tk.)	Others cost (Tk.)
1	2	3	4	5
All Areas				
Bangladesh	4351	1693	1430	1228
Advance	5135	1981	1541	1613
Seasonal	4083	1595	1392	1097
Stratum-1				
Total	4949	1761	1585	1603
Advance	5494	1920	1614	1961
Seasonal	4724	1696	1573	1456
Stratum-2				
Total	3428	1587	1191	650
Advance	4314	2119	1374	821
Seasonal	3211	1457	1146	608

Table-12: Per acre Harmon cost (Tk.) by farming time & stratum

Farming time	Total cost (Tk.)	Ocuzom cost (Tk.)	Ithril cost (Tk.)	Others cost (Tk.)
1	2	3	4	5
All				
Bangladesh	952	574	88	282
Advance	1281	651	169	446
Seasonal	839	548	60	226
Stratum-1				
Total	1115	642	104	369
Advance	1444	681	223	539
Seasonal	980	626	55	299
Stratum-2				
Total	699	469	63	147
Advance	910	583	47	235
Seasonal	647	442	66	126

Table-13: Per acre type of fertilizer used (kg) and Price (Tk.) by farming time & stratum

Farming time	Total value	Urea		TSP		DAP		MOP		Cake		Cow dung (Tk.)	Others (Tk.)
		Qty (kg)	Price (Tk.)	Qty (kg)	Price (Tk.)	Qty (kg)	Price (Tk.)	Qty (kg)	Price (Tk.)	Qty (kg)	Price (Tk.)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
All Areas													
Bangladesh	13613	179	2783	122	3186	69	1887	58	1315	12	338	3156	948
Advance	14767	167	2815	124	3250	76	2245	59	1365	9	245	3815	1032
Seasonal	13220	182	2772	121	3164	66	1765	58	1298	13	370	2932	920
Total	14524	162	2690	123	3328	65	1849	65	1447	8	256	3857	1096
Advance	15018	152	2735	131	3511	51	1642	63	1483	3	92	4552	1005
Seasonal	14320	166	2671	120	3254	71	1934	65	1432	11	324	3572	1133
Total	12209	204	2927	119	2966	74	1947	48	1110	18	464	2075	720
Advance	14195	203	2996	107	2657	134	3623	50	1095	23	596	2135	1094
Seasonal	11722	204	2909	122	3042	60	1536	47	1114	17	432	2061	628

Table-14: Per acre number of labour engaged in harvesting cost (Tk.) by farming time & stratum

Farming time	Number of labourer and their cost (Tk.)					Transport cost (Tk.)	Others (Tk.)
	Family (No.)		Hired (No.)		Cost (Tk.)		
	Male	Female	Male	Female			
1	2	3	4	5	6	7	8
All Areas							
Bangladesh	9.51	1.04	14.11	1.87	5546	5360	1475
Advance	7.63	0.88	17.34	3.89	5982	6027	2197
Seasonal	10.15	1.09	13.01	1.18	5397	5132	1229
Stratum-1							
Total	6.97	1.05	15.98	0.97	4829	4161	1748
Advance	7.36	0.83	19.72	1.27	5765	4654	2732
Seasonal	6.81	1.14	14.44	0.85	4445	3959	1343
Stratum-2							
Total	13.42	1.02	11.22	3.25	6651	7209	1053
Advance	8.26	0.97	11.90	9.85	6476	9161	976
Seasonal	14.68	1.03	11.06	1.63	6694	6730	1072

Table-15: Per acre production value (Tk.) by farming time & stratum

Farming time	No. of seedling & their value (Tk.)		No. cauliflower, quantity (Kg) and value (Tk)			Value (Tk.)
	Number	Value (Tk.)	Number	Qty. (Kg)	Value (Tk.)	
1	2	3	4	5		
All Areas						
Bangladesh	1273	1031	13311	13068	128808	129839
Advance	450	424	13934	9942	143925	144349
Seasonal	1554	1238	13099	14133	123656	124893
Stratum-1						
Total	870	673	14879	13176	129101	129774
Advance	445	350	15057	9821	142877	143227
Seasonal	1045	806	14806	14555	123438	124244
Stratum-2						
Total	1896	1583	10893	12901	128355	129938
Advance	463	594	11371	10218	146315	146910
Seasonal	2247	1825	10776	13559	123952	125777

Table-16.a: Per acre production cost (Tk.) by size of land and stratum.

Size of land planted (Acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	64650	4843	10301	6548	7818	3844	4351	13613	952	5546	6360	1475
<= 0.04	77614	4946	10746	10050	9919	5013	7520	15148	967	6485	4896	1325
0.05 – 0.49	68825	5511	10261	8541	8422	4377	4565	13819	965	6123	5031	1209
0.50 – 0.99	65087	4722	10540	6128	7688	3743	4536	13942	963	5508	5896	1422
1.00 – 1.49	62242	4284	10537	5232	7457	3721	4171	13629	945	5104	5381	1780
1.50 – 2.49	55062	4238	9266	4627	6505	2844	3493	12064	824	4650	4650	1901
2.50 – 4.99	60236	4308	10576	4151	8317	3007	4238	11238	919	5494	6149	1839
5.00 – 7.49	57805	5231	8080	5389	7558	3854	3465	10035	1385	6409	5470	929
7.50 +	52119	3591	10122	2899	8622	4323	2937	11567	1038	2925	3077	1017
Stratum-1												
Average	63127	4406	11801	4283	7580	3729	4949	14524	1115	4829	4161	1748
<= 0.04	76874	4197	10783	8774	10364	5154	7398	15739	2720	5643	4358	1749
0.05 – 0.49	67610	4969	12269	5488	7966	4127	5859	15571	1260	5030	3778	1294
0.50 – 0.99	64641	4318	12493	4240	7608	3822	5274	15273	1145	4685	4178	1606
1.00 – 1.49	62962	4198	11637	3972	7637	3869	4543	14314	1058	4956	4658	2119
1.50 – 2.49	54049	4083	10247	3424	6262	2744	3573	12441	892	4419	3760	2203
2.50 – 4.99	58577	4225	10829	2751	8368	2998	4443	11487	967	5447	4945	2118
5.00 – 7.49	53210	4400	8960	3000	6000	4560	4400	7090	2200	7500	3600	1500
7.50 +	52119	3591	10122	2899	8622	4323	2937	11567	1038	2925	3077	1017
Stratum-2												
Average	67001	5518	7987	10041	8185	4022	3428	12209	699	6651	7209	1053
<= 0.04	78823	6017	10694	11876	9283	4810	7693	12902	748	7689	5666	1446
0.05 – 0.49	69755	5926	8723	10880	8772	4569	3574	12478	739	6961	5991	1144
0.50 – 0.99	65778	5347	7514	9055	7812	3621	3393	11880	681	6783	8556	1137
1.00 – 1.49	59861	4567	6898	9396	6865	3234	2943	11367	569	5590	7773	658
1.50 – 2.49	58954	4836	5496	9247	7441	3229	3187	10615	561	5535	8068	739
2.50 – 4.99	67787	4686	9425	10522	8086	3047	3309	10104	701	5707	11627	572
5.00 – 7.49	62056	6000	7266	7600	9000	3200	2600	12760	630	5400	7200	400
7.50 +	-	-	-	-	-	-		-	-	-	-	-

Table-16.b: Per acre production quantity (Kg) & their value (Tk.) by size of land & stratum

Size of land planted (acre)	Seedling		Cauliflower			Total value (Tk.)
	Number	Value (Tk.)	Number	Quantity (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	1273	1031	13311	13068	132768	133799
<= 0.04	1958	2466	13066	12697	134148	136614
0.05 – 0.49	1914	1386	12553	12022	135514	136900
0.50 – 0.99	707	871	13212	12943	126126	126997
1.00 – 1.49	1831	1218	13941	13860	135600	136818
1.50 – 2.49	373	373	14584	14960	142196	142569
2.50 – 4.99	101	101	14258	14554	127901	128002
5.00 – 7.49	-	-	11730	12973	117819	117819
7.50 +	1017	1017	15565	13581	121129	122146
Stratum-1						
Average	870	673	14879	13176	132865	133538
<= 0.04	1022	774	14103	12712	131398	132172
0.05 – 0.49	1662	900	14503	11383	129972	130872
0.50 – 0.99	683	841	14907	12821	123942	124783
1.00 – 1.49	731	486	14905	13877	141679	142165
1.50 – 2.49	448	448	15511	15432	148681	149129
2.50 – 4.99	-	-	14703	14709	124932	124932
5.00 – 7.49	-	-	13600	14025	126000	126000
7.50 +	1017	1017	15565	13581	121129	122146
Stratum-2						
Average	1896	1583	10893	12901	132619	134202
<= 0.04	3297	4885	11584	12675	138076	142964
0.05 – 0.49	2107	1759	11055	12511	139758	141517
0.50 – 0.99	745	917	10586	13132	129509	130427
1.00 – 1.49	5468	3639	10756	13804	115507	119145
1.50 – 2.49	86	86	11023	13148	117285	117371
2.50 – 4.99	561	561	12233	13845	141414	141975
5.00 – 7.49	-	-	10000	12000	110250	110250
7.50 +	-	-	-	-	-	-

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

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	64289	4879	10693	6172	7586	3746	4606	13785	965	5483	5053	1321
<= 0.04	69023	5037	7670	9606	8145	4657	4790	14387	1540	6550	4933	1709
0.05 – 0.49	66567	5335	10411	7967	8122	4130	4502	13370	971	5978	4700	1081
0.50 – 0.99	62720	4531	10961	5048	7057	3529	4715	14205	977	5085	5373	1239
1.00 – 1.49	63535	4448	11276	4251	7472	3595	4984	14400	974	5187	5201	1747
1.50 – 2.49	62867	4725	10659	4429	7658	2769	4379	14319	820	4780	5590	2739
2.50 – 4.99	59748	4531	10689	5185	6698	2991	4068	12472	1011	6320	5421	362
5.00 – 7.49	57805	5231	8080	5389	7558	3854	3465	10035	1385	6409	5470	929
7.50 +	31669	2950	7125	1875	1500	2500	1969	8125	-	625	2500	2500
Stratum-1												
Average	62475	4493	11725	4268	7128	3664	5266	15038	1101	4672	3690	1430
<= 0.04	68122	4340	7691	8506	7785	4786	5710	15452	1885	5663	4442	1862
0.05 – 0.49	64610	4845	11712	5141	7502	3897	5646	15270	1212	5069	3233	1082
0.50 – 0.99	61012	4234	12020	3949	6826	3611	5240	15189	1089	4173	3532	1147
1.00 – 1.49	64164	4481	11762	3866	7553	3820	5298	15123	1038	5023	4358	1842
1.50 – 2.49	63461	4473	11514	3704	7137	2644	4468	15414	872	4596	5228	3412
2.50 – 4.99	48725	4484	10252	2737	4896	3180	3788	11149	1029	5034	1963	213
5.00 – 7.49	53210	4400	8960	3000	6000	4560	4400	7090	2200	7500	3600	1500
7.50 +	31669	2950	7125	1875	1500	2500	1969	8125	-	625	2500	2500
Stratum-2												
Average	67191	5496	9041	9219	8320	3878	3550	11780	747	6782	7233	1146
<= 0.04	70323	6042	7641	11194	8664	4470	3461	12849	1041	7829	5642	1488
0.05 – 0.49	68211	5747	9318	10341	8642	4325	3541	11774	768	6742	5932	1080
0.50 – 0.99	66458	5182	8644	7453	7564	3349	3565	12053	730	7078	9399	1441
1.00 – 1.49	59801	4257	8390	6536	6990	2258	3119	10113	598	6160	10201	1180
1.50 – 2.49	60755	5620	7620	7006	9508	3217	4062	10427	633	5435	6877	349
2.50 – 4.99	80650	4621	11518	9828	10115	2632	4598	14983	977	8759	11977	644
5.00 – 7.49	62056	6000	7266	7600	9000	3200	2600	12760	630	5400	7200	400
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-17.b: Per acre production quantity (Kg) & their value (Tk.) by size of land

Size of land (acre)	Seedling		Cauliflower			Total value (Tk.)
	Number	Value (Tk.)	Number	Qty (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	1444	1108	13106	12501	130209	131317
<= 0.04	2130	2683	13051	12491	135326	138009
0.05 – 0.49	2307	1554	12360	11903	134248	135802
0.50 – 0.99	801	789	13297	12705	123323	124112
1.00 – 1.49	893	849	14343	12875	131456	132304
1.50 – 2.49	468	468	14184	14211	136193	136662
2.50 – 4.99	-	-	14397	13772	132389	132389
5.00 – 7.49	-	-	11730	12973	117819	117819
7.50 +	2500	2500	14625	15000	132300	134800
Stratum-1						
Average	1133	786	14657	12665	127801	128587
<= 0.04	1107	839	14062	12439	132443	133282
0.05 – 0.49	1907	935	14178	11692	129736	130671
0.50 – 0.99	835	792	14627	12719	118470	119262
1.00 – 1.49	725	642	15075	13033	135749	136391
1.50 – 2.49	553	553	15554	14736	145929	146482
2.50 – 4.99	-	-	15900	14778	119083	119083
5.00 – 7.49	-	-	13600	14025	126000	126000
7.50 +	2500	2500	14625	15000	132300	134800
Stratum-2						
Average	1942	1622	10623	12238	134063	135685
<= 0.04	3607	5346	11592	12566	139487	144832
0.05 – 0.49	2644	2074	10833	12081	138037	140111
0.50 – 0.99	728	783	10388	12673	133939	134722
1.00 – 1.49	1889	2073	9997	11936	105973	108046
1.50 – 2.49	168	168	9313	12346	101590	101758
2.50 – 4.99	-	-	11494	11862	157621	157621
5.00 – 7.49	-	-	10000	12000	110250	110250
7.50 +	-	-	-	-	-	-

Table-18.a: Per acre production cost (Tk.) for all other tenancy by size of land & stratum

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	64849	4792	9715	7087	8146	3984	3966	13098	923	5637	5803	1698
<= 0.04	65064	3916	6184	9304	9134	3281	6575	13917	1862	5753	4476	663
0.05 – 0.49	75309	6016	9824	10181	9289	5091	4748	15116	947	6543	5977	1577
0.50 – 0.99	68997	5037	9844	7912	8728	4097	4241	13508	941	6207	6759	1724
1.00 – 1.49	61112	4140	9891	6089	7445	3832	3461	12956	919	5031	5539	1809
1.50 – 2.49	51067	3989	8553	4728	5915	2882	3040	10909	826	4583	4169	1472
2.50 – 4.99	60403	4232	10538	3797	8871	3012	4297	10816	888	5211	6397	2344
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	66149	4031	12178	3602	13508	5575	3602	13928	1750	4503	3473	-
Stratum-1												
Average	63898	4276	11890	4304	8246	3824	4462	13594	1133	5066	4869	2225
<= 0.04	56844	2488	6240	5564	9100	2744	3248	15620	2680	5400	3360	400
0.05 – 0.49	78306	5408	14255	6725	9620	4948	6621	16642	1430	4890	5719	2049
0.50 – 0.99	73247	4519	13614	4928	9461	4322	5353	15472	1278	5896	5710	2694
1.00 – 1.49	61661	3893	11502	4087	7727	3921	3725	13438	1081	4885	4982	2419
1.50 – 2.49	49350	1888	9615	3284	5825	2794	3127	10956	903	4331	3028	1600
2.50 – 4.99	61093	4159	10977	2754	9255	2951	4610	11573	952	5552	5706	2604
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	66149	4031	12178	3602	13508	5575	3602	13928	1750	4503	34 73	-
Stratum-2												
Average	66243	5548	6516	11163	7998	4218	3240	12372	616	6473	7172	926
<= 0.04	75628	5750	6111	14111	9178	3972	10850	11728	811	6206	5911	1000
0.05 – 0.49	73559	6371	7239	12198	9097	5174	3655	14225	665	7507	6127	1302
0.50 – 0.99	65104	5511	6391	10645	8057	3890	3222	11709	632	6491	7720	836
1.00 – 1.49	59885	4694	6291	10561	6814	3632	2872	11877	557	5358	6784	445
1.50 – 2.49	57942	4395	4302	10507	6278	3236	2695	10721	520	5591	8737	958
2.50 – 4.99	55515	4748	7428	11184	6151	3443	2079	5450	439	2796	11294	504
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-18.b: Per acre production quantity (Kg) & their value (Tk.) for all other tenancy by size of land and stratum

Size of land (acre)	Seedling		Cauliflower			Total value (Tk.)
	No.	Value (Tk.)	N0.	Qty (Kg)	Value (tk)	
1	2	3	4	5	6	7
All Areas						
All	1026	919	13607	13889	136493	137413
<= 0.04	-	-	13239	15034	120780	120780
0.05 – 0.49	783	903	13094	12358	139223	140126
0.50 – 0.99	552	1005	13072	13337	130756	131761
1.00 – 1.49	2651	1541	13590	14720	139220	140762
1.50 – 2.49	325	325	14789	15343	145268	145593
2.50 – 4.99	136	136	14217	14821	126368	126503
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	16209	12607	113465	113465
Stratum-1						
Average	475	503	15212	13943	140470	140973
<= 0.04	-	-	14592	15968	118944	118944
0.05 – 0.49	790	773	15683	10282	130815	131588
0.50 – 0.99	324	956	15571	13063	136917	137873
1.00 – 1.49	737	317	14721	14790	148097	148414
1.50 – 2.49	396	396	15489	15779	150054	150450
2.50 – 4.99	-	-	14397	14691	126426	126426
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	16209	12607	113465	113465
Stratum-2						
Average	1833	1529	11256	13810	130670	132199
<= 0.04		--	11500	13833	123139	123139
0.05 – 0.49	778	979	11583	13569	144130	145109
0.50 – 0.99	762	1050	10782	13588	125113	126163
1.00 – 1.49	6926	4276	11065	14565	119391	123667
1.50 – 2.49	41	41	11985	13598	126108	126149
2.50 – 4.99	1096	1096	12939	15737	125954	127050
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-

Table-19.a: Per acre production cost (Tk.) for local & other variety by size of land & stratum

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	65942	4950	10599	6221	8093	3730	5677	15200	893	5440	3944	1196
<= 0.04	68272	5534	5407	11665	8102	3766	4989	14682	1383	6956	4331	1458
0.05 – 0.49	67086	5353	9584	7926	8744	3759	5345	14076	915	6221	3951	1212
0.50 – 0.99	65677	4713	12113	4537	7967	3656	6041	16086	890	4755	3665	1254
1.00 – 1.49	64970	4052	11148	4423	6910	3888	6431	17380	751	4712	4206	1068
1.50 – 2.49	54866	5339	7237	6239	4585	3400	3338	12813	1156	4119	5836	805
2.50 – 4.99	-	-	-	-	-	-	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-
Stratum-1												
Average	66318	4199	12674	4114	8364	3420	6973	16576	1019	4537	3136	1307
<= 0.04	68215	4040	1353	13813	8546	3335	7215	16839	1372	7002	3318	1382
0.05 – 0.49	67719	4502	12169	4823	9605	3218	7287	15960	1197	4840	2747	1371
0.50 – 0.99	65435	4099	13255	3583	7914	3482	6694	16835	964	4208	3086	1315
1.00 – 1.49	66053	3720	12591	3508	6925	3766	7132	17660	783	4635	4167	1167
1.50 – 2.49	57828	4772	12012	6359	5602	2846	4870	12453	622	4544	2739	1008
2.50 – 4.99	-	-	-	-	-	-	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-
Stratum-2												
Average	65167	6493	6331	10552	7535	4369	3013	12370	633	7298	5605	967
<= 0.04	68325	6916	9158	9678	7692	4165	2928	12686	1393	6913	5268	1528
0.05 – 0.49	66340	6356	6535	11587	7727	4398	3053	11855	582	7851	5372	1025
0.50 – 0.99	66783	7522	6886	8898	8210	4449	3054	12659	555	7256	6317	976
1.00 – 1.49	59493	5725	3858	9051	6838	4504	2893	15961	587	5105	4404	568
1.50 – 2.49	53430	5614	4922	6180	4092	3668	2596	12987	1414	3913	7337	707
2.50 – 4.99	-	-	-	-	-	-	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-19.b: Per acre production quantity (Kg) & their value (Tk.) for local & other variety by size of land & stratum

Size of land (acre)	Seedling		Cauliflower			Total value (Tk.)
	No.	Value (Tk.)	N0.	Qty. (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	1589	1065	12817	10965	121192	122257
<= 0.04	1355	1062	11968	11434	127403	128465
0.05 – 0.49	2199	1007	12531	11085	128394	129401
0.50 – 0.99	1025	1023	13025	10809	113505	114527
1.00 – 1.49	1247	1604	13474	11196	118027	119631
1.50 – 2.49	-	-	12043	9744	109500	109500
2.50 – 4.99	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-
Stratum-1						
Average	1917	1044	136850	11310	118605	119648
<= 0.04	353	353	12969	10658	129269	129622
0.05 – 0.49	3264	1020	14019	11762	128325	129345
0.50 – 0.99	1161	1147	13677	10954	108867	110014
1.00 – 1.49	956	938	13867	11269	120791	121729
1.50 – 2.49	-	-	14419	10379	118750	118750
2.50 – 4.99	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-
Stratum-2						
Average	913	1109	10693	10256	126513	127622
<= 0.04	2282	1718	11042	12152	125676	127394
0.05 – 0.49	943	991	10776	10286	128476	129466
0.50 – 0.99	400	452	10040	10147	134725	135177
1.00 – 1.49	2119	4971	11489	10825	104061	109033
1.50 – 2.49	-	-	10891	9436	105016	105016
2.50 – 4.99	-	-	-	-	-	-
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-

Table-20.a: Per acre production cost (Tk.) for hybrid variety by size of land & stratum

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	64176	4818	10221	6625	7747	3871	4024	13095	961	5571	5701	1542
<= 0.04	68798	4666	8569	8591	8284	4916	4908	14190	1544	6261	5165	1704
0.05 – 0.49	69462	5568	10509	8767	8304	4604	4280	13725	983	6087	5427	1208
0.50 – 0.99	64924	4724	10104	6570	7610	3767	4119	13348	983	5716	6514	1469
1.00 – 1.49	61768	4324	10431	5372	7552	3692	3779	12979	978	5171	5585	1903
1.50 – 2.49	55074	4172	9388	4530	6621	2811	3503	12019	804	4681	4579	1967
2.50 – 4.99	60236	4308	10576	4151	8317	3007	4238	11238	919	5494	6149	1839
5.00 – 7.49	57805	5231	8080	5389	7558	3854	3465	10035	1385	6409	5470	929
7.50 +	52119	3591	10122	2899	8622	4323	2937	11567	1038	2925	3077	1017
Stratum-1												
Average	62144	4463	11553	4328	7358	3813	4388	13879	1140	4910	4443	1869
<= 0.04	66905	4253	9802	6302	7652	5090	4913	14975	2151	5158	4729	1880
0.05 – 0.49	67556	5203	12320	5822	7142	4584	5141	15375	1291	5125	4296	1256
0.50 – 0.99	64312	4409	12177	4512	7480	3963	4685	14625	1221	4882	4631	1727
1.00 – 1.49	62370	4290	11455	4061	7773	3888	4047	13676	1111	5018	4752	2302
1.50 – 2.49	53958	4066	10205	3354	6277	2741	3542	12440	899	4416	3785	2232
2.50 – 4.99	58577	4225	10829	2751	8368	2998	4443	11487	967	5447	4945	2118
5.00 – 7.49	53210	4400	8960	3000	6000	4560	4400	7090	2200	7500	3600	1500
7.50 +	52119	3591	10122	2899	8622	4323	2937	11567	1038	2925	3077	1017
Stratum-2												
Average	67109	5329	8297	9941	8309	3954	3498	11963	703	6526	7518	1070
<= 0.04	72160	5400	6380	12656	9406	4607	4899	12798	465	8221	5938	1390
0.05 – 0.49	70703	5806	9330	10684	9061	4617	3719	12651	782	6714	6163	1176
0.50 – 0.99	65668	5108	7583	9072	7768	3530	3430	11794	695	6731	8803	1155
1.00 – 1.49	59904	4431	7255	9437	6868	3085	2949	10827	566	5647	8169	669
1.50 – 2.49	60208	4659	5627	9943	8201	3130	3321	10077	367	5903	8234	746
2.50 – 4.99	67787	4686	9425	10522	8086	3047	3309	10104	701	5707	11627	572
5.00 – 7.49	62056	6000	7266	7600	9000	3200	2600	12760	630	5400	7200	400
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-20.b: Per acre production quantity (Kg) & their value (Tk.) for hybrid variety by size of land

Size of land (acre)	Seedling		Cauliflower			Total value (Tk.)
	Number	Value (Tk.)	Number	Qty. (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	1197	1023	13430	13575	135562	136584
<= 0.04	2244	3133	13588	13297	137354	140488
0.05 – 0.49	1809	1525	12560	12365	138122	139647
0.50 – 0.99	619	829	13264	13534	129624	130453
1.00 – 1.49	1932	1151	14022	14322	138648	139799
1.50 – 2.49	396	396	14737	15274	144162	144558
2.50 – 4.99	101	101	14258	14554	127901	128002
5.00 – 7.49	-	-	11730	12973	117819	117819
7.50 +	1017	1017	15565	13581	121129	122146
Stratum-1						
Average	582	571	15161	13688	136784	137355
<= 0.04	1261	924	14508	13445	132159	133083
0.05 – 0.49	856	839	14753	11192	130801	131640
0.50 – 0.99	485	714	15416	13595	130191	130905
1.00 – 1.49	688	400	15104	14376	145679	146079
1.50 – 2.49	459	459	15537	15553	149396	149855
2.50 – 4.99	-	-	14703	14709	124932	124932
5.00 – 7.49	-	-	13600	14025	126000	126000
7.50 +	1017	1017	15565	13581	121129	122146
Stratum-2						
Average	2086	1674	10931	13412	133797	135471
<= 0.04	3992	7056	11955	13034	146581	153637
0.05 – 0.49	2430	1972	11133	13129	142890	144861
0.50 – 0.99	783	968	10646	13461	128935	129903
1.00 – 1.49	5791	3482	10670	14154	116852	120334
1.50 – 2.49	106	106	11053	13990	120069	120175
2.50 – 4.99	561	561	12233	13845	141414	141975
5.00 – 7.49	-	-	10000	12000	110250	110250
7.50 +	-	-	-	-	-	-

Table-21.a: Per acre production cost (Tk.) for advance farming time by size of land & stratum

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	70497	5579	11774	5184	8759	3812	5135	14767	1281	5982	6027	2197
<= 0.04	73457	8550	12949	6636	8836	3512	5554	12412	1782	5115	6117	1994
0.05 – 0.49	70153	6022	11425	6867	8219	3965	4956	14415	1331	6159	5251	1542
0.50 – 0.99	70019	5667	11807	4950	8355	3665	5268	14287	1253	6220	6450	2097
1.00 – 1.49	71099	5304	11778	4329	8970	4259	5362	14818	1314	6155	5906	2905
1.50 – 2.49	67050	5109	11884	3715	8635	2842	4528	14887	1029	4648	6909	2863
2.50 – 4.99	77640	4800	14093	2978	13100	3727	6816	13278	1288	6369	7285	3906
5.00 – 7.49	62056	6000	7266	7600	9000	3200	2600	12760	630	5400	7200	400
7.50 +	66149	4031	12178	3602	13508	5575	3602	13928	1750	4503	3473	-
Stratum-1												
Average	70550	5143	13064	4454	8757	4024	5494	15018	1444	5765	4654	2732
<= 0.04	74726	9000	13987	5813	8287	3120	5853	15060	1000	5100	3573	3933
0.05 – 0.49	70244	5565	13293	5313	7886	3920	5550	15600	1688	5812	3746	1872
0.50 – 0.99	70598	5104	13426	4672	8323	4022	5762	14616	1427	5876	4663	2707
1.00 – 1.49	72062	5051	12567	4250	9270	4636	5529	14887	1435	6072	5058	3308
1.50 – 2.49	65363	4989	12331	3549	7623	2975	4481	15529	1045	4861	4630	3349
2.50 – 4.99	77640	4800	14093	2978	13100	3727	6816	13278	1288	6369	7285	3906
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	66149	4031	12178	3602	13508	5575	3602	13928	1750	4503	3473	-
Stratum-2												
Average	70377	6575	8828	6850	8763	3328	4314	14195	910	6476	9161	976
<= 0.04	71437	8133	9467	8173	8120	4800	4633	12905	960	6053	4993	3200
0.05 – 0.49	70036	6605	9043	8848	8644	4022	4199	12905	877	6602	7169	1122
0.50 – 0.99	68909	6746	8704	5482	8416	2983	4323	13656	920	6879	9872	929
1.00 – 1.49	66242	6582	7797	4726	7457	2360	4519	14467	702	6573	10185	872
1.50 – 2.49	74697	5654	9859	4467	13224	2239	4741	11979	956	3679	17236	663
2.50 – 4.99	-	-	-	-	-	-	-	-	-	-	-	-
5.00 – 7.49	62056	6000	7266	7600	9000	3200	2600	12760	630	5400	7200	400
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-21.b: Per acre production quantity (Kg) & their value (Tk.) for advance farming time by size of land & stratum

Size of land (acre)	Seedling		Cauliflower			Total value (Tk.)
	Number	Value (Tk.)	Number	Qty. (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	450	424	13934	9942	147651	148076
<= 0.04	7889	4685	18155	11419	180223	184908
0.05 – 0.49	684	709	13203	9232	156356	157066
0.50 – 0.99	357	337	14351	9833	146676	147012
1.00 – 1.49	521	389	13667	10477	144355	144744
1.50 – 2.49	221	221	14335	11037	148146	148367
2.50 – 4.99	-	-	15830	8811	128287	128287
5.00 – 7.49	-	-	10000	12000	110250	110250
7.50 +	-	-	16209	12607	113465	113465
Stratum-1						
Average	445	350	15057	9821	146657	147007
<= 0.04	15333	8667	24000	10733	184867	193533
0.05 – 0.49	683	550	14417	8754	153749	154299
0.50 – 0.99	387	299	16082	9353	145313	145613
1.00 – 1.49	547	403	14207	10619	149102	149505
1.50 – 2.49	216	216	14718	11343	147114	147330
2.50 – 4.99	-	-	15830	8811	128287	128287
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	16209	12607	113465	113465
Stratum-2						
Average	463	594	11371	10218	149920	150514
<= 0.04	1000	1000	12747	12053	175927	176927
0.05 – 0.49	685	913	11655	9842	159679	160592
0.50 – 0.99	299	409	11035	10753	149286	149695
1.00 – 1.49	392	319	10945	9763	120407	120725
1.50 – 2.49	244	244	12602	9650	152821	153065
2.50 – 4.99	-	-	-	-	-	-
5.00 – 7.49	-	-	10000	12000	110250	110250
7.50 +	-	-	-	-	-	-

Table-22.a: Per acre production cost (Tk.) for seasonal farming time by size of land & stratum

Size of land planted (acre)	Per acre production Cost (Tk)											
	Total	Land Preparation	Seedling	Plantation	Wedding	Irrigation	Pesticide/ insecticide	Fertilizer	Harvesting	Ripen	Transport	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
All Areas												
All	62657	4592	9799	7012	7497	3855	4083	13220	839	5397	5132	1229
<= 0.04	83741	4729	8624	9774	9502	4681	5769	26665	1728	6206	4642	1421
0.05 – 0.49	68454	5368	9937	9008	8479	4493	4456	13653	863	6113	4970	1116
0.50 – 0.99	63294	4378	10079	6557	7445	3771	4270	13817	858	5249	5694	1177
1.00 – 1.49	58969	3907	10078	5566	6899	3523	3732	13190	808	4715	5188	1364
1.50 – 2.49	50341	3895	8234	4986	5666	2845	3086	10952	743	4650	3761	1522
2.50 – 4.99	54589	4149	9435	4531	6765	2773	3402	10576	800	5210	5780	1169
5.00 – 7.49	53210	4400	8960	3000	6000	4560	4400	7090	2200	7500	3600	1500
7.50 +	31669	2950	7125	1875	1500	2500	1969	8125	-	625	2500	2500
Stratum-1												
Average	60075	4103	11282	4213	7096	3608	4724	14320	980	4445	3959	1343
<= 0.04	93445	3963	9360	8674	10221	4961	7035	36032	2366	5426	3909	1497
0.05 – 0.49	66577	4735	11868	5557	7997	4208	5980	15560	1092	4723	3790	1068
0.50 – 0.99	62228	4000	12114	4064	7318	3741	5076	15539	1031	4202	3982	1160
1.00 – 1.49	59185	3844	11252	3857	6959	3550	4134	14076	902	4494	4492	1626
1.50 – 2.49	49389	3709	9388	3372	5701	2649	3199	11169	829	4237	3402	1732
2.50 – 4.99	50453	3981	9439	2654	6351	2687	3431	10724	831	5054	3947	1355
5.00 – 7.49	53210	4400	8960	3000	6000	4560	4400	7090	2200	7500	3600	1500
7.50 +	31669	2950	7125	1875	1500	2500	1969	8125	-	625	2500	2500
Stratum-2												
Average	66173	5258	7780	10824	8043	4192	3211	11722	647	6694	6730	1072
<= 0.04	69485	5853	7541	11389	8445	4270	3909	12906	792	7352	5718	1311
0.05 – 0.49	69698	5787	8657	11294	8798	4681	3447	12390	711	7034	5751	1148
0.50 – 0.99	64826	4922	7152	10142	7628	3815	3110	11340	604	6754	8156	1200
1.00 – 1.49	58343	4088	6685	10507	6724	3442	2569	10629	537	5356	7199	607
1.50 – 2.49	53783	4567	4063	10818	5541	3555	2676	10167	431	6144	5056	764
2.50 – 4.99	67787	4686	9425	10522	8086	3047	3309	10104	701	5707	11627	572
5.00 – 7.49	-	-	-	-	-	-	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-	-	-	-	-	-	-

Table-22.b: Per acre production quantity (Kg) & their value (Tk.) for seasonal farming time by size of land

Size of land (Acre)	Seedling		Cauliflower			Total value (Tk.)
	Number	Value (Tk.)	Number	Qty. (Kg)	Value (Tk.)	
1	2	3	4	5	6	7
All Areas						
All	1554	1238	13099	14133	127696	128934
<= 0.04	1600	2332	12759	12774	131370	133702
0.05 – 0.49	2257	1575	12371	12800	129700	131275
0.50 – 0.99	835	1065	12797	14074	118651	119716
1.00 – 1.49	2315	1525	14042	15110	132365	133890
1.50 – 2.49	433	433	14682	16505	139853	140286
2.50 – 4.99	134	134	13748	16417	127776	127910
5.00 – 7.49	-	-	13600	14025	126000	126000
7.50 +	2500	2500	14625	15000	132300	134800
Stratum-1						
Average	1045	806	14806	14555	127196	128002
<= 0.04	325	390	13621	12808	128794	129184
0.05 – 0.49	2046	1037	14543	12414	120645	121682
0.50 – 0.99	803	1060	14431	14227	115283	116343
1.00 – 1.49	807	521	15195	15229	138598	139119
1.50 – 2.49	544	544	15837	17116	149326	149869
2.50 – 4.99	-	-	14222	17223	123503	123503
5.00 – 7.49	-	-	13600	14025	126000	126000
7.50 +	2500	2500	14625	15000	132300	134800
Stratum-2						
Average	2247	1825	10776	13559	128377	130203
<= 0.04	3474	5186	11494	12723	135153	140338
0.05 – 0.49	2396	1931	10933	13055	135697	137628
0.50 – 0.99	880	1072	10449	13855	123495	124567
1.00 – 1.49	6675	4428	10711	14765	114342	118770
1.50 – 2.49	35	35	10505	14297	105610	105645
2.50 – 4.99	561	561	12233	13845	141414	141975
5.00 – 7.49	-	-	-	-	-	-
7.50 +	-	-	-	-	-	-

Table-23: Distribution of number household, amount of loan, repayment (Tk.) of loan and money used for cauliflower by source of loan and stratum

Items	Source of loan						
	Total	Bank	NGO	Faria/ Pikar	Mahajon	Relative/ Neighbor	Others
1	2	3	4	5	6	7	
All area							
Number of HH loaner	4562	526	1511	503	633	1159	230
Amount (Tk.) of loan	91155853	12465350	31941419	9483580	17734620	16071854	3459030
Loan repayment (Tk.)	61639727	6966741	19297354	2801093	20060160	10167844	2346535
Money (Tk.) used for cauliflower farming	72309878	9013095	25623478	7795566	14956020	11819879	3101840
Stratum-1							
Number of HH loaner	2214	135	1010	84	615	295	76
Amount (Tk.) of loan	49784159	4403660	22486519	1582960	17143120	2997520	1170380
Loan repayment (Tk.)	41507106	2879640	13552706	1178800	19559660	3233280	1103020
Money (Tk.) used for cauliflower farming	42570678	3831100	18674718	1582960	14364520	2997520	1119860
Stratum-2							
Number of HH loaner	2348	391	501	419	18	895	155
Amount (Tk.) of loan	41371694	8061690	9454900	7900620	591500	13074334	2288650
Loan repayment (Tk.)	20132622	4087101	5744648	1622293	500500	6934564	1243515
Money (Tk.) used for cauliflower farming	29739200	5181995	6948760	6212606	591500	8822359	1981980

Table-24: Distribution type of problem wise households by their level of problem

Sl. No.	Type of problem	Level of problem		
		Principal	Medium	Minimum
Total		46760	46760	46760
1	Shortest of fertilizer	1353	790	780
2	High price of fertilizer	5772	5405	3732
3	Diseases affected	7623	8793	2646
4	Serious insecticide affected	5482	7534	5726
5	Lack of marketing	5638	5323	4980
6	Produced cauliflower low value	9943	7698	8529
7	Produced seedling low value	191	385	910
8	Shortest of seed	1987	1407	1772
9	High price of seedling	597	927	1073
10	Lack of capital	3615	3181	4198
11	Lack of adequate government support	2895	3231	6088
12	Lack of technical knowledge	427	1403	3381
13	Shortest of technical cooperation	108	327	1083
14	Tempature Flucktuation	1131	356	1862

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 Cauliflower survey refers to one or more than one mauzas or any part of a mauza. For effective implementation of this survey, 170 primary sampling units have been selected from the whole country.

Stratum-1: Stratum-1 consists of 03 (three) divisions namely Rangpur, Rajshahi & Khulna

Stratum-2: Stratum-2 consists of 4(Four) divisions namely Barisal, Dhaka, Sylhet & Chittagong.

Ultimate Sampling Units (USUs):

All the households having at least 1 decimal area of land under Cauliflower cultivation were listed from the selected PSUs and then 30 households have been drawn following the systematic random sampling, where a mouza was treated as the primary sampling unit (PSU) and within the selected mouzas, Cauliflower crop producing households were the ultimate sampling unit.

Household (HH):

A household means a group of persons normally living together and eating in one mess (i.e. 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.

Others:

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

Homestead area:

This includes land under household residence with all its structures, court yard, and entrance & exit passage. The land adjacent to residence and used for temporary or perennial crops, ponds & tanks, and other compact plantation is excluded from homestead area.

Single cropped area:

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

Mixed cropped area:

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.

Cauliflower farm holding:

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

Annex-C: Questionnaire (Bangla)

গোপনীয়

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

ফুলকপি ফসলের উৎপাদনশীলতা জরিপ ২০১৪

প্রথম অংশ

১। খানার পরিচিতি

খানার ক্রমিক নং [ ][ ][ ] ষ্ট্র্যাটাম নম্বর [ ] পিএসইউ নম্বর [ ][ ] নমুনা খানা নম্বর [ ][ ]

খানা প্রধানের নামঃ				পিতা/স্বামীর নামঃ				
বিভাগের নাম:	কোড			চাষী/উত্তর দাতার মোবাইল নম্বরঃ				
জেলার নাম:	কোড			উপজেলার নাম:	কোড			
ইউনিয়নের নাম:	কোড			মৌজা/গ্রামের নাম:	কোড			

দ্বিতীয় অংশ

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

চাষের সময়	জমির পরিমাণ							ফুলকপির জাতের প্রকার	চাষের প্রকার কোড	চাষের ধরন (নিজস্ব হলে বাজার দরে লিখতে হবে)					মোট খরচ (টাকা) (১২+১৪+১৫)=১৬
	একর	শতক	নিজস্ব		অন্যের থেকে নেয়া					লাঙ্গল/কোদাল		যান্ত্রিক		অন্যান্য খরচ (টাকা)	
			একর	শতক	কোড	একর	শতক			সংখ্যা	খরচ (টাকা)	সংখ্যা	খরচ (টাকা)		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪	১৫	১৬
আগাম															
মৌসুম															

* জমি ব্যবহার সংক্রান্ত কোডঃ অন্যের থেকে নেয়া:- বর্গা-১, বন্ধক-২, লীজ-৩ এবং অন্যান্য-৪ * জাতের প্রকার সংক্রান্ত কোডঃ দেশী-১, হাইব্রিড-২ এবং অন্যান্য-৩ *চাষের প্রকার কোডঃ একক-১, মিশ্র-২

৩। ফুলকপি ফসলের বীজতলা, বীজ বপন ও চারা উত্তোলন সংক্রান্ত খরচ (টাকায়)

চাষের সময়	বীজের পরিমাণ ও মূল্য		বীজতলা প্রস্তুত, বীজ বপন, সেচ ও নিড়ানী খরচ (টাকায়)					চারা উত্তোলনে শ্রমিকের সংখ্যা ও খরচ					উত্তোলনকৃত চারার বাজার মূল্য (টাকা)
	পরিমাণ (কেজি)	মূল্য (টাকা)	বীজতলা প্রস্তুত খরচ (টাকা)	বীজ বপন খরচ (টাকা)	সেচ খরচ (টাকা)	নিড়ানী ও অন্যান্য খরচ (টাকা)	মোট খরচ (টাকা) (৩+৪+৫+৬+৭)=৮	শ্রমিকের সংখ্যা (পারিবারিক)		শ্রমিকের সংখ্যা (ভাড়া)		উৎপাদিত চারা উত্তোলন খরচ (টাকা)	
								পুরুষ	মহিলা	পুরুষ	মহিলা		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪
আগাম													
মৌসুম													

৪। ফুলকপি ফসল উৎপাদনে চারার সংখ্যা, চারা রোপণ, ক্রয়, নিড়ানী ও সেচ খরচ (টাকায়)

চাষের সময়	চারার সংখ্যা, চারা রোপণে শ্রমিকের সংখ্যা ও খরচ এবং চারার ক্রয় খরচ									নিড়ানী সংক্রান্ত শ্রমিকের সংখ্যা ও খরচ					সেচ সম্পর্কীয় খরচ		
	রোপণকৃত চারার সংখ্যা	চারা রোপণে শ্রমিকের সংখ্যা ও খরচ				চারা রোপণ খরচ	ক্রয়কৃত চারার মূল্য	অন্যান্য খরচ (টাকা)	মোট খরচ (টাকা) (৭+৮+৯) =১০	শ্রমিকের সংখ্যা (পারিবারিক)		শ্রমিকের সংখ্যা (ভাড়া)		নিড়ানী খরচ (টাকা)	সেচ খরচ (টাকা)	অন্যান্য খরচ (টাকা)	মোট খরচ (টাকা) (১৬+১৭)=১৮
		শ্রমিকের সংখ্যা (পারিবারিক)		শ্রমিকের সংখ্যা (ভাড়া)													
		পুরুষ	মহিলা	পুরুষ	মহিলা					পুরুষ	মহিলা	পুরুষ	মহিলা				
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪	১৫	১৬	১৭	১৮
আগাম																	
মৌসুম																	

৫। ফুলকপি ফসল উৎপাদনে ব্যবহৃত বালাইনাশক (পঁচন প্রতিরোধ, পোকা মাকড় ও রোগ দমন) এর পরিমাণ (গ্রাম/মিলিঃ) ও খরচ (টাকায়)

চাষের সময়	কীটনাশকের নামের কোড, পরিমাণ ও খরচ							রোগনাশকের নামের কোড, পরিমাণ ও খরচ							মোট খরচ (টাকা) (৪+৭+৮+১১+১৪ +১৫)=১৬
	১ম বার ব্যবহৃত কীটনাশক			২য় বার ব্যবহৃত কীটনাশক			অন্যান্য খরচ (টাকা)	১ম বার ব্যবহৃত রোগনাশক			২য় বার ব্যবহৃত রোগনাশক			অন্যান্য খরচ (টাকা)	
	কোড	পরিমাণ	খরচ (টাকা)	কোড	পরিমাণ	খরচ (টাকা)		কোড	পরিমাণ	খরচ (টাকা)	কোড	পরিমাণ	খরচ (টাকা)		
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১	১২	১৩	১৪	১৫	১৬
আগাম															
মৌসুম															

কীটনাশকের নাম ও কোডঃ ক্যারাট-১, ভলিউম-২, প্রোক্লেম-৩, একতারা-৪, এডমায়ার-৫, সবিক্রন-৬, সেভিন-৮৫-৭ এবং অন্যান্য-৮।

রোগনাশকের নাম ও কোডঃ টিল্ট-১, রিডোমিল এম জেড-২, স্কোর-৩, এ্যামিষ্টার টপ-৪, ভারটিমেক-৫, ডাইথেন-এম-৪৫-৬, নিউবেন-৭, বার্দ্দো-মিকচার-৮, সিকিউর-৯,ইনডোফিল-এম-৪৫-১০ এবং অন্যান্য-১১।

৬। ফুলকপি ফসল উৎপাদনে সার ব্যবহারের পরিমাণ (কেজিতে) ও মূল্য (টাকায়)

চাষের সময়	ইউরিয়া		টিএসপি		ডিএপি		এমওপি		খৈল		গোবর সার (টাকা)	অন্যান্য সার (টাকা)	মোট মূল্য (টাকা) (৩+৫+৭+৯+১১+১২+১৩)=১৪
	পরিমাণ (কেজি)	মূল্য (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
আগাম													
মৌসুম													

৭। ফুলকপি ফসলে হরমোন ব্যবহারের পরিমাণ (গ্রাম / মিলিঃ) ও মূল্য (টাকায়)

চাষের সময়	হরমোন কোড, পরিমাণ ও খরচ				
	কোড	পরিমাণ (মি:/গ্রা:)	খরচ (টাকা)	অন্যান্য খরচ (টাকা)	মোট খরচ (টাকা) (৪+৫)=৬
১	২	৩	৪	৫	৬
আগাম					
মৌসুম					

ফুলকপি ফসল এর হরমোনের নাম ও কোডঃ ওকোজিম-১ ও ইথ্রিল-২

৮। ফুলকপি ফসল উৎপাদনের জন্য গ্রহণকৃত ঋণ সংক্রান্ত তথ্য(টাকায়)

চাষের সময়	ঋণ সংক্রান্ত তথ্য					
	কোন ঋণ নিয়েছেন কি?	হ্যাঁ হলে উৎস	টাকার পরিমাণ	উক্ত ঋণের জন্য কত টাকা পরিশোধ করেছেন	উক্ত ঋণের জন্য কত টাকা পরিশোধ করতে হবে	ঋণকৃত টাকার মধ্যে কত টাকা ফুলকপি চাষের জন্য ব্যয় করেছেন
১	২	৩	৪	৫	৬	৭
আগাম	হ্যাঁ-১, না-২					
মৌসুম	হ্যাঁ-১, না-২					

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

৯। ফুলকপি ফসলের উত্তোলন ও পরিবহন খরচ(টাকায়)

চাষের সময়	ফুলকপি ফসল উত্তোলনে শ্রমিকের সংখ্যা ও খরচ					পরিবহন খরচ (টাকায়)	অন্যান্য খরচ (টাকায়)	মোট খরচ (টাকা) (৬+৭+৮)=৯
	শ্রমিকের সংখ্যা				খরচ (টাকা)			
	পারিবারিক		ভাড়া					
	পুরুষ	মহিলা	পুরুষ	মহিলা				
১	২	৩	৪	৫	৬	৭	৮	৯
আগাম								
মৌসুম								

১০। ফুলকপি চারা'র বিক্রয়ের পরিমাণ ও মূল্য এবং ফুলকপি উৎপাদনের পরিমাণ ও বিক্রয় মূল্য (টাকা)

চাষের সময়	ফুলকপির চারার পরিমাণ ও মূল্য		ফুলকপির উৎপাদনের পরিমাণ ও মূল্য			মোট মূল্য (টাকা) (৩+৬)=৭
	পরিমাণ (সংখ্যা)	মূল্য (টাকা)	সংখ্যা	পরিমাণ (কেজি)	মূল্য (টাকা)	
১	২	৩	৪	৫	৬	৭
আগাম						
মৌসুম						

১১। ফুলকপি ফসল চাষের বিগত বছরের তথ্য

চাষের বছর	গত বছর এবং গত বছরের পূর্বের বছর ফুলকপি চাষ করে ছিলেন কি না? হ্যাঁ-১, না-২	হাঁ হলে জমির পরিমাণ	
		একর	শতক
১	২	৩	৪
গত বছর			
গত বছরের পূর্বের বছর			

১২। ফুলকপি ফসল চাষের জন্য এক একর জমি 'এক বছরের জন্য' লীজ নিতে জমির মালিককে কত টাকা দিতে হয়। টাকাঃ

১৩। ফুলকপি ফসল চাষে প্রধান তিনটি সমস্যা আপনি(কৃষক) কি মাত্রায় অনুভব করেন তা নির্দিষ্ট স্থানে কোড দিন।

অতি সমস্যা ☐ **মধ্যম সমস্যা** ☐ **স্বল্প সমস্যা** ☐

- **সমস্যার নাম ও কোডঃ** সারের অভাব-১, সারের উচ্চ মূল্য-২, রোগের আক্রমণ-৩, পোকার আক্রমণ-৪, বাজারজাতকরণের অভাব-৫, উৎপাদিত ফুলকপি ফসলের নিম্ন মূল্য-৬, উৎপাদিত চারার নিম্ন মূল্য-৭, বীজের অভাব-৮, চারার অধীক মূল্য-৯, প্রয়োজনীয় মূলধনের অভাব-১০, সরকারী সহযোগিতার অভাব-১১, কারিগরি জ্ঞানের অভাব-১২, কারিগরি সহযোগিতার অভাব-১৩, তাপমাত্রা হ্রাস-বৃদ্ধি-১৪।

তথ্য সংগ্রহকারীর স্বাক্ষরঃ
তথ্য সংগ্রহকারীর নামঃ .....
পদবীঃ .....
তারিখঃ.....
মোবাইল নম্বরঃ .. . .

সুপারভাইজিং কর্মকর্তার স্বাক্ষরঃ
সুপারভাইজিং কর্মকর্তার নামঃ.....
পদবীঃ .....
তারিখঃ.....
মোবাইল নম্বরঃ . . . . . .

Annex-D: Questionnaire (English)

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

Confidencial

Cauliflower Productivity Survey-2014

First Part

1. Indentification of Household

Household SI No. | | | | **Statrum** | | **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			Mouza/VillageName :	Code			

Second Part

2. Area under Cauliflower Crop, land Ownership, Cultivation type, Variety and Cultivation method & cost (Tk.)

Farming period	Land area							Variety of Cauli flower	Cultivation type (Code)	Cultivation method and cost (Tk.) (Market price is shown when cultivated is own)				Total Cost (Tk.) (12+14+15=16)
	Acre	Decimal	Owned		Land taken from others					Plough/Hoe		Mechanized		Others Cost (Tk.)
			Acre	Decimal	Code	Acre	Decimal			No.	Cost (Tk.)	No.	Cost (Tk.)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Advance															
Season															

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

3. Cost (Tk) regarding seed, seedling, planting and Plucking of seedlings of Cauliflower crops

Farming Season	Seed		Seedling, Plantation of seed,Irrigation & weeding cost (Tk)					Number of labour & cost of Plucking of seedling					Produced of Plucking of seedling Market price(Tk.)
	Qty. (Kg)	Cost (Tk.)	Seedling Cost (Tk)	Plantation of seed Cost (Tk.)	Irrigation Cost (Tk)	Weeding & Others cost (Tk)	Total cost (Tk) (3+4+5+6+7)=8	No. of Labour (Family)		No. of Labour (Hired)		Plucking of seedling cost (Tk.)	
								Male	Female	Male	Female		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Advance													
Season													

4. Number of seedling of Cauliflower, seedling of plantation, purchase, weeding & irrigation cost (Tk)

Farming period	Number of seedling, labour of plantation & cost and purchase of seedling cost									Weeding related number of labour & cost					Irrigation related cost		
	Plantation of seeding (No.)	No .of labour & cost of seedling of plantation					Purchase of seedling cost (Tk)	Other Cost (Tk.)	Total Cost (Tk.) (7+8+9)=10	No. of labour (Family)		No. of labour (Hired)		Wedding cost (Tk.)	Irrigation cost (Tk.)	Other cost (Tk.)	Total cost (16+17)=18
		No. of labour (Family)		No. of labour (Hired)		Plantation of seedling cost											
		Male	Female	Male	Female					Male	Female	Male	Female				
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Advance																	
Season																	

5. Insecticide & pesticide code, Quantity (gm/ml) & cost (Tk.)

Farming period	Insecticide code, Qty. and Cost							Pesticide Code, Qty. and Cost							Total cost (Tk.) (4+7+8+11+14 +15)=16
	1st term used Inseticide			2nd term used Inseticide			Other Cost (Tk.)	1st term used pesticide			2nd term used pesticide			Other Cost (Tk.)	
	Code	Quantity	Cost (Tk.)	Code	Quantity	Cost (Tk.)		Code	Quantity	Cost (Tk.)	Code	Quantity	Cost (Tk.)		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Advance															
Season															

Insecticide name & code**:** Karate-1, Voliam-2, Proclaim-3, Actara-4, Admire-5, Shobicron-6, Sevin-85-7 and Others-8.
Pesticide name & code**:** Tilt-1, Ridomil Gold MZ-2, Score-3, Amistar top-4, Vertimec-5, Dithan- M-45-6, Nuben-7, Boudeaux mixture-8, Secure-9, Indofil-M-45-10 and Others-11**.**

6. Use of fertilizer Quantity (Kg) & cost (Tk.)

Farming period	Urea		TSP		DAP		MOP		Cake		Cowdung cost (Tk.)	Other Fertilizer cost (Tk.)	Total Cost (Tk.) (3+5+7+9+11+12 +13)=14
	Quantity (Kg.)	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**
Advance													
Season													

7. Use of hormone Quantity (gm/ml) & cost (Tk.)

Farming period	Harmon code, Qty. & cost (Tk.)				
	Code	Quantity (ml./gm.)	Cost (Tk.)	Other Cost (Tk.)	Total Cost (Tk.) (4+5)=6
1	**2**	**3**	**4**	**5**	**6**
Advance					
Season					

Harmon name & code: Ocuzim-1 & Ithril-2

8. Production of Cauliflower loan related information Tk.)

Farming period	Load related Information					
	Loan taken	If yes source	Amount of Taka	Amount of loan to be paid	Amount of loan to be realized	Money used Cauliflower crop cultivition
1	**2**	**3**	**4**	**5**	**6**	**7**
Advance	Yes-1, No.-2					
Season	Yes-1, No.-2					

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

9. Harvesting and transport cost (Tk.)

Farming period	Number of Labour of Cauliflower Hervesting & Cost					Transport Cost (Tk.)	Other Cost (Tk.)	Total Cost (Tk.) (6+7+8)=9
	Number of Labour				Cost (Tk.)			
	Family		Hired					
	Male	Female	Male	Female				
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Advance								
Season								

10. Quantity and value of produced.

Farming period	Seedling sell value		Total Production of Cauliflower			Total Cost (Tk.) (3+6)=7
	Qty.(Number)	Cost (Tk.)	Number	Quantity (kg)	Cost (Tk.)	
1	**2**	**3**	**4**	**5**	**6**	**7**
Advance						
Season						

11. Cultivation of Cauliflower information in the last year.

Cultivation year	Cultivation taken last year and before Yes-1, No-2	If yes Land Area	
		Acre	Decimal
1	**2**	**3**	**4**
Last year			
Last year before			

12. Per acre yearly leasing value for Cauliflower crops. **Taka:**

13. Mention three main problems for Cauliflower cultivation.

Principal **Medium** **Minimum**

- **Problems name & code:** Shortest of fertilizer-1, High price of fertilizer-2, Diseases affected-3, Serious insecticide affected-4, Lack of marketing-5, Production Cauliflower low value-6, Produced seedling low value-7, Shortest of seed-8, High price of seedling-9, Lack of capital-10, Lack of adequate government support-11, Lack of technical knowledge-12, Shortest of technical cooperation-13 & Tempature Flucktuation-14
-

Data Collector Signeture :-
Data Collector Name: .....
Designation: .....
Date:.....
Mobile No.:. . . . . .

Signeture of Supervising Officer :
Supervising Officer Name:.....
Designation: .....
Date:.....
Mobile No.:. . . . . .

Annex-E: Reference

1. Statistical Yearbook of Bangladesh, 2012
   - Bangladesh Bureau of Statistics
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   - Bangladesh Bureau of Statistics
3. Agriculture Sample Survey, 2008
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Acronyms

BBS	Bangladesh Bureau of Statistics
CH	Chittagong Hill
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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