



Government of the People's Republic of Bangladesh
Ministry of Planning
Statistics and Informatics Division



Pilot Survey Titled
Sex, Age and Disability Disaggregated Data (SADDD) for
Disaster Risk Reduction and Climate Change Adaptation

Training Manual
(Questionnaire Fill-in Guidelines)

Environment, Climate Change and Disaster
Statistics (ECDS) Cell



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Bismillahir-Rahmanir-Rahim

(In the Name of Most Gracious, Most Merciful Allah/in the Name of Most Merciful Creator)

Conservation and Development of the Environment and Biodiversity

Article 18(ka) of our Holy Constitution clearly states, “The State shall preserve and develop the environment for present and future citizens and provide conservation and protection of natural resources, biodiversity, wetlands, forest and wildlife”.



INTRODUCTION

As per the section 6 of Statistics Act 2013, Bangladesh Bureau of Statistics (BBS) has legal obligation to conduct various census and survey in order to collect the updated data, compilation and publication for formulating and preserving the correct, accurate and timely statistics with regard to national accounts, inflation, socio-economic, agriculture, fisheries and livestock, economic, industry and commerce, demography, environment etc.

Bangladesh is known as one of the disaster-prone countries in the world. At present, climate change is a widely discussed topic in the world. Climate is changing due to the greenhouse gas emission and effects of global warming. Natural disasters due to geographical location and climate change are a daily occurrence in this country. Natural disasters such as droughts, floods, waterlogging, cyclone and tidal, tornado, lightning/thunderstorm, river/coastal erosion, landslide, salinity, hail etc. changed the socio-economic conditions of the people drastically due to climate change. It becomes difficult for the government to formulate proper planning and to receive development programmes due to the lack of data on environment, climate change, biodiversity, disaster and disaster management. BBS has legal responsibility to assist the concerned ministries with the information in formulating plan, monitoring and evaluation to implement the Election Manifesto of the present government 2018, Five-Year Plan, Vision 2021 and 41, Delta Plan 2100, Bangladesh Climate Change Strategic Action Plan (BCCSAP), Sendai Framework for Disaster Risk Reduction (SFDRR), Sustainable Development Goal (SDG), The Paris Agreement etc.

Three (3) Upazilas the mostly damaged/affected areas under the three (3) districts, due to the effects of natural disasters caused by climate change i.e. a) Shaymngar, Sathkhira b) Teknaf, Cox's Bazar, C) Chilmari, Kurigram have been selected on the basis of sampling out of the mostly damaged/affected areas. Where sex, age and disability related data will be collected to assess the vulnerability of women, men and other group of people due to the effects of natural disasters caused by climate change. One of the goals of the government is to build a digital Bangladesh in all fields. With this goal in mind, BBS has taken steps to collect the data on this pilot survey using mobile and web applications in a completely digital system (Tablet/Smartphone).

Bangladesh Bureau of Statistic (BBS), for the first time, has taken initiative to conduct a household-based pilot survey titled 'Sex, Age and Disability Disaggregated Data (SADDD) for Disaster Risk Reduction and Climate Change Adaptation' under the Environment, Climate Change and Disaster Statistics (ECDS) Cell and the technical and financial support from UN WOMEN. To choose the right and realistic sample as a step of operating this pilot survey, samplings have been made in the three Upazilas which are damaged due to natural disasters caused by climate change from the updated list (2020) of the settlements Mouza/Mohalla. The appointed data collector will collect essential data related to the concerned household by random method using apps in Tablet/Smartphone from selected 70 (seventy) PSU (Mouza) of this household-based pilot survey those are affected/damaged due to natural disasters caused by climate change. The supervisor will control the data collection activities from the concerned household of his/her sub-ordinate data collector through dash-board. It is noted that female members of the concerned household should be given priority as the respondent while collecting the information.

District Coordinators/Master Trainer would provide hands-on training appropriately to data collectors appointed at supervisor and field level to collect data for this pilot survey following the training manual and collecting data through digital system. Divisional/District Coordinators would supervise and monitor the overall activities. It is hoped that this survey would be completed successfully with the integrated efforts of all concerned.

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CHAPTER 1

Background

The importance of the statistics in formulating of country's proper planning, development and monitoring of the progress is immense. One of the main conditions for development is to adopt the right plan. Formulation of realistic, timely, accurate and standard statistics required for proper development planning. National Statistics Organization (NSO) and Bangladesh Bureau of Statistics (BBS) formulate and publish the official statistics. Planners, policy makers, public and private research organizations, various international development partner organizations, NGOs are engaged in the formulation of national and local planning and BBS has been collecting different data, compiling, analyzing and publishing regularly for public use. Bangladesh, as per the historic announcement of United Nations Committee for Development Policy (UNCDP) has joined the prestigious list of developing countries from least developed countries on 16 March 2018 and moving fast with a dream of transformation into a developed country by 2041. To make socio-economic development more rapid and dynamic when dealing with the shock of climate change and environmental pollution, all government and non-government organizations of the country must move forward with utmost honesty, sincerity and efficiency. Like other governmental organizations, the National Statistical Office (NSO) of the country and BBS must play an important role in the overall development activities of the country. To adopt and implement a correct, timely, sustainable and proper plan, BBS has accountability to ensure the provision of necessary statistical data services to the Government. As per the Statistics Act 2013 and National Strategies for the development of statistics (NSDS)-2013, the responsibility of BBS is to provide a realistic, right and timely statistics in implementing, monitoring and evaluating the Statistics Act 2013 and National Strategies for the development of statistics (NSDS)-2013, Five-Year Plan, Vision 2021, Election Manifesto of the present government 2018, Delta Plan 2100, Sustainable Development Goal (SDG), Sendai Framework for Disaster Risk Reduction (SFDRR), The Paris Agreement, Convention on the Elimination of All Forms of Discrimination against Women (CDO) etc.

On other side, in Statistics Act 2013, the functions of Bangladesh Bureau of Statistics are mentioned in the following sub-section of section 06:

- 6 (D) Provide reliable and user-friendly statistics quickly as per the demand of development planners, policy-makers, research and educational institutions, national and international organizations and other users at the government level;
- 6 (J) To ensure the use of information-technology performing statistical activities;
- 6 (R) To standardize the main activities of statistics in international standard; and
- 6 (S) To formulate national database with alternative storage arrangements and preservation in archives in a modern system.

As per the Section 6 of Statistical Act 2013, to implement and preserve the right, correct and timely statistics, Bangladesh Bureau of Statistics (BBS) has accountability to collect reliable updated data, compilation and publication and gradually to conduct several census and survey on national account, consumer price index, inflation, agriculture, fisheries and livestock, economic, social, demography, environmental, socio-economic etc.

Acceptability undertaking the Activities

Bangladesh has acquired the capability to deal with any kind of disaster. 'Sendai Framework for Disaster Risk reduction (SFDRR), Sustainable Development Goal (SDG) related to disaster and 'The Paris Agreement' related to climate change has been finalized. In addition to understanding the problem, identifying and prioritizing solutions, emphasis has been placed on gender equality, social characteristic and inequality created by society in all three frameworks. The main goal of the Government is to achieve sustainable extent and growth of GDP in the development of human destiny by participating in the necessary dialogue and discussions effectively in national, regional and international arena, as Bangladesh is a prioritized country associated with global structure mentioned, selecting important issues of loss and damages of various disaster risks and addressing vulnerabilities at different stages and deal with it. The efforts have always been made to improve the destiny of the people of the country supporting the concerned Ministry/Division/Department/Institute of the Government with necessary data to build adaptation and mitigation capabilities by assessing loss and damage of disaster.

Lack of statistical data on environment, climate change, natural resources, biodiversity, disaster and disaster management makes it difficult for the Government to formulate proper plans and adopt development programmes. BBS has responsibility to support with data to the concerned stakeholders Ministry/Division/Department/Institute including the General Economics Department of the Planning Commission in specifying data, Monitoring and Evaluation, according to the specific target and indicator of Bangladesh Climate Change Strategic Action Plan (BCCSAP), Development Result Framework of Government's Five-Year Plan (DRF), Sendai

Framework for Disaster Risk reduction (SFDRR), Sustainable Development Goal (SDG), The Paris Agreement and National Strategies for the development of statistics (NSDS) and Convention on the Elimination of All Forms of Discrimination against Women (CDO). BBS needs to ensure the supply of accurate and timely statistics to tackle all types of obstacles efficiently for taking this effective action determining the base year according to the targets and indicators of the subjects described and monitoring and evaluating the progress of implementation of each target and indicator.

One of the goals of the Government is to build a digital Bangladesh in all fields. This initiative would be implemented through the coordinated activities with all Government departments, directorate, directorate general and all government and non-government organizations. Bangladesh Bureau of Statistics as the national statistics agency of the country is the only government organization responsible for collating, compiling, processing analyzing and publishing all government statistics of the country. Therefore, in order to accelerate the development of the country as per the need of the Government, it is time to build a complete statistical database on environment, natural resources, biodiversity, climate, weather, disaster and disaster management etc. of the country. There are different types of suffering and loss of women, men, boys, girls, transgender including disabled and other vulnerable people affected by the disasters caused by climate change. Data would be collected based on gender, age and disability through the pilot programme conducted by BBS to assess the various types of suffering and damage, therefore, it would be possible to bring different types of people under different types of projects according to their needs and vulnerabilities. Several Ministries/Departments/Directorates/Organizations/Partners/NGOs/Development Partners/ Research Institutes of Government would be able to take the important decisions to deal with climate change shocks/environmental pollution using the data obtained through this pilot programme.

Recruitment of Educated, Dedicated, Hardworking and Well-behaved Young Men and Women as a Data Collector

Local educated (minimum HSC pass), unemployed, dedicated, hard-working and well-behaved young men and women have been selected temporarily to collect data digitally (Tablet/Smartphone) for this pilot survey titled “Sex, Age and Disability Disaggregated Data (SADDD)” under the ECDS Cell of BBS. It is mentioned that the success of this survey that means the success of BBS depends on competent, efficient and dedicated data collectors. One supervisor has been appointed to closely monitor and supervise the work of every 4-5 data collectors. Note that, the data collection of this activity would be digitally (Tablet/Smart Phone) collected using web applications. Supervisor would perform admin duties including inspection, close observation, correcting errors of data collection activities of his subordinate data collector through using the dashboard of Mobile/Web Application always.

Pilot Survey on Sex, Age and Disability Disaggregated Data (SADDD) for Disaster Risk Reduction and Climate Change Adaptation

Under the Environment, Climate Change and Disaster Statistics Cell, Bangladesh Bureau of Statistics (BBS) has been taken an initiative to conduct household based pilot survey titled “Sex, Age and Disability Disaggregated Data (SADDD)”. The main objective of the pilot survey is:

- A. To determine the socio-economic characteristics of a household affected by natural disaster;
- B. To collect data on disclosure, warning and consequences of natural disaster;
- C. To collect data on preparedness and effects of natural disasters caused by climate change;
- D. To collect data on health and sanitation of the people in disaster prone areas;
- E. To collect data on helpless, women, elderly, children and the disabled people in the affected areas; and
- F. To collect data in identifying public awareness on climate change and disaster management.

Sample Size of Pilot Survey

Survey Report would be prepared using digital methods to conduct the pilot survey titled “Sex, Age and Disability Disaggregated Data (SADDD)” following the two-stage sampling method in selected 70 PSU areas (Mouza), based on geo-code in contrast to the mostly damaged disaster-based code in natural disaster caused by climate change from the updated list of Mouza/Mohalla obtained from all over the country. The main data of this pilot survey would be collected by Systematic Random Sampling (SRS) method through the interview-based question papers and using digital system from 40 (forty) households of selected PSU (Mouza/Mohalla) out of the households those are affected by natural disaster.

Expected Outcome from the Survey Obtained

If this pilot survey programme is implemented:

- A. The result obtained from this survey would be helpful in determining strategies for dealing with natural disasters caused by climate change.
- B. The result of this pilot survey would play a helpful role directly to adopt governmental and non-governmental programmes.
- C. The result of this pilot survey would be considered as one of the indicators in adopting the strategy and action plan at the national/regional.
- D. The result of this pilot survey would play an important role in the formulation of short-term, mid-term and long-term plans of the Government.
- E. The result of this pilot survey would serve as a regulator in comparative analysis regarding the effects of climate in the local/regional/international arena.
- F. The result of this pilot survey would be helpful in formulating policies and strategies to the planners/policy-makers/researcher/student-teacher/development partners etc.
- G. The pilot survey would collect data on helpless women, the elderly, children and the disabled in the affected areas, therefore, different types of suffering and loss of women, men, boys, girls, transgender including disabled and other vulnerable people affected by the disasters caused by climate change would be determined. It would be possible to bring different types of people under different types of projects according to their needs and vulnerabilities through the use of collected data.
- H. Several Ministries/Departments/Directorates/Organizations/Partners/NGOs/Development Partners/ Research Institutes of Government would be able to take the important decisions to deal with climate change shocks/environmental pollution using the data obtained through this pilot programme.
- I. The result of this pilot survey would play a helpful role to raise awareness among the general public.

Relevance to the Statistical Act, 2013

It is advisable and essential to make a provision in order to speed up, integrated, goal-oriented and preserve the activities related to the accurate and precise statistics regarding the population, agriculture, industry, demography, economics, socio-economic issues, natural resources, environment of Bangladesh, stated in the preamble to Statistics Act 2013.

- Formulation and publication of economic, environmental and demographic indicators by Bangladesh Statistics of Bureau (BBS) in accordance with section 6 (M/13) OF Statistics Act 2013;
- Mandatory use of Government Statistics: In accordance with the section 10 to Statistics Act 2013, the Government statistics would be used mandatorily in the statistical activities of any Ministry, Department or their subordinate directorate or agencies;
- Statistics prepared by other agencies except Bureau: In accordance with the section 11 to Statistics Act 2013, in the cases where the Bureau does not formulate statistics, any Ministry, Department or their subordinate directorates, Directorate General or agencies can prepare and publish the statistics following the policy formulated by Bureau and in a manner and time prescribed by the rules by receiving Bureau's no objection;
- Obligation to provide information of individual, agencies, organizations, or authority etc.: In accordance with the section 12 to Statistics Act 2013, (1) to serve the purpose of this Act, any person, agencies, organizations or authority would be obliged to provide the information reserved with them to Bureau as per their demand; (2) Officers and employees of the Bureau shall ensure the confidentiality of the information obtained under sub-section (1). But the condition is that the information collected may be disclosed subject to the consent of the person, agencies, organizations or authority concerned.

Relevance to the Bangladesh Climate Change Strategy and Action Plan 2009 (BCCSAP):

Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 is an important state document to deal with the risk of climate catastrophe in Bangladesh.

The Vision of the BCCAP:

“Eradicate poverty and achieve economic and social well-being through a pro-poor climate change strategy which prioritize Adaptation, Disaster Risk Reduction, also address low carbon development, mitigation technology transfer and provision of funding”.

The main 6 (six) pillars of BCCAP are:

1. Food security, social security and health;

2. Integrated disaster management;
3. Infrastructure development;
4. Research and Knowledge Management;
5. Mitigation and carbon saving development;
6. Capacity building and institutional development.

Research and Knowledge Management: It is described in paragraph 4.4, 4.5 and 4.6 of no.4 pillar in the workplan of BCCSAP respectively: A) Research on the potential impact of climate change on the macro-economy and key sectors of Bangladesh (livelihood and food security) and to play a role in formulating national plans for climate protection; B) to identify potential initiatives to enhance climate resilience of poor and vulnerable families (1) climate change and vulnerability (2) research and make connection on climate change, poverty and health (i.e. transmission of diseases, drinking water and sanitation) and C) access to the latest thinking and technology of Bangladesh throughout the world and to establishment of research and knowledge management centers on climate change in order to ensure comprehensive and open data for researchers.

Relevance to the National Strategies for the development of statistics (NSDS)

National Strategy for the Development of Statistics (NSDS) is a detailed, practical, participatory, variable and state-owned planning document which was approved in the cabinet meeting on 28 October 2013. The approval of this document has created a new horizon to fully institutionalize the statistics system of Bangladesh.

Vision: upgradation of National Statistics System of Bangladesh to world standard for providing relevant realistic and easily accessible data.

Mission: 1. To build an integrated, professional and efficient statistical system under the leadership of Bangladesh Statistics Bureau and 2. Prepare accurate statistics in a transparent and timely manner maintaining international standards according to the current and future needs of data users.

NSDS document: It is stated in the Chapter No.4 of NSDS document that,

“Environmental disasters are gaining importance in Bangladesh day by day. Many countries around the world are already collecting and publishing data on climate and environmental issues. But there is lack of environmental statistics in Bangladesh for monitoring and formulating proper policy on climate and environmental issues. This survey activity would be considered as helpful in filling the deficit of the describes environmental statistics”.

Relevance to the Election Manifesto of the Present Government 2018:

The following articles of the Climate Change, Environmental Protection Chapter have been cited seriously on the page no.58, election manifesto 2018 of the present Government:

The countries those are most affected and at risk as a result of climate change, Bangladesh ranks top among them. Bangladesh’s position and steps in tackling the challenges of climate change, warming and environmental protection have been widely praised in the world society. It is time to take a bold and far-sighted plans and steps to meet this challenge.

Success and Achievements

- ✚ “Bangladesh Climate Change Strategic and Action Plan” has been prepared in 2009. Under this plan, 145 action plans have been taken under 44 programmes to address issues such as food security, disaster management, infrastructure, research programme, reduction of greenhouse gas emission and capacity building.
- ✚ Bangladesh Climate Change Trust Fund of about 400 million dollars has been formed with its own fund. Under which 440 projects are being implemented.
- ✚ At the 21st Convention on Climate Change ‘United Nations Framework’ held in December 2015, the Paris Agreement was adopted to keep global warming far below a maximum of 2 degree Celsius, and to keep it at 1.5 degree Celsius, if possible. Bangladesh has signed in this agreement.

- ✚ 18 million or about 11 percent of the population is benefitting from the use of solar power. The installation of solar irrigation pumps as an alternative to diesel-powered water pumps in agriculture is being encouraged. 20 lacs improved stoves have been provided for cooking.
- ✚ Afforestation activities have been undertaken aiming at creating coastal green belt and making the Char permanent that woke up in the sea and river-estuary areas, considering the low erosion of cyclones and tidal waves in coastal areas.

Goals and Plans:

- ✚ If the current trend of global warming continues, people may need to be relocated from 17 percent areas of Bangladesh. In this context, plans and programmes would be formulated.
- ✚ Allocation would be further increased in the ‘Bangladesh Climate Trust Fund’, established in 2020 to help the affected people.
- ✚ Increasing the size of productive forest from 13.14 of 2015 to 20 percent; to improve air quality and enact fresh air laws in Dhaka other big cities; inducing zero emission/throwing of industrial waste; restoring and protecting wetlands in different cities in compliance with wetland conservation laws; a 500 meter wide permanent green belt would be constructed along the coastline.
- ✚ Initiatives would be taken to implement the Ganga Barrage project in order to expanding the irrigation facilities and preventing salinity and to get fresh water in the basin including Sundarbans.
- ✚ Short and long-term projects would be undertaken to protect the natural environment of the vast haors (wetland) and low-lying areas of the country.
- ✚ Green Growth Strategy would be adopted in all areas of development activities.

Why did Bangladesh Bureau of Statistics (BBS) take this pilot survey programme?

Bangladesh Bureau of Statistics (BBS) has legal obligation to conduct various census and survey in order to collect the updated data and publication for formulating and preserving the correct, accurate and timely statistics with regard to national accounts, consumer price index, agriculture, fisheries and livestock, economic, social and demographic, environmental and socio-economic etc.

- ✚ According to the section 6 (S/19) of Statistical Act 2013, BBS would formulate national database and store it in archives in a modern way.
- ✚ The data obtained through this pilot survey would serve as a component of comparative analysis regarding the effects of climate in the local/regional/international arena.
- ✚ The result of this pilot survey would play an important role in formulating short-term, mid-term and long-term plans of the Government to deal with environmental disasters.
- ✚ The data on helpless women, the elderly, children and the disabled in the affected areas would be collected through this pilot survey, therefore, different types of suffering and loss of women, men, boys, girls, transgender including disabled and other vulnerable people affected by the disasters caused by climate change would be determined. It would be possible to bring different types of people under different types of projects according to their needs and vulnerabilities through the use of collected data;
- ✚ Several Ministries/Departments/Directorates/Organizations/Partners/NGOs/Development Partners/ Research Institutes of Government would be able to take the important decisions to deal with climate change shocks/environmental pollution using the data obtained through this pilot programme.

Relevance to the Sustainable Development Goal (SDG) and Sendai Framework (SFDRR):

Data on Sustainable Development Goals (SDG) and Sendai Framework for Disaster Risk Reduction (SFDRR) target would play an important role in providing data as a source. Besides, there is a direct connection with the index 7.1, 7.3, 9.1, 9.3, 10.1, 10.3, 14.1, 14.3 of Statistics Strategy for National Development.

CHAPTER 2 GENERAL GUIDELINES

Training Manual:

The training manual describes along with the definition of household-based statistical matters including climate, each disaster caused by the effects of climate change, disaster management and public awareness. If there is any difficulty in filling-up the question paper or gathering information, then read the training manual and know how to collect the information of the related question. Remember, the key to accurate data collection is to have a good knowledge/idea about the training manual.

Supervisor/Responsibilities of Supervising Officer:

Examine well the necessary number of household information from the completed question paper of each data collector of the selected Mohalla or the supervisor concerned with the interview of at least 25% households out of selected household, would monitor and supervisor the survey activities (Questionnaire fill-in method) of the data collector. If there is any mistake, supervisor would explain it to the data collector. Data collector will examine the filled-in question papers digitally and inform his subordinate data collectors engaged in other PSU (Mouza) about the mistakes immediately regarding the identified problems.

Responsibilities of Data Collector:

Data collector will go to the selected household of the concerned Mouza/Mohalla/PSU wearing gentle dress and at the very outset, conveying salam/adab (salute/etiquette) with self-identity will present the reasons for arrival, the rationale and purpose of the survey to fill-up household-based questionnaires through interviews. Then data collector will collect information from the household head/the person in-charge of the household. Note that, if the respondent is not available, then collect the information of next sample household and again go to the previous household at a convenient time to get the information from the respondent. You need to be sure of the correct answer before recording the answer to any question. Assistance of district Coordination Officer/Supervisor should be taken where necessary.

Sample Size of Pilot Survey:

Household-based pilot survey would be conducted titled “Sex, Age and Disability Disaggregated Data (SADDD)” following the Two Stage Sampling method in selected 70 PSUs (Mouza), based on geo-code in contrast to the mostly damaged disaster-based code in natural disaster caused by climate change in three Upazilas of three Districts (Shyamnagar in Sathkhira District, Teknaf in Cox’s Bazar District and Chilmari in Kurigram District) from the list of Mouza/Mohalla obtained from all over the country. In the first stage, there are more than 200 households in selected 70 (seventy) Mouzas, in the case of those Mouzas, a list of 150 households from North/South or from any direction should be prepared using digital method. In this case, if the Mouza code is odd from the North side and the Mouza code is even from the South side, then a list of 15 households should be prepared in spiral form. However, if the number of households in a Mouza is less than 40, then this should be merged with the same union or comparatively small adjacent Mouza. Note that, areas formed by 150 households should be considered as separate PSU from the selected Mouzas (including merged Mouzas) prepared.

In the second stage, the data of this pilot survey would be collected in Systematic Random Sampling (SRS) method through the interview-based question papers and using digital system from 40 (forty) households out of the household affected by natural disaster of selected PSUs.

All concerned are requested to make necessary contact with the following officer by telephone/mobile/email in case you encounter problems or questions at the field level.

Sl.	Name and Designation of the Officer	Mobile and Email
01	Mr. Md. Rafiqul Islam Project Director	01534-632560, 01712-141750 pd_ecds@bbs.gov.bd, rafiqbbs25@gmail.com
02	Mr. Jahid Hasan Deputy Director	01717-471300, 01550-041294 jhripon@gmail.com
03	Mr. Md. Sohel Rana Assistant Project Director	01717-111665, 01571-775288 so36bcs@gmail.com

CHAPTER 3

QUESTIONNAIR FILL-IN METHOD

Rules for Asking Question Papers: The question paper should be filled-in knowing the information from the household head/the person in-charge of the household very politely with salutation (salam/adab). The definition of this pilot survey will be delineated to the household head nicely in the applicable field including its purpose and seek his/her cooperation, if necessary.

Fill-in the Questionnaire: The question paper needs to be filled using digital method (tablet/smartphone) only. You must write in capital letters in English where writing is required to answer the question. Besides, number should be written as per the instruction in case of the questions that asked to write the code only.

Writing the Numbers: All numbers must be written in English. For example: 1,2,3,95,850, 3573 etc.

Introduction to Sample Area

- 01. Introduction to Area:** It should be written in the designated place/cell of the question paper knowing the location and identity of the sample area. You must write geo-codes in the code writing area on the right.
- 02. PSU:** The selected 70 (seventy) PSUs are assigned a two-digit fixed number, known as the PSU number. The PSU number from which the data is to be collected should be written in English in a two-digit box. For example: 09,56,35,79 etc.
- 03. Division Name:** At present, there are eight divisions in Bangladesh. You will have to write the name of that division knowing in which division the sample area is located. In place of the geo-code on the right, the geo-code of the corresponding division should be written in English in two-digit.
- 04. District Name:** There are 64 districts in Bangladesh. You will have to write the name of that district knowing in which district the sample area is located. In place of the geo-code on the right, the geo-code of the corresponding district should be written in English in two-digit.
- 05. Upazila/Police Station:** You will have to write the name of that Upazila/Police Station where the sample area is located. In place of the geo-code on the right, the geo-code of the corresponding Upazila/Police Station should be written in English in two-digit.
- 06. Union/Ward:** You will have to write the name of that Union/Ward knowing in which Union/Ward the sample area is located. In place of the geo-code on the right, the geo-code of the corresponding Union/Ward should be written in English in two-digit. For example, Ward's Name if MIRPUR and Ward number is 07. In this case, the name of the Ward should be written as MIRPUR and Ward number 07 should be written in the corresponding code area in English.
- 07. Mouza:** You will have to write the name of that Mouza where the sample area is located and in place of the geo-code on the right, the geo-code of the corresponding Mouza should be written in English in three-digit.
- 08. RMO:** RMO refers Rural, Metropolitan and Other Urban. It means that you have to select the code in the area where PSU is located using the dropdown button following the list below:

Description of Area	Code
Rural Area	1
Municipality	2
Upazila Headquarters other than Municipality	3
Cantonment Ara	5
City Corporation	9

- 09. Serial Number of the Household According to the Household List:** According to the selected sample household of sample design or following the household list, the actual household serial number should be written in four-digit in the specified box.

10. **Serial Number of Selected Household:** The serial number of the 40 (forty) households from the selected disaster affected households of each Mouza, selected in the Simple Random Selection (SRS) method, should be written in the specified box in two-digit following the formulation of household list to conduct this pilot survey in 70 (seventy) selected PSU areas (Mouza) following two-stage sampling from the list of Mouzas obtained against the disaster-based code, damaged by natural disaster.
11. **Reference Period:** According to the English calendar, January 2019 to December 2020 will be the reference period for conducting the pilot survey titled ‘SADDD 2020’.

Information of the Concerned Person Appointed in Pilot Survey Activity:

1. **Name of the Head of the Household:** The name of the household head should be written according to the name known in his/her area knowing the correct information from the responsible person of the household/household head. The main earner or senior person, respected by other members as the head of the household to be considered as household head. Household head could be male or female. If it is male then write code 1 in the specified box, for female code 2 and for transgender code 3.
2. **Name of Responder:** Responsible person/Household Head should be selected as the respondent. It should keep in mind that the accurate formulation of the statistics will depend on the selection of the right respondent. Respondent could be male or female or transgender. If it is male then write code 1 in the specified box, for female code 2 and for transgender code 3. If the respondent himself is the household head, then he must write ‘do’.
3. **Responder’s Mobile Number:** The 11(eleven)-digit mobile phone number of the respondent should be written in the specified box during pilot survey.
4. **Name and Designation of Data Collector:** The name and address of the temporarily appointed data collector should be written in this pilot survey.
5. **Name and Designation of Supervisor:** The name, designation and place of work of the temporarily appointed supervisor should be written in this pilot survey.
6. **District Coordinator/ Name and Designation of Supervising Officer:** The name, designation and place of work of the District Coordinator/Supervising Officer engaged in this pilot survey should be written.

CHAPTER 4

Suffix and Definition used in Conducting SADDD Pilot Survey

A) Climate, Environment and Disaster Related Suffix and Definition

01. **Weather**
Weather is the aggregated condition of a place for a short period of time including the heat of the air, pressure, flow/course, humidity, cloudiness, and rainfall etc.
02. **Climate**
Climate refers to the general or average state of daily weather over a long period of time on surface. The elements of climate are temperature, humidity, air, cloud, rainfall, snowfall, air pressure etc. Geographical location and natural conditions of a country control the climate of that country.
03. **Climate of Bangladesh**
The geographical position of Bangladesh is between 20° 34’ North to 26° 38’ North Latitude and 88° 01’ East to 92° 41’ East Longitude. Bangladesh is mainly composed of well-drained plains except the mountainous southeastern part. Bangladesh is surrounded by the mountains of Assam to the northeast, plateau of Meghalaya to the North and Himalaya mountains more to the North, Bay of Bengal to the South and plainland of West Bengal to the West and wide land in the Gangetic plainlands. The climate of Bangladesh is generally known as tropical monsoon climate. The characters of this climate are humidity, temperate and obvious seasonal variations. The most notable aspect of the county’s climate

is observed with their own self-characteristic inverse reciprocal winds of summer and winter season, which is an integral part of airflow-system in the South Asian continent. Although Bangladesh, is also known as six-season based country, the presence of three seasons is identified mainly every year based on rainfall and temperature, i.e. dry winter which lasts from November to February, permanent pre-monsoon wind episode summer from March to May; and extensive rainy season from June to October. The characteristic of summer before the pre-monsoon winds is incidents of high temperature and thunderstorm with lightening. April is considered as warmest month. The temperature of the country reaches 27⁰ Celsius to the East and southern regions and 31⁰ Celsius to the West-central in this month. In the West, summer temperature sometimes rises to 40-43⁰ Celsius. Humidity rises as the sky becomes cloudy after April or the winter wind-flow that comes from the northwest gradually become stagnant, summer monsoon winds or South or south-west wind-flow of monsoon season (June-September) begins to flow. At the beginning of this season, the wind is neither too intense nor permanent. However, as the wind speed increases by enlarging the effect of this season, it becomes more permanent. In the early stages of pre-monsoon season, there is a narrow, irregular air mass extends from south-western regions to north-east regions of the country. This narrow and irregular air mass comes from the higher Gangetic plains. It also locates in warm and dry air-flow and even in the middle region of warm and humid air-flow coming from Bay of Bengal. As the season progress, the air mass region gradually weakens and moves to the north-west and it finally ends through the end of the monsoon. This created a field of summer monsoon air-flow. Rainy season that arrives along with summer monsoon wind-flow simultaneously, South or south-west wind-flow, excessive humidity, heavy rainfall, continuous rain for few days with some occasional dry day break etc. characterized by these events. Rainfall occurs this season due to the tropical depression entering the country from Bay of Bengal.

04. Climate Change

The sum of a few days or the average of one to seven days with regard to the elements of the atmosphere in a certain place is called weather. Atmospheric elements include wind heat, wind pressure, direction of wind and its velocity, air humidity, amounts of cloud and types of cloud and rainfall etc. The general condition of the physical elements of the atmosphere is observed by reviewing the long -term (30 years or more) daily weather of a place or region, which is called the climate of that place or region. According to the scientist, climate change has been going on since long. The sun is at the root of all energy of the earth. The sunlight and heat help to sustain the life of all creatures of the planet. The surface absorbs the sunray that reach to the earth every day. The absorbed sunlight is again radiated or reflected in space. This is the natural system. Climate change occurs when there is a any obstruction to this natural process of absorption and radiation.

05. Climate Change and Biodiversity

Although the climate change and desertification are two separate processes, they are interconnected through a continuous interaction. Climate change determines the state of desertification and the desertification process changes the energy that influence the atmospheric circulation and water flow splitting action. The evolution of both is influenced by human activity. Over the past century, mainly as a result of the development of human civilization led to drastic changes in climate and biodiversity. Besides, the collaborative interactions between climate change i.e global warming and drought help to create a conducive environment for desertification. This situation is clearly reflected in the north-west and western region of Bangladesh, where over the past few decades, the occurrence of drought, excessive lifting of underground water and soil salinization processes become a common incident. The ground water of downstream region is depleting for the unilateral withdrawal of river water by the country located in the upstream of the Ganges. As a result, the survival of familiar trees and many species of animal in these areas is under threat, which are contributing a lot to the richness of the country's biodiversity. Climate change is a treat to biodiversity. Climate change is already affecting the biodiversity of different regions of the world and it will continue.

06. Green House Gas

The atmosphere of the earth is made of different gases. Its main elements are Nitrogen and Oxygen. In addition to this, there is a negligible amount of carbon dioxide, Methane, Nitrous oxide. There is also water vapor and ozone. These secondary gases are greenhouse gas. In addition to natural gas, man-made CFC and HCFC Halon gas etc. has also been added to the atmosphere.

07. Green House Effect

In winter-headed countries, vegetables are usually cultivated in a kind of transparent glass house. These are artificially kept warm as per the weather requirements for crop production. These houses are called greenhouse. The sunlight and heat enter through the glass, but all the heat could not get out during radiation. As a result, the indoor temperature remains higher than outside. In the same way, the sunlight warms the surface. In the process of radiation, this heat wants to go up to the sky again.

Though it remains. Therefore, the atmosphere that means surface remains warm and creates a favorable environment for survival of life. Thus, the greenhouse reactions occur naturally. In addition to oxygen and nitrogen, the atmosphere contains negligible amount of other gas. Such gases are carbon dioxide. Methane, Nitrous oxide, Chlorofluoro carbon, ozone etc. These gases retain this type of heat. In the last 200 years, the proportion of atmospheric gasses has changed as a result of human activity in the aftermath of Industry Revolution.

08. Global Warming

In general, global warming is a growing heat of the atmosphere due to the effects of greenhouse gasses. A tolerable temperature is essential for the survival of the living things on the surface of the world. The average normal temperature of the earth is 15°C Celsius. Since solar radiation is the main and only source of Earth's temperature, therefore, the average normal temperature of the Earth is controlled on the balance of the supply and production of heat energy radiated by solar on the Earth surface. As a result of the ultraviolet (Infrared Radiation), the Earth's surface and the adjacent atmosphere are heated. The Earth's heat through re-radiation returns to the atmosphere as thermal radiation with large wavelength ultraviolet radiation character and disappears from the atmosphere into spaces. In this way, the supply and balance of heat is regulated from the Earth. But the Earth's balance can be changed by air pollutants carbon dioxide, CFC. A certain part of average temperature emitted from the Sun is absorbed Earth's atmosphere and the residue get back to the surface. But, when a large amount of temperature absorption is released to the Earth's surface, the Earth gradually warms up, which is known as global warming.

09. Disaster

Disaster is a deadly situation that occurs because of natural or man-made hazard. The situation deeply affected the continuous public life and people, resources and the environment suffer a lot so that a society has to take special steps to deal with it and the damage is so much therefore it is not possible to cover this with its own resources only but also to seek outside help. In general, disaster means hazard, but all hazards are not disaster. It is called disaster situation when these two elements hazard and vulnerability combined. The extent of the damage and the circumstances created depend on the ability of a society to determine whether it is disaster or not.

10. Capacity

The capacity is overall ability to respond positively to a real or imagined disaster related to the people involved. The combined form of all economic knowledge and skills, social relations, technical skills and access to physical resources is overall capability.

11. Hazard

Hazard is an unusual phenomenon that can cause by natural, man-made technical defects and which can cause massive damage to human life and livelihood.

- ✚ Natural- Cyclone, Flood, Earthquake, Tsunami, Drought, River Erosion.
- ✚ Man-made-Collapsing building, Naval accident, Fire, Road accident.
- ✚ Technical- Nuclear accident.

Hazard is not disaster rather it is a probable cause of disaster. Earthquakes are hazard and this can lead to disaster through destruction of other infrastructure including life loss. Moderate earthquakes are hazard but it cause no disaster. The following five characters are used to describe most of the hazards.:

- ✚ Intensity (How big, how fast, how strong)
- ✚ Feasibility (Fear of hazard)
- ✚ Extent (Geographical and social area where a hazard can attack)
- ✚ Timeline (Warning period, durability, any time of the day/week/year).
- ✚ Management (What steps can be taken)

There are different types of hazard. A brief description of different types of hazard is given:

12. Biological Hazard

The diseases which are created or transmitted through humans, crops and domestic animals are called biological hazard.

13. Geological Hazard

As a result of the tectonic origin of the internal land process, earthquakes, tsunamis and eruption, accumulated motion, landslides, hailstorm etc. respectively are called Geological Hazard.

14. Hydro Meteorological Hazard

Local communities are affected as a result of inter-annual climate change. These changes are happening so much that affects the temperature of inter-annual timescale. The hazard caused by this regional climate change is called Hydro Meteorological Hazard. For example, flood, tropical cyclones, high winds, thunderstorms, lightning, droughts, fire, high temperatures, dust-storm etc.

15. Chronic Hazard:

Chronic Hazard is a permanent hazard caused by sea-coastal piles of sand and decay of shore, continuous change of seashore climate and low-lying water flows.

16. Vulnerability:

Vulnerability refers to the existing of realistic, economic, social and environmental conditions which indicates the risk of loss and damage of disaster and affects adversely its ability to deal with an event. It means, vulnerability is the number of dangerous elements or situations for a population that may be social, economic, political or geographical. Again, it is not able to prevent or deal with them at the same time. So, there are two aspects of vulnerability. On one side, it is existing precarious situation, on the other hand, it is the internal weakness, inefficiency and limitation of the people to deal with existing situation.

17. Risk:

Any hazard or hazards, the vulnerable population and its income, resources and the environment -the potential for adverse effects as a result of a negative combination of these three elements. So, simply to say that the risk is a reciprocation of these two things, the probability and dimension of a hazard and the consequent loss of a specified population.

Risk=Possibility of Hazard X Vulnerability

Vulnerability= Possibility of loss and damage X Capability of Society.

18. Causes of Disaster:

Disaster can be caused by a variety of factors, for example, the causes of floods are heavy rainfall, river filled with silt, sea-tide, earthquakes etc. Again, the causes of earthquakes include-collision of surface plates, changes in the position of rocks in surface dislocation and cracks, strong collision of molten lava or gas in underground, volcanic eruption etc. Cyclones can be caused by extreme sea-temperatures, low sea-level pressure and uniformity of wind speeds in the atmosphere etc. The causes of drought include- drought, go down of groundwater layer, deforestation etc.

19. Slow-onset Disaster:

This is a condition that slows down the effort to collect necessary materials for food and livelihood of the people. The reasons for this condition are drought, crop-loss, insect attack and ecological disaster. If it is identified in advance, precautionary measures can be taken to protect the public from additional sufferings. But, if this kind of disaster is ignored, it will lead to extreme misery in the future, as a result, there may be an urgent need for humanitarian assistance.

20. Rapid Disaster:

Accidental disasters occur due to various natural disasters such as earthquake, flood, tropical cyclone, or volcanic eruptions etc. Sometimes, these disasters can be warned in a short time, again sometimes there is no opportunity of taking precautionary measures. In this context of which the immediate adverse effects on human group, their activities and economic system. This type of disaster is called rapid disaster.

21. Disaster and Gender:

Although it is said that disasters affect human society or people, in reality, women are more vulnerable than men. Women are more vulnerable because of the status and positional difference of women and men in society and the discrimination against women. As a result, women are more likely to be affected by the disaster than men. As Analyst have shown that women have certain abilities which is helpful not only for the woman herself but also for the whole family in dealing with disasters. Therefore, the issue of gender needs to be considered in disaster management.

22. Disaster and Poverty:

Natural disasters have the greatest impact on developing and least developed countries with the poorest people suffering the most drastic consequences. The poorest countries of the world are disproportionately affected by disasters. More than half of the world's disasters occur in the least developed countries. But, the impact of these disasters on the economic and social life of the least developed countries is even more alarming. Poor countries suffer much more economic losses compare to gross domestic product. Poor countries have limited resources and low capacity to deal with potential disasters. They often live in vulnerable environments and work in disaster risk areas for livelihood. The combined result of all this misfortune is poor people are more likely to be victims of disasters and have less ability to adapt or overcome it. At the same time, they become victims of production and infrastructural loss to the whole country indirectly. Disaster makes people poorer to extreme poorer and face the next disaster.

23. Disaster Management:

To reduce loss and damage of disaster, performing all activities such as planning, organization, coordination, control of pre-disaster, during disaster and post-disaster activities including implementation of the programmes to the evaluation can be called disaster management. Disaster management is an ongoing organizational process that gives efforts to implement and improve the process of disaster prevention, mitigation, preparedness, relief and rehabilitation through continuous monitoring and analysis. The purpose of disaster management is – prevent loss of life and assist in the safety of people living in high-risk areas; provide safety to the people living at the highest risk by disseminating disaster signals, removing, rescuing etc.; to alleviate human sufferings and misery; to alleviate people's sufferings through rescue, first aid, health care, relief and rehabilitation activities; inform everyone about existing risks and to increase public awareness on risk mitigation measures; to carry out public awareness activities through various means for disaster preparedness and mitigation measures; to take measures to reduce the loss of assets and economic losses; to reduce the damage through construction of cyclone shelters, embankments, strong infrastructure, extensive tree planting etc.; rapid compensation and rehabilitation and socio-economic activities and restoration of ecological balance.

24. Gender

Sex in general refers to a person's biological condition determined by innately (male or female) or physical anatomical differences. On the other side, gender refers to the expected role and behaviour of men and women in a society from a social, cultural and psychological point of view. So, gender is being determined by the society that what a woman and man or boy/girl will do and what cannot do in the society. Historically, the concept of gender has been based on the division of labour and power or relationship between men and women, which has established the idea in society that men are better than women. The notion of gender is man-made while sex is a naturally created biological feature of a human being. Therefore, sex has directly nothing to do with gender. Gender refers to the socially determined ideas and practices of what it is to be male or female.

25. Few Terms Related to Gender

A. Gender Equality

Gender equality is the distribution of wealth and opportunities among men and women. And when there is discrimination in this case it is called gender inequality. This kind of inequality against women can be seen in all the societies of the world. The existing discriminatory social attitudes in the patriarchal society are the root cause of inequality.

B. Gender Equity

It is a matter of social attitude. The key point of this is to realize the needs of all equally, irrespective of men-women that means gender and the attitude of giving equal status and opportunities to both men and women in all spheres of society accordingly. Gender equality contributes to the creation of gender equity. Gender, on the other side, sows the seeds of inequality in an unequal society.

C. Gender Analysis

Gender analysis refers to the collection and analysis of gender based information about a society and organization. Women and men have an expected role in society. This role affects the likes-dislikes of men and women, acquisition of experience and knowledge, demand, the ability to make the decision, the acquisition of property rights and control etc. But, due to unequal gender roles, women and men can be deprived of various benefits that can hinder their development. This discrimination is highlighted through gender analysis. As a result, it is possible to adopt the right policies, programmes and projects to meet the needs of men and women, boys and girls.

D. Gender Lens

It is a tool by which their actual condition is known through meticulously researching and reviewing the needs, participation and realities of men and women.

E. Gender Mainstreaming

Incorporate gender issues into mainstream policy-making bodies and systems and to include issue related to women's development and their interests in the programmes and structures of the organization, analyzing existing gender relations among the members of the organization, create awareness and maintaining gender equality in all activities of the organization is mainstream gender inclusion.

F. Gender Role

Expectations of the society about the behaviour, attitudes and work of men and women.

Cause and Effect of Gender Discrimination

Gender discrimination arises when there is a difference in the social behaviour of men and women due to gender differences. Gender discrimination is the basis of long-standing gender inequality between men and women in society. The basis of discrimination is more favour towards men than women. Multiple factors such as conventional values, low literacy and low quality education, lack of awareness, lack of proper guidance, burden of family responsibilities etc. play a role in creating such unequal behaviour. The causes of gender inequality can be presented analyzing these factors as follows:

1. Reformation
2. Biological
3. Social and Cultural
4. Economic
5. Educational
6. Personal and Psychological
7. Conventional Gender Role

The consequences of gender discrimination are constantly revealed at home and outside. For example, if a woman is illiterate or less educated, she gets married at a young age and gives birth to more children. They cannot educate children properly, suffer from poor health and malnutrition, unable to be aware of social problems. They face with a lack of new technical knowledge. As a result, they cannot be involved in new and modern productive activities. They become a victim of torture and cannot protest or take legal advantage due to lack of necessary knowledge.

B) Code-based Definition Stated in the Pilot Survey for Selected Settlements Affected by Natural Disasters due to Climate Change in PSU (Mouza)

26. Natural Disaster

Natural Disasters caused by climate change are daily companions in Bangladesh. Storm/Tornado, flood, water logging drought, earthquake, cyclone, lightning/thunderstorm, salinity, river/coastal erosion, hail problem etc. are our common natural disasters. Due to these excessive natural disasters, the environment is getting polluted gradually and public life has become unbearable. So, natural disasters are mostly responsible for environmental pollution. The following is a code-based discussion of natural disasters in Bangladesh.

A) DROUGHT=01:

Drought is a dangerous natural disaster. Prolonged dry weather and insufficient rainfall lead to drought condition. Deforestation under population pressure and the atmosphere as a result of air pollution have become increasingly rough and dry. This reduces the amount of annual rainfall, which is the main reason of drought. The social and economic activities of northern districts are affected by drought almost every two years. Therefore, meteorologists fear the spread of desert processes in the northern area. The droughted area become heated and wells, canals, lakes dry up leading to scarcity of useable water. The river-flow decrease, the groundwater level goes down and there is a decline in soil moisture, crop disaster occurs due to drying of field crops and cattle food crisis arises. Drought is a major problem for people dependent on direct rains for drinking water, agriculture and animal husbandry.

B) FLOOD =02:

Bangladesh has been considered as an ideal area for natural disaster since long. Flood is one of the destructive natural disasters in this country. Usually during the monsoon season cyclone flow from the coast towards the land and excessive flow of water towards the sea through rivers causes flooding in the floodplain area as water level rise. Floods in the coastal areas caused by cyclones considered as a disaster depending on level. These sudden tidal surges cause massive damage to lives and properties. On contrary, floods caused by rivers are considered disasters in proportion to their severity. Natural flooding or low-level flood is blessing because it spreads the fertile alluvial soil over the land and with that the moisture in the land is connected. Unexpectedly high levels of unpredictable flooding that causes massive loss of live, properties and grain loss. In the nineteenth century, there were six major flood occurred in 1842, 1858,1871,1875,1885 and 1892. In addition, 15 large-scale floods have been recorded despite of the three catastrophic floods of the twentieth century in 1987,1988 and 1998. These are the floods occurred in: 1900, 1902, 1907, 1918, 1922,1954,1955,1956,1962,1963,1968,1970,1971,1974 and 1984.

Floods in Bangladesh can be divided in three categories: A) Monsoon Flood- this flood seasonal, river water fluctuate slowly and inundated vast areas and cause extensive live and properties. B) Flash Flood/Flood- occurs from sudden hill slopes or short-term heavy rainfall or braking natural or man-made dams. Flash floods are one of the major parts of flood. Floods bring socio-economic damages and misery to the people of these areas such as grater Sylhet, northern part of greater Mymensing, greater Rajshahi, norther parts of Dinajpur and Rangpur, in some parts of the greater Chattogram Hill Tracts. C) Tidal Flood: the short duration of this flood is usually up to 3-6 meter height and binds the drainage system of the surface. Annual combined flood flow of the Padma/the Ganges, the Brahmaputra and the Meghna river is an outflow path, i.e. falls into the Bay of Bengal through the lower Meghna. As a result, the slope and outflow capacity of the lower Meghna decreases. The adverse effects of this height of the river water level affect throughout the country. Because, it regulates both the state and capacity of flood water drainage. This reduces the flow of small rivers and gravitational discharge of surface water is limited to the land lying above the floodplain. Floods caused by drainage barriers exists almost all parts of the country except the northern and eastern highlands and hill tract areas. Flood is one of the most-talked among the natural disasters caused in the world. On one hand, houses, crop fields, roads, hat-bazar, offices, courts, educational institutions etc. are inundated by catastrophic floods; similarly, pandemic and famine follow by flood.

C) WATER LOGGING=03:

In the context of Bangladesh, people's life and livelihood depend on water simultaneously. Flood, cyclone, tidal surge, heavy rains, hill slope, sudden flood/flood causes submergence/waterlogging. Submergence/Waterlogging often extends for a long

time and can take even more terrible form than floods. The problem of waterlogging varies from place to place in different parts of the country. The waterlogging of Sylhet-Sunamganj is not the same like waterlogging in Bhabhodeho of Jashore. In particular, it is more prevalent in coastal areas after cyclones, tidal surges. Waterlogging/submergence is also seen in Jashore, Faridpur, Sathkhira, various metropolitans including northern part and haor (wetland) areas. As a result, people suffer extreme hardships and houses, crop fields, cattle, poultry, roads, hat-bazar, educational institutions etc. are extensively damaged.

D) CYCLONE =04:

Bangladesh is well known in abroad as the land of storms and tidal surges. Cyclones have different name depending on the region. Cyclones are commonly called cyclone or tropical cyclone. The word cyclone comes from the Greek word *Kyklos* which means circle or wheel. In 1848, Henry Piddington first used the word cyclone in his book "Sailors Horn Book for the Law of Storms". Since then, the word cyclone has been used. Cyclones are one of the worst natural disasters. A cyclone is a tropical storm or atmospheric turbulence caused by a strong gust of wind. In local language, a cyclone is called hurricane. When the air in a place becomes light and rises due to extreme heat and intense sunshine, the air pressure in that place decrease and becomes empty and to occupy that empty space, the heavy wind which rushes to endure the clouds and rain from all around causes a cyclone. Cyclones form in deep sea and requires temperature of 27 degree Celsius or higher. In Bangladesh, low pressure in the sea is usually caused by warmth before and after the monsoon season. And cyclone is caused by low pressure. Since the Bay of Bengal is located in south, therefore, cyclones come from also the south. Thousands of miles in South, the cyclone caused by depression comes from South and flows in north or northwest. Then sometimes, it changes direction and flows from the north-west. Nearly 3 to 5 Lac people died in the cyclone in Bangladesh held on 12 November 1970. There are so many people died together in a cyclone never before in the history of the world.

The Direction of the Cyclone:

A devastating cyclone killed about 140,000 people and damaged Chattogram seaport severely on 29 April 1991. In 1876, the famous Bakerganj cyclone killed about two lacs people, of which, almost one lac died due to famine and pandemic. In Ain-E-Akbari text, another cyclone was reported to have struck in Bakerganj, now Barisal in 1582 AD. wherein almost two lacs people died.



The Khulna-Barisal coastal area was hit by a 15-20 foot high strong cyclone Sidr on 15 November 2007 with a wind speed of 223 km. Due to the low tide, the flooding has been receded, resulting in fewer people died comparatively but there was extensive infrastructural damage. Aila, a strong cyclone that hit West Bengal-Khulna coastal area on 25 November 2009. Aila crosses the coast in about 10 hours like sidr, as the average wind speed decreases by 80-100 km, the damage is comparatively less than sidr. Besides, in the aftermath of Aila, there are small and large cyclones such as Mahasen (14 May 2013), Roanu (22 May 2016), Mora (03 May 2017), Titli (10 October 2018), Fani (12 May 2019), Bulbul (8-9 November 2019) hit the coast of Bangladesh. The cyclones described caused the most damage in Bangladesh and neighboring countries. The reasons behind this are wide low plain lands, high population density and poor housing structure. In the coastal areas of Khulna, Patuakhali, Barisal, Noakhali and Chattogram and remote islands from seashore such as Bhola, Hatia, Sandwip, Manpura, Kutubdia, Maheskhal, Nijhum Dwip, Urir Char and most of the damage is done in newly awaken islands.

E) TORNADO=05:

The word tornado comes in Bengali through the English word tornado. The word comes from the Spanish spelling tronada, which means "thunderstorm". Tornado is also commonly known as twister. A tornado is a type of natural disaster that has no forecast, no warning and ruined everything in a moment by sudden hit. It causes extensive loss life and property. In a word, a tornado is a kind of high speed wind. Tornado originates on land. When the air becomes light and rises in a place due to extreme heat and intense sunshine, air enters from all sides at high speed to fill that place. A tornado is called a strong wind that blows from all directions. Tornado with whirlwinds with thunderstorm hit the ground in the shape of an elephant's trunk. In Bangladesh, tornadoes usually occur between the month of Chaitra and the month of Jaistho. Sometimes there is a tornado at the end of the month of Falgun when the winter ends abnormally fast. The duration of tornado is very short-timed. This short period of time brings great damage to public life. Tornadoes occur more in the central region of Bangladesh than other regions. Most of the massive tornadoes were recorded in Faridpur, Rajbari, Gopalganj, Pabna, Gazipur, Tangail and the areas of Dhaka district.

F) STORM/TIDAL SURGE =06:

Tidal surge is wall-shaped rising waves that form in the narrow and shallow rivers or during high tide in the estuary. As it tries to move against the current, the tidal waters rise like a wall. At normal tide, sea water rises much higher in shallow coastal areas than the open sea. Tidal waves are more stronger during spring tides. At this time, when the shallow river is obstructed by the current of the river in the estuary or in the shallow part of the coast, the peak of the tidal surge breaks and strong tidal surge forms. The tidal surges are seen in the estuary of coastal rivers such as tidal surges occur in the estuary of the Meghna and the Pashur rivers. Tidal surges can cause havoc for coastal vessels. In the South, tidal surge is also known as 'BAN'. Tidal surges can be different types. Sometimes the front of the waves can bring a large circumference. Sometimes the front of the waves can move forward with a lot of circumference. In Bangladesh, Tidal, BAN, Tidal-surge, Cyclonic-surge and Storm-surge are considered as close often. Large waves of seawater flowing over the coast as an advancing part of a cyclone are termed as Cyclonic-surge. Cyclonic-surges form when strong storms combine with two different types of oceanic turbulence. The first type of oceanic turbulence is a Cyclonic-wave. These Cyclonic waves are created in the calm center of ocean storms. As a result of the combination of air flow and pressure, sometimes the center of the ocean storm and the huge water surrounded it can swell up to 6/7 meters like a pillar and this wind-blown storm continue to advance as Storm-surges. Soon after the attack of Storm-surges in coast, the huge amount of water hit the coast with great speed and severe floods occur in coastal areas. The second type of oceanic instability is a cyclonic tide that occurs comparatively over a large area. This tidal wave occurs when normal sea level rises along the coast during turbulent winds. Cyclones occur in Bangladesh in April or May and between September and December. On an average, about one to five severe sea-cyclones hit Bangladesh every year and the tidal that come along with this can reach up to almost 200 km in undersurface. The intensity of the cyclone is directly related to the height of the Cyclonic-tidal. As the wind speed increases, the height of tide rises simultaneously. The water level of the tidal is much higher and extensive floods occur as a result of the strong tides created by the combined attraction of the moon and the sun if the connection occurs on the date of the new moon or full moon with Cyclonic-tidal. Tidal with cyclones cause more damage to life and properties. There is less pressure of air in a cyclone center or eye areas where cyclones form. As a result, the sea water swells up in the area near the cyclone center, which is called tidal. The waves that are created in the chest of the sea along with increased tidal water during storm hit the coastal area. If it is the time of the new moon or the full moon, then the height of this tidal becomes much higher and takes a terrible form. Massive tidal waves swept away coastal homes, people, animals, and birds. Thousands of people and animals died. It is noted that cyclones cause deep tsunamis as a result of eruption, geo-movements / earthquakes in the deep sea in addition to strong tidal and tidal created by tsunami indicated extensive destruction of life and property in coastal areas.

G) THUNDERSTORM/LIGHTNING =07:

Thunderstorms/Lightning is a kind of marginal storm and severe natural disaster. It occurs in collaboration with thunder, lightning, heavy rain or hail. On this humid day of warmth summer, heated air becomes lighter and rises up and cools faster and produces a thunderstorm of black color. This stormy cloud is usually about 8km long vertically and almost 5 km wide. Thunderstorms/Lightning can occur without any prior warning. Such thunderstorms/lightning flashes more

lightning along with massive hail and strong air being as dark as night occur extensively huge loss of lives and properties. This type of thunderstorm is called “Kalboishaki” in early summer and ‘Ashwini’ in the latter of the monsoon.

H) RIVER/COASTAL EROSION =08:

River erosion / coastal erosion is one of the natural disasters in Bangladesh. Riverbank erosion is a local and re-occurred natural disaster in Bangladesh. When river continues to proceed as far as possible (i.e. occurred in the case of three intoxicated rivers, the Padma/the Ganges, the Brahmaputra and the Meghna), the more they become slow and meander or braided, this river swing caused extensive erosion on the bank of the river. Millions of people are affected by river erosion every year. Field crops, crop lands and settlements are lost in riverbed. Erosion occurs so extensively and rapidly in Bangladesh due to the turbulent nature of the river. The rivers contain braided shapes forming a few separated channels by tiny chars in their course. These channels are moving to the main Valley Wall for the last 200 years. As a result, during the monsoons, extensive flooding of riverbank, sever erosion and changes in the coast-line have become a fundamental feature. The major river channels in Bangladesh can be chronological-shift or change between 60 meters to 1600 meter per year. In a particular year, massive erosion can occur almost across the 2400 km coast-line. The abrupt change in behavior and aggression of the rivers not only harms the floodplain population of the village but also causes harm the growing urban population and infrastructure.

COASTAL EROSION:

The action of tides and sea waves weakens the coastal land and causes coastal erosion. The geo-nature of the Bengal delta region is divided into two parts, inactive or abandoned Gangetic tidal floodplain and active Meghna deltaic floodplain. Gangetic tidal floodplain is comparatively old and Meghna deltaic floodplain is very new from a geo-theoretical point of view between these two geo-natures. Meghna deltaic floodplain extends from the Chattogram coast in the East to the Tetulia Channel in the West. This region with its ever-changing landscape is extremely dynamic. The coastline and adjoining areas of Bangladesh are affected by the refraction of tidal waves from the Bay of Bengal. Swatch of No Ground, an inter-sea canyon that causes this refraction. Refraction results in high tidal range on both side of the canyon and low tidal range in front of the canyon. Moreover, the effect of tidal action is observed as the coast-line shaped like a fanel in the Swandip and Hatia channel towards the continental terrain and coastal erosion accelerated in this region due to the high tidal range. Moderate tidal activity predominates the most areas of the active deltaic region and in all these areas the average range of tides is 2 to 4 meters. However, high tides are observed in small areas near Swandip and the average range is more than 4 meters. The velocity of the high tide waves in the Swandip and Hatia channel areas exceeds 03 meter/second during full tide. In the monsoon season, the velocity of low tide is almost more than 03 meter/second in West Shabazpur and Hatia channel areas. The tidal wave occurs during the Spring tide in the northern part of Swandip and coastal erosion escalates as the collision of two tidal waves coming through the Swandip and Hatia channel. Despite the large amount of sediment deposited in the sea every year by the Ganges and the Brahmaputra, there has been no significant growth in this Bengal Delta. However, the progress made significantly in the delta area of the Meghna estuary during this period. The change in erosion is markedly increasing in Swandip and adjoining delta areas, Hatia island, Bhola island and coastal-line area adjacent to the mainland of Noakhali.

Thousands of acres of cultivated land and settlement being victimized of river erosion/coastal erosion disappears in riverbed/seabed. Every year thousand of families lose their lands, homes and become refugee. The change in the course of the river, weak soil structure, filled river, Char created in the river, sudden flood, excessive water pressure and hit of large scale floods, heavy rain, unplanned river governance and construction of flood control dam etc. accelerate the river erosion. On the other hand, tidal waves, tides, and the action of sea waves weaken the coastal land and occur coastal erosion. Bangladesh’s coast-line and adjoining areas are affected by the refractive action of tidal waves emanating from Bay of Bengal.

I) LANDSLIDE =09:

Landslides are the direct downward decline of rocks or both in relatively dry land by gravitational effect. Swollen mud makes the soil more liquid due to entrance of the water. Landslides are a major cause of land degradation and the strongest decay as it is known. It is prevalent in the south-eastern hilly areas of Bangladesh. The region has a long

history of instability. It is the permanent suffering for the people living in this region. In fact, landslides occur on both natural and man-made slopes every year specially during the rainy season. Although Bangladesh is a densely populated country, hilly area are quite opposite in terms of population growth. And the major reason behind this is landslide fear, which discourages people from living there or building infrastructure, however, inequality, deep forest and geo-nature are also responsible for this. The biggest problem of landslides is road obstruction. It occurs regularly in Bandarban, Khagrachari and Rangamati hill districts. The main roads connecting the city of Bandarban with the rest of the country face landslides almost every year which isolates the city and adjacent region. Landslides caused by the construction of building and other structures are usually confined to urban and sub-urban centers in hill district towns. Many houses and infrastructures, especially those on steep slopes, are damaged by landslides cause loss of life and property. In the past years, Jhum and other cultivations on steep hills play a role in the landslides. Landslides occur in hilly areas almost every year and communication is disrupted. This is not only the road but also life and property and various infrastructure face losses. In Bangladesh, catastrophic landslides occur in Greater Chattogram Hill Tracts and Chattogram region in recent times including especially in 2007, 2009, 2010, 2011. It kills a large of number of people, damages infrastructure and houses.

J) SALINITY =10:

The salinity of the soil is increasing day by day. The residents of coastal areas are more prone to salinity. The saline area of southern region is gradually increasing and spread gradually to the western districts. Salt is having an adverse effect on agricultural management and crop distribution. According to the Soil Resources Development Institute, the country has saline soil in 93 upazilas and 18 districts. Of them, Sathkhira, Bagherhat, Bhola, Potuakhali, Noakhali, Laxmipur, Chattogram, Cox's Bazar, Barguna, Pirojpur, Narail and Khulna are one of the places. There is a fear that the way salt is spreading from the coast to the West it could become endangered for life and livelihood of millions in the next few decades, this will lead to the extreme humanitarian and biological disasters and environmental adverse effects. The cause of the increase in salinity is seen as salt is spreading in the southern region mainly in two parts. 1. Flooded by sea water 2. Coming up from the bottom layer of soil or ground level. Usually, the tidal water comes in the southern region in March-April. Many cultivated lands were submerged in it. Salt spreads on those soils. This water contains harmful levels of salt. If this water is used for irrigation then the soil or land becomes saline. Meanwhile, the land or soil dries up from December to February-March. At this time, the salty groundwater flows over the soil through the holes of the cracked soil. Then the water evaporates in the sun and heat. Thus, the salt is frozen. However, in many places salt water is used for shrimp farming. Shrimp is cultivated by entering salt water in cultivable land. In the dry season, the rivers in the southern region do not get water except salt. Crop production is reduced due to salt. Even, sometimes production does not happen if there is too much salt. Soil fertility and tree growth are reduced due to the effect of salt. Therefore, flowers do not come, pollination get prevented. However, it does not cause much damage to the Ropa Aman. But problems are in Rabi crop. Because, Rabi crops are not salt tolerant. Three-crop land is becoming two-crop or even one-crop land due to the spread of salt. The crop distribution is also changing. The density of soil is higher due to the salinity of the soil. Then the juice of the tree of low density goes to the ground. As a result, the tree becomes dehydrated and droops. Plants cannot easily produce both food and water from the soil, due to the high content of dissolved salt in saline soils. The level of Nitrogen, Phosphorus and Zinc decreases in soil. Even a few years ago, there was not much salt in the Meghna water of coastal Bhola. But salinity is also appeared there suddenly. Those identified as dangerous are divided into three categories. Three percent salinity is identified as dangerous. Experts see this horrific increase in salinity as a 'Red Alert'. Salinity has led to the devastation in agriculture, on top of that there is a lack of drinking water, creates various problems and crises including failure to protect the livestock and natural diversity. Big plants are dying. The coastal green belt is being destroyed. Animals' habitats are being unprotected. Socio-economic problems are increasing due to these reasons. Various diseases are increasing due to lack of drinking water. The issue of increased salinity and decrease of agricultural land is becoming a serious problem gradually in the districts of southern region including Sundarban. The growing risk of salinity is making the importance of our well-being unimportant. Due to excessive ground water extraction, and cyclone/tidal surges that also give the opportunity to infiltrate into the coastal soils cause salinity. We need to save our lives, livelihoods, agro-based economy and biodiversity by minimizing the level salinity.

K) OTHERS =11:

In case by any other disaster or hazard other than the disaster-based code described above, public life, settlement, infrastructure, industry, crops, livestock, poultry, fisheries etc. are affected / damaged then you have to fill-in the other code by mentioning the name. Such as hail, dense fog, severe cold, heavy rains, insect attacks, wild elephant attacks etc. In addition to the disaster-based code described above, if a household is affected by a disaster, it must be filled-in by mentioning the name with the code OTHERS: No.11.

27. Public Awareness:

To gain comprehensive knowledge on the method of informing the mass people, about the growing danger and how people will work to reduce danger is called public awareness. This is especially important for emergency Government Officials and the public, those who perform their responsibility properly and save lives and resources from disasters. Public awareness activities play an important role in reducing risk or danger. This is, especially, engages in public information, information broadcast, education, Radio and Television broadcast, uses of print media, information center and Network on particular time and community and participatory activities.

28. Sustainable Development:

Sustainable development is such a development approach that is able to meet the needs of the present population without sacrificing the opportunity to meet the needs of future generations. There are two main features. Firstly: characteristics related to human needs, where the needs of the world's poorest people have been given top priority. Secondly: characteristics related to obstacles, imposed by technology and social organization on the environment, in the context of fulfilling the present and future needs of the people. A procedure must be confirmed maintaining the balance of the environment to introduce and continue sustainable development process. That means, the process of sustainable development is such an evolutionary trend in social and economic structure which ensures maximum utilization of present social and economic opportunities without compromising the potential of future social and economic opportunities. The main goal of sustainable development is such a well-distributed economic progressive trend which will continue for generations.

C) Necessary Suffixes and Definition of Household Statistics

01. **Household and Members of Household:** If one or more people live together in the same house as relatives or non-relatives and eat and drink in the same kitchen then everyone together will be considered as a household. A person who has been out of the household for more than six months at a time, will not be considered as a member of the household. At present, the person who is currently absent from the household but will be returned within six months, to be considered as a household member. Household members may be relative or non-relatives.
02. **Economical Work:** Economical work means the work that provides or produces something for the purpose of selling in the market or provide non-market production for own use/unpaid work. For example, if a person produces a good or provides services in the formal or informal unit (e.g. market, government, other households) in exchange for money/in kind or in the salary/wage in the market, will be considered as economical work. If a person works as a housemaid, his/her work will be considered as economical work. But, if someone is cooking in their own home, educating own children, doing household chores, it is not to be considered as economical work. If a person spends enough time every day on his/her farm or business/manufacturing company being paid/unpaid, then all of these works are to be considered as economical work.
03. **Non-Economical Work:** Non-economical work refers to household chores such as cooking, house cleaning, caring for younger siblings etc.
04. **Profession:** Any person does that kind of economical work basically, the work that earns income, will be considered as his profession. For example, Barbers, laundry, job, business etc.
05. **Day Labour:** Employees who involved with agricultural work (production or service) i.e., in the agricultural sector (fishing, hunting, husbandry, forest etc.) on verbal agreement only for the stipulated days at the time of the survey in a time recognized by area (usually 8 hours) or those who take wages for any work (production or service) other than agriculture are called day labour. In some areas, the day labourers get a share of the work in return for their work. For example, a farmer cuts one acre of paddy and every 40 kg gets a share 2.30 to 5.00 kg as wages. How many kg of paddy a day labour gets per day as a wage, the market price of that time is called the one day's wage. (If it is food then it has to be calculated by adding the value of food).
06. **Men Servant/ Maid Servant:** The person works as maid servant/men servant in other's house for money, are called housemaids.
07. **Administrative Area**

Administrative areas include in this survey (1) eight Divisions (2) 64 Districts (3) 493 Upazilas (4) Union and (5) Mouzas. In this pilot survey, selected Mouza or Mohallas are Primary Sampling Unit (PSU). Mouza is the minimum administrative area with a specific boundary mentioned in the documents of the Land Revenue Department. Each Mouza has a separate name and JL number. Mouza is different from village. A Mouza can have more than one village. Again, one village can have more than one Mouza. There is a Cadastral Map of the boundary of the Mouza, called design.

08. Amount of Land

- a. **Own Land/Owned:** Land/owned land means all land owned by a person or his family members which they have full rights to use, exchange and sell. It will also include land that is being used as an owner even if it is not owned by the household head or other members of his household.
- b. **Land under Management:** Total managed land means the amount of the land such as settled land under household, self-owned land under temporary crop, self-owned land under pond/wetland, including the land taken from others to self-land/bamboo bush under the garden and excluding the land given to others from it. Total managed land also means land used for non-agricultural purposes.
- c. **Land taken from Others:** Land taken from others means the land taken in form of mortgage, lease, barga, usufruct in exchange for a specified amount of money etc. from a particular person or organization. Land taken in these ways is managed by household.
- d. **Land given to Others:** These lands are given to others in form of mortgage, lease, barga, usufruct in exchange for a specified amount of money etc. These lands are managed by others.
- e. **Temporary Crop Land:** Temporary crop land refers to the land where temporary crops like such as paddy, jute, sugarcane, potato, different vegetables etc. can be cultivated more than once a year. If more than one crop is cultivated in one acre of land in a year, the total amount of that land will be taken in one year.

09. Major Work of Household:

The source from which most of the household's money is collected to be considered as the main source of income. The main source of income is divided into five parts.

- a. **Agriculture:** The main work of the household, where most of the income comes from the agriculture sector (crop, livestock, poultry, fisheries etc.) to be considered as agriculture.
- b. **Industry:** The main work of the household, where most of the income comes from the factories or industries to be considered as industry.
- c. **Service:** Household that provides regular services in the country or abroad (various types of jobs) and depend on the income received, the main work of that household to be considered as service.
- d. **Business:** If the household head or a member of the household holds a business and business is the main source of income of the household, then the main work of that household will be considered as business.
- e. **Day Labour:** The main job of the household, where most of the income comes from day labour (In verbal agreement for fixed days only in agriculture, non-agriculture, services etc.) to be considered as day labour.
- f. **Other Source:** If a household is dependent on income from any source other than the above, it will be considered as other-source based household.

CHAPTER 5

Module A: Household List (All Household Members)

In this module, general information of household would be taken:

Line Number of household member: For each member of the household, a two-digit line number must be entered. First, line number is placed for the household head. Then, have to write other members line numbers 02, 03 in this way and gradually as many members as there are. This number will be used as the specific contact number for all members of the household.

Q: 1.1- Names of all members of the household: This question must include the names of all members of the household. Those are usually live together in the same house, eat the same dish and have been absent from the household for a period of six months or less will be considered as members of the household. Here, first enter the name of household head. Household head could be male or female. In this case, it is necessary to ask the respondent well and make sure that the head of the household is male or female. The main earnable or senior person whom other members respect as the head of the household to be considered as household head. Note that, dead person will not be considered as household member under no circumstances.

At first after writing the name of the household head, the name of the husband/wife of the household head, the name of the youngest son/daughter, then eldest son/daughter, then name of husband/wife of son/daughter (youngest to oldest), then father/mother, then brother/sister, then father-in-law/mother-in-law, at last other relatives, housemaids and other's name should be written. Guest or strangers can not be considered as household members.

Q: 1.2- There are 9 possible answers to his questions. The applicable answer code should be written in the corresponding cell knowing the relationship with the household. In this case, line number 01 contains code 1 for the relationship between the household head and household head.

Q: 1.3- Ask (in some cases without asking) for the contact number of each member and write 1 if the gender of the member is male and 2 if female and 3 if transgender.

Q: 1.4- Each member's contact number i.e. line number should be used to enter the age in full year asking how old each person was on the last birthday. For example, you have to write 25 in the age box even if you are 25 years, 11 months and 29 day old. If the age is less than one year, write "00" and if it is more than 100 years or above, write "99".

Q: 1.5- The code in the religion mentioned in the question paper should be written in the corresponding cell knowing the religion of all the members of the household with the line number of each member. In the case of any religion other than Islam, Hindu, Buddhism or Christianity, the name of the religion concerned should be written and code 9 to be entered in the corresponding cell.

Q: 1.6- Write the applicable code in the specified place knowing exactly the marital status of the household members those age is 10 years or above. In this case, if anybody is married then write code 1, for unmarried code 2, for divorced code 3, for separation code 4 and for widow code 5 in the specified place.

Q: 1.7- Here, the educational qualification of the members of the household those are 5 years or above is required to write in two-digit. Write the applicable code in the corresponding cell knowing exactly that which class all the members of the household have passed. For example, if any member is currently studying in class five then write code "04", because class four is passed. If any member did not pass the class, then write code "00", for SSC/Equivalent passed then code 10, HSC/Equivalent then code "11", for Diploma in polytechnic/technical/vocational) then code 12, for Graduate code 13, for Post-graduate then code 14 should be written. Code "15" will be written for other formal education. Note that, in case of studying in Dakhil, Alim and Fazil Madrasah then write the code in the corresponding cell/box like the general degree holder described (No code will be placed for the educational qualification of informal/not recognized by the Government).

00 – Did not pass any class	06 – Class 6	12 – Diploma
01 – Class 1	07 – Class 7	13 – Graduate
02 – Class 2	08 – Class 8	14 – Post-graduate
03 – Class 3	09 – Class 9	15 – Others

04 – Class 4	10 – SSC/Equivalent	
05 – PSC/Equivalent	11 – HSC/Equivalent	

Q: 1.8 Condition of incapability/disability of household members: As per the Disable Welfare Act 2010, disability refers to a person who is physically disabled or completely/partially disabled or mentally unbalanced due to congenital or any other reason. As per the recommendation of Washington Group, disabled persons are divided into six categories.

- a. Do you face any problem to see (though using spectacles)?
- b. Do you have problem to listen (even after using hearing aid)?
- c. Do you feel problem to walk or stepping?
- d. Do you have trouble to remember anything or concentrate?
- e. Do you have trouble to wash body or bathing or wearing clothes?
- f. Do you have problems using mother tongue in conversation?

Ask the respondent, if the members of this household tend to be embarrassed, then answer using drop down button as per the line number of household members.

- There is no problem.....01
- There is some problem02
- There are many problems03
- Cannot do any work04
- Don't know/ No answer05

CHAPTER 6

Module B: Members of Household (Applicable for 10 Years or above Household Members) and Economical Work

Q: 2.1 Have you worked for at least 1 (one) hour in last seven days in exchange for salary/wages or profit?

If the answer is yes then 1, if not then 2 using the drop down button, if yes then go to 2.2 otherwise go to 2.3.

Q: 2.2 How many hours have you worked in last seven days in exchange for salary/wages or profit?

Write the time in hours. Then go to question 2.4.

Q: 2.3 What is the reason for not working in the last seven days?

You must select only one of the following answers using the drop down button:

Student	1
Family responsibilities	2
Over aged for work, retired	3
Physical/Mental problem	4
Sick/Injury/Accident	5
Non-availability of work	6
Disaster/Emergency/Bad Weather	7
Work cancelled temporarily/ postpone	8
Disaster Emergency	9
Leave due to disaster emergencies	10
Did not find work in last week	11

Others	12
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Q:2.4 Main job/Profession

Q: 2.4 A) What is your main profession?

Answer any of the following using drop down button:

Agriculture.....1, Business.....2, Job.....3, Day Labour4, Housewife.....5, Students.....6, Housemaid.....7, Unemployed.....8, Unable to Work.....9, Not Applicable.....0.

Q: 2.4 B) Basically what is the purpose of the work where you work?

Answer any of the following using drop down button:

Production.....1, Consume/Use.....2, Reservation3

Q: 2.5 What is your status in this work/business?

Answer any of the following using drop down button:

Employer	1
Self-employed (Agriculture)	2
Self-employed (Non-Agriculture)	3
Family helper	4
Salary paid employee	5
Day-labour	6
Apprentice/Intern/Trainee (with salary)	7
Housemaid	8
Family Business (without salary)	9
Others (specify)	10

Q: 2.6 Have you done any of the following for at least 1 hour to enjoy/use for your own household in last seven days?

Answer multiple of the following using drop down button:

Fruits/Vegetables/Wood tree production	1
Poultry/Cattle rearing	2
Fishing from open water	3
Fish Farming	4
Wood/Fuel/Collection of animal food	5
Collection of drinking water	6
Collection of minerals	7
Grain processing/drying	8
Production of animal product/processing	9
Dirt/Garbage collection/Waste Management	10
Grain production	11
Others (specify)	12

Q: 2.7 How many hours have you spent on the following activities for your own household in last seven days?

Answer multiple using drop down button next to the following answer in hours:

1. Fruits/Vegetables/Wood tree production
2. Poultry/Cattle rearing
3. Fishing from open water
4. Fish Farming
5. Wood/Fuel/Collection of animal food
6. Collection of drinking water
7. Collection of minerals
8. Grain processing/drying
9. Production of animal product/processing
10. Dirt/Garbage collection/Waste Management
11. Grain production
12. Others (specify)

Q: 2.8 Have you done any of the following work for partial sale but mainly for the use of your own household?

Answer multiple of the following using drop down button:

Fruits/Vegetables/Wood tree production	1
Poultry/Cattle rearing	2
Fishing from open water	3
Fish Farming	4
Wood/Fuel/Collection of animal food	5
Collection of drinking water	6
Collection of minerals	7
Grain processing/drying	8
Production of animal product/processing	9
Dirt/Garbage collection/Waste Management	10
Grain production	11
Others (specify)	12

Q: 2.9 Have you changed your profession in last 12 months?

Yes -1, No- 2. If yes, then fill up from 2.10, otherwise go to the next module.

Q: 2.10 Previous job (last 12 months)

Q: 2.10 A) Have you worked at least 1 hour per week for salary/wages or profit in last 12 months?

Yes -1, No- 2. If yes, then ask from 10.C of 10.B, otherwise go to the next module.

Q: 2.10 B) What is main job/business you have done in last 12 months?

Answer any of the following using drop down button:

Agriculture.....1, Business.....2, Job.....3, Day Labour4, Housewife.....5, Students.....6, Housemaid.....7, Unemployed.....8, Unable to Work.....9, Not Applicable.....0.

Q: 2.10 C) Basically what is the purpose of your work where you deliver your services?

Answer any of the following using drop down button:

Production.....1, Consume/Use.....2, Reservation3

Q: 2.11 Have you done any of the following for at least 1 hour to enjoy/use for your own household in last 12 months?(There may be multiple answers)

select using drop down button:

Fruits/Vegetables/Wood tree production	1
Poultry/Cattle rearing	2
Fishing from open water	3
Fish Farming	4
Wood/Fuel/Collection of animal food	5
Collection of drinking water	6
Collection of minerals	7
Grain processing/drying	8
Production of animal product/processing	9
Dirt/Garbage collection/Waste Management	10
Grain production	11
Others (specify)	12

Q: 2.12 How much your working time in the following task has changed in last week compared to the last 12 months?

1	2	3	4	5	6	7	8	9	10	11	12
Fruits/Vegetables/Wood tree production	Poultry/Cattle rearing	Fishing from open water	Fish Farming	Wood/Fuel/Collection of animal food	Collection of drinking water	Collection of minerals	Grain processing/drying	Production of animal product/processing	Dirt/Garbage collection/Waste Management	Grain production	Others (specify)

If the works changes, then select the code of the following type of change using drop down button:

- Working hours have been roughly doubled or more.....01
- Increased but did not double02
- There is a same amount03
- Reduced working hours04
- Half/ has been less than half.....05

Q: 2.13 Have you ever felt anxious or unsafe about collecting water or fuel wood around you/the environment?

Select the following code using drop down button:

Yes, at least once felt insecure	1
Yes, felt insecure often	2
No, I never felt insecure	3
Don't know	4

CHAPTER 7

Module C: Health and Sanitation of Household Members

Q: 3.1 What is the main source of drinking water of your household?

Select the answer to the specific question using drop down button:

Pipe/water of supply line (WASA/Municipality)	1
Tube-well (60-199 feet)	2
Shallow/Deep Tube-well (200 feet and above)	3
Pond/Lake/Well	4
Canal/River	5
Fountain Water	6
Pipes in the neighbor's house	7
Well/Draw well	8
Collected rainwater	9
River/Canal/Marsh/Lake/Dam/Lake/Pond/Irrigation drain	10
Bottled water	11
Others (specify)	12

Q: 3.2 Where is the source of this water? If the answer is 1 or 2 then you must complete question 3.7

Select the answer to the specific question using drop down button:

Inside own house	1
In own yard/land (Plot)	2
In another place	3

Q: 3.3 How long does it take to reach the source of drinking water, collect water and return?

Write the whole number in minutes	
Don't know	1
Not applicable	2

Q: 3.4 Who usually goes to collect drinking water for your household from the mentioned source?

Select the answer to the specific question using drop down button:

Female (under 15 years)	1
Female (15 years or above)	2
Male (under 15 years)	3
Male (15 years or above)	4
Don't know	9

Q: 3.5 Which type of vehicles do the household members usually use to collect drinking water?

Select the answer to the specific question using drop down button:

On foot	1
Bicycle	2
Motorcycle	3
Car	4
Bus/Van/Vehicles used for multiple passengers	5

Other Public Transportation	6
Not Applicable	7

Q: 3.6 Which method do you usually follow the most to purify drinking water?

Select the answer to the specific question using drop down button:

Boiling	1
Mixing bleaching/chlorin in water	2
Filtering by cloth	3
Using water filter	4
Filtration by solar system	5
Storing water/Sedimentation	6
It is not purified before drinking water	7
Don't know	8
Others	9
Not Applicable	10

Q: 3.7 How do you store purified water?

Select the answer to the specific question using drop down button:

Plastic, Ceramic or Metal Pot with narrow-mouth lid	1
Plastic, ceramic or Metal Pot with Wide-mouth lid	2
Plastic, ceramic or Metal Pot without lid	3
Another type of pot	4
No preservation of drinking water	5
Don't know	6

Q: 3.8 Has any member of your household become sick due to drinking water from a common source in last 12 months?

Select the answer to the specific question using drop down button:

Yes, sick more than three times in last year	1
Yes, sick only once in last year	2
No, I did not get sick in last year	3
Don't know	4

Q: 3.9 Has your source of drinking water been at risk due to pollution, chemicals, animal urine, wastage etc. in last 12 months?

Select the answer to the specific question using drop down button:

Yes, drinking water was contaminated and had to find other sources	1
Yes, drinking water was contaminated but had to use that	2

No, drinking water was not at risk of contamination	3
Don't know	9

Q: 3.10 What type of toilet do your household members usually use?

Select the answer to the question using drop down button:

Sanitary (with water seal to flush the drain/safe tank or pit drainage facility)	1
Furnished toilet (with water seal)	2
Furnished toilet (without water seal)	3
Raw/Hanging toilet (permanent/temporary)	4
Open space or no toilet (here and there)	5
Flush removal in open space	6
It is not known where the flush is removed	7
Hold in a safe/pit latrine after flush	8
Others	9

Q: 3.11 Do you share toilet facilities with anyone other than a member of the household?

Select the answer to the question using drop down button:

No	1
Yes, my neighbours use	2
Yes, open for common people	3
Not open for all	4

Q: 3.12 How many households, including your household use this toilet facility?

Household number should be written in the box.

Q: 3.13 Where Household's toilet is located?

Select the answer to the question using drop down button:

Inside the house	1
In yard/land (plot)	2
In other place	3

Q: 3.14 Is the toilet and access to the toilet adequately illuminated and is there a latch/lock system?

Select the answer to the question using drop down button:

Yes, it is well lit and has a latch/lock system	1
Yes, it is well lit but does not have a latch/lock system	2
There are latches/locks but not well lit	3
No, it is not well lit and does not have a latch/lock system	4

Q: 3.15 Where toilet waste is removed?

Select the answer to the question using drop down button:

Drainage line	1
In the covered hole	2

Open hole	3
Open field/Jungle	4
River/canal/lake/damn/pond/irrigation	5
Others	6
Don't know	7

Q: 3.16 What do you usually put in the hand washing place?

Select the answer to the question using drop down button:

Soap or detergent or liquid soap	1
Ashes/soil/sand	2
Don't keep anything	3

CHAPTER 8

Module D: Home Related Information, Building Materials, Condition and Resources

Q: 4.1 How many rooms does your household have?

Write the answer to the question in the box:

Q: 4.2 How many bedrooms do your household member use in total?

Write the answer to the question in the box:

Q: 4.3 How many of the unoccupied rooms in your household have windows or access to natural light in total?

Write the answer to the question in the box:

Q: 4.4 How many of the unoccupied bedrooms in your household have window or free ventilation?

Write the answer to the question in the box:

Q: 4.5 The floor of your house is mainly made of what?

Select the answer to the question using drop down button:

Soil	1
Sand	2
Clay/dung	3
Wooden plank	4
Palm/date leaves/bamboo	5
Wooden deck	6
Vinyl/pitch	7
Ceramic tiles	8
Cement/concrete	9
Carpet	10
Other (specify)	11

Q: 4.6 The roof of your house is mainly made of what?

Select the answer to the specific question using drop down button:

Straw	2
-------	---

Rural Mat	3
Bamboo	4
Wooden deck	5
Pitch board	6
Tin	7
Wood	8
Calamine/cement fibre	9
Ceramic tiles	10
Cement/concrete	11
Brick roof tiles	12
No roof	13
Others (specify)	14

Q: 4.7 The exterior walls of your home are mainly made of what?

Select the answer to the specific question using drop down button:

Cane/dates stem/straw	1
Loose soil	2
A mixture of mud and bamboo	3
A mixture of mud and stone	4
Plywood	5
Pitch board	6
Tin	7
Cement	8
Limestone mixture/cement	9
Brick	10
Cement block	11
Wooden deck	12
No wall	13
Others (specify)	14

CHAPTER 9

Module E: Habitat and Energy Source of Habitat

Q: 5.1 What kind of fuel is used for cooking in your household?

Select the answer to the specific question using drop down button:

Liquified Natural Gas (LPG)	2
Natural Gas/Supply Gas	3
Biogas	4
Kerosene/paraffin	5
Coal	6
Charcoal	7
Wood	8
Straw/shrub/grass	9
Dung	10
Paddy husk	11
There is no cooking at home	12
Others (specify)	99

Q: 5.2 What is the source of electricity in your household? (If the answer is yes then just ask this question)

Select the answer to the specific question using drop down button:

Grid	1
Off-grid, solar	2
Off-grid, air	3
Off-grid, water	4
Off-grid, fuel	5

Q: 5.3 Is there a window somewhere in your household at kitchen place through which the air flows and natural light enters?

Select the answer to the specific question using drop down button:

Yes, the cooking location has windows through which air flows and natural light enters	1
Yes, the cooking location has windows through which air flows, but natural light does not enter	2
Yes, the cooking location has at least a window through which light enters but air does not flow	3
No, the cooking location has no windows through which air flows and natural light enters	4

Q: 5.4 What type of fuel is used to heat or cool in your household?

Select the answer to the specific question using drop down button:

Electricity	1
Liquified Natural Gas (LPG)	2
Natural Gas/Supply Gas	3
Biogas	4
Kerosene/paraffin	5
Coal	6
Charcoal	7
Wood	8
Straw/shrub/grass	9
Dung	10
Paddy husk	11
There is no cooking at home	12
Others (specify)	99

Q: 5.5 How long does it take for your household to collect fuel from where it is collected and to bring it home?

Write the specific answer Minute to the question in number :

Write minuets in full number	
Don't know	1
Not applicable	2

Q: 5.6 How many days per week do you have to collect fuel for the household? (Number of days will be between 1 and 7)

Write the specific answer to the specific question in number/ if you do not know/ not applicable, then enter the code using the drop down button:

Write the number of days in number	
Don't know	1
Not applicable	2

Q: 5.7 Who usually does cook in your household?

Select the answer to the specific question using drop down button:

Female (under 15 years old)	1
Female (15 years old or above)	2
Male (under 15 years old)	3
Male (15 years old or above)	4
Don't know	9

Q: 5.8 Is cooking usually done indoor or in a separate building or outside?

Select the answer to the specific question using drop down button:

The separate room in the house, considered as kitchen	5
In the backyard or in a separate place	6
Separate building/ room	7
Outside the house	8
Others (specify)	9

Q: 5.9 Who is usually in charge in your household of collecting/transporting/fetching fuel for cooking or heating?

If there are multiple answers, select the one who is mostly engaged in this task using drop down button:

Female (under 15 years old)	1
Female (15 years old or above)	2
Male (under 15 years old)	3
Male (15 years old or above)	4
No one does this work (fuel collection)	5
Don't know	9

CHAPTER 10

Module F: Manifestation of Natural Disaster, Warnings and Consequences

Q: 6.1 Have you experienced any of the following natural disasters in the last 12 months? (There may be multiple answers)

Select 1 if the specific answer is yes and 2 if not to several questions using dropdown button:

1	Drought
---	---------

2	Flood
3	Water logging
4	Cyclone
5	Tornado
6	Storm/Tidal Surge
7	Thunderstorm/ Lightning
8	River/Coastal Erosion
9	Landslide
10	Salinity
11	Hailstorm
12	Others (specify)

Q: 6.2 Did you receive any advance warning/warning of the described natural disaster?

Select 1 if the specific answer is yes and 2 if not to several questions using dropdown button:

Q: 6.3 Were early warning of the described natural disasters helpful in disaster preparedness/relief?

Select 1 if the specific answer is yes and 2 if not to several questions using dropdown button:

Q: 6.4 How did you get the warning in advance?

Select the specific answer to the questions using dropdown button:

Radio	1
Television	2
Miking	3
Community	4
Local Administration	5
Mobile/SMS	6
Internet/Media	7

Q: 6.5 Did you (personally) have any prior preparation for the following?

Select 1 if the specific answer is yes and 2 if not to several questions using dropdown button:

1	Drinking water conservation
2	Preservation of dried food
3	Preservation of valuables
4	Preservation of necessary medicines
5	Seed preservation
6	Transfer the cattle to a safe station
7	Elevation of sleeping area
8	Food preservation
9	Taking refuge in a shelter
10	Take refuge in high place/embarkment
11	Take refuge to other place temporarily
12	Pregnant mother, children, send elderly and disabled person to a safe place
13	Safe place for a cattle
14	Disinfect house/resources

Q: 6.6 Has any member of your household or you (personally) experienced any of the following losses/problems due to natural disaster? (There may be multiple questions)

Select 1 if the specific answer is yes and 2 if not to several questions using dropdown button:

1	Injured		15	Transferred to other country		29	Failed to get the necessary health care from of own family	
2	Sick		16	Taken refuge to other country		30	Mental health was damaged (anxious, worries)	
3	Death of household members		17	Transferred forcefully		31	Increased crimes	
4	Injury/sickness of household members		18	Water source in household spoilt/insufficient		32	Damaged own vehicle	
5	Missing of household members		19	Time at the childcare has increased (physical care, education, sports)		33	Water source was compromised	
6	Loss and damage of habitat		20	Increased time to care for the elderly at home (administrative, physical, mental).		34	Damaged own transportation	
7	Destruction of habitat		21	Increased time to household work (cooking, cleaning, market, repairing, decoration, pet care etc.)		35	Could not use public transportation	
8	Personal income reduced		22	Had to cook for more than two weeks at unhealthy or high temperatures (without electric, LPG, natural and biogas)				
9	Damages of products produced/destroyed		23	Lost job				
10	Cattle are seriously ill/lost		24	Had to go to unhealthy/undeveloped sewerage /sanitation				
11	Fish (cultivated) is dead/floated		25	Had to go to other family's sewerage/sanitation				
12	Damaged or destroyed productive resources (land, industrial resources, machineries, productive service etc.) that are individually owned or used privately		26	There were problems in taking healthy food				
13	Children have stopped going to school.		27	There were many problems to get health care/go to the doctor				
14	Moved to others place within the country		28	Failed to get the necessary health care				

CHAPTER 11

Module G: Ownership of Assets and Uses (including agriculture)

Q: 7.1 Which of the following assets do you have in your household? If so, what is the type of ownership?

Here the household is asked about the ownership and uses of the property. There are a total of 21 items mentioned from 1-21. If the relevant product/instrument used in the household or is under sole ownership, then code 1 and code 2 if it is in joint ownership and code 3 if not in joint ownership. It should be placed in the box beside each item using the dropdown button. Each item belongs to household should be filled in corresponding cell/box asking well and using dropdown button.

1	Radio			
2	Television			
3	Telephone			
4	Mobile Phone/ Smart phone			
5	Bus/truck			
6	Microbus/car			
7	Launch/steamer/ship			
8	Computer/Laptop			
9	Refrigerator (Fridge)			
10	Engine driven boat/troller			
11	Fridge/deep fridge			
12	Motorcycle			
13	CNG/battery driven autorickshaw			
14	Rickshaw/Van			
15	Bicycle			
16	Bed			
17	Swing machine			
18	Stool			
19	Almirah/wardrobe			
20	Own solar power			
21	Boat (without engine)			

Q: 7.2 Do you own this residence?

Select the specific answer to the questions using dropdown button:

Yes, individually	1
Yes, jointly	2
No, stay on rent	3
Stay in others house	4

Q: 7.3 Do you have legal recognition/valid documents for this residential land? (If answer is no then go to the 7.12)

Select the specific answer to the questions using dropdown button:

Yes	1
No	2

Don't know	3
------------	---

Q: 7.4 Do you have the right to transfer this land?

Select the specific answer to the questions using dropdown button:

Yes	1
No	2
Don't know	3

Q: 7.5 Do you have a single or joint ownership of any agricultural land in household?

Select the specific answer to the questions using dropdown button:

Yes	1
No	2
Don't know	3

Q: 7.6 What percentage (decimal) of land do you own?

Select the specific answer to the questions using dropdown button:

Single (percentage)		
Jointly (percentage)		

Q: 7.7 Do you have any of the following documents registered by the Land Registry Office of any land that you own or have the right to use? If answer is no, then go to the Q: 7.13.

Select 1 if the specific answer is yes and 2 for if not and 3 for Don't know to questions using dropdown button:

1	Title deed			
2	Customary ownership deed			
3	Occupancy title			
4	Inherited registered deed			
5	Survey record			
6	Registered rental agreement			
7	Registered lease agreement			
8	Others			

Q: 7.8 Do you have the right to sell any agricultural land that you own or use individually or collectively?

Select the specific answer to the questions using dropdown button:

1	Yes
2	No
3	Don't know

4	There is an objection to answer
---	---------------------------------

Q: 7.9 Do you have the right to transfer any agricultural land that you own or use individually or collectively?

Select the specific answer to the questions using dropdown button:

1	Yes
2	No
3	Don't know
4	There is an objection to answer

Q: 7.10 Who owns or shares the agricultural land you are currently cultivating?

Select the specific answer to the questions using dropdown button:

Male	1
Female	2
Transgender	3

Q: 7.11 Which of the following threats do you think could be encountered in the case of agricultural land that you own or have right to use?

Select the specific answer to the questions using dropdown button and write the percentage in number:

	Yes=1 No= 2	Amount of land (%)
Land erosion		
Decreased soil fertility		
Waterlogging with flood		
Salinity in irrigated land		
None of the above		

Q: 7.12 Has irrigation been used in your agricultural land in the last three calendar years?

You have to go to 7.15 if the answer is 2,3 or 4.

Yes	1
I don't need irrigation	2
No, I cannot afford irrigation	3
No, there is not enough water	4

Q: 7.13 How much of your agricultural land is under irrigation?

Write percentage in number using dropdown button:

Single (percentage)	
Jointly (percentage)	

Q: 7.14 What kind of water do you use for irrigation in your agricultural land?

Select the specific answer to the questions using dropdown button:

River, canal or fresh water from fountain	1
---	---

Clean water through pipes	2
Wastewater (be it household or industrial)	3
Water in bathroom sink, washing machine etc.	4

Q: 7.15 Have you noticed a decrease in the availability of water from wells or any other source? If answer is 1 then go to 7.18. Select the specific answer to the questions using dropdown button:

1	No, always getting enough water
2	Yes, the water level in the well is gradually going down
3	Yes, river, canal or lake water is declining and not getting enough water
4	Don't know

Q: 7.16 Are you aware of the environmental risks of excessive and misuses of fertilizers?

Select the specific answer to the questions using dropdown button:

1	Yes
2	No
3	Don't know

Q: 7.17 Which of the following measures were taken in your household regarding environmental risk? (Multiple answer)

Select the multiple answer to the questions using dropdown button:

Adhere to level's guidelines for pesticide application	1
Adjustment of crop planting time	2
Careful protection of seedings during planting	3
Changes in crop	4
Integrated farming method	5
Cultivation of different crops on the same land	6
Organic pest management	7
Use of organic pesticides	8
Roaming of pastures to control cattle insects	9
Regular removal of parts of trees infected by insects	10
Maintenance and cleaning of spray equipment after use	11
Do not use more than twice (or in combination) in season to envy pesticide resistance	12
No action was taken	13

Q: 7.18 What pesticides have you used for crops or animal husbandry on this land in the last calendar year?

Select the specific answer to the questions using dropdown button:

Inorganic pesticides (arsenicals, fluorine, zinc phosphide etc.)	1
Organic pesticides (Tar oil, neem, pyrethrum etc.)	2
Pesticides	3
Hormones	4

Q: 7.19 Are you aware of the environmental and health risk caused by using pesticides?

Select the specific answer to the questions using dropdown button:

Yes	1
No	2

Q: 7.20 What is the number of any of the following animals in your household?

Select the specific answer to the questions using dropdown button:

1	Cattel, dairy cow or bull	
2	Horse, donkey or mule	
3	Goat	
4	Sheep	
5	Poultry	
6	Pig	
7	Fish, shrimp or aquatic animals	

Q: 7.21 Has any land been managed for agriculture of your household in last 12 months?

Select the specific answer to the questions using dropdown button:

Q: 7.22 What is the amount of cultivatable land of your household?

Write the answer in percentage using dropdown button:

Temporary crop land (paddy, jute, wheat, sugarcane, potato, brinjal, chili and others)	1	
Permanent crop land (bamboo-bushes, land under timber and orchards)	2	
Land under pond (except the edge)	3	
Land under nursery	4	
Plowed land (it was not cultivated in survey year but was cultivated in the previous year)	5	
Total cultivatable land (1+2+3+4+5=6)	6	

CHAPTER 12

Module H: Income and Livelihood

In this module, data will be taken on household's farming equipment (agriculture), income from agriculture, income from other source, income from other resources etc.

Q: 8.1 Income of One Year from Agriculture (January-December 2020): We have to get income from agriculture in the last one year using dropdown button. This question contains names of 15 types of agricultural products under the household. For example, in the last one year, 3000 kg of paddy was obtained from three crop lands under the household. But, that household has to write down the cost of production by adding the cost of land preparation (cultivation), paddy planting, day labour cost, weeding, fertilizer, seed, pesticides, irrigation, cutting, transportation, threshing etc. to produce 3000 kg of paddy. Note that, the total production cost has to be found by adding to the production cost calculating daily wages and including farming equipment or household workers involved in production. The price of 3000 kg of paddy produced should be written in Taka. Just as the cost of milk/dairy milk to produce. Such as fuel cost, labour cost, transportation cost to make ghee or butter or cheese. On the other side, production cost has to be found in order to raise the cattle calculating the annual cost of straw, husk, rice, medical expenses, labour cost etc.

Code	Unit	Amount	Production cost	Market price of the product produced
------	------	--------	-----------------	--------------------------------------

Code	Name of Products	Unit	Amount	Production Cost	Market price of the product produced
1	Potato	Kg			
2	Jute	Kg			
3	Wheat	Kg			
4	Corn	Kg			
5	Lentil	Kg			
6	Vegetables	Kg			
7	Seed oil	Kg			
8	Fruits	Kg			
9	Spices	Kg			
10	Flower	Number			
11	Milk/dairy milk	Litre			
12	Fish	Kg			
13	Poultry	Number			
14	Cattle	Number			
15	Other agri-products	Kg			

Q: 8.2 Income of household from non-agriculture (January-December 2020): Household members can earn from non-agriculture. The answer to this question mentions 12 sources of income. Some income is daily-based, and some are monthly-based. Data needs to be collected by adding income of every household members as source of income. Daily income has to be calculated by converting monthly and monthly income into years.

Code	Source of Income	Daily Income	Monthly Income	Yearly Income
1	Salary of the job			
2	Business			
3	Day labour			
4	Remittance			
5	Bank/post office savings (interest)			
6	Benefit from the association (interest)			
7	Small financial savings (interest)			
8	Lending at interest (interest)			
9	Life insurance (bonus/stipend)			
10	Share and bond			
11	Social security allowance			
12	Others (specify)			

Q: 8.3 Income of household from Other Source (January-December 2020): The income of household can be found from other source as well. Here, 12 types of income have been described. A household can earn by selling or mortgaging various assets yearly. The correct answer has to be collected by analyzing each answer. In this case, the amount of each source, single price and the total financial value must be written in Taka. At last, the total financial value of all assets must be written in Taka.

Code	Source of Income	Unit	Amount	Single Price	Total Financial Value
1	Sale of timber trees	Number			
2	Sale of fruit trees	Number			
3	Sale of tree stalks	Kg			
4	Sale of straw/husk	Kg			
5	Sale of organic fertilizer/dung	Kg			
6	Mortgage/lease of land/garden (percentage)	Percentage			
7	Sale of land (percentage)	Percentage			
8	Sale of household assets	Number			

Code	Source of Income	Unit	Amount	Single Price	Total Financial Value
9	Mortgage of household assets	Number			
10	Rental of agricultural machineries	Number			
11	Shop/house rent	Number			
12	Others (specify)				

Q: 8.4 Is any member of your household engaged in fishing?

Select the specific answer to the questions using dropdown button:

Yes	1
No	2

Q: 8.5 What methods do you usually use for fishing?

Select the multiple answer to the questions using dropdown button:

1	Electric boat
2	Non-electric boat
3	Bamboo made tools
4	Fishing traps
5	Hunting fish with gills
6	Fish catching rod
7	Net
8	Purse seine
9	Gillnet
10	Sitting on poles and fishing
11	Others

Q: 8.6 Where is your pond/reservoir located (There may be multiple answers)?

Select the multiple answer to the questions using dropdown button:

		Yes=1, No=2	Size percentage
1	In land		
2	In sea		
3	In river		
4	In canal		
5	In haor (wetland)		
6	In cage		

Q: 8.7 Has the rate of fishing increased or decreased or unchanged since you started fishing there?

Select the answer using dropdown button:

1	The total amount of fishing has increased.
2	The total amount of fishing had decreased.
3	The total amount of fishing remains unchanged.

Q: 8.8 Has the forest, pasture or other land that you use changed in recent years?

Select the answer using dropdown button:

1	Yes, the total number of forest and grazing land have been reduced.
2	Yes, the total number of forest and grazing land have been increased.
3	Yes, I can't find the same kind of animals and plants as I could find earlier.
4	Yes, the area is dry now.
5	Yes, the area is now contaminated, and I can't use it.
6	This area no longer exists (there have been industrialization, privatization or enclosures)
7	The area has been completely submerged due to floods/erosion or other reasons.

Q: 8.9 Do you use any pesticides or antibiotics in your pond or reservoir?

Select the answer using dropdown button:

1	Yes, I use both pesticides and antibiotics
2	Yes, I use pesticides not antibiotics
3	Yes, I use antibiotics not pesticides
4	No, I do not use anything

Q: 8.10 Do you have access to information that is not shared with members of your household? (Mark applicable)

Select the answer using dropdown button:

1	Weather and climate information
2	Information on the impact of climate on your agricultural activities
3	Verities of stable crops
4	Sustainable agricultural solution
5	Renewable energy solutions
6	Others

Q: 8.11 What kind of facilities do you get, mainly from forests or pastures?

Select the multiple answer to the questions using dropdown button:

1	Wood collection
2	Collection of cattle feeds
3	Collection of fuel wood (for self-use)
4	For collecting flower, mushroom, other crops
5	Cattle roaming
6	Honey collection
7	Others

CHAPTER 13

Module I: The effects of Natural Disasters Caused by Climate Change and Pre-Preparedness

In this module, data on the effects and preparedness of natural disasters will be collected. Note that, the same household can be affected more than once in multiple disasters, the respondent should take the help of local language if necessary, to better understand the definition of each disaster.

Q: 9.1 In the last five years, for some reason, your household's income or the value of other resources (i.e. food, fuel) have been reduced? If the answer is yes to each description, then insert code 1 and if not then insert code 2.

Sl.	Description	Code
1	Insect attack	
2	Flood, cyclone, fresh flood	
3	Increase of temperature	
4	Decrease of temperature	
5	Intense heat	
6	Intense cold	
7	Increase in rainfall	
8	Decrease in rainfall/humidity	
9	Increase in amount of insect-borne illness (i.e. Malaria, dengue, zika etc.)	
10	Lack of water/depletion of pure water	
11	Destruction of biodiversity/extinction of species (animal, tree, insect, mushroom and seed, stands on the ground)	
12	Destruction of biodiversity/ extinction of species (fish, seafood, seaweed etc. stay in water)*	
13	Increase in air pollution	
14	Sea level rise	
15	Increase in spread of pathogens (virus, bacteria)	
16	Increase in spread of parasites	
17	Water pollution	
18	Salinity	
19	Others (specify)	

Q: 9.2 Did you get any information about the early effects of natural disasters caused by climate change?
 (Yes=1, No=2) Select the answer using dropdown button.

Sl.	Description	Code
1	Radio	
2	Television	
3	Local NGO	
4	Local volunteer	
5	Local administration	
6	Community Leader/Union Council/Rural Disaster Management Comottiiee	
7	FPP/PPP/Volunteer	
8	Members from women organization	
9	Others (specify)	

Q: 9.3 Did you encounter any of the following problems in dealing with the effects of climate change?
 (Yes=1, No=2) Select the answer using dropdown button:

Sl.	Description	Code
1	Prolonged water conservation	
2	Difficulty in receiving/storing food	
3	Eating less due to lack of food or income	
4	Seed conservation	
5	Applying excessive fertilizer	
6	Applying excessive antiseptic	
7	Transfer of animal resources to another place	
8	Decrease in agricultural yields	
9	To find new land for agriculture	
10	To start producing different crops	
11	Collect fish/trees to another place	
12	Job change	

Sl.	Description	Code
13	Loss of work/exemption	
14	Hampered mental health (worry/anxiety)	
15	Hampered physical health	
16	The influence affected on the health of family members	
17	Home renovation/ had to change	
18	Transfer to another home in the same area	
19	Transfer to another area (same country)	
20	Transfer to another area (another country)	
21	More time spend due to household work	
22	More time spend due to look after of family members	
23	More time spend on waste management	
24	More time spend for collection of wood/ fuel	
25	Facing violence	

Q: 9.4 Has any of your family member been mentally or physically harassed during/after the disaster in last one year?

(Yes=1, No=2)

Q: 9.5 If the answer is yes of 9.4 then what type of mental or physical suppression/harassment you have suffered?

Select the answer using dropdown button:

Unpleasant touch	1
Rape	2
Evil eye	3
Harassment	4
Unpleasant gestures/accident	5

Q: 9.6 Have you or your family members with disabilities taken refuge in shelters during natural disasters?

Select the answer using dropdown button:

Yes	1
No	2
Others	3

Q: 9.10 If the answer to the previous question is yes, then what kind of experience did the women and disabled members face?

Select the answer using dropdown button:

It is not possible to keep particular distance due to public gathering in shelter	1
Shelter was not disabled-friendly	2
Lack of women-friendly sewerage system	3

Lack of special arrangement for breast feeding/pregnant women	4
Risk of harassment of any kind due to shortage of adequate lighting	5

CHAPTER 14

Module J: Decision Making of Household

Q. 10.1 Record the answers to each question with code using drop down button regarding decision making of household as follows:

I Myself	My Husband himself/Wife herself	Husband and Wife jointly	No decisions are taken in this regard
1	2	3	4

Sl.	Description	Code
1	Who takes the decision in your household on how your earnings to be spent?	
2	Do you think the income you earn is more or less than your spouse's income?	
3	Who takes the decision in case of purchasing food?	
4	Who takes the decision in case of purchasing farm animals or birds or other animals?	
5	Who takes the decision in case of purchasing agricultural and farm products (Pesticides, Antibiotic, fishing net etc.)?	
6	Who takes the decision in case of selling farm products (such as yield, livestock, excess material used in farm work etc.)?	
7	Who takes the decision in case of purchasing petrol/gas/fuel?	
8	Who takes the decision in case of purchasing medicines and health related products?	
9	Who usually takes the decision in terms of waste management (such as reuse, removal etc.) of household?	
10	Who usually decides in terms of using the transport (such as car, motorcycle, public transport etc.)	

Here, the respondent will bid a farewell with thanks on behalf of Bangladesh Bureau of Statistics.

Stay everyone healthy, beautiful, and well “Allah Hafiz”

