Government of the People's Republic of Bangladesh
Ministry of Education
Secondary and Higher Education Division

Study on "Strengthening use of BANBEIS Database by the Stakeholders"

CHAPTER-1

INTRODUCTION

1.1. Introduction

Bangladesh Bureau of Educational Information and Statistics (BANBEIS) is the only government organization in education management of the country responsible for collection, compilation, supply and dissemination of educational information and statistics. The Bureau started its function in the fiscal year 1976-77, as an attached department of the Ministry of Education. Associate with the successive multidisciplinary development in education sector, this organization is felicitated by national and international agencies through preparing and supplying education information & statistics. Moreover, this bureau is playing an essential role in spreading I.C.T. training and I.C.T. education. This report is for the fulfillment of the requirement for conducting the study on "Strengthening use of BANBEIS database by the Stakeholders" under the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) with a view to explore how BANBEIS is fulfilling the Educational Data need of the stakeholders and how the quality of services to be improved for BANBEIS. The study also views to collect different types of key stakeholders demand and supply side of data, current status of data and its better access, user satisfaction of the data, and major challenges faced by the key stakeholders with recommendation for improvement of the education data. BANBEIS is mainly responsible for providing education information and statistics for planning, management and decision making process in the education sector as an attached department of the Ministry of Education. BANBEIS has now focusing on qualitative survey and socio-economic research in addition to regular quantities survey activities. Considering the above, the BANBEIS has given emphasis on the improvement and upgrading of the education sector information and statistics in conducting study/research in three identified areas of education sector through consulting/research firm under the allocated budget of government.

1.2. Background of the study

BANBEIS conducts education survey on different types of educational institutes and educational activities and preserves the data. Its maintains a number of national databases on education like Secondary School Database, College Database, Technical Institution Database, BCS (Education) Cadre Officers Database, Non- Govt. Teachers Database, Teachers Training on Computer Application Database, Madrasah Database, Public Examinations Result Database, Foreign Scholarships Database, GIS School Mapping for Post primary Education Institution Database etc. Moreover BANBEIS undertakes different activities to make education statistics & information updated. At the same time BANBEIS takes different initiatives to extend the facilities according to the need & demand of the stakeholders. Along with the library facilities, a National Documentation Center is established here for the preservation and use of necessary education related documents. All Education Commission Reports, Journals, Magazines etc., published in the Sub-continent along with many countries are collected here. So, BANBEIS wants to conduct a study for collecting knowledge on the present status of its data, data preservation system, data dissemination situation, user satisfaction, problems and recommendations of the stakeholders for providing better service in future.

1.3. Overview of the BENBEIS and Its Activities

Bangladesh Bureau of Educational Information and Statistics is the only government agency responsible for the collection and dissemination of educational statistics and information in Bangladesh. The agency is nationally and internationally known by implicated itself with various development activities and also preserving and providing educational information of Bangladesh.

Vision: To build quality and standard education statistics, to contribute for the development of education sector as well as national development through data management of education.

As per instruction of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman **"Dr. Muhammad Qudrat-e-Khuda Education Commission"** was formed in 1972. On the basis of the recommendation of this commission prepared in 1974, Bangladesh Bureau of Educational Information and Statistics (BANBEIS) was established as a separate body of Educational Statistics. It commenced function with limited manpower headed by a Director with two divisional Chiefs. Later on, its manpower was increased when I.C.T division and UITRCE at upazila level were established. This Bureau started activities in a rented house in Dhanmondi area but within short time the government provide 2 bigha valuable land to build a building in the middle of Palashi-Nilkhet road (1 Zahir Raihan Road). At the beginning it was a two storied building but now it has been developed into a five storied modern building.

Mission:

- To ensure current data through collection of data and prepare database.
- To maintain information flow through preparing and providing demand based information
- To find the indicators by estimating of Sustainable Development Goals' (SDGs) setting indicators.
- To help to reduce poverty through scaling inputs in education against poverty.
- To develop educational management level incorporating ICT education through giving training on ICT

Scope of Activities

- In national level, BANBEIS is responsible for the collection, dissemination, documentation and publishing of educational information.
- It conducts National Education Survey (NES), Sample Education Survey (SES) of post-primary education (PPE).
- To perform different research on education
- To Provide educational information to the stakeholders, researcher of national and international, or the national and international organizations
- It acts as a National Documentation Center for Education.
- To maintain a library enriched with national and international journals, periodicals, encyclopedia and research papers.
- To establish and maintain database on educational institutes and its teachers, and GIS school mapping
- As an excellent training center with the help of BKITCE, it helps to develop human resources by giving training on ICT.

Organizational Characteristics:

- Professionally managed organization
- It has a statistics division, documentation, library and publication division, computer unit and administrative unit.
- 23 professionals (statistician, ICT specialist, researcher and library and documentation specialist).
- Own 5-storied building with space 60000 sq.ft
- 5-modern computer laboratory (computer: 110 and 5 multimedia projectors etc.)
- A modern library with 25 thousands books and above one hundred journals and periodicals.
- An education documentation center.

The objectives of the BANBEIS have been clearly defined since the inception and with the passage of time and changes (updating of policy needs), those have been updated. The Key objectives of BANBEIS can be summarized as follows:

- To collect, compile, preserve and disseminate educational information & statistics at the national level.
- To act as the National Documentation Center for education.
- To conduct national education surveys at the post-primary levels.
- To conduct education censuses.
- To established BANBEIS as national educational data center
- To use art of the computer technology on education
- To provide timely and accurate educational information and statistics to various government agencies including MOE, donor agencies and national and international organizations.
- To act as an adviser to the Ministry of Education (MOE).
- To support Education Commissions by providing required information and statistics.

Important Functions

The followings are the major functions of BANBEIS:

- Collect, and process educational statistics from all educational institutions and entities.
- Prepare and disseminate statistical reports after conducting educational survey.
- Prepare and supply institution and teacher profiles for administrative uses.
- Conduct the base line survey of the non-government post-primary educational institutions.
- Use school mapping (with GIS technology) for management decisions.
- Ensure collection of data of all educational institutions through using network connections to all 64 District Education Offices of the country.
- Render technical support to the Ministry of Education and other Directorates for establishing Management Information Systems (MIS).
- Send answers to different questions/issues on education raised by the Members of the Parliament on a regular basis.

- Provide regularly, educational information to national & international agencies.
- Fill-up questionnaire/formats sent by United Nations Education Scientific and Cultural Organization (UNESCO).
- International Bureau of Education (IBE) on a regular basis.
- Conduct computer training course for the computer teachers of secondary & higher secondary level institutions.
- Act as the Focal Point of the Regional Informatics Network for South and Central Asia (RINSCA).
- Work as counterpart of UNESCO Institute for Statistics (UIS), Canada.

The Bureau also provides education information to International Institute for Educational Planning (HEP), United Nations International Children's Emergency Fund (UNICEF), Asia and Pacific Programme of Educational Innovation for Development (APEID), Islamic Educational Scientific and Cultural Organization (ISESCO), Common Wealth Secretariat etc. Maintain database of BCS (General Education) cadre.

- Render assistance for preparing evaluation reports on educational institutions on the basis of the public examinations.
- Render technical support in the computerization of different educational Directorates, Departments and other govt. organizations.
- Collect, procure and preserve important books, reports, documents in the library and documentation center.
- Scholarships processing by using software for MOE

In addition of other division, DLP Division:

Documentation, Library and Publication Division is one of the important wings of BANBEIS. The overall supervision of this division lies with a Chief. The Chief is assisted by one Specialist Documentation, one Specialist Library and one Specialist Publication. Under this division there is a resourceful Documentation Centre and a Publication Unit equipped with modern facilities. Besides, there is a special Library, rich in rare collection of reference books. One documentation officer, one publication officer and one librarian look after this unit. Statistics Division is the basic steering power of BANBEIS. This division is guided by a Chief Statistics. He looks after all the statistical matters of this division. All activities of conducting the educational surveys including the design of questionnaire and related work plans are done by this division. Besides the Division Chief & one Specialist, 4 (four) Statistical Officers, l (one) Assistant Statistical Officer and 6 (six) Statistical Investigators are working with this division. Another unit of the Bureau is Computer Unit. It is equipped with the latest modern computer facilities. It has got 5 (five) Labs with well equipped computers & multimedia facilities. A Systems Manager leads this unit with 1 (one) Senior Systems Analyst, 1 (one) Systems Analyst, 2(two) Programmers, 2 (two) Computer Operation Officers and 4 (Four) Computer Operators. BANBEIS generally provides services in the field of education as under: # Library services; Documentation services; Reprographic services; Database services; Education survey; Time-series data; Education research; School mapping; Computer training; Education website etc.

Other Facilities:

Along with the library facilities, a National Documentation Center is established here for the preservation and use of necessary education related documents. All Education Commission Reports, Journals, Magazines etc., published in the Sub-continent along with many countries are collected here. Besides, all education-related paper clippings are prepared for the readers. Half -yearly Index of the paper clippings is also published ("Shikska Suchi") regularly. The cumulative number of stored documents is 2421. For this reason, publications on Education Policy and Systems of different countries are collected. At the same time important research publications are being collected in a regular basis. At present the collection of this library is 24042

Free of Cost Publications Annual Educational Statistics is a regular publication of BANBEIS. Reports on different education surveys, education census, public opinion, education finance etc. are published on a regular basis. All publications & reports are distributed among the stakeholders free of cost. Recently. Bangladesh Educational Statistics 2006 & Pocket Book of Education Statistics 2006 have been published by the Bureau. There is a 50 seated air-conditioned conference hall. BANBEIS conducts seminars, workshops in this hall. BANBEIS maintains a number of national databases on education. A few important databases available here are given below:

Assistance from the support to ICT (S1CT) Task Force Project of the Planning Commission is taken to strengthen e-governance facilities of the Ministry of Education. Decentralized Data Management Software has been developed in BANBEIS comprising the Ministry of Education & different Education Boards. This software has been installed in all the District Education Offices of the country. As a result, all updated educational information can be electronically transmitted to BANBEIS database/server.

Computer Lab Facility:

At the top floor of BANBEIS building, there are 5 (Five) modern computer Labs equipped with Laser Printers, A3 size Scanners, Multimedia Projectors. All Labs are connected with Wireless institution in the country. receiver networking system. Computer training courses for the teachers of different secondary & higher secondary education institutions are conducted here. Besides, computer training programs for officials of different Govt. & Non-govt. organization are also held here. For determining the actual location of an educational institution BANBEIS uses its own modern equipped GIS lab. There is a facility for printing color info Maps of all post-primary educational institutions in the country.

1.4. Rationally of the Study
BANBEIS plays the role as national educational data center of Bangladesh. It collects and process educational statistics from all educational institutions and entities by conducting educational survey. It processes and disseminates educational statistics as reports, database, website for the use of government, researchers, researcher organizations, national and international NGOs, UN Organizations, donors etc. So, the stakeholders of BANBEIS who are related with its educational data are characterizes two types – *data provider and data user*. The present study "Strengthening use of BANBEIS database by the Stakeholders" has been conducted with a view to explore how BANBEIS is fulfilling the Education Data need of the stakeholders and how the quality of services to be improved. The study also has collected different types of key stakeholders demand and supply side of data, current status of data and its better access, user's satisfaction and major challenges faced by the key stakeholders with

recommendations for improvement of the education data. At present the BANBEIS provides database services like-

- National Education Database (NED)
- Online Interactive Database
- Online EIIN Service
- Education Directory (Online and Offline)
- Foreign Scholarship Application
- Education GIS App (School Mapping)
- Digital Library
- e-book and e-paper Clipping
- Grant for Advanced Research in Education (GARE)
- e- Survey
- Online Monitoring (M Monitoring)
- Bangladesh Education Statistics
- Key Performance Indicators (KPI)
- Survey Questionnaire
- Online Students Cabinet Election Program
- Institute Search
- Teacher's Census
- UITRCE Teacher's Training
- IEMIS
- Digital Attendance
- Trained Teacher's Database
- E-Filing
- Library Automation.

Considering the above activities, the BANBEIS has given emphasis to the improvement and upgrading of the education sector information collection and discrimination system. And also want to provide better service to the stakeholders who use the database. So, this study result / findings (Strengths, Weaknesses, Satisfaction and Recommendations) are very necessary to fulfill the purpose.

1.5. Objective of the Study

The main objective of this study is to explore how BANBEIS is fulfilling the educational data need of the stakeholders and how the quality of services could be improved in this regards:

The specific objectives of the study are to:

- Identify key stakeholders of BANBEIS database, both demand (user of data) and supply side (providers of data)
- Take stock of current status of educational data provided by BANBEIS and how stakeholders can get better access to the BANBEIS database
- Understand the current level of satisfaction and desired level of satisfaction of the stakeholders
- Identify key challenges faced by stakeholders
- Explore possible alternative course of action BANBEIS could pursue.

1.6. Scope of the Study and Limitations

The study has included the views of the data provider and database users like teachers of schools, colleges, TT Colleges and universities; policy makers, govt. officials, researchers, research organizations like IER, ISRT, IMED, BBS, Education Boards and Technical Education Boards, Ministry of Education, Ministry of Primary Education, national and international NGOs, UN organizations, donors, as well as the stakeholders who use the database of the BANBEIS. It has explied the background of the emergence and the growth of database of BANBEIS. It has examined the role, usefulness and influence the educational institutes, research organizations and the NGOs. It has explained the background and characteristics of the users and the stakeholders. Actually the study has collected and analyzed data about the database of BANBEIS, adequacy and limitations of information according to needs, easy accessibility and better performance of server, other limitations and recommendations of the stakeholders. However, this study has limitations also. Due to COVID-19, the situation of data collection was very hard. The total study time was only 6 weeks that was not enough for a study like this.

CHAPTER-2

DEFINITION OF THE CONCEPTS OF THE STUDY

2.1. Definition of Database of BANBEIS

BANBEIS plays the role as national educational data center of Bangladesh. Database of BANBEIS means the online and offline database preserved and discriminate by the BANBEIS for its stakeholders. It is used as a data warehouse.

At present the BANBEIS provides database services like-
- National Education Database (NED)
- Online Interactive Database
- Online EIIN Service
- Education Directory (Online and Offline)
- Foreign Scholarship Application
- Education GIS App (School Mapping)
- Digital Library
- e-book and e-paper Clipping
- Grant for Advanced Research in Education (GARE)
- e- Survey
- Online Monitoring (M Monitoring)
- Bangladesh Education Statistics
- Key Performance Indicators (KPI)
- Survey Questionnaire
- Online Students Cabinet Election Program
- Institute Search
- Teacher's Census
- UITRCE Teacher's Training
- IEMIS
- Digital Attendance
- Trained Teacher's Database
- E-Filing
- Library Automation etc.

2.2. Definition of Stakeholders of the BANBEIS

Stakeholder of BANBEIS means the person who provides educational data to the BANBEIS for preservation and the person/institution that use the database of the BANBEIS for necessary information. Generally we see that two types of stakeholders are with the BANBEIS. They are *Data Provider and Data User.*

Data Provider/Supplier	Data User
- Principal, headmaster and teacher of the college, TT college, vocational institute, school and madrasha or educational institute. - Education Board, Technical Educational Board, Madrasha Board, University. - Directorate of Secondary and Higher Education, Ministry of Education, Ministry of Primary Education	- Principal, headmaster and teacher of schools, colleges, TT Colleges and professor of university. - Policy makers, govt. officials, researchers, - Planning commission, research organizations like IER, ISRT, IMED, BBS, - Education Boards and Technical Education Boards, Ministry of Education, Ministry of Primary Education,

- Educational research organizations, IER, BBS, ISRT etc.	- National and international NGOs, - UN organizations, donors, - MPhil, PhD researcher related to education etc.

CHAPTER -3

APPROACH AND DETAILED METHODOLOGY OF THE STUDY

3.1. Understanding of the Study

The objective of the study is to review and analyze the present situation of BANBEIS database, how the stakeholders are getting and accessing this data services and the quality of data and service delivery, demand and supply side of key stakeholders, current available stock and what additional stock would be helpful for the stakeholders, what level of satisfaction of the stakeholders about the services and data and how it can improve further. In addition, it has analyzed the key strengths, weakness, opportunities and challenges (SWOC) of BANBEIS data to fulfill the educational data need of the stakeholders and provide necessary suggestions for improvement including alternative course of action BANBEIS can pursue etc. A wide range of efforts such as inception of assignment with Director of BANBEIS of the Ministry of Education (MOE) and others, numerous field visits, interview with relevant sector teachers, education officers, departments, NGOs, ministry, international organizations, education board etc. at their areas, discussion with the officials of DSHE, relevant officials from government and private sector has been made to understand the key methodological and contextual issues regarding the survey. To ease the whole survey process constant and continuous communication with director of BANBEIS and officials and with knowledgeable and influential leaders has been maintained by the consulting firm throughout the study. This section describes the technical aspect of the methodology and sampling strategies of the study in detail. In line with this, the section also provides a comprehensive description of the methodology for ensuring Quality Assurance and Quality Control (QAQC) measures for conducting data collection, recording, cleaning/storing and analyzing data.

3.2. Description and justification of the general approach and specific method and techniques:
The consultant's strategy and approach and methodology of the study is practical and achievable and free from ambiguities to ensure high quality and on time delivery of the outputs. The strategy and approach and methodology and tools for implementing the study has described in the following paragraphs.

The study of the project has been designed promptly after signing of contract with the client. This is involved to preparation of study tools-questionnaire for study and guidelines for focus group discussion, and checklist of issues to be shared with participatory and non-participatory observation. Key indicators are first selected and agreed with the client and based on that questionnaire for survey and checklist for focus group discussion and checklist of issues has shared with participatory and non-participatory observation has been prepared and pre-tested and sufficient copies has been produced. The study design also has included finalization of work program in consultation with the client.

3.3. Consultation with key professionals: An initial meeting with the Director and BANBEIS authority has been held and agreements made on sample framework and field-test and study instruments.

3.4. Sources of Data: The study has been conducted to generate the stipulated primary data. Prior to generation of primary data, relevant secondary information on the study including documents/ reports from the BANBEIS authority has been obtained and reviewed. Developed the study instruments accurately and to reveal the inherent characteristics of various dimensions of the study and its contribution to the education database to the stakeholders need, the secondary data will be carefully scanned and will be collated with the

study data. For generating the desired primary data, the proposed census and sample study conducted using an appropriate sampling design and a study instrument (questionnaire).

3.5. Conceptual Framework: The conceptual framework for the assignment has developed based on the meticulous reviews of the available literature/documents on the project and based on understanding of the TOR provided by the client. While analyzing the TOR, special thought has put on understanding the objectives, the scope of work, the suggested approach and methodology and the time allocated to undertake the assignment. The consultant has inspected and directly approached to the sample respondents at sixteen districts in addition of FGDs and KII. The consultant has kept close contact with all stakeholders whose advice and cooperation made the study successful. The consultants' approach applies a conceptual framework of the level of interactions and probable study organization involving all concerned at Figure 3.1.

Figure-3.1: The Conceptual Model for BANBEIS Database Study

Study of BANBEIS Database

| Review available data/reports | Reconnaissance Field visit | Review TOR & previous reports |

Scope

- Collection and processing of data
- Assess stakeholders database need and quality of services
- Identify the key stakeholders of BANBEIS database both demand and supply side
- Assess current stock of BANBEIS database and it's access provision with satisfaction level
- Strengths, weakness, opportunity and opportunities (SWOC)
- Suggest improvement of BANBEIS education data services

Framing Methodology

| Review of Literature | FGDs | KII | Survey |

Present status BANBEIS Database, services, satisfaction level and its constraints & challenges

Find out strategies to make BANBEIS data stick and services better as per their need

Analysis & Interpretation

Ascertain the possible alternative course of action of BANBEIS for sustainable development of the education database as per stakeholder need

Way forward of BANBEIS database

Recommendation

3.6. Approaches

3.6.1 General Approach: The consultants as part of their approach to accomplish the objectives of the study assess the BANBEIS database services, stock, satisfaction level, key stakeholders and possible alternative for better access and services, strengths and weakness and recommendations for necessary improvement etc.

3.6.2 Specific Approach: The consultant's approach is in line with the main objective of the study that seeks to gather information and provide complete picture on the BANBEIS database need of the secondary sector. In addition, the study collects pertinent information that is essential for future direction of study of BANBEIS data services. The information generated has used to more functional of BANBEIS data services for the stakeholders' satisfaction of the education sector. The output of the study contributes significantly in quality education.

3.7. Methodology

The methodology for the present study is system-wide approach, which is both detailed and participatory. This approach involves wide-ranging and sequenced discussion with the stakeholders, Director and BANBEIS officials/professionals and officials related to prepare a future direction. The study is involved the use of:

(i)   Review of literature / Desk review and collection of secondary information
(ii)   Field survey **:** Interview through semi-structured Questionnaire
(iii)   Focus Group Discussions (FGD)
(iv)   Key Informants Interview (KII)
(v)   Observation and Consultation on BANBEIS Database.

The reconnaissance field visits covered substantial part of the project area. During the field visit the consultants interacted with the education sector relevant stakeholders includes, secondary schools, college, madrasha, departments, education board, international organization, ministry, education officers, and teachers. The detailed description of the common activities of the study has been presented in the following pages:

Table-3.1- Activity-1: Inception Phase

Activity 1	Period	Inputs	Deliverables/Outputs
• Elaboration of the Inception report, • Elaboration of initial ideas on methodology, sample size and framework, and questionnaire/tools and techniques has used for survey, data collection options, data sources, and a schedule for deliverables • Initial consultative meeting- Deliverables include: meeting agenda, rooster of participants, presentations and working notes shared during the consultative meeting • Agreement on study questionnaires content	1 week	All experts	• Inception report • Relevant Documents collected and initially analyzed • Initial consultative meeting • Content of survey questionnaires • Short report on desk study

• Desk study on available documents, policy, guideline and manual for the use of survey			
• Workshop on Inception Report to receive feedback from the stakeholders to finalize the report, which to be arranged by the firm	1 week	All experts	Finalize inception report incorporating the comments of stakeholders

In accordance with the TOR, the Inception Phase will cover 7 days for study and will basically be aimed at preparing the ground for the survey activities to come. During this phase, the consortium, through the Team of consultants, engaged in an open and inclusive process with the client and other stakeholders in order to collect and assimilate all relevant current information that enable to make an assessment of the survey environment and of the pertinence of the ToR vis-à-vis the actual situation. Following discussion, the final approval of inception report has been taken from Director/BANBEIS. During this phase the following tasks has been implemented:

Organization of the team of experts

The inception of the services has set as soon as the Contract Agreement is signed between the Director and the consulting firm. Soonest then, the nine consultants and the support staff has deployed to take up their individual works as per specific inputs stipulated for them in the TOR. The Team Leader has mostly organized and set the stage for this. The consultant has mobilized both staff and logistics together with all arrangements for back-up supports and communication. The TL and other specialist (according to staffing schedule) as well as support staff have started functioning according to the given tasks and times allocated to them and briefed by the TL in cooperation with the Director concerned officials of BANBEIS. The study consultancy office has been accommodated in the firm premises with all furniture and other utilities and together with security arrangements.

Review of Literature / Desk Study: Collection and Review of Data, Reports, Documents and Information

Immediately after commencement of the project, the team of experts has been started analyzing relevant documents and existing data on the current development in BANBEIS database center and services to the stakeholders in Bangladesh. Some of those documents have already been collected during the phase of preparation of the technical proposal. Further documents have been asked to relevant stakeholders of the Director. Those background relevant documents has been analyzed by the team of experts in order to provide an outline of the initial assessment and fact finding, has been included in the inception report.

Further the role of the BANBEIS and the different bodies have been analyzed on the basis of policy papers and laws in order to draft a detailed scheduled on sharing of responsibilities and leading a professional dialogue with these authorities. In addition, detailed review of: (i) existing documents on concept, definition, classification and methodology for assessing the implementation status of the project components and results and outcomes of project support and services; (ii) similar works done in the past in different countries and benefit from the findings; (iii) to be undertaken in designing the proposed survey, implementing it, analyzing the feedback the data, and preparing reports. The review of relevant

documents and data collected from secondary sources will be done by the senior members of the survey team prior to finalization of methodology and data gathering instruments. The consultants has been reviewed all the existing literature and documents prepared for the project, monitoring/progress reports, appraisal documents, policy papers, tools and formats for conducting survey and its consequences based on the outcomes indicators and report. The study team collected relevant literatures from the BANBEIS. The consultant will list the main factors such as household demographics, types of resources produced, volume of export, marketing, processing & transportations, financial status and training etc. The consultants gathered baseline information which was used for analyzing the impact and implications of the data services from its implementation status, achievements and challenges, best practices and lessons learned.

Data Quality Assurance

A detailed Data Quality Assurance Plan has been included in the Technical Proposal. After describing the main objectives of a needed quality assurance plan for collected data, the plan proposes measures to ensure that all the collected data are validated. The plan has amended in the wake of the inception phase after conducting various discussions with the client and other relevant stakeholders.

- Field-testing/Piloting of questionnaires;
- Preparation of the report on the pilot activity.

Set up of a working group on the national level

As indicated in the general approach, the creation of a working group is an important element for ensuring the participation of stakeholders in the implementation of the survey, toward the sustainability of the survey results. Therefore, during the inception phase, the consultant in cooperation with the partner has created the working group, with the objective of establishing close working relations with the client and relevant stakeholders. A list of possible stakeholders has prepared in order to identify the members of the Working Group (WG), and the team of experts has been taken direct contact with them in order to explain the objectives and the importance of being becoming a member of the WG. The team of experts have shared with them information about the survey implementation and their feedback will be requested. Virtual meetings using ICT technologies will be organized. In addition the members of the Working Groups have access to the internal portal of the survey, which was a part of the DTCL web-site in order to provide feedback on data collection and diagnostic work. They were involved in the assessment of the information and data collected; in the elaboration of the methodology for data and information collection and in the preparation of the survey.

3.7.1 Design of the study

- The consultants designed the study/survey emphasizing on appropriate survey sample frame and sampling technique that is statistically sound and acceptable to the client.
- The study design included specific timeline for every activity aiming to complete the survey timely.

- The design also includes systematic monitoring, supervision and coordination among all activities so that the activities to be completed following a critical path-most efficient and effective time use for desirable accomplishment.
- One most important element of the design, the finalization of data collection tools – questionnaires for respondent survey and data collection checklists for KII and guidelines for FGDs.
- Prior to the design of the questionnaires, checklists and guidelines, the consultant has finalized the list of indicators and measurements of all indicators in detail.
- The questionnaires and checklists are the techniques to ask questions to get measurements of different indicators that are relevant to assess the status of different aspects of the respondents and their qualities and quantities.
- The design was included data collection methodologies – primary data and secondary data. The consultants started fieldwork after approval of the study design by the client.

3.7.2 Sample Design

Two types of analysis have been made to gather information about the survey and these are

    (i)   **Quantitative and (ii) Qualitative**.

    (i)   **Quantitative Analysis**

For any type of research work representativeness of collected information must have to be ensured so that valid and dependable conclusions can be drawn. The present study is not exclusion. Thus, in order to ensure representativeness of the data and information to be collected, we propose that probabilistic sampling strategy is to be followed. It is delineated below.

The population under the study universe is constituted of school, college, madrasha, education board and relevant ministry, department, NGOs and international organizations in 8 divisions. The sample covered all **geographical representative location such as Rural and Urban, Plain Land, Coastal, Hill Tracks, Haor Area as well as public and private organizations etc**. Thus, it is appropriate to determine a representative sample size of key stakeholders of BANBEIS data services at first. We propose to collect information from 640 stakeholders such as head of the secondary school, college, madrasha, student, TVET institute, professional, researchers, and teachers using appropriate statistical formula. Since consultant has information on necessary parameters viz. total secondary institutes (32904) where secondary schools (20449), Madrasa (6558) and Technical Schools (5897) and the information about the pass rate of secondary level about 88.70% (BANBEIS, 2016) thus the consultants used the statistical formula appropriately fit for with Finite Population Correction (FPC) recommended by Daniel (1999) for calculating the sample size:

$$n = \frac{NPQZ^2}{(N-1)e^2 + Z^2PQ} \times \text{Design Effect}$$

   Where,

        n = Sample size
        N=Population size= 20,449 total secondary institutes
        P= in the absence of any information on the target parameter, we have information of the pass rate in secondary education of the country on 2016 which is 88.70%, i.e. p= 0.887
        Therefore,

Q = 1-p=1-0.887=0.113
Z is a standard normal variate. It is 1.96% at 95% confidence level,
e = Precision or allowable margin of error (If the precision is 4%, then e=0.04)
Design effect=2.5 considering five stage (division-district-upazila-institute-respondents) sampling method

With these values the calculation of the sample size gives

$$n = \frac{20{,}449 \times 0.887 \times 0.113 \times (1.96)^2}{(20{,}449-1) \times (0.04)^2 + (1.96)^2 \times 0.887 \times 0.113} \times 2.5$$

$$n = \frac{12669.6}{53.030} \times 2.5$$

n=597.28~640 in round figure.

Using above formula and 95% confidence level with 4% margin of error we obtained a representative sample size **n=640.**

However, in order to reach such schools, we have adopted multi stage random sampling procedure. At the first stage we choose all 8 divisions where we purposively selected 16 districts from 8 divisions at the second stage. From these 16 districts 64 upazilas has been chosen at the third stage. From each of selected upazila, 10 stakeholder's respondents have be chosen randomly at the fourth stage. Thus, we have a sample of 640 from 48 upazillas that means 10 key stakeholders of education data services received from BANBEIS comparing urban and rural and public and private sector.

The above formula has used as a guide to ensure representativeness of the sample. An approximate size of the sample could be 640 stakeholders, who fits in the time and budget framework as well as in the above formula.

Respondents/ Key Stakeholders:

Ministry of Education (MoE) and the Planning Commission (PC) are the principal stakeholders of BANBEIS. Different Ministries like the Ministries of Primary and Mass (MoPME) Ministry of Finance, Department of Women & Children Affairs, Ministry of Science & Technology, Directorate of Secondary and Higher Education (DSHE), Directorate of Primary Education (DPE), National Academy for Educational Management (NAEM), Directorate of Inspection and Audit (DIA), National Curriculum and Text Book Board (NCTBB), all Education Boards and many other govt. organizations are the other important users of information produced & prepared by BANBEIS.

Different international organizations, particularly engaged in the activities of education & culture are fully dependent on statistics & information produced by BANBEIS. International organizations IBE, UIS, UNESCO, UNICEF, ISESCO consider BANBEIS as the Focal Point for the educational information and statistics of Bangladesh. Researchers in different fields of education use this Bureau as the principal source of educational information. Teachers, professionals in education, M.Phil. & Ph.D. research scholars

including students at all levels of home and abroad use BANBEIS statistics. Particularly, learners & researchers from the educational training institutions are the main stakeholders of the BANBEIS Library & Documentation center. Different national & international use BANBEIS statistics in the formulation of their education program in the country. Besides, different Audit Firms conduct their audit activities in the non-govt. educational institutions of the country on the basis of statistics supplied by BANBEIS. Since 1977, BANBEIS conducted several national education surveys.

3.7.3 Population & Sampling of the study

The populations of this study are:
- Head of the School
- Principal of College
- Principal of Technical & Vocational Training Institution
- Head of non- Govt. Teachers
- Head of teachers training Institute
- Principal of Ebtedayee Madrasah
- Student of M.Phil and Ph.D
- Representative of NGOs
- BANBEIS officials
- Officials of Education Ministry, GOB etc.

The study has covered all the administrative divisions considering the geographical locations in Bangladesh. Thus, the sample categories are:

- A total of 16 districts has selected randomly from different geographical locations in Bangladesh. Among the **16** districts, 2 districts selected **randomly** from each administrative division.
- A total of 64 Upazilas has been selected randomly. Among those upazilas, 4 upazilas/thanas has randomly selected from each district.
- A total of **640** different types of stakeholders from data provider has been selected randomly and interviewed where at least 10 stakeholders (if available) select from each upazila. In selecting the stakeholders, location of the organization namely urban (5) and rural (5) will be considered to maintain.
- *The table 3.2 , Table 3.3, Table 3.4, Table 3.5 and Table 3.6 show* the overall picture of sample and sampling techniques for the **quantitative study.**

A. Sample of Data Provider for Interview:

Table-3.2: Sample and Sampling Techniques for Data Provider for Interview.

Respondent Type	Sample Size	Specification of Sample Size	Sampling Techniques
Division	8	All administrative division	-
Districts	16	2 from each division	Randomly
Upazila	64	4 from each district	Randomly
Key Stakeholders for Interview	640	At least 10 from each upazila (if available)	Randomly
FGD	24	10 key stakeholders in each FGD	Purposively
KII	48	4 from each district (if available)	Purposively

*Distribution of sample respondents by division and location (**Data Providers**)*

Table-3.3: Distribution of sample respondents by division and location

Divisions	Sample Districts	Sample Upazila	Distribution of Sample Respondents*		
			Rural	Urban	Total
Dhaka	Dhaka	4	20	20	40
	Kishoreganj	4	20	20	40
Mymensingh	Netrokona	4	20	20	40
	Mymensingh	4	20	20	40
Chittagong	Bandarban	4	20	20	40
	Cox's Bazar	4	20	20	40
Rajshahi	Rajshahi	4	20	20	40
	Sirajganj	4	20	20	40
Rangpur	Gaibandha	4	20	20	40
	Rangpur	4	20	20	40
Khulna	Satkhira	4	20	20	40
	Khulna	4	20	20	40
Barisal	Patuakhali	4	20	20	40
	Barishal	4	20	20	40
Sylhet	Sylhet	4	20	20	40
	Sunamganj	4	20	20	40
Total=8	16	64	320	320	640

Note: Sample respondents have been selected and finalized from all geographical local such as i) Plain Land, ii) Coastal, iii) Haor, and iv) Hill Tracks area etc. in consultation with BANBEIS.

B.I. Sample of Data User (General) for Interview:

Table-3.4: Sample and Sampling Techniques for Data User for Interview.

Respondent Type	Sample Size	Specification of Sample Size	Sampling Techniques
Division	8	All administrative division	-
Districts	16	2 from each division	Randomly
Upazila	16	1 from each district	Randomly
Key Stakeholders for Interview	48	2 from each district headquarter and 1 from each upazila	Purposively

Table-3.5: Distribution of sample respondents by division and location for data user.

Divisions	Sample Districts	Sample Upazila	Number of Respondent		
			District Headquarter	Upazila Headquarter	Total
Dhaka	Dhaka	1	2	1	3
	Kishoreganj	1	2	1	3
Mymensingh	Netrokona	1	2	1	3
	Mymensingh	1	2	1	3
Chittagong	Bandarban	1	2	1	3
	Cox's Bazar	1	2	1	3

Rajshahi	Rajshahi	1	2	1	3
	Sirajganj	1	2	1	3
Rangpur	Gaibandha	1	2	1	3
	Rangpur	1	2	1	3
Khulna	Satkhira	1	2	1	3
	Khulna	1	2	1	3
Barisal	Patuakhali	1	2	1	3
	Barishal	1	2	1	3
Sylhet	Sylhet	1	2	1	3
	Sunamganj	1	2	1	3
Total=8	16	16	32	16	48

Note: Sample respondents have been selected from sample districts and upazilas. (Each sample district-2 persons – Principal of Govt. College and DEO and each sample upalilas-1 person- Upazila / Thana Secondary Education Officer (USEO /TSEO).

B.II. Sample for Data User (Important) for Interview

Table-3.6: Sampling Techniques for Special / Important data user.

Respondent Type	Sample Size	Sampling Techniques
Special / VIP Stakeholders for Interview	72	Purposively

SI	Name of Office / Institute	Person to be Interviewed
1	Ministry of Education: 1. Secretary SHED/Representative. 2. Secretary TMED/Representative +2	4
2	Ministry of Primary and Mass Education: Secretary / Representative + 1	2
3	Ministry of Science and Technology: Secretary / Representative	1
4	Directorate of Secondary and Higher Education: Director General (DG) / Representative + 1	2
5	Directorate of Primary Education: DG / Representative	1
6	National Academy for Educational Management (NAEM): DG / Representative	1
7	National Curriculum and Text Book Board (NCTBB). Chairman / Representative	1
8	Board of Intermediate and Secondary Education. (4). Chairman / Representative	4
9	Bangladesh Madrasa Education Board. Chairman / Representative	1
10	Technical Education Board. Chairman / Representative	1
11	Regional Director (Tec. Education)	9
12	UGC. Chairman / Representative	1
13	IMED, Ministry of Planning. 1. Secretary /Representative. 2. Head Education Wing	2
14	BBS, Ministry of Planning. DG / Representative + 1	2

15	DG Technical Education Board	1
16	DG Madrasah Education Board	1
17	Directorate of Education Audit, Ministry of Finance. DG / Representative	1
18	IER, University of Dhaka. Director and Professor	2
19	IER, University of Rajshahi, Director and Professor	2
20	ISRT, University of Dhaka. Director and Professor	2
21	M.Phil and PhD Researcher (IER, IBS and others)	4
22	University of Dhaka. Registrar / Representative	1
23	University of Rajshahi. Registrar / Representative	1
24	UN organization: UNICEF, UNESCO, ISESCO	6
25	International NGO: Save the Children, EDUCO	4
26	National NGO: BRAC, CAMPE, Dhaka Ahsania Mission	6
27	Donor Organization: WB, ADB, JICA, UK Aid, AusAID	10
	Total	**72**

[Total Persons Interviewed through Questionnaire: Data Provider – 640 and Data User – 120 (48+72) = 760 persons.
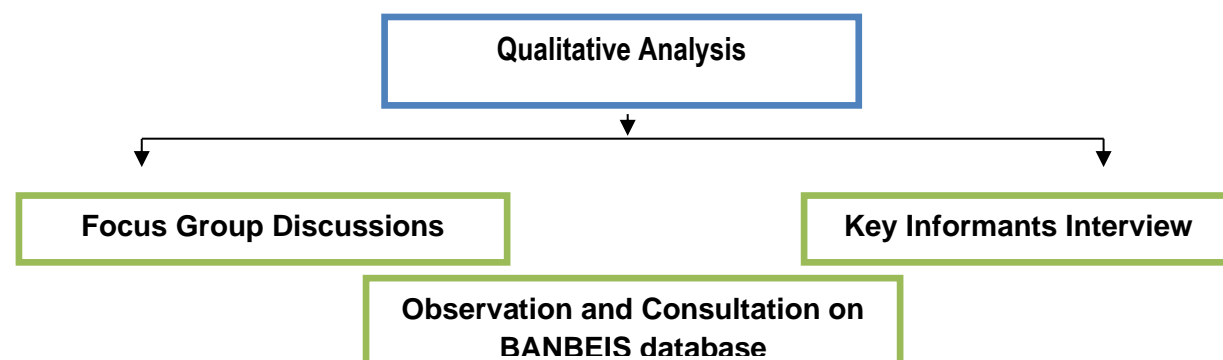
(ii) Qualitative Analysis

Qualitative methods have been used in social assessments as credible and reliable method of data collection. They provide clear insights into people's perceptions and deeper understanding of local contexts, complex coping strategies, major priorities and solutions used by the people. Qualitative techniques has been used primarily to collect in depth/ perceptual information on selected indicators related to the study.

In this analysis the most appropriate methods have used as follows:
   a) Focus Group Discussion (FGD)
   b) Key Informants Interview (KII)
   c) Observation and Consultation on BANBEIS database
In this analysis the most appropriate tools to be used are suggested as follows:

Qualitative Analysis

Focus Group Discussions   **Key Informants Interview**

Observation and Consultation on BANBEIS database

DTCL

FGD	24	10 key stakeholders in each FGD	Purposively
KII	48	3 from each district (if available)	Purposively

a. Focus Group Discussion (FGD)

For the qualitative analysis, at least 24 Focus Group Discussions (FGD) meetings have conducted considering two in each district for 2 types of organization, Rural, and Urban. The participants for each FGD will be 10 respondents. FGD meetings conducted with concerned stakeholders such as head teachers, principal, NGOs of different stakeholders including male and female. Therefore, total respondents for **24 FGD participants were 240 (24 x 10).** The FGD .conducted to collect the information using pre-designed guidelines encompassing issues about the database services of BANBEIS functional status and way forward such as:

- Present status of BANBEIS data base
- Stock level of BANBEIS data
- Demand and supply side ley stakeholders receiving BANBEIS data services
- Satisfaction level of data services
- Access to BANBEIS data and its quality of services
- Strengths, Weakness, Opportunities and Opportunities of BANBEIS data
- Recommendation for improvement of BANBEIS data services

b. Key Informant Interview (KII)

A total of **48 KII** conducted KII guidelines and obtained information about the issues such as:

- What is the status of BANBEIS data base?
- What is the stock of BANBEIS data?
- How demand and supply side ley stakeholders receiving BANBEIS data services?
- What is the satisfaction level of data services?
- How stakeholder get access to BANBEIS data?
- What is the quality level of services?
- Analyze the Strengths, Weakness, Opportunities and Opportunities of BANBEIS data
- Recommendation for improvement of BANBEIS data services

3.7.4 Summary of the data and information collection is presented below:

Table-3.7: Number and Types of Respondents

Activity	Participants/ Respondents	No. of Respondents / Participants	Respondents Category
A. Quantitative Survey			

A1. *Direct Interviews with Questionnaire*	Key stakeholders	640 +120	Representative of school, TVET institute, training institute, madrasha, college, NGOs etc.
	Total	760	
B. Qualitative Survey			
B1. FGD - 24	Stakeholders	240	Representative of school, TVET institute, training institute, madrasha, college, NGOs etc.
B2. Key Informants Interview (KII)	Tope level stakeholders	38	Planning Commission, Different Ministries (Secretary/or his representative), Different Department (DG or his representative) Education Board, BANBEIS, NAEM, NCTBB, Education officers, and education researchers etc.
	International Organization	10	IBE, UIS, UNESCO, UNICEF, ISESCO, etc.
	Total	1048	

3.7.5 Preparation of Questionnaire for Data Collection:

The questionnaire was prepared based on the objectives and scope of work and the needs and indicators for the study as indicated in the TOR, proposed approach and methodologies, and the long experience of the firm in similar assignments. The study questionnaire developed to capture necessary indicators specified in the TOR and to fulfill the objectives of the study. The questionnaire further reviewed by the client for finalization. Upon approval from the client, the field-testing of the questionnaire conducted. The information based on indicator collected by interviewing the respondents directly through a structured questionnaire.

The questionnaire will be thoroughly reviewed by the experts at different stages. Additions and modifications will be made during meetings with experts and BANBEIS authorities. After the final approval of the contracting authority the questionnaire will be put to pre-testing. Appropriate data analysis software will also be used to process the qualitative data by employing present researchers' long experience and study needs. The indicators have been prepared following the indicators mentioned in TOR.

Appropriate data analysis software will also be used to process the qualitative data by employing present researchers' long experience and survey needs.

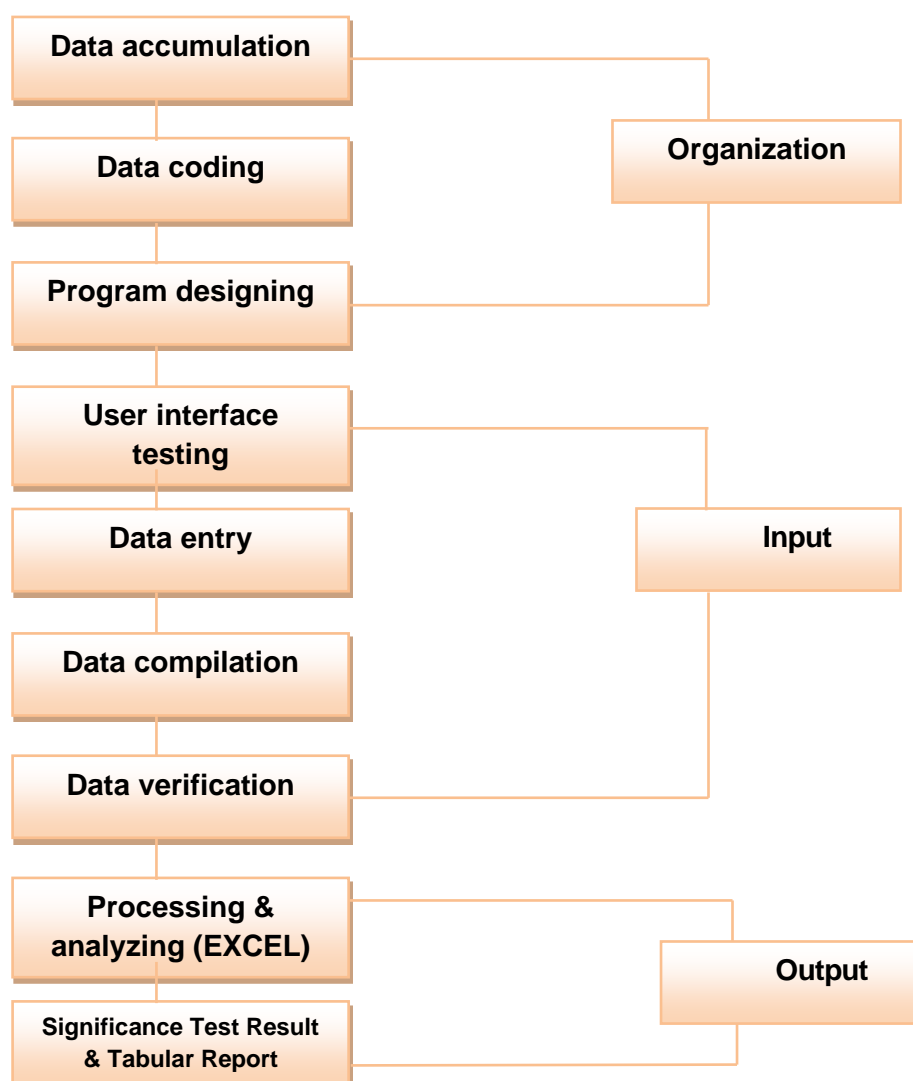**Table-3.8: List of indicators to be used for study**

Classification	Indicators
Identification	Name of the institute, name of the respondents, present position, type of institutes, location, address, year of establishment, registration type, total number of students
BANBEIS	Type of data receiving or providing to the BANBEIS; Purpose of data received from BANBEIS, use of data, how easy to access data, services quality, satisfaction level, what type will be more helpful, how do you want to get this services, Strengths, Weakness, Opportunities and Opportunities of BANBEIS data; Recommendation for improvement of BANBEIS data services

3.7.6 Field testing and finalization of tools:

Field-testing/Pre-testing of the questionnaire was done at least in one location as far as possible nearest to BANBEIS at Dhaka, the consultants invite client to observe the pre-testing of the questionnaires and study instruments. The main objective of the pre-testing is to test the adequacy and contents of the questionnaire, and the field operational aspects of the sampling scheme. Length of interview, perception of field enumerators and respondents, skipping, phrasing, terminologies used sequence of topics, adequacy of training of field staff, etc. Questionnaire tested through the pre-testing operations. On the basis of pre-testing results and in consultation with BANBEIS necessary modifications and improvements incorporated into the questionnaire; tools used to the respondents who were not be included as sample for final data collection. The tools will be criticized immediately after field test to find out the appropriateness of used language, approaches of enquiry, ethical issues, and the relevancy with the study. After getting feedback based on field test, the tools will be finalized.

3.7.7. Method of Data Collection:

Figure-3.9:
Data Flow Diagram for Data Entry & Analysis

```
┌──────────────────────┐
│  Data accumulation   │─────────────────────┐
└──────────┬───────────┘                     │
┌──────────┴───────────┐          ┌──────────┴───────────┐
│    Data coding       │          │    Organization      │
└──────────┬───────────┘          └──────────────────────┘
┌──────────┴───────────┐
│  Program designing   │
└──────────┬───────────┘
┌──────────┴───────────┐
│   User interface     │─────────────────────┐
│      testing         │                     │
└──────────┬───────────┘          ┌──────────┴───────────┐
┌──────────┴───────────┐          │       Input          │
│     Data entry       │          └──────────────────────┘
└──────────┬───────────┘
┌──────────┴───────────┐
│   Data compilation   │
└──────────┬───────────┘
┌──────────┴───────────┐
│  Data verification   │
└──────────┬───────────┘
┌──────────┴───────────┐
│   Processing &       │─────────────────────┐
│  analyzing (EXCEL)   │                     │
└──────────┬───────────┘          ┌──────────┴───────────┐
┌──────────┴───────────┐          │      Output          │
│ Significance Test    │          └──────────────────────┘
│ Result & Tabular     │
│      Report          │
└──────────────────────┘
```

CHAPTER -4

[Data Collection, Data Analysis and Result Preparation]

4.1. Data Collection:

Data has been collected for the according the selected methodologies. Both quantitative and qualitative data have been collected from the field. Interview, FGD and KII have been conducted properly. It was very difficult to collect data from the fields within the present lockdown situation.

4.2. Data Analysis and Result Preparation:

4.2.1. Analysis of the Questionnaire Interviews of *Data Providers*:

A total of six hundred and forty (640) data providers / respondents have been interviewed through a pre-selected questionnaire from eight (8) Divisions of Bangladesh. The collected data are as follows.
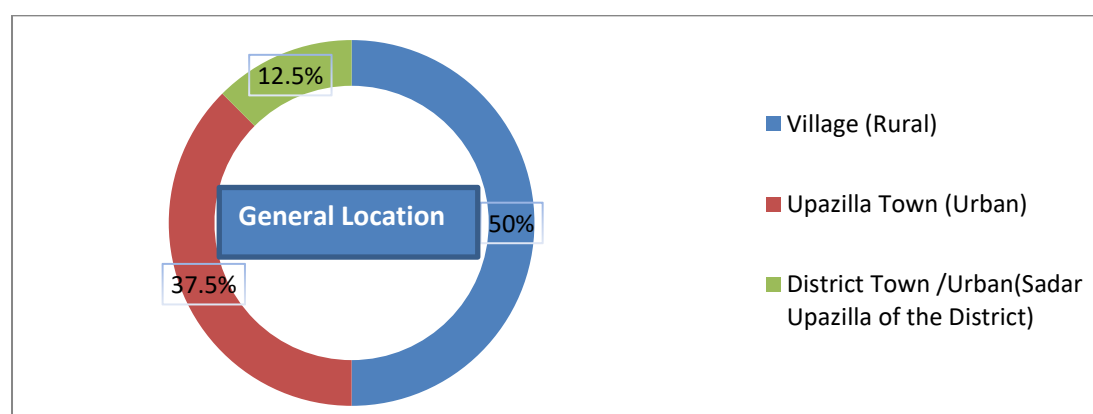
   A.   **General Location of the Institutions:**

The Institutions, those are supplied data/information to the BANBEIS are located in Village, Upazilla Town, District Town. Table: 1.1 and Figure: 1.1.1 shows that the locations of the institutions are 50.0% % are in the Villages/ Rural, 37.5 % are in the Upazila Towns/Urban, 12.5% are in the District Towns (Sadar Upazilla of the District). This is a simple distribution of the location of the institutions (School, College, Madrasha, Technical and Vocational Ins. Teachers Training College etc.)

Table: 1.1 General Location of the educational institution:

SI	General Location	Respondent No.	Percentage (%)
1	Village (Rural)	320	50.0
2	Upazilla Town (Urban)	240	37.5
3	District Town /Urban(Sadar Upazilla of the District)	80	12.5
	Total	**640**	**100**

Figure 1.1.1: Location wise distribution of the educational institutions:

B. **Geographical Location of the Institutions:**

The Institutions, those are supplied data/information to the BANBEIS are geographically located in Hill area, Coastal area, Plain land area, Haor area, Char area, Slum area. Table: 1.2 and Figure: 1.2.1 shows the geographical location of the institutions that 6.3% are in the Hill Tracts/Hill areas, 12.5% are in Coastal areas, 54.7% are in Plain Land, 18.8% are in Haor areas, 6.2% are in Char area and 1.5% are in Slum areas. All types of locations are covered in the study.

Table: 1.2 Geographical Locations of the educational institutions.

SI	Geographical Location	Respondent No.	Percentage (%)
1	Hill tracts	40	6.3
2	Coastal area	80	12.5
3	Plain land area	350	54.7
4	Haor area	120	18.8
5	Char area	40	6.2

6	Slum area	10	1.5
	Total	**640**	**100**

Figure: 1.2.1 Geographical Locations of the educational institution:
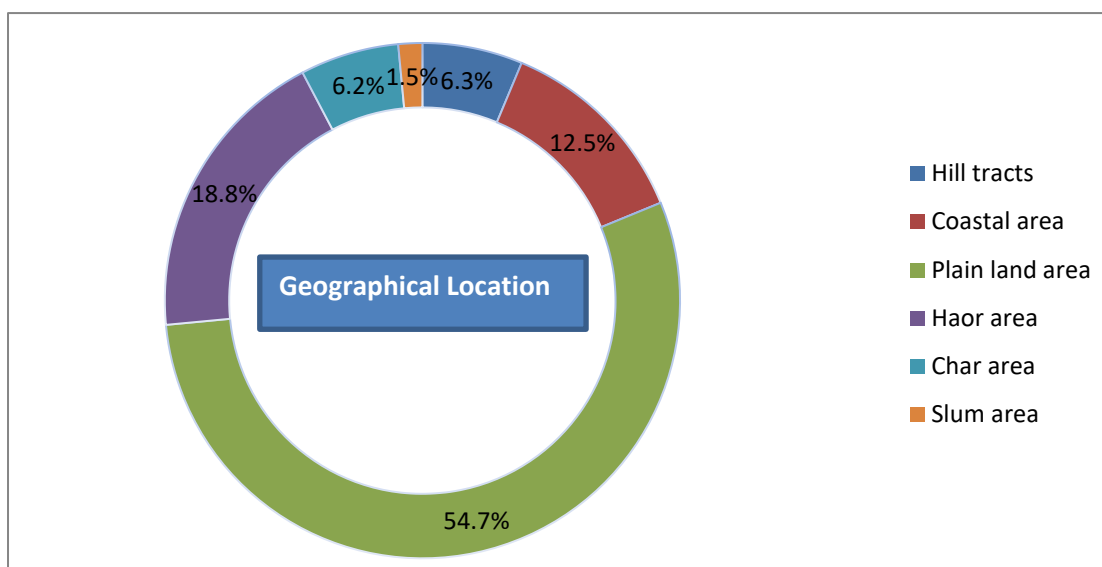
### C. Educational Levels/ Categories of the Respondents:

The respondents, who have provided data/information to the BANBEIS, are divided in different educational levels like PhD, MPhil/PhD student, Masters/equivalent, Graduate/equivalent and other. Table: 1.3 and Figure: 1.3.1 shows the educational levels/categories of the respondents that there is no PhD degree holder, No MPhil/PhD student, 87% are Master Degree holder and 13% are Graduate. Major respondents (87%) are Master Degree holders. No respondent is found under graduate.

Table: 1.3 Educational levels of the Respondents:

SI	Respondent's Education	Respondent No.	Percentage (%)
	PhD	-	-
	M.Phil/PhD Student	-	-
	Masters/Equivalent	557	87.0
	Graduate/Equivalent	83	13.0

	Other	-	-
	Total	**640**	**100**

Figure: 1.3.1 Educational levels of the Respondents:
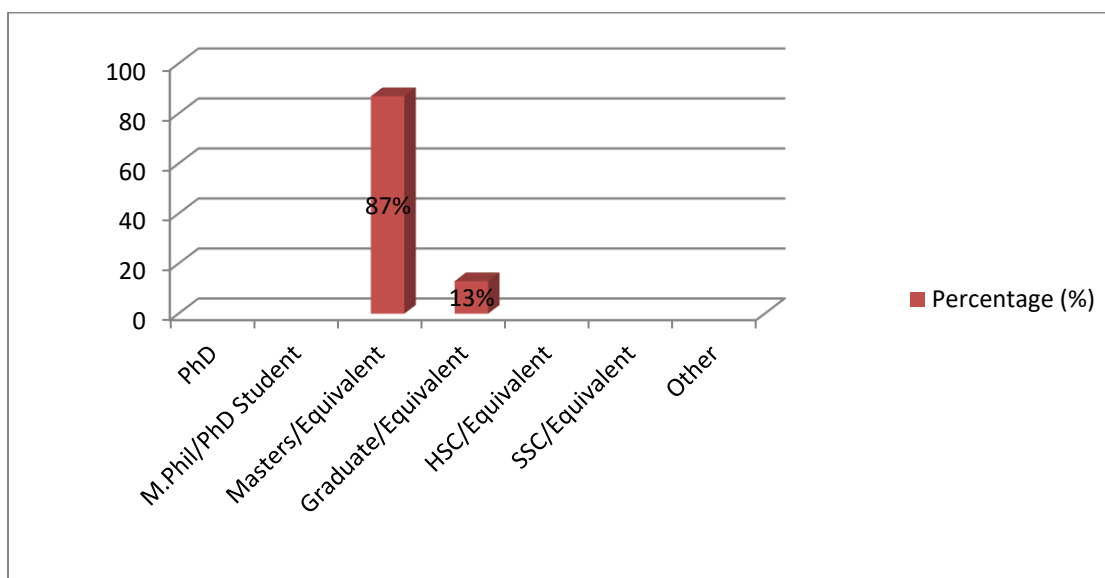
D. Information providing Systems (categorize/kinds) to BANBEIS:

Information/data providing systems to BANBEIS database are categorized two like by *e-survey and other* (alternative way) for conducting the study. Table 1.4 and figure 1.4.1 show the matter clearly, most of the people provide information to BANBEIS through e-survey (95.8%). Only 4.2 % people provide information by other (alternative) way.

Table-1.4: Kinds of providing information to the BANBEIS:

SI	Way of giving information to the BANBEIS	Respondent No	Percentage (%)
1	e-Survey	613	95.8
2	Other (alternative way)	27	4.2
	Total	**640**	**100**

Figure: 1.4.1: Kind of providing information to the BANBEIS:
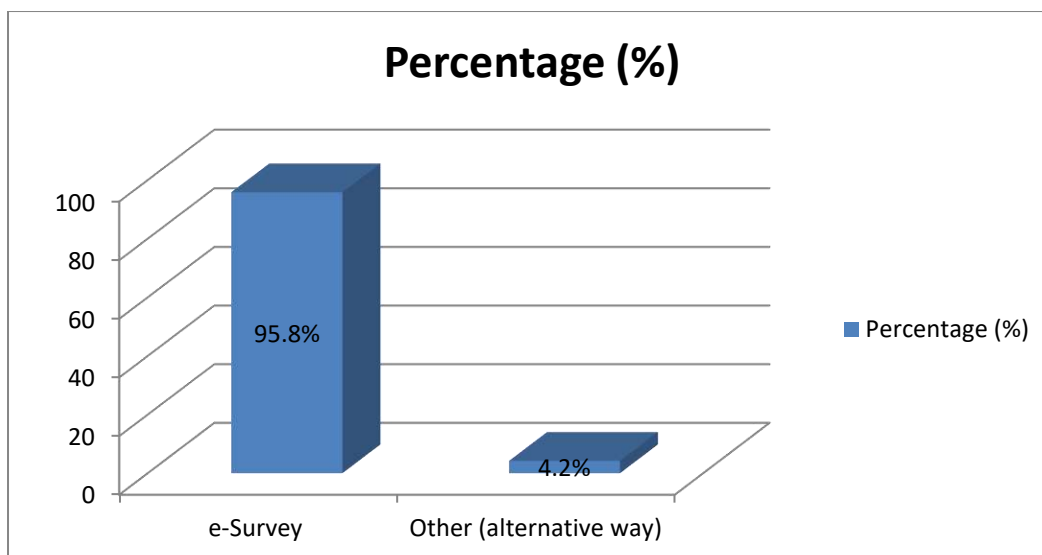
E. Way of transferring data to BANBEIS:

E-survey form, e-mail and manual hard copies are considered as way for transferring data to BANBEIS for this study. Table 1.5 and Figure 1.5.1 show that 95.8% of respondents use e-survey form, 3% use e-mail and .only 1.2% of respondents manually /hard copy transfers the data to BANBEIS Most of the respondent use e-survey forms (95.8%) for transferring data to the BANBEIS.

Table 1.5: Way of transferring data to BANBEIS:

SI.	Way of Data Transfer to BANBEIS	Respondent No	Percentage (%)
1	e-Survey	613	95.8
2	Email	19	3.0
3	Manual/Hard Copy	8	1.2
4	Orally	-	
5	Others	-	
	Total	**640**	**100**

Figure-1.5.1: Way of transferring data to BANBEIS:
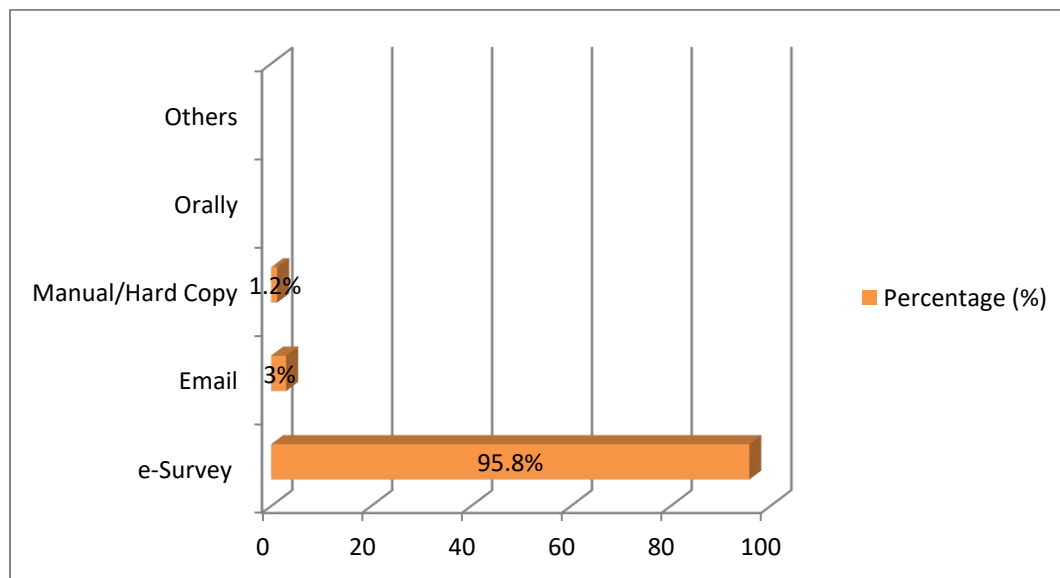
F. Respondents' role to make Content / Question of the e-survey form of BANBEIS:

Six hundred and forty (640) respondents have interviewed about their role to make e-survey form / e-survey questions / any other contents of e-survey. Table 1.6 and Figure 1.6.1 show that 93.5% respondents have answered 'no' or not any role about this matter. Only 6.5% respondent have answered 'yes'. So, it is clear that the major part of respondents have not any role to make any contents of e-survey form of the BANBEIS.

Table-1.6: Presence of respondents' role to make questions / contents of the e-survey form of BANBEIS:

SL	Role of creating content of e-survey Form/Person	Respondent No	Percentage (%)
1	Yes	42	6.5
2	Not	598	93.5
	Total	**640**	**100**

Figure-1.6.1: Presence of respondents' role to make questions / contents of the e-survey form of BANBEIS:
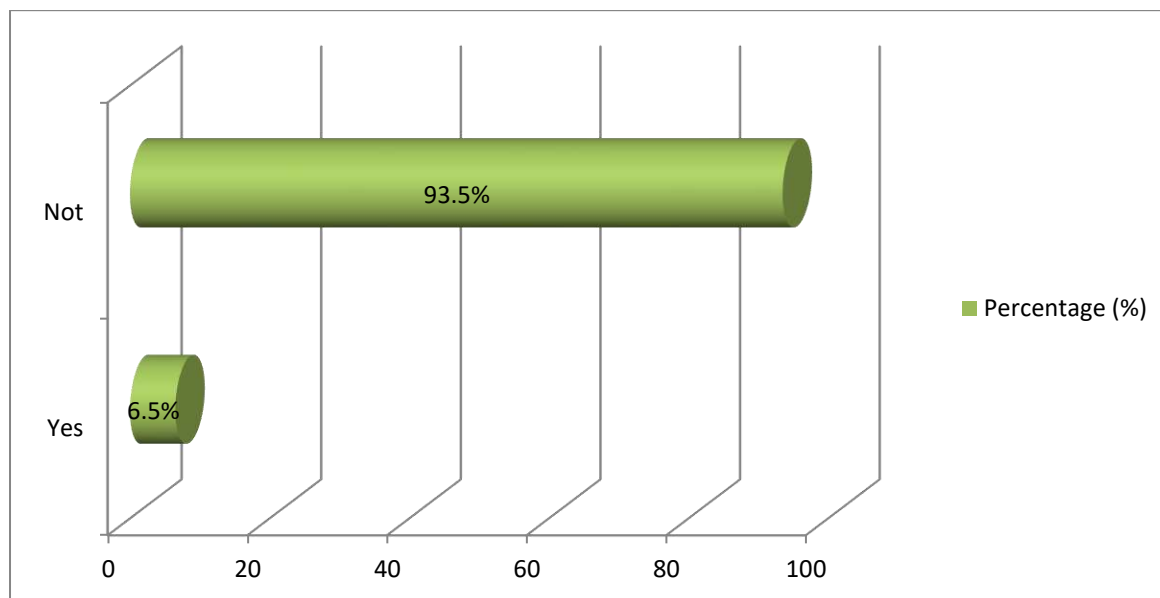
G. Time spending for filled up e-survey form of BANBEIS:

E-survey form provided for collecting various information of educational institutes have filled by the concerning persons of those educational institutions. Table 1.7 and figure 1.7.1 show that 5.2% of respondents have taken 3-5 hours to fill-up this form; 10% of them have taken 2 days; 12% have taken 3 days, 13.4% have taken 4 days, 14.7% have taken 5-6 days, 31.7% have taken 7 days, 12.2% have taken 10-15 days and 0.8 % have taken 1 month. It has been clearly shown that a major part of the respondents 31.7% have spent 07 days to fill-up that form. Many of them have taken a long time to fill-up it. So, the longtime spending is clearly shown to fill-up the e-survey form by the concerning people / institutions.

Table-1.7: Time spending for filled up e-survey form of BANBEIS

SI	Time for filled up e-survey form	Respondent No	Percentage (%)
1	(3-5) Hour	33	5.2
2	02 Days	64	10.0
3	03 Days	77	12.0
4	04 Days	86	13.4
5	(05-06) Days	94	14.7
6	07 Days	203	31.7
7	(10-15) Days	78	12.2

8	30 Days	5	0.8
	Total	**640**	**100**

Figure-1.7.1: Time spending for filled up e-survey form:
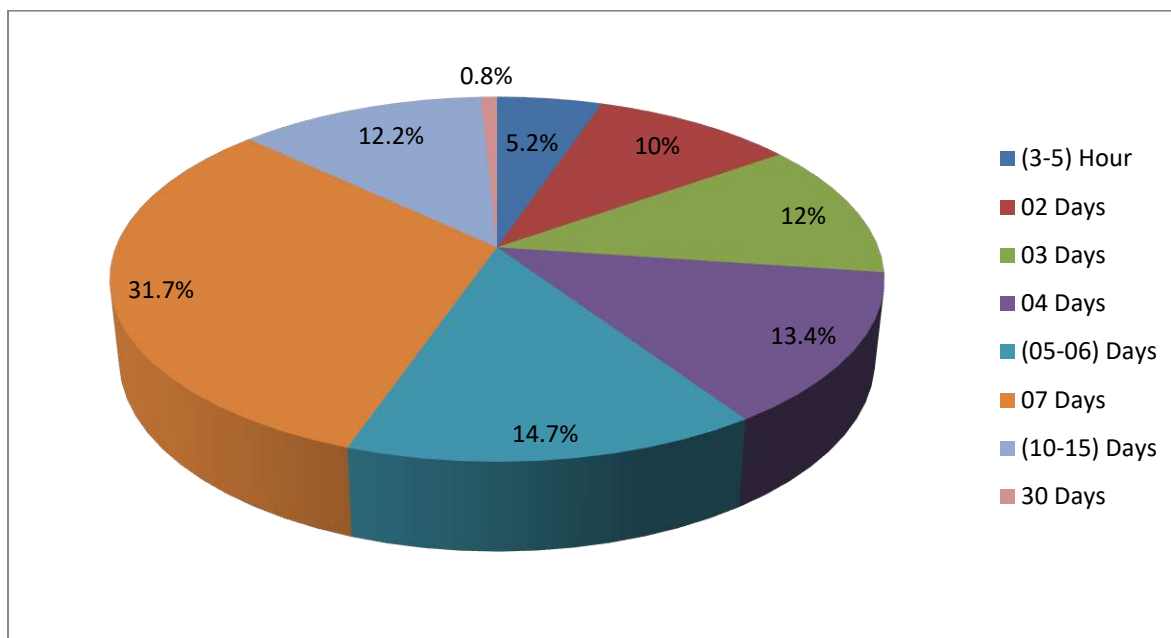
H. E-survey form of BANBEIS filled by own (Principal/Head of the Institution)?

Table 1.8 and Figure 1.8.1 Show that, out of total 640 respondents, a major part of the respondent 63.6% filled the e-survey form by him (own) and a few parts 36.4 % of respondent did not fill by himself. They took help from other person.

Table-1.8: BANBEIS e-survey form filled up by own/others:

SI	Person	Respondent No	Percentage (%)
1	Yes	407	63.6
2	No	233	36.4

	Total	640	100

Figure-1.8.1: BANBEIS e-survey form filled up by own/others:
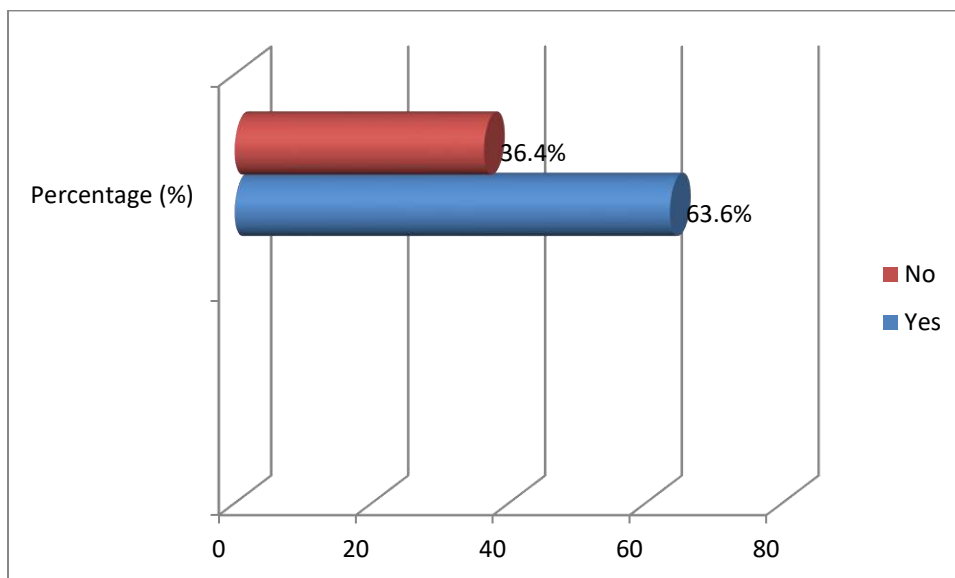
I.   **E-survey form filled by whom? (Who are not filled e-survey forms by himself).**

The respondents who are not filled e-survey form by him; they filled it by other person. Table 1.9 and Figure 1.9.1 show that 44.2% e-survey form are filled by the Office Assistant. 35.6% by the Assistant Teacher, 14.7% by Computer Operator, 3.5% by Lecturer and 1.3% by the Professors. The major portions 44.2% of respondents respond that the e-survey forms have filled up by the Office Assistant.

Table-1.9: BANBEIS e-survey form filled up by whom

SI	Person	Respondent No	Percentage (%)
1	Professor	3	1.3
2	Lecturer	6	3.5
3	Assistant Teacher	83	35.6
4	Computer Operator	38	14.7
5	Office Assistant	103	44.2
6	Other	-	-

	Total	233	100

Figure-1.9.1: BANBEIS e-survey form filled up by whom:
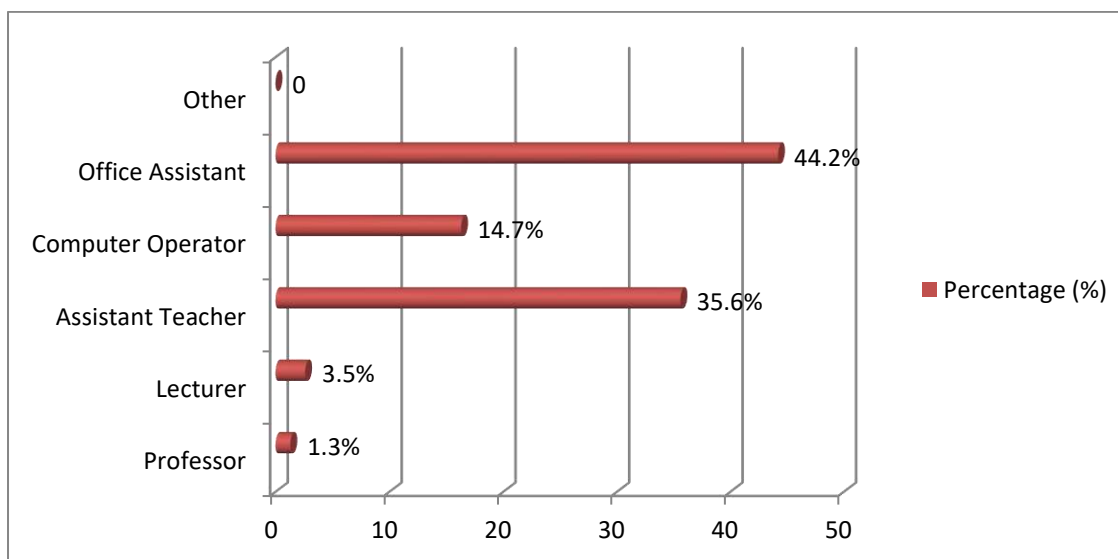
J. Adequacy of information in the e-survey form.

A total of 640 respondents have interviewed. Table 1.10 and Figure 1.10.1 Show that the major portion of respondents 87.2% respond that the Information of the e-survey form is sufficient and only 12.8% respondent respond 'no' that the information is not sufficient.

Table-1.10: Adequacy /sufficient of information in the e-survey form:

SI	Adequacy of information in the e-survey form	Respondent No	Percentage %
1	Yes	558	87.2
2	No	82	12.8
3	Others	-	
	Total	640	100

Figure- 1.10.1: Adequacy /sufficient of information in the e-survey form.
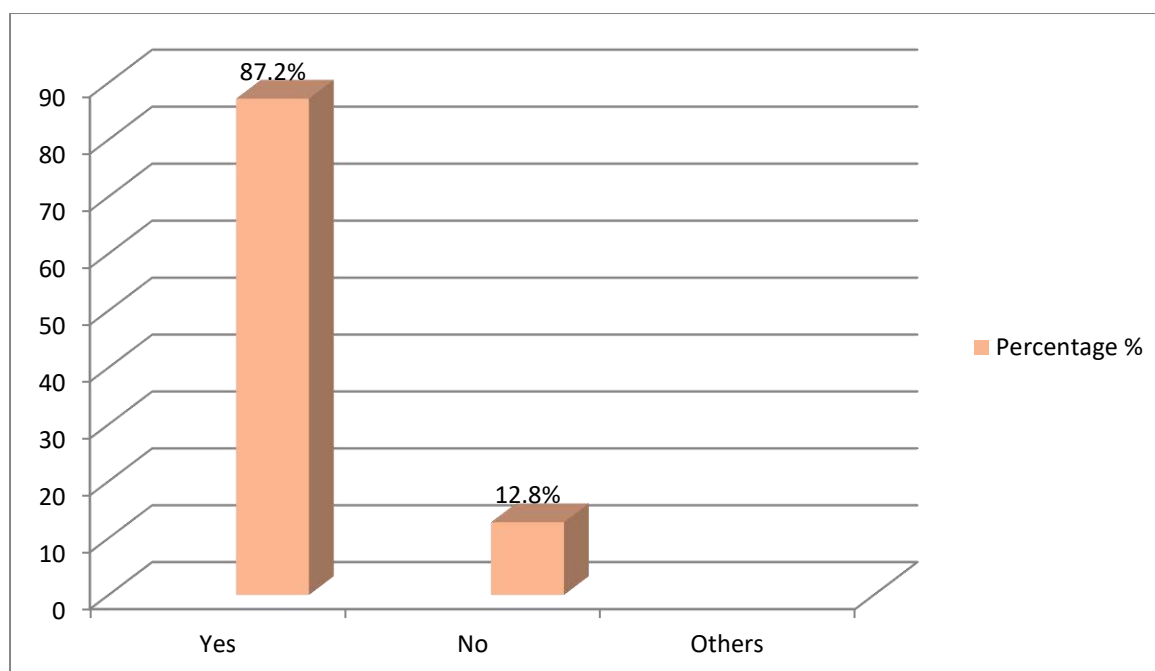
K. Difficulties to provide information to the server of BANBEIS

A total of 640 respondents have been interviewed about the difficulties of the server of BANBEIS. Table 1.11 and Figure 1.11.1 show that, the different kinds of problems like: slow network, no network, form download and upload problem, power interruption, IT security problem and software not standard etc. Multiple answers have answered by the same respondents. Data shows that a major portion of respondent 83.1% said about the 'slow network' and form 'upload and download' 77.3% problems.

Table-1.11: Difficulties of providing information to the BANBEIS

SI	Difficulties	Respondent No	Percentage (%)
1	Slow Network	532	83.1
2	No Network	-	
3	Form download/upload problem	495	77.3
4	Power interruption	325	50.8
5	IT security problem	40	6.2
6	Software not standard	427	66.7
7	Others		

(Note: Multiple Answers by the Respondents)

Figure-1.11.1: Difficulties of providing information to the BANBEIS
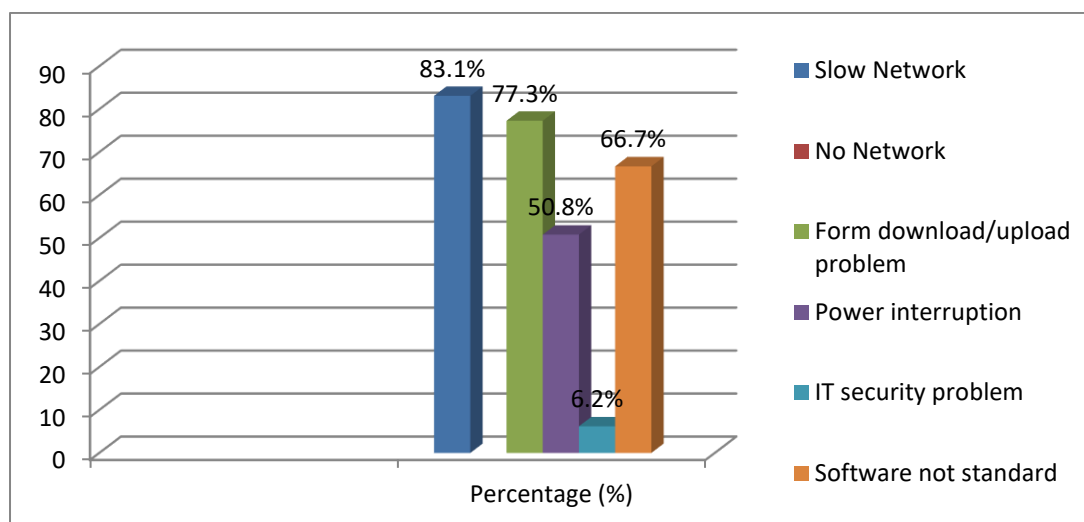
L. **Opinion/ Recommendations provided by the respondents for making the BANBEIS (www.banbeis.gov.bd) website and database easier / standard:**

Table 1.12 and Figure 1.12.1 show various kinds of recommendations for upgraded the BANBEIS server like- Need high speed BANBEIS server; Increase of BANBEIS server bandwidth and hosting; BANBEIS website need to me more modernize, standard and faster; BANBEIS database need to more systematic with rich of information; Solve the form download/upload problem; Need improvement of Network system; Solve the Power interruption problem; Need to be continuous power support while fill up e survey form; BANBEIS help line need to be more standard; To give more time for fill up e survey form; Need more easier and shortening of e survey form; Organize training for data supplier to see the last year given information in the website and easy to download; Create apps for fill up e-survey form by the mobile basically for rural data supplier; Online and Offline information in the form need to be same; e-survey form need to be more standard and shorter; Need to be website Interface more attractive. Percentage are available in the table below.

Table-1.12: Recommendations for making the BANBEIS (www.banbeis.gov.bd) website easier to use by the data supplier:

SI	Recommendation by the Responder	Respondent No	Percentage (%)
1	Need high speed BANBEIS server	532	83.1
2	Increase of BANBEIS server bandwidth and hosting	500	78.1
3	BANBEIS website need to me more modernize, standard and faster	520	81.3
4	BANBEIS database need to more systematic with rich of information	400	62.5
5	Solve the form download/upload problem	520	81.3
6	Need improvement of Network system	360	56.3
7	Solve the Power interruption problem	290	45.3
8	Need to be continuous power support while fill up e survey form	270	42.1
9	BANBEIS help line need to be more standard	280	43.8
10	To give more time for fill up e survey form	440	68.8

11	Need more easier and shortening of e survey form	430	67.2
12	Organize training for data supplier	520	81.3
13	To see the last year given information in the website and easy to download	105	16.4
14	Create apps for fill up e-survey form by the mobile basically for rural data supplier	250	39.0
15	Online and Offline information in the form need to be same	70	11.0
16	e-survey form need to be more standard and shorter	320	50.0
17	Need to be website Interface more attractive	70	11.0
	Total		

(Note: Multiple Answers by the Responder)

Figure-1.12.1: Opinions/Recommendations for making the BANBEIS (www.banbeis.gov.bd) website easier to use by the data supplier:
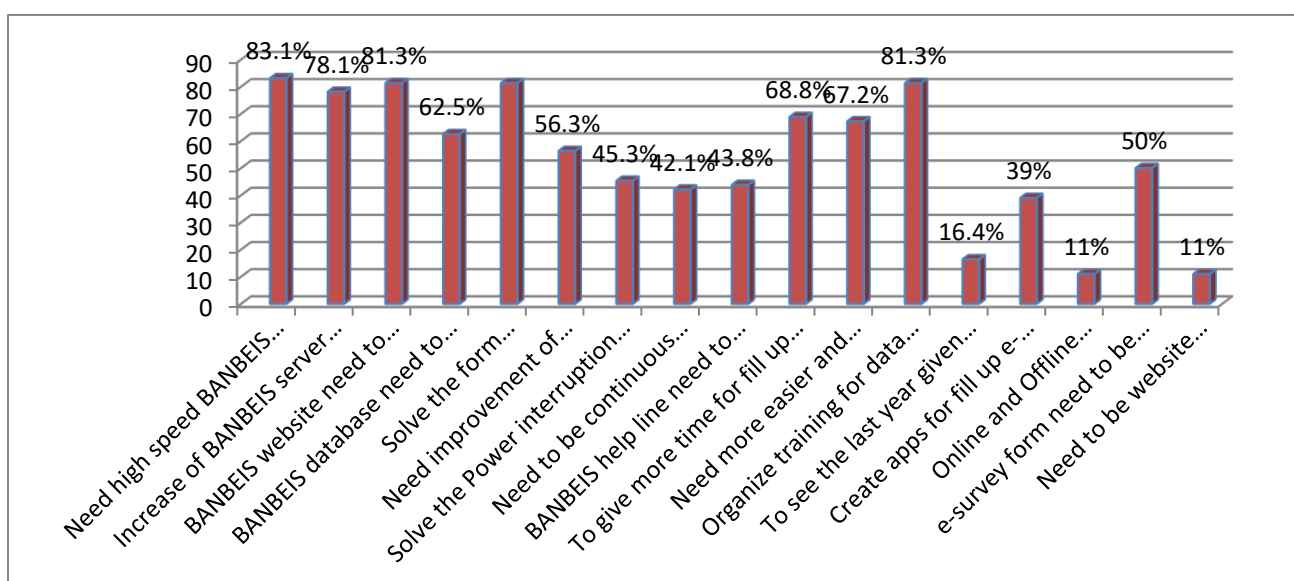
4.2.2. Analysis of the Questionnaire Interviews of Data Users:

One hundred and twenty (120) data users/respondents have been interviewed from 8 Divisions of Bangladesh. The collected data are as follows.

A. General Location of Data Users:

The data users/respondents are categorized by various general locations. Table 2.1 and Figure 2.1.1 show the category and location with percentage. 13.3% of respondents are from upazila town, 26.7% of respondent are from district town and 60% of respondents are from divisional town. A major portion of data users (60%) live in the divisional towns.

Table: 2.1 General Locations of the Data Users:

SI	General Location	Respondent No.	Percentage (%)
1	Village	0	
2	Upazilla Town	16	13.3
3	District Town	32	26.7
4	City Corporation	-	-
5	Divisional Town	72	60.0
	Total	**120**	**100**

Figure: 2.1.1 General Location of the Data User:
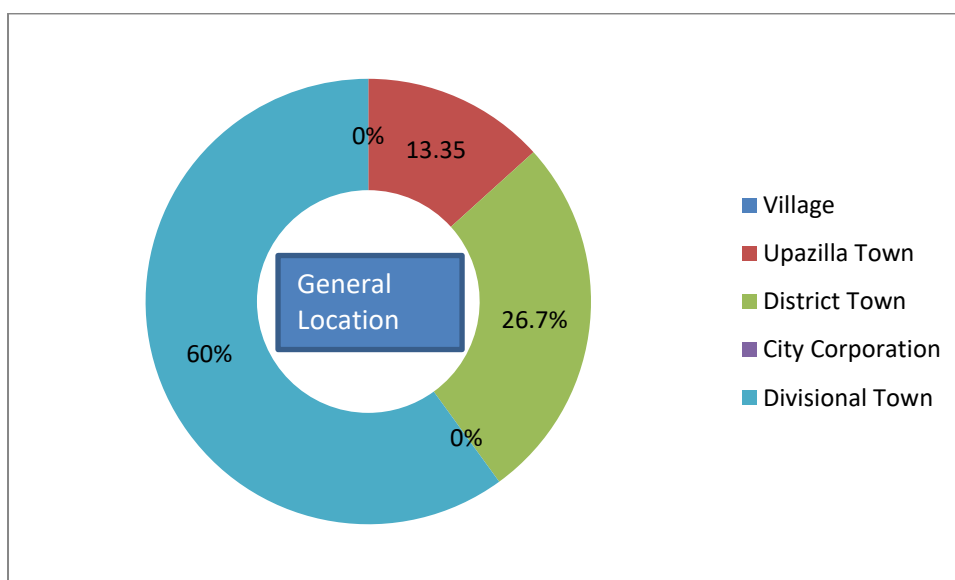
B. Geographical Location of the Data Users:

The data users / respondents are categorized by various geographical locations. Table 2.2 and Figure 2.2.1 show the geographical location of the respondents with percentage. 5% are from hill areas, 5% are from coastal area, 80% are from plain land, 5% are from haor area and 5% are from char area. The data shows that a major portion of data users (80%) live in plain land area.

Table: 2.1 Geographical Location of the Data User:

SI	Geographical location	Respondent No.	Percentage (%)
1	Hill tracts	6	5.0
2	Costal area	6	5.0
3	Plain land / Flat area	96	80.0

4	Hoar area	6	5.0
5	Char area	6	5.0
6	Slum area	-	-
	Total	**120**	**100**

Figure: 2.1.1 Geographical Location of the Data User:
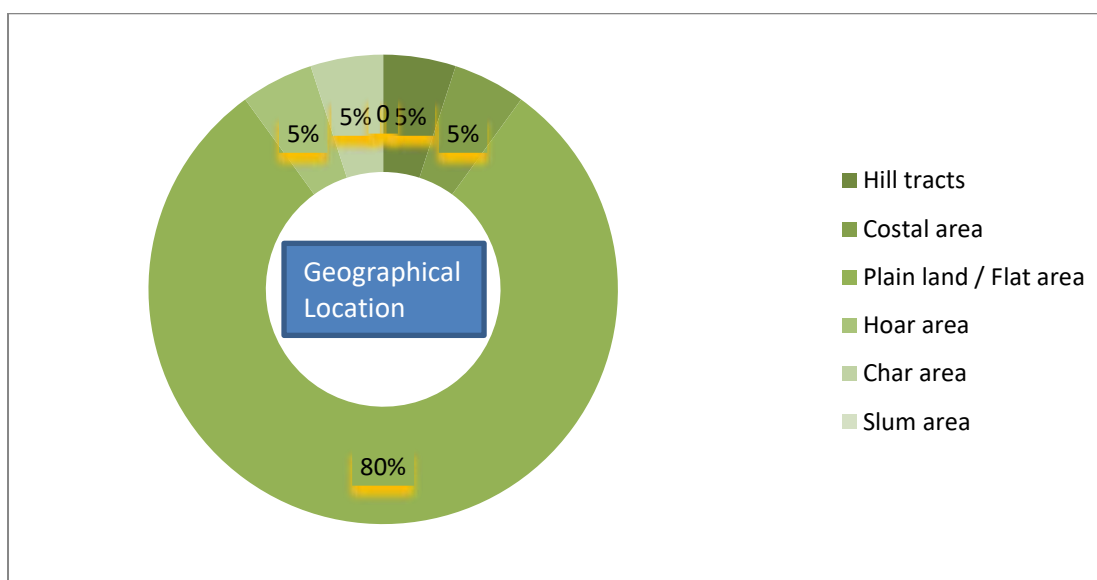
C. **Educational Qualification of the Respondent:**

A total of 120 respondents have interviewed for their educational qualification. Table 2.3 and Figure 2.3.1 show the educational qualification / educational level of the data users / respondents. 0.8% are PhD holder, 1.7% are MPhil/PhD student, 74.2% are Master degree holder and 23.3% are graduate. A major portion of them (74.2 %) are master degree holders. Nobody is found SSC or HSC level of education.

Table: 2.3 Educational Qualification of the Respondent:

Sl	Respondent Educational Qualification	Respondent No.	Percentage %
1	PhD	1	0.8

2	M.Phil/PhD Student	2	1.7
3	Masters/Equivalent	89	74.2
4	Graduate/Equivalent	28	23.3
5	HSC/Equivalent	-	-
6	SSC/Equivalent	-	-
7	Others	-	-
	Total	**120**	**100**

Figure: 2.3.1 Educational Qualification of the Respondent:
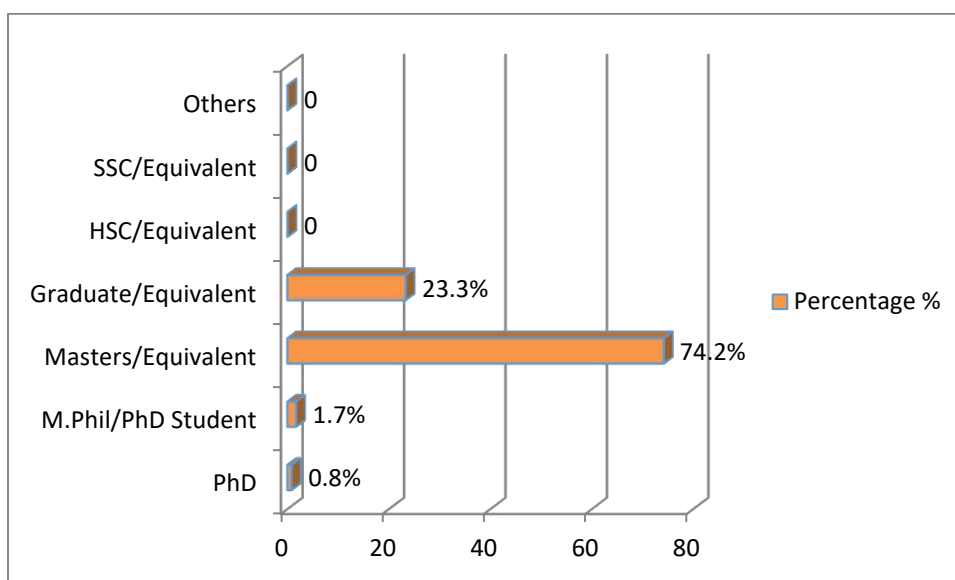
D. Information services taken from the BANBEIS database?

Table 2.4 and Figure 2.4.1 show the information service taken from the BANBEIS. 100% of respondent are taken services of that database. Actually we have collected data only from the database users of BANBEIS.

Table-2.4: Information/ information services taken from the BANBEIS database:

SI	Information services taken from the BANBEIS	Respondent No	Percent (%)
1	Yes	120	100
2	No	-	-
3	Others	-	-
	Total	**120**	**100**

Figure-2. 4.1: Information services taken from the BANBEIS database:
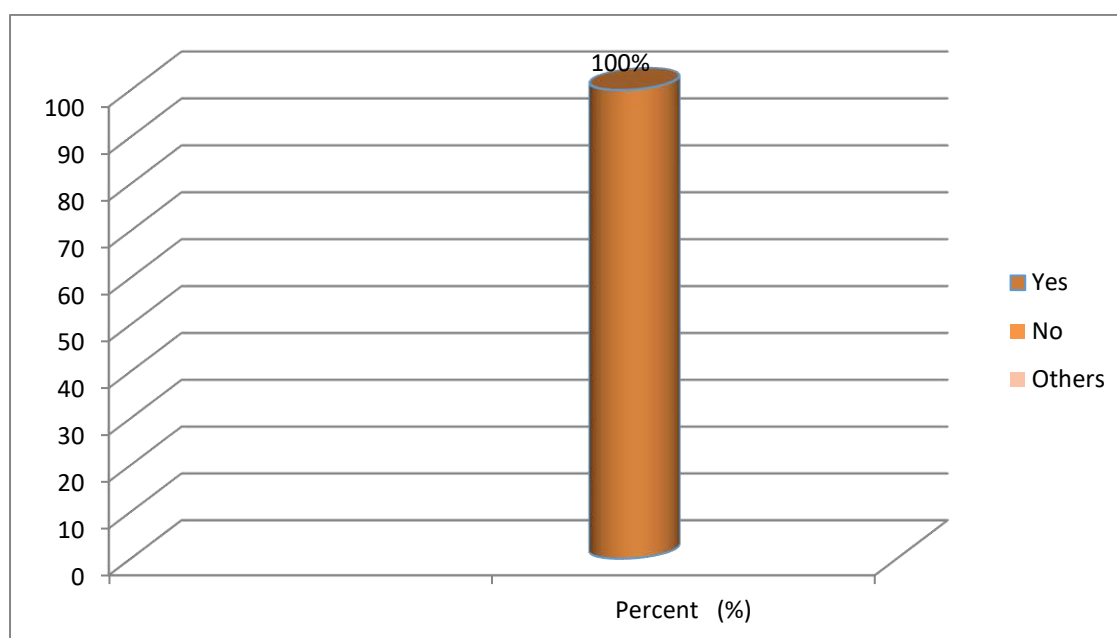
E. Type of information services taken by the User

A total of 120 respondents/data users have been interviewed for this purpose. Table 2.5 and Figure 2.5.1 show the kind of services taken from the BANBEIS database. Same respondent has given many/multiple answers. Online EIIN service taken 81.7%, School Mapping 69.2%, Digital Library service 17.5%, e-book service 93.3%, Foreign scholarship application 6.7% and research information 53.3%.

Table-2.5: Type of information services taken by the User:

SI.	Type of information services	Respondent No	Percentage (%)
1	Online EIIN	98	81.7
2	Educating GIS Map (School Maping)	83	69.2
3	Digital Library	21	17.5
4	e-book & e-paper clipping	112	93.3
5	Foreign scholarship application	8	6.7

6	Research Information	64	53.3
7	Others		
	Total		

(Note- Multiple answer by the data user)

Figure-2.5.1: Type of information services taken by the User:
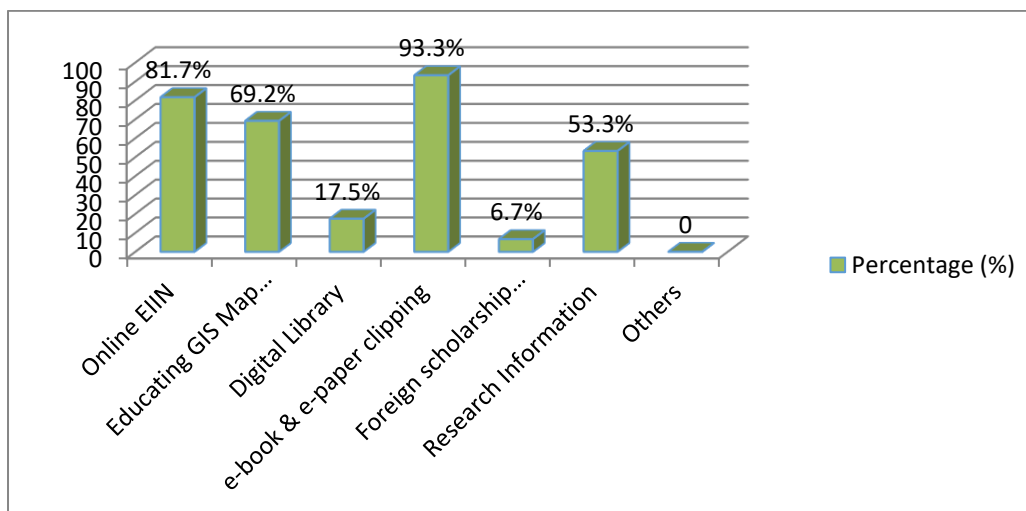
F. **Way of information collection by the user**

User use different ways to collect information from the BANBASE database. Table 2.6 and Figure 2.6.1 show the ways to collect data from BANBEIS with percentage. Same respondent use different ways to collect information. So they have given multiple answers. A major part of the respondent has respond that they visit BANSEIS website (86.6%); Use digital library 17.5%, online interactive database 29.2%, e-mail 39.2%, hard copy of documents 55.8%, BANBEIS Publication 9.2% etc.

Table-2.6: Medium of information services taken by the user from the BANBEIS:

SL	Medium of information services	Respondent No	Percentage (%)
1	BANBEIS Website Visit	104	86.6
2	Digital library	21	17.5
3	By online interactive database	35	29.2
4	e-mail	47	39.2
5	Hard copy documents	67	55.8
6	BANBEIS Publication	11	9.2
7	Others	-	-

(Note-Multiple answers by the data user)

Figure-2.6.1: Medium of information services taken by the user from the BANBEIS:
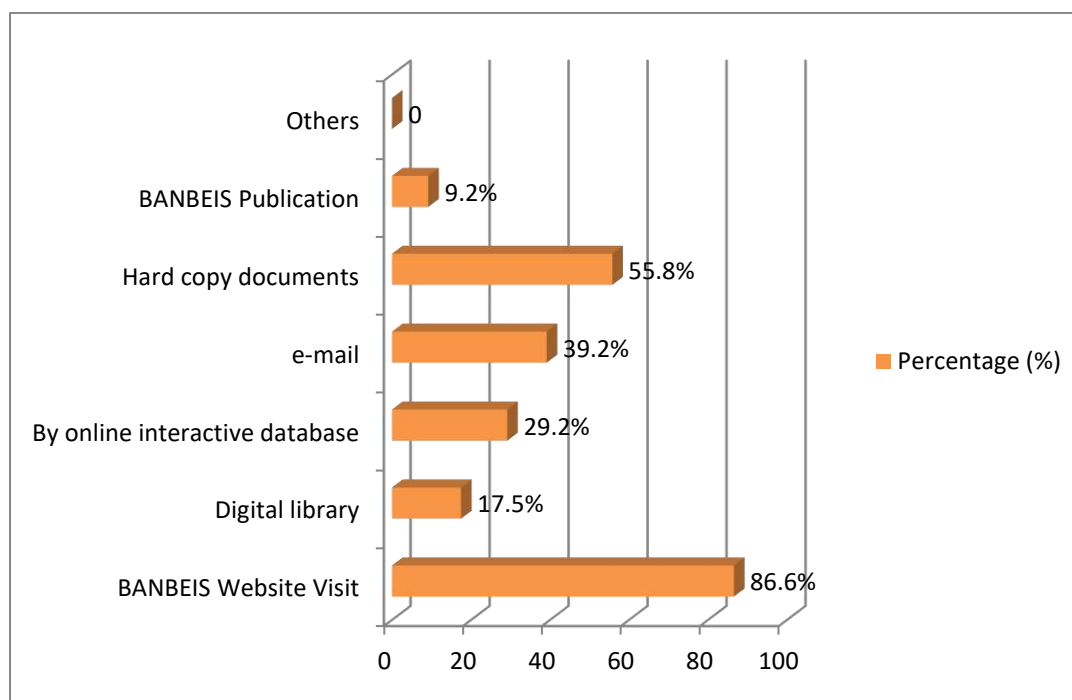
G. **Necessary information found in the BANBEIS database?**

Table 2.7 and Figure 2.7.1 show the availability of necessary information inside BANBEIS database. 73.3% respondents have found necessary information inside the BANBEIS database. Only 26.7% of respondents can not fulfill their need properly.

Table-2.7: All necessary information found from the BANBEIS database:

SI	Necessary information found from the BANBEIS	Respondent No	Percent (%)
1	Yes	88	73.3
2	No	32	26.7
3	Others	-	-

	Total	120	100

Figure-2.7.1: All necessary information found from the BANBEIS database:
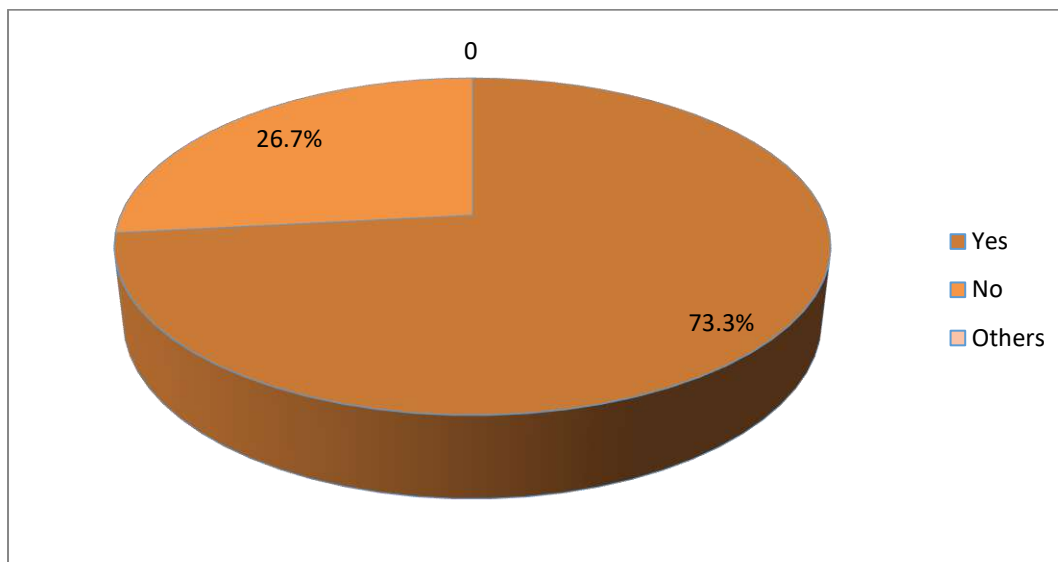
H. Additional written information taken by the user outside the BANBEIS Database's website

Table 2.8 and Figure 2.8.1 show the additional information taken without BANBEIS data base. About 44.2% respondents have said YES ,that means they have taken the additional information. 55.8 % respondents have respond NO, that means they have not taken any additional data without BANBEIS database.

Table-2.8: Additional written information taken by the user outside the BANBEIS Database's website:

SI	Additional written information taken by the user outside the BANBEIS	Respondent No	Percent (%)
1	Yes	53	44.2
2	No	67	55.8
3	Others		
	Total	120	100

Figure-2.8.1: Additional written information taken by the user outside the BANBEIS Database's website
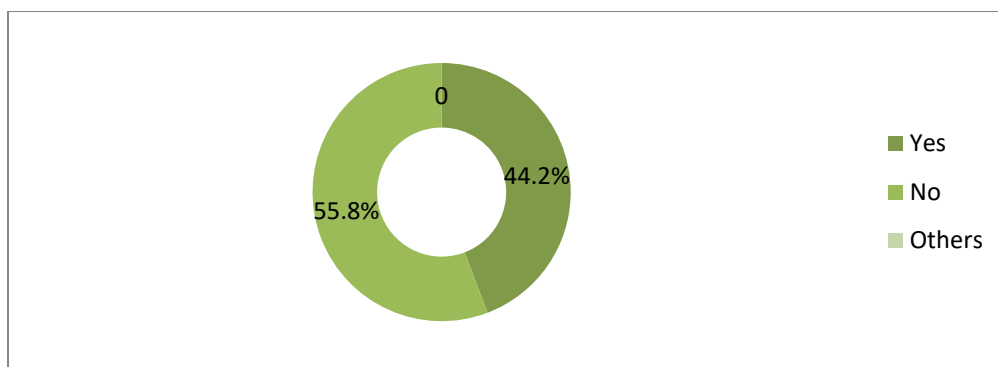
I. Friendly user of BANBEIS Website

Table 2.9 and Figure 2.9.1 Show the respondents' opinion about the friendly user of BANBEIS website. About 76.7% of respondents respond YES and 23.3% respond NO. So, majority of the respondent have commented as friendly user website.

Table-2.9: Friendly user of BANBEIS Website:

SI	Person	Respondent No	Percent (%)
1	Yes	92	76.7
2	No	28	23.3
	Total	**120**	**100**

Figure-2.9.1: Friendly user of BANBEIS Website:
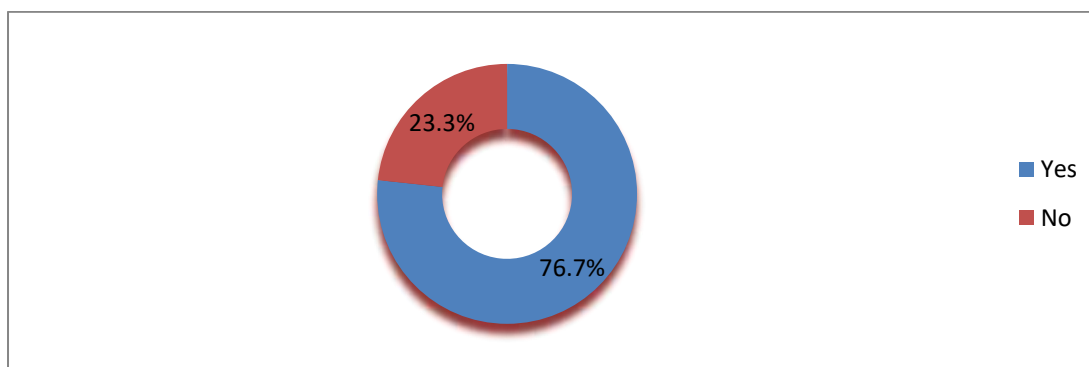
J. Website work properly to take information from the BANBEIS database.

Table 2.10 and Figure 2.10.1 show that, about 72.5% of respondents respond YES about the properly work of BANSEIS website. Only 27.5% respond NO, that they think BANBEIS website are not working properly.

Table-2.10: Taken information from the BANBEIS, website work properly:

SI	Taken information from the BANBEIS, website work properly	Respondent No	Percent (%)

1	Yes	87	72.5
2	No	33	27.5
3	Others	-	0
	Total	**120**	**100**

Figure-2.10.1: Taken information from the BANBEIS, website work properly:
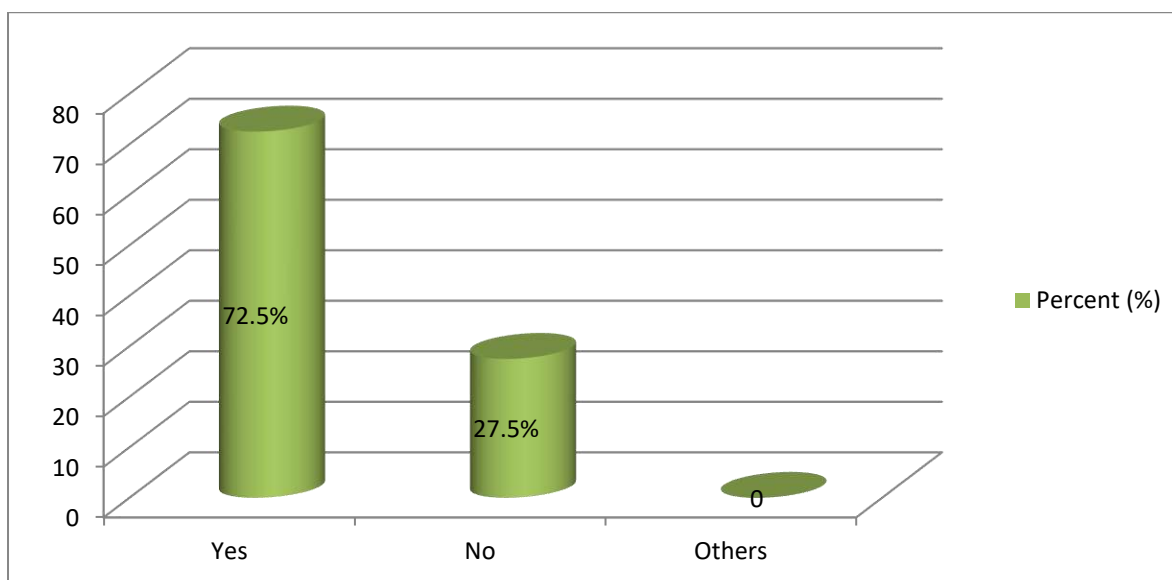

K. User satisfaction level of BANBEIS website user

Table 2.11 1nd Figure 2.11.1 show the satisfaction level of BANBEIS database use. Nobody was found highly satisfied. But about 69.2% of respondents are satisfied and 30.8% are moderately satisfied.

Table-2.11: Satisfaction level uses of BANBEIS Website:

SI	User satisfaction level	Respondent No	Percent (%)
1	Highly satisfied	-	-
2	Satisfied	83	69.2
3	Moderately/Poorly satisfied	37	30.8
4	Not satisfied	-	-
	Total	**120**	**100**

Figure-2.11.1 Satisfaction level uses of BANBEIS Website
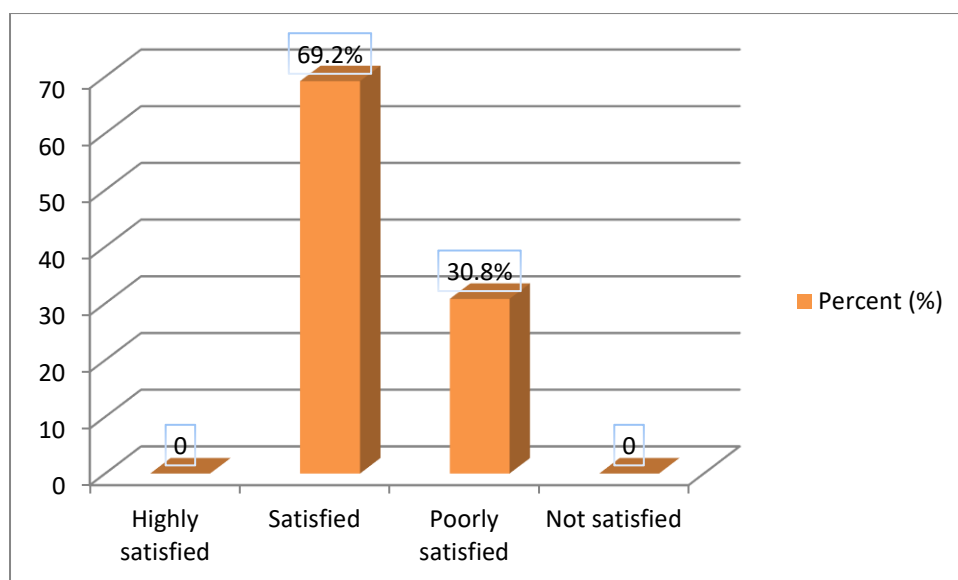
A. Opinions/Recommendations for making BANBEIS website easier / standard

Table 2.12 and Figure 2.12.1 show the several recommendations for making the BANBEIS website easier / standard. Single respondent has answered multiple answers. We can collect recommendation from this table.

Table-2.12: Opinions/Recommendations for making the BANBEIS (www.banbeis.gov.bd) website easier to use by the data supplier:

SI	Recommendation by the Data User	Respondent No	Percent (%)
1	BANBEIS database need to be more systematic with rich of information	109	90.8
2	Need updated information in the content	103	85.8
3	Information needs to be sorted in such a way that it can be found quickly	99	82.5
4	BANBEIS website need to be more modernize, standard and faster	103	85.8
5	Web page need to be eye-catching and modern.	101	84.2
6	Solve the download/upload problem	76	63.3
7	Need improvement of Network system	20	16.7
8	BANBEIS help line need to be more standard	83	69.2
9	In BANBEIS Website Educational Institution list like Upazila, District, in this way give separately, then everyone can easily find information from their website	79	65.8
10	Need to be website Interface more attractive	42	35.0

11	User manual can be more easier	35	29.2
12	BANBEIS website need to be more informational	47	39.2
	Total		

(Note: Multiple Answers by the Data Users)

Figure-2.12.1: Recommendations for making the BANBEIS (www.banbeis.gov.bd) website easier to use by the data supplier:
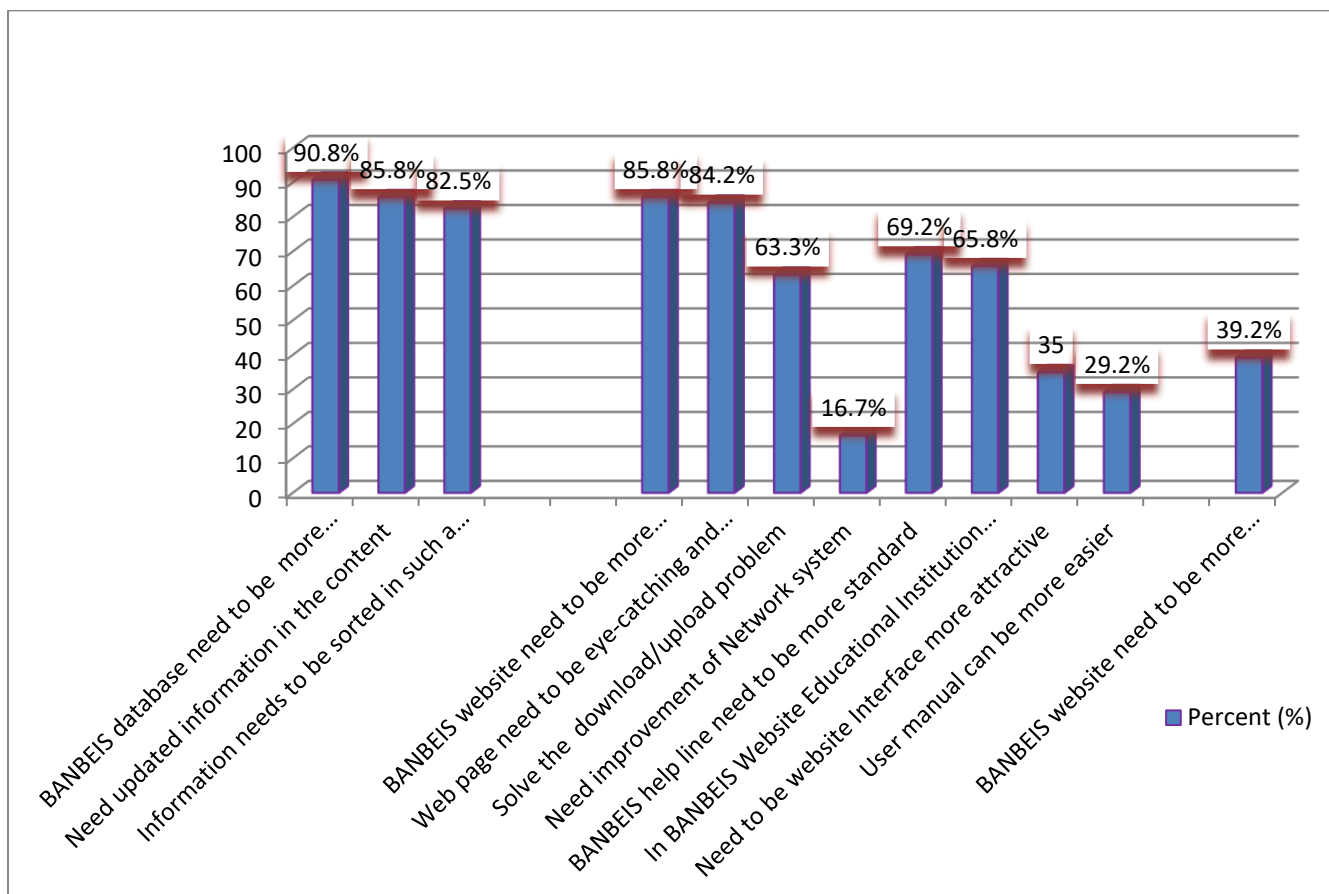
4.3. Focus Group Discussion (FGD):

A total of 24 FGDs were conducted properly in the study fields. Summary of FGDs are given bellow.

Summary of FGD:

The opinions of major respondents about the current status of BANBEIS database is not promising and also has mixed reaction. Some of respondents say that the current status of the BANBEIS database is good and they are quite happy with the present situation and others express their opinion like- database information is not enough and systematic, website is not standard, server problem etc. They have high

expectation about the service of BANBEIS database than the present. All they have mentioned that the BANBEIS database has been providing service since a long without any up gradation.

Regarding the adequacy of BANBEIS's database, most of the respondents have said that the database is adequate but it is difficult to find apps to use and it seems to be very complicated. The data providers have said that the same question is required again and again by the website, when they use it. The data base has access but the required information cannot be found available.

For a comment on an issue that, "the data providers and data users can be taken information service properly from the BANBEIS database". The respondents comment that the data users are slight happy, but the data provider teachers are not satisfied.

For a comment on an issue of "satisfaction level" on the information service of the BANBEIS. A major part of the respondents are poorly satisfied about the information service of BENBEIS. They comments that the content of the database are not fulfill with adequate information. The database information are comparatively hard and answers of the questions are not found available. It should be standard with modern age.

The respondents' opinion about 'satisfaction level' is mixed. BANBEIS information services. Some of respondents told that they are satisfied and some of respondents told, they are moderately satisfied about BANBEIS database.. There is also a network problem, they are satisfied considering the overall aspect.

Respondents everyone has said about the easy availability of BANBEIS information, the purpose of BANBEIS is good, BANBEIS wants to provide service but due to the complexity of the server there is a problem to get the service.

Respondent said that they do not know the strengths of BANBEIS but the weak point is that the website information is not full, the information is very complex, the network is not available, this web information is not suitable in the digital age. There is a problem in sorting the required information even if excess is found, not all the information in the table of contents is in structured.

4.4. Key Informant Interview (KII)

A total of 48 KII were conducted in the study field, KII summary is given bellow.

Summary:

Key Informant Interviews have been conducted with 48 "key informants" people who are experts in certain areas related to service delivery, Officials of Education Departments, Head of Educational Institutions, NGOs and INGOs professionals, Researchers and other concerning people.

The opinions of 'key informants' about the 'present situation' of BANBEIS database and information services are not so good. It has also mixed reaction. Some of respondents say that the current status of the BANBEIS information service is good. Most of the data are available in the database and some data are provided by BANBEIS officials, request then by a written letter. The opinions of some other informants are, 'administrative data', online survey systems quality is good but it should be needed to more improve.

The opinions about the adequacy of information in the BANBEIS database are that, it is adequate but it should be needed to be more adequate and informational. The socio-economic information of the teachers should be included in the e-survey form of BANBEIS.

The opinions on 'properly use and receive' the BANBEIS database services by the data providers and data users are, some respondents say, services are good but need to be more improved. Sometime data/information is not available. In this situation data are provided after receiving a request letter.

The opinion on 'the satisfaction' of BANBEIS database / information services are, some of the respondents say moderately satisfied, some other respondents say satisfied. But nobody say highly satisfied and they comments that the information service should be more modernize.

The opinions on 'easy accesses of BANBEIS database' are – It is easy to access but it should be developed according to the need.

The opinions on the 'strengthens' of the BANBEIS database / information services are – Big information database, available manpower, available infrastructure, available internet servers etc. Weaknesses of the BANBEIS database are - e-survey form is very big and lengthy, server problems: not to work speedily, digital library has no details information for use, publications site has trouble to use. Foreign training and foreign scholarship button are not used properly. Much important information is available inside in the miscellaneous option. It should be clear and keep under another main headed button etc.

The opinions and the recommendations for the improvement of BANBEIS database / data services are- BANBEIS database should be 'open database'; Detail data of students should include in the e-survey form;
A comprehensive law should be included for data, preservation and supplies; It should be an effective help desk; Increasing the knowledge of the teachers by providing training to use the BANBEIS database; Increase the power of BANBEIS server and internet speed; Duplication of e-survey form's information should be controlled for same student/teacher/institute of previous year; Data center can be increased; More blade server should be added with the present BANBEIS database; Internet bandwidth should be increased; Predicated raid enabled storage should be perched; Data should be arranged category wise for the easy / friendly use of the data users.

4.5. Observation and Consultation on BANBEIS database:

The present BANBEIS database and website has directly observed by the researchers and the expert persons who usually use it and well known about it. The findings are described detail in the *Finding Chapter* (**Chapter- 5, headed 5.3**). The consultation sessions have been conducted with the expert persons like: Senior Systems Analyst and Examination Evaluation Specialist of the Board of Intermediate and Secondary Education, Dhaka; Senior System Analyst, Bangladesh Madrasah Education Board,

Dhaka; Director and Deputy Director of NGOs; Program Officer of UNESCO Dhaka; Professors of Dhaka University and Jashore University of Science and Technology (JUST), Jashore and some IT Experts and Programmers. A total of 12 expert persons have been consulted about the present status of the database and website of BANBEIS. Important comments and recommendations have been taken and broadly described it in the *Recommendation Chapter* (**Chapter – 6**). The list of the persons who have attended in the consultation session has attached in the *Annexure Chapter* (**Annex: 4**).

CHAPTER-5

FINDINGS FROM THE ANALYSIS

5.1. Findings from the Interviews of Data Providers:

a. **Location of the Institutions (General and Geographical):** Data have been collected from the institutions of rural and urban areas like village, upazila towns, district towns and divisional towns. And also been covered the Hill area, Coastal area, Plain land area, Haor area, Char area and Slum area. So, data collection have been covered all type of areas of Bangladesh as per sample.

b. **Educational Levels/ Categories of the Respondents:** The respondents, who have provided data/information to the BANBEIS, are divided in different educational levels like PhD, MPhil/PhD student, Masters/equivalent, Graduate/equivalent, HSC, SSC and other. It has been found that major respondents are Master degree holder (87%) and 13% are Graduate. Nobody is found PhD holder.

c. **Way of transferring data to BANBEIS:** e-survey form, e-mail and manual/hard copies are considered as the way of transferring data to BANBEIS for this study. It has been shown that 95.8% of respondents use e-survey form, 3% use e-mail and only 1.2% of respondents manually / hard copy transfers the data to BANBEIS.

d. **Respondents' role to make contents / questions of e-survey form of BANBEIS:** It has been shown that 93.5% respondents have answered 'no' or not any role about this matter. Only 6.5% respondent have answered 'yes'. So, it is clear that the major part of respondents have not any role to make any contents/question of e-survey form of the BANBEIS.

e. **Time spending for fill-up e-survey form of BANBEIS:** e-survey form provided for collecting various information of the educational institutes have filled by the concerning persons of those educational institutes. A major part of the respondents 31.7% have spent 07 days or more to fill-up that form. So, it is clearly shown that the e-survey form fill-up takes a long time.

f. **E-survey form of BANBEIS filled by own (Principal/Head of the Institution)?** It has been shown that Show that a major part of the respondent 63.6% filled up the e-survey form by him (own) and a few parts 36.4 % of respondent fill-up e-survey by other person like- office assistants, computer operators, teachers and professors.

g. **Adequacy of information in the e-survey form.** It has been found that the major portion of respondents 87.2% respond that the Information of the e-survey form is sufficient and only 12.8% respondent respond 'no' that the information is not sufficient.

h. *Difficulties to provide information to the server of BANBEIS:* Total 640 respondents have been interviewed about the difficulties of the server /database of BANBEIS. It has been shown that different kinds of problems like- *slow network, no network, form download and upload problem, power interruption, IT security problem and software not standard. Multiple answers have answered by the same respondents.*

i. **Opinions provided by the data suppliers for making the BANBEIS database and website (www.banbeis.gov.bd) easier / standard:** Various kinds of recommendations have been found to make upgrade / standard of the BANBEIS database. BANBEIS database need to more systematic with rich of information. Updated server like- Need high speed BANBEIS server; Increase of BANBEIS server bandwidth and hosting; BANBEIS website need to me more modernize, standard and faster; Solve the form download/upload problem; Need improvement of Network system; Solve the Power interruption problem; Need to be continuous power support while fill up e survey form; BANBEIS help line need to be more standard; To give more time for fill up e survey form; Need more easier and shortening of e-survey form; Organize training for data supplier; To see the last year given information in the website and easy to download; Create

apps for fill up e-survey form by the mobile basically for rural data supplier; Online and Offline information in the form need to be same; e-survey form need to be more standard and shorter; Need to be website Interface more attractive.

5.2. Findings from the Interview of Data User:

a. **Type of information services taken by the User:** It has been shown that many kinds of services taken from the BANBEIS database. I.e. Online EIIN, Educating GIS Map (School Mapping), Digital library, e-book & e-paper clipping, Foreign scholarship application, Research Information and Others.

b. **Necessary information found in the BANBEIS database:** It has been shown that the availability of necessary information inside BANBEIS database is good. About 73.3% respondents found necessary information inside the BANBEIS database. Only 26.7% respondents have not found necessary information.

c. **Friendly user of BANBEIS Website:** It has been shown that the respondents opinion about the friendly user of BANBEIS website. About 76.7% of respondents respond 'yes' and 23.3% respond 'no'.

d. **BANBEIS website work properly to take information :** It has been shown from the interview that about 72.5% of respondents respond 'yes' about the properly work of BANSEIS website and 27.5% respond 'no'.

e. **User satisfaction level of BANBEIS website users:** From the interview, the satisfaction level of BANBEIS database use- Nobody is found highly satisfied. But about 69.2% of respondents are satisfied and 30.8% are moderately satisfied.

f. **Opinions provided by the data users for making BANBEIS website easier / standard:** Several respondents/users told that BANBEIS database need to be more systematic with rich of information; BANBEIS website need to be more modernized, standard, eye-catching and faster and need to be updated information in the content. Information needs to be sorted in such a way that it can be found quickly. BANBEIS server need to be more updated. It should be solved the download/upload problems; Need improvement of network system and BANBEIS helpline need to be more standard. In BANBEIS Website Educational Institutions list like Upazila list, District list should give separately, then everyone can easily find information from their website. BANBEIS website interface needs to be more attractive. User manual can be easier and BANBEIS website needs to be more informational.

5.3: Findings from Observation and Consultation on Present Database of BANBEIS:

From the present database of BANBEIS, we can see that the database shows the data/information through a list of options/menus. The menus are "List of Officials, Online MPO Application, Education Survey 2021, IEIMS, Online EIIN, Institute Search, UITRCE, Research, Personal Data Sheet, In-house Training, Contact, and Feedback' and also other menus and sub-menus.

Picture: BANBEIS existing website's home page

The menus and sub-menus are filled with various kinds of information related with the education, survey, education statistics, research/study and educational system of Bangladesh. Anybody can collect information from it any time according to their need. The menus "List of Officials, Online MPO Application, Education Survey 2021, IEIMS, Online EIIN and Institute Search" are provide information on administration and management of BANBEIS. UITRCE provides information on Upazila ICT Training and Resource. Some of those menus is easier and clear to use. Some other are not smooth and clear and make several difficulties to use and collect information. Findings from the following Menus/ Buttons of the database are describing bellow:

a.List of Official: List of all officers of the office of the Director General, Admin, Statistics, Documentation-Libraries-Publication, ICT and UITRCE sections are available under this menu.

Contract number and email IDs of all officials are included here. This is good with full of necessary information.

b.Online MPO Application: Online MPO application has two wings: 1. Secondary and Higher Education Division and 2. Technical and Madrasa Education Division. Application form for MPO is available in this menu for the use of two types of institutions

c. **Education Survey 2021:** Under this menu, two sub-menus like- Survey Server and Survey Form are available there. Under sub-menu Survey Server: Education Survey Log In by EIIN and Password, Time of Survey, Survey Guideline and Contract information are available there. And under the sub menu 'Survey Form' information on Annual survey form 2021, Survey guideline and Letter of survey also find there. Everything under this menu is working properly.

d. **IEIMS:** Under the menu, 'Establishment of Integrated Educational Information Management System (IEIMS)', there are two sub menus named- 1. Data Submission, and 2. Form and Letter. Under sub menu Data Submission – 'Unique ID, Live Server, Training Server, CRVS Admin and CRVS Student Profile' are working properly. Under the sub menu Form and Letter - 'Student profile form, Video tutorial, Manual and Letter of student profile' sub-buttons are working properly but 'Education ERP (EMIS) and IEIMS report' sub buttons are not working.

e. **EIIN:** Under the menu 'Educational Institute Identification Number (EIIN)', Institute tracking, Admin logging, Feedback form, online EIIN application form, Annual Education Institution Survey Form, online EIIN guidelines and contact are working properly with full of necessary information.

f. **Institute Search:** Under this menu institute search are available by putting the EIIN Code and institute information is available there.

g. **UITRCE:** Upazila ICT Training and Resource Centre for Education (UITRCE) is a project of BANBEIS. The project is selected in 125 Upazilas in Bangladesh and approved by ECNEC. A separate database is available under this menu and many kinds of data of this project are available there.

h. **Research:** Under the menu 'Research' there are two sub-menus like BANBEIS Research and Higher Research. There is no research methodology or research guideline under this menu.

I. BANBEIS Research: Many study reports have been uploaded in this menu from the year 2008 to 2017. But these reports are very short. Only introduction, objectives methodology, findings and recommendation chapters are describe very shortly within 2-4 pages. No research reports are available there for the year of 2018, 2019, 2020 and 2021.

II. Higher Research / Advanced Research: Advanced Research in Education (**GARE) application form** is available in this sub-menu. Several researches have been done under this grant. From telephonic consultation with the researchers, we know that they have received their research grant properly in time and completed their research. Many advanced research reports of the year (2010-2013), (2013-2015), (2015 -2016), (2016-2017) are available in this sub-menu. Lists of the ongoing research projects and name of researchers have found there.

i. Personal Data Sheet (PDS): In the Personal Data Sheet, necessary information is available there. In the sub-menu 'employee login' there is an option of user name and password provides to use it.

j. **In-house Training :** There is no information in this menu

k. **Contact:** In this menu, there is only one phone number; one fax number and one e-mail ID are available.

l. **Feedback:** In the feedback menu there is a feedback format. Anybody can submit his feedback, comments through this format.

m. **Notice Board:** In this menu necessary notices are available there. The notice are sorted clear in this notice board,

n. **About Us:** In this menu, there are some sub-menus like 1. History and Functions, 2. Organogram, 3. Officers, 4. Contact. Everything are well decorated and information are available there,

o. **Citizen's Charter:** Information is available in the sub-menu – citizen charter and acts/rules. But there are no information in the sub-menus 'monitoring committee' and 'quarterly and annual evaluation report'. So, the information is not sufficient.

p. **Complaints & Remedy:** Adequate information are available in the sub-menus – Rules & Guidelines and Complain & Remedy Form; under the main menu 'Complaints & Remedy'.

q. **Annual Performance Agreement (APA):** APA guideline. Agreements, Monitoring and Evaluation report and Annual report are available there.

r. **Rights to Information:** Two names of Information Officers are available there. But there is no information in the sub-menus – Information Application form and Law & Rules.

s. **National Integrity Technique (NIS):** Adequate data are available in the sub-menus - NIS work plan 2021-22, Committee, Best Practice, 4th quarter evaluation, under the main menu NIS. These are good.

t. **Innovation Works:** Data are available in the sub-menus- Innovation Team and Meeting minutes, E-Governance and Innovation Work plan, Minutes/Office Order/Circular and Innovation Plans. These are good. Spelling mistake is seen 'innovation' (as *inovation)*.

u. **Educational Institutions Information**: List of School, School and college and College are available in this menu. These are well formatted.

v. **Sustainable Development Goals (SDG):** Human Development Index is available with adequate information in this menu. But National Indicator Framework is not available there. Information about indicators of SDG goals is not included in any place of this database.

w. **Library Service:** Under library menu, digital library sub-menu is not work properly. No option is for creating logging panel. In sub-button 'advanced search' is working properly. Several names of books are available there, searched by 'keyword' subject, title, author, publisher etc. Sub-button 'Catalog Search' works properly. Name of books are available in catalog search by using name of author, ISBN, ISSN etc. But the problem is that no option is available to download the book or read detail of books from the library service. So the library service cannot help the

BANBEIS database user for library service. Spelling mistake is seen in this menu "library' (*as laibrary).*

x. **E-documentation:** Several information/data are available in this menu and sub-menu- E-book Center like- Education Commission Report; Directory; Educational Statistics; Educational System of Bangladesh; Survey Report; Research Report; Miscellaneous etc. This section is very rich for necessary information about Bangladesh and Undivided Bengal from last century to present. But more data/information is gathered in one place and these create difficulties to collect targeted information and take enough time. Dynamic search option should be added for user friendly search. Sub-menu e-news clip is not responding.

y. **Publication:** Under the main menu, there are some sub-menus like - Annual publications, Others publication, Reports, list of publications etc. These sub-menus are filled with adequate information/data like- list of annual publication, other publication and reports.

z. **Training/Foreign Scholarship:** This menu is linked with the database of Ministry of Education. News of training and scholarships are available found there. This process is good.

iii. Findings from UNESCO staff/team Dhaka:

About BANBEIS database and Website: 'About Us' menu: Organogram, Staff list etc. may come as sub-components. 'What We Do' menu: Surveys, studies, researches, in-house trainings may come as sub-Components. 'Where We Work' menu: Online EIIN, Institute search etc. may come as sub-components Policy/Law/Strategy. Project (IEIMS, CapqED may come as sub-components). Data report (Education, Science, ICT, HCI etc. data report links of current and previous years may available here). Publication (Link of publications – studies/researches/trainings reports may available here)SDGs: SDGs/SDG4/e-9 corner (SDGs/4 documents, SDG Tracker info. etc. may add here). e-Services (Personal Data Sheet etc. may come as sub-components). Partner (UNESCO/UIS, ADB, WB etc. may put here) Gallery, Resource, Join us (Career/Job opportunity, Procurement, Fellowship, Internship etc. may come as sub-Componen, Opinion/Feedback etc. Golden Jubilee of Independence corner should be incorporated here.

5.4. Compare with the Objectives of Study and the Study Findings / Result:

Sl.	Study Objective	Finding / Result
1	Identify key stakeholders of BANBEIS database, both demand (user of data) and supply side (providers of data)	Key stakeholders of BANBEIS database, both the data supplier and the data users have been identified and selected for the study. It has been clearly described in the methodology chapter of the study.
2	Take stock of current status of educational data provided by BANBEIS and how stakeholders can get better access to the BANBEIS database	BANBEIS database and BANBEIS website have been directly observed. Stock of current of educational data provided by BANBEIS cannot fulfill the need of the stakeholders properly. Necessary steps should be taken according to study findings and recommendations.
3	Understand the current level of satisfaction and desired level of satisfaction of the stakeholders	About 69.2% of stakeholders are satisfied and 30.8% are moderately satisfied. Nobody is found highly satisfied.
4	Identify key challenges faced by stakeholders	Detail described in the findings / Result chapter.

5	Explore possible alternative course of action BANBEIS could pursue.	Detail described in the recommendation chapter.(Chapter – 6). Possible alternatives are described there.

CHAPTER -6

Recommendation & Conclusion

6.1. Recommendation:

Based on the study findings accumulated through analysis of quantitative and qualitative data on **"**Strengthening use of BANBEIS database by the Stakeholders", the following recommendations are drawn:

Recommendations are divided into two parts of this chapter like:

A. Technical Recommendations for BANBEIS database and website.

B. Overall Recommendations for BANBEIS database and website.

A. Technical Recommendations for BANBEIS database and website:

1.a. Banner Section of BANBEIS website:

Banner text (English) is not aligned. It should be responsive to different size screens.

1. b. Search Menu of Header Section:

Search Menu should make active or functional with necessary information. Thus, anybody can search necessary information from it easily. This recommendation is taken because of the "present search menu" is not working.

1.c. Menu Bar:

The menu bar should be placed in one line like the following menu bar: Several sub-menus can be added in
each menu bar.

Example:

2. Home Menu Bar:

List of officials is available inside the 'Home Menu" bar of the BANBEIS database. Another "List of Official" menu is not needed there; because both the subjects serve the same purpose.

Existing sub-menu "Citizen Charter" of the "Home Menu" is not working properly *(please see the above picture)*. There exists another "Citizen Charter" section on the landing page / home screen. So, the sub-menu "Citizen Charter" of the Home Menu should be removed.

3. List of Official Menu:

There is no filtering system to search the officials by name / mobile number. But for the better use, every table should have some basic filtering options. Such as – sort by name, search by name, email or phone number etc. Thus it can save time for searching somebody from the group of many people

4. Education Survey 2021:

Under the menu "Education Survey 2021", "View" button of 'Annual Education Survey Form' should be functional and the design can be user friendly like the following image. The present "View" button of 'Annual Education Survey Form' is inactive.

Annual Education Survey Form

- Annual Survey Form (Madrasha) view
- Annual Survey Form (School) view
- Annual Survey Form (College) view
- Annual Survey Form (School and College) view
- Annual Survey Form (Technical and Vocational) view
- Annual Survey Form (Public University) view
- Annual Survey Form (Private University) view

** Sub-menu "Survey Guideline" should have an integrated pdf viewer like other views.

5. IEIMS Menu:

- Sub-menu "Video Tutorial" should be needed an '**integrated video player**', which will be more users friendly. The present Sub-menu "Video Tutorial" is redirected to you tube.
- Sub-menu "Manual" should have an **integrated pdf viewer** like other views.
- Sub-menu "Training server" should be online. Because it re-directs to an error page.

6. Contact Menu:

- In the contact page, there should be an "option" where users can post question online and a BANBEIS representative will answer those questions within a week.

7. Contact Menu (Google Map):

- Google Map should be functional online. The existing map does not work.
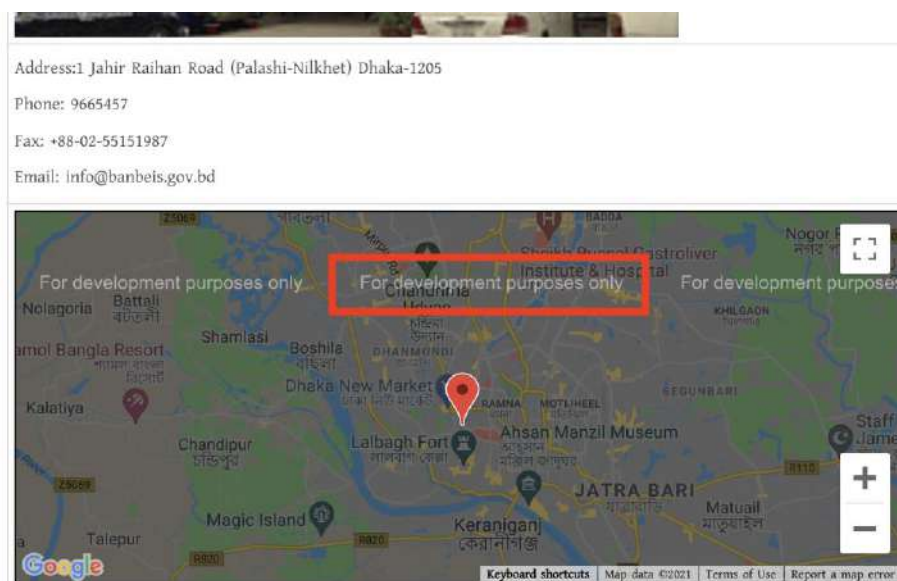
8. Reporting Dashboard:

A **Reporting Dashboard** should be added on homepage of the BANBEIS website. It will present graphical reports based on different types of statistical data of BANBEIS.

Here is an example:

9. Mujib 100:

- "Mujib 100" section should be added to the home page with necessary information inside its sub-menus.

10. E-Documentation menu:

The e-book and e-news website need to be developed with related features which should contain a rich collection of e-books, e-papers and e-journals of different categories. Search Options should be categorized by subjects. So, the users can search and read the book online easily. BANBEIS research reports should be included here with full of contents. Here is an example of e-document / e-book library:
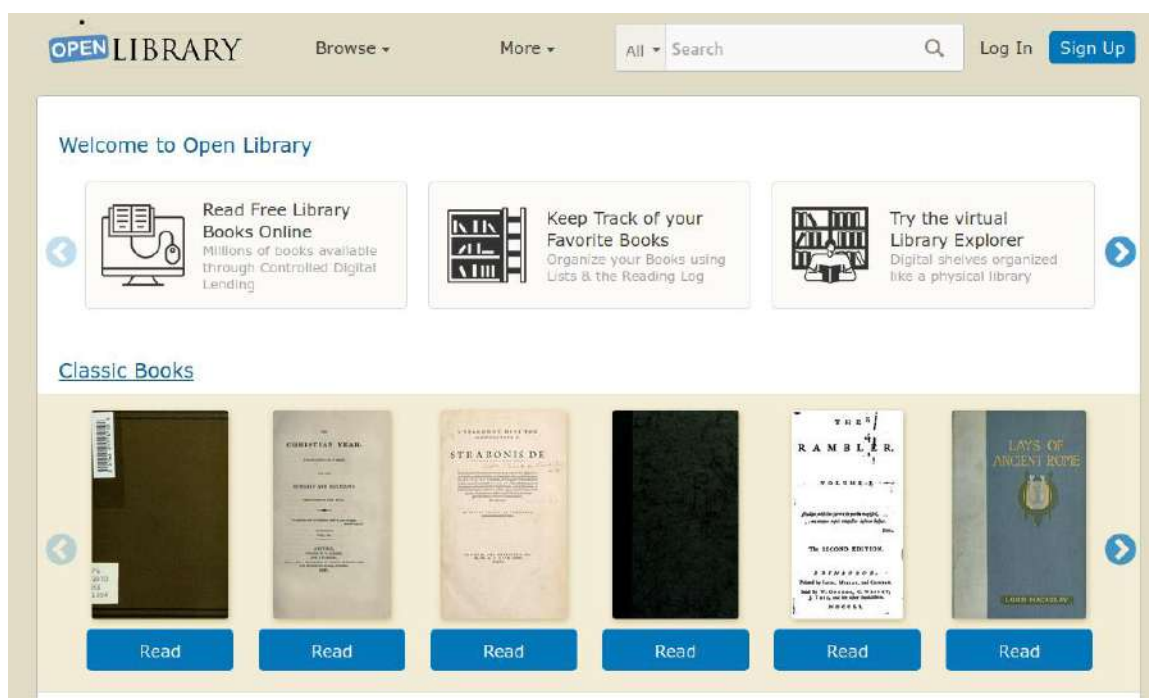
11. Publication:

List of annual publications and other publications should be included here with detail name and catalog numbers. Publications of NEAM, IER, Education Ministry and other educational institutes should be included here. Foreign e-publication can be linked here. Online buying accessibility of publications should be incorporate.

12. Recommendations from UNESCO expert team, Dhaka:

The experts of UNESCO Dhaka have recommended about the BANBEIS database and website. They have suggested for sorting the BANBEIS database and website like the following picture of main menus and sub-menus. They expect that adequate information will be available inside the sub-menus.

Bangladesh Bureau of Educational Information and Statistics (BANBEIS)

About Us		What We Do		Where We Work		Policy /Law /Strategy		Project		Reports		Publications
- General Description - Organogram - Staff List		- Survey / Study - Research - In house training - Online EIIN		- Institution search area				- IEIMS - CapqED		- Education - Science - ICT - HCI		Link of publications

SDGs		E-Services		Partners		Gallery		Resources		Join Us		Opinion / Feedback		Golden jubilee of Bangladesh independence
- SDGs /SDG4 /e-9		- Personal data sheet		- UNESCO /UIS - ADB - WB						- Career/Job opportunity - Procurement - Fellowship - Internship				

B. Overall Recommendations for BANBEIS database and website:

BANBEIS database and information services:
- BANBEIS database and information services should be updated and improved.
- A '**Reporting Dashboard'** should be added on homepage of the BANBEIS website. It will present graphical reports based on different types of statistical data of BANBEIS.
- BANBEIS database need to be more systematic with rich of information. BANBEIS

database should be re-arranged, easier and friendly user.

- BANBEIS database has needed to be updated with more information in the content. And content page needs to be eye-catching and modernized.

- BANBEIS database has needed to be sorted easier and smooth that the information can be found easily and quickly from it.

E-survey of BANBEIS:

- BANBEIS e-survey forms should make shorter; as a result the data provider can fill up it within a short time. The present e-survey forms are big and lengthy.

- Previous common information of the educational institutions (General description of the institution, Management, Land etc.) which are collected in BANBEIS e-survey last year; should not be repeated in the current year. Thus the form fill up time can be reduced.

- E-survey form should be made online and make link with the mail server. E-survey form should be divided into numbers of parts/modules, thus it will be easy and time saver to fill up the form.

- E-survey form submission problem (buffering) should be removed and upgraded with strong server. E-survey forms submission date should be separated division wise. Thus the load on BANBEIS server can be reduced and server can be free to take the form in separate time.

- Opinion of stakeholder (data provider) should be taken before preparation of e-survey form contain.

- E-survey data should be related and comparable with National Indicator Framework (NIF). NIF is the backbone for facilitating monitoring of SDGs at the national level.

Integrated Educational Information Management System (IEIMS):

- In the BANBEIS database, 'Education ERP (IEIMS) and IEIMS report' sub buttons should be needed to work properly. Because the present 'Education ERP (IEIMS) and IEIMS report' sub buttons are not working.

- IEIMS reports need to be available in the BANBEIS database.

- Develop a comprehensive online EMIS that has different screening options like School, Upazila, District, DD office and BANBEIS.

Educational Institute Identification Number (EIIN):

Institute tracking, Admin logging, Feedback form, online EIIN application form, Annual Education Institution Survey form, online EIIN guidelines and contact sub-menus are working properly with necessary information. Additionally the recommendations are as follows-

- Consider 'map' to show the visualization of the distance of latitude and longitude data of the educational institutions related to BANBEIS.

- Check the link of latitude and longitude data with EMIS at the backend.

- Analysis of EIIN provided by the BANBEIS link with the EMIS.

- Provide the teachers' competency profile and teacher's management information with the EIIN application.

Research of BANBEIS:

- Under this menu, there should be included "Research Methodology and Guidelines" for helping the new researchers. Thus the new researchers can take help about research methods / research knowledge from it.

- Research reports should be uploaded there with full of contents and detail description. The existing uploaded research reports are very short.

- Research reports of the year of 2018, 2019, 2020 and 2021 should be incorporated here with detail description. Research reports of 2018 -2021 are not available there.

- Make all BANBEIS research reports and publications searchable and online accessible.

- If possible make those into eBook and online useable.

Communication with BANBEIS:

- For to communicate with BANBEIS, it should be needed to add available / more than one telephone number in its communication headed button of the database.

- BANBEIS can contract with a 'call center' for giving service about its database/information.

- System should be created for online purchasing of reports and publications of BANBEIS.

Sustainable Development Goals (SDGs):

- Adequate information on SDGs should be incorporated in the BANBEIS database.

- Generate data against all SDG targets indicators – 7 target, 3 means of implementation and 43 targets + additional indicators as per National Indicator Framework (NIF).

- Consider Additional issues from DLIs of PEDP4 and SESIP.

- Consider additional requirements of SDG 4.7 aligned with ICCS assessment and ESD survey.
- The indicators of SDGs should be available there and current status report on SDGs implementation in Bangladesh should be incorporated in the database.

Library service, E-documentation and Publication:

- Researchers, advanced users and curative readers usually take information-help from: a. Library service; b. e-documentation; and c. Publication from BANBEIS database. So, these service related buttons / menus should be transferred in to the main menu. And three sections should be filled up with more data/information, books, journals etc.

- Books, Journals can be down loaded easily or read easily with full contents like the library services of famous universities.

- Library database should be followed "Library Management System" that book searching, reading, download and printing systems should be easier.

- The present library service system should be changed. And catalog search sub-menu/button should be easier to use by everybody.

- E-documents need to be categorized and sorted easier and smooth like https://unesdoc.unesco.org/library. e-books page need to be eye catching and colorful.

- Publication of all documents of BANBEIS, educational reports and journals of IER, BIDS and NAEM should be preserved (soft copy) in the BANBEIS e-documents database.

BANBEIS website need to be more modernized, standardized and faster:
- BANBEIS website should be dynamic, eye catching and colorful.
- BANBEIS need to improve network system and solve the upload-download problems.

- BANBEIS website should be needed to increase the server power and speed of internet.

- Data center can be increased with added more blade server; Internet bandwidth should be increased; Predicated raid enabled storage should be added with data center.

- Data should be re-arranged category wise for the easy / friendly use of the data users.

Additional Issues:
- Link the BANBEIS database and http://uis.unesco.org , webpage with the page of 'Capacity Development of Education (CapED)' of UNESCO,UIL, UNIVOC, GAML, GPE etc.
- Create system for collect information on users of BANBEIS database, include an users survey form for satisfaction, data availabilities and data requirements.
- Provide a link of teachers database (of MOE) so that teachers can be easily tracked
- In title bar of the home page, it should come some menus like- Partners (UNESCO/UIS, ADB, WB etc. may put here), Gallery, Resources, Join Us (Career/Job opportunity, Research, Fellowship, Internship etc. may come as sub-components), Golden Jubilee of Independence corner should available here.

Many things have been come out from the study as recommendations for strengthening use of BANBEIS database. These recommendations are not the final recommendations for future need of the BANBEIS database. The BANBEIS database should be updated time to time compare with the need of contemporary period. It should be a continues process.

6.2. CONCLUSION

Bangladesh Bureau of Educational Information and Statistics (BANBEIS) is the only government agency responsible for the collection and dissemination of educational statistics and information in Bangladesh. The agency is nationally and internationally known by implicated itself with various educational development activities, preserving and providing educational information of Bangladesh.

BANBEIS provides database services like- National Education Database (NED), Online Interactive Database, Online EIIN Service, Education Directory (Online and Offline), Foreign Scholarship

Application, Education GIS App (School Mapping), Digital Library, e-book and e-paper Clipping, Grant for Advanced Research in Education (GARE), e- Survey, Bangladesh Education Statistics, Key Performance Indicators (KPI), Survey Questionnaire, Educational Institute Search, Teacher's Census, UITRCE Teacher's Training, IEMIS, Trained Teacher's Database, Library Automation etc.

Considering the above activities, the BANBEIS has given emphasis to the improvement and upgrading of the education sector information collection and discrimination system and also want to provide better service to the stakeholders who use the database. So, BANBEIS has conducted a study named "Strengthening use of BANBEIS database by the Stakeholders" through a research and consultancy firm named DTCL. The main objective of this study is to explore how BANBEIS is fulfilling the educational data need of the stakeholders and how the quality of services could be improved in this regards.

The firm has completed the study and explore several findings like- key stakeholders of BANBEIS database, current status of educational data provided by BANBEIS, how stakeholders can get better access to the BANBEIS database, current level of satisfaction and desired level of satisfaction of the stakeholders, key challenges faced by stakeholders, possible alternative to resolve the challenges etc.

It has been shown from the study that a measure part of the stakeholders (about seventy present) are satisfied with the present database of BANBEIS and they can fulfill their data/information needs from it. Only a little part of stakeholders (about thirty present) is moderately satisfied with the present database and their satisfaction level is high. Both the categories of stakeholders are provided some recommendations. Based on the findings from interviews, FGDs, KIIs, Observation and Consultation with the resource persons and important stakeholders we say that the expectation of the database user is something high for getting updated current information of BANBEIS. So, BANBEIS database and information services should be updated and improved with adequate information and it should need to be more systematic with rich of current information. BANBEIS database should be re-arranged, easier, smooth, eye-catching and friendly user. BANBEIS website should be needed to increase the server power and speed of internet. Data center can be increased with added more blade server; Internet bandwidth should be increased; Predicated raid enabled storage should be added with data center. BANBEIS website should properly link with other source of information through hyperlink and modern system. Thus the user can easily get information, curriculum, reports, books and journals. And also can easily work together sitting in one place.

CHAPTER -7

References:

BBS, 2020. Policy brief on Gender Based Education, Bangladesh Bureau of Statistics, Statistics Division, Ministry of Planning, Government of the People's Republic of Bangladesh.

Bhattacharyya, G., Ison, L. and Blaire, M. (2003) '*Minority Ethnic Attainment and Participation in Education and Training: The Evidence'.* Available at: http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/public ations/eOrderingDownload/RTP01-03MIG1734.pdf (Accessed: 14 April 2017).

Malele-Baise, M., Brown, R., Hsu, M., Jones, D., Prakash, A., Rausch, M., Vitols, S., and Wahlquist, Z. (2006) 'Learning Service or Service Learning: Enabling the Civic.' *International Journal of Teaching and Learning in Higher Education,* (18)1.

Calabrese, R., Hummel, C. and San Martin, T. (2007) 'Learning to appreciate a-risk students: Challenging the beliefs and attitudes of teachers and administrators.' *International Journal of Educational Management,* 21(4).

Hossain, A. *et al.* (2009) CREATE Bangladesh: Community and School Study (COMSS), Base line Report,

Karim S., (2004) Transparency in Education: Report Card in Bangladesh: International Institute for Educational Planning (IIEP), Paris

Latif, Abu Hamid, (2013). Non-formal Education in Bangladesh and Abroad (Bangla), Dhaka, Bangladesh.

Lewin, K.M. (2007) Improving Access, Equity and Transitions in Education: Creating a Research Agenda, CREATE Pathways to Access, Research Monograph No 1. Brighton: University of Sussex.

Machin, S., McNally, S., and Meghir, C. (2010) 'Resources and Standards in Urban Schools.' *Journal of Human Capital*, 4(4).

Mackenzie-Robb, L. (2007) '*Using Technology creatively to engage hard to reach learners.'* Vantaggio Information Learning Knowledge. Available at: http://www.vantaggio-learn.com/White%20papers/Hard%20to%20reach%20learners.pdf (Accessed: 14 January 2017).

Nath, S.R. Haq, M.N. Begum, U.S., Ullah, A. Sattar, M.A. and Chowdhury, A.M.R. (2008) The State of Secondary Education: Quality and Equity Challenges, Education Watch report, 2007, CAMPE, Bangladesh.

PDO-ICZMP. (2003). Project Development Office-Integrated Coastal Zone Management Plan.

.

Russell, L. (2013)' Researching marginalized young people.' *Ethnography and Education*, 8(1).

UNICEF (2017), the coverage of basic social services in Bangladesh, ISBN 978-984-8969-28-1

World Bank (2021). WB Education For All in Bangladesh- Accelerating and Strengthening Skills for Economic Transformation & Transforming Secondary Education for Results Operation Project for Bangladesh, Human Development Unit South Asia Region, World Bank, Ministry of Education, Technical and Madrasah Education Division of Ministry of Education.

ANNEXURE

1.Pictures of Training and Data Collection

2. Questionnaire

3. KII & FGD Guidelines

4. **List of People who have attended in the Consultation Sessions.**

1. **A. Picture of Training Session of Data Collection:**

Data has been collected for the according the selected methodologies. Both quantitative and qualitative data have been collected from the field. Interview, FGD and KII have been conducted properly. It was very difficult to collect data from the fields within the present lockdown situation.

Picture: Conduct Training Session for Supervisors and Enumerators in DTCL Training Room, Dhaka..

1. **B. Picture of Data Collection:**

Data Collection from Dhaka Board

Data collection from Savar, Dhaka.

Data collection from Keraniganj, Dhaka

Data collection from Bandarban

Picture: Conduct Interview in the field, different Divisions.

1. C. Pictures of FGDs:

Picture: Conducted FGD in the field, different Divisions.

2. <u>Questionnaire</u>

3. KII & FGD Guidelines

4.   List of People who have attended in the Consultation Sessions.

SI	Name	Designation and Organization	Phone
1	Eng. Md. Monjurul Karbir	Senior Systems Analyst, Board of Intermediate and Secondary Education, Dhaka.	01713047111
2	Mr. Mahfuz Murshed	Senior System Analyst · Bangladesh Madrasah Education Board, Dhaka	01713068909
3	Mr. Ali Hasan	Specialist, Examination Evaluation (Associate Professor), Board of Intermediate and Secondary Education, Dhaka.	01714090386
4	Mr. Shansul Huda	Evaluation Specialist (Associate Professor), Board of Intermediate and Secondary Education, Dhaka.	01558467046
5	Mr. Zakir Hossin	IT Specialist, IT Craft Ltd., Gulshan, Dhaka	01715079420
6	Dr. Md. Hasibur Rahaman	Dept. of Environmental Science and Technology, Jashore University of Science and Technology, Jashore-7408	01775482102
7	Prof. Parveen Huque	Dept. of Clinical Psychology, University of Dhaka.	01715150144
8	Ms. Mafuja Akter	Program Officer, UNESCO, Dhaka	01713367922
9	Mr. Enamul Haque	Deputy Director, RMED, CAMP, Dhaka	01715050770
10	Mr. Md. Zillur Rahman	Director (Program), Bangladesh Trust Foundation, Dhaka	01711695690
11	Mr. Subrata Roy	Software Engineer	01521447566

12	Mr. Kamalesh Roy	IT Expert	01778303788