



Manuals for National Accounts



BANGLADESH BUREAU OF STATISTICS (BBS)

STATISTICS AND INFORMATICS DIVISION (SID)

MINISTRY OF PLANNING

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Director General
Bangladesh Bureau of Statistics

PREFACE

Statistical manuals play a crucial role in both the development and ongoing operation of a National Statistical System (NSS). Serving as standardized frameworks for data collection, analysis, and reporting, these manuals ensure consistency and reliability across diverse agencies within the system. They function as comprehensive guides, providing methodologies, best practices, and ethical considerations for statisticians, researchers, and data collectors. By establishing uniform standards, statistical manuals contribute significantly to the quality assurance of statistical information, fostering the generation of accurate and credible data essential for informed decision-making, policy formulation, and effective governance. The adaptability of these manuals to emerging challenges, coupled with alignment with legal and regulatory frameworks, ensures the NSS's ability to evolve and remain relevant in a dynamic socio-economic landscape.

This role is particularly pronounced in Bangladesh, where ongoing efforts to strengthen the statistical infrastructure benefit from these manuals, serving as essential resources for capacity building. The use of such manuals not only promotes the quality assurance of statistical information but also supports evidence-based policymaking, economic planning, and social development within the country. Moreover, by aligning with international standards, these manuals facilitate Bangladesh's active participation in global data initiatives, enhancing the nation's ability to engage in meaningful international comparisons and collaborations.

Overall, the adoption of statistical manuals is integral to the effectiveness and reliability of the Bangladesh Statistical System, reinforcing its mission to provide accurate and timely statistical information for informed decision-making and sustainable development.

February 2024

Mohammed Mizanur Rahman



Project Director
NSDS Implementation Support Project
Bangladesh Bureau of Statistics

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Publication on **Manuals for Improved Methodologies**, in particularly covering **National Accounts**, produced for the Bangladesh Bureau of Statistics (BBS) should be recognized as a significant accomplishment under the National Strategy for the Development of Statistics (NSDS) Implementation Support Project. These manuals serve as comprehensive guides outlining best practices and standardized approaches for compiling and analyzing National Accounts data, including GDP, national income, expenditure patterns, and sectoral contributions to economic growth.

I would like to express my deep appreciation and profound thanks to Dr. Shahnaz Arefin, NDC, Secretary, Statistics and Informatics Division, and Mr. Mohammed Mizanur Rahman, Director General, Bangladesh Bureau of Statistics for their encouragement and support in producing this Report. Their varied experience, interest, and knowledge of the subject have helped to shape this document into its final form. We extend our sincere gratitude to the World Bank for their invaluable support which has been instrumental in the successful implementation of this project. Their commitment to driving positive change is deeply appreciated and has significantly contributed to the capacity development of the Bangladesh Bureau of Statistics (BBS).

I greatly appreciate the enthusiasm and commitment of the NSDS Implementation Support Project team and Focal Point Officers from all Wings of BBS, and applaud them for their diligent efforts in preparing the Report. I am also grateful to the members of the NSDS Twinning Project Deliverables Validation Group for their valuable advice during the finalization stage of the deliverables.

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February 2024

Md. Dilder Hossain

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Introduction

The technical assistance under the Project aimed at supporting the National Accounts Wing of the BBS to improve the provision of national accounts statistics by assisting them in the implementation of the 2008 SNA, so that BBS is able to provide accurate, reliable and timely data to policy and decision makers (central government and regional agencies, private operators) meeting, as well, the international requirements of data comparability.

The review of BBS national accounts statistics involved the assessment of the current capacity of all aspects of the statistical production process to produce national accounts and supporting statistics and the identification of the gaps in coverage and compliance of Bangladesh's national accounts statistics against the international standards, definitions, classifications, and good practices.

Coverage of Bangladesh data was assessed against the scope of the Minimum Requirement Data Set (MRDS) for national accounts developed, in March 2001, by the Inter-secretariat Working Group on National Accounts (ISWGNA), with the approval by the United Nation Statistical Commission, as tool to assess the scope of national accounts implementation of the 1993 SNA. KE5 used the minimum dataset from MRDS, as a benchmark for assessing the current status of SNA 1993 implementation, and accordingly design a set of recommendations for the implementation plan of 2008 SNA.

In light of the assessment of the national accounts statistics in Bangladesh, KE5 identified gaps in the statistical infrastructure and data sources as well as the timeliness in the publications of national accounts statistics. Based on this work, KE5 produced a set of recommendations and worked on a set of deliverables under component C.2 of the Project with the objective of providing tools for improvements in national accounts statistics. For the implementation of these tools, KE5 developed the corresponding documentation (under component C.3 of the Project) that explain the context for the improvement and gives a step-by-step practical guidance on how to put them into practice.

1. Observations and recommendations

KE5 identified the areas to be considered for improvements in National Accounts Statistics. These areas are described in detail in the report “C.2.8 Improvements proposed in National Accounts Statistics”, and are listed here:

- (i) Base year update (every 5 years)
- (ii) Institutional sector accounts
- (iii) Quarterly estimates of GDP
- (iv) Supply and use tables
- (v) Non-observed economy
- (vii) Dissemination
- (viii) Process and dissemination of foreign merchandise trade statistics

Following the identification of these areas, KE5 proposed a set of recommendations for improvement of national accounts statistics that are also described in detail in the report “C.2.8 Improvements proposed in National Accounts Statistics”. They involve 13 recommendations covering the following topics:

1. *Relevance of national accounts:*
2. *Coverage of national accounts:*
3. *Periodicity and timeliness of national accounts, it is also recommended that:*
4. *Methodological soundness of national accounts:*
5. *Accessibility of national accounts statistics:*

The 13 recommendations are summarized in the table below.

No.	Recommendation	Reasons for the recommendation	Responsibility
1	Update base year every 5 years.	Improve relevance of the national accounts statistics. Use up to date data to calculate the structure of the economy which includes the post Covid effects on the behavior of economic agents.	National Accounts Wing, BBS
2	Assess existing data sources and take stock of elements (items, industries, and sectors) already available to produce sector accounts	Improve the coverage of BBS's national accounts statistics.	National Accounts Wing, BBS
3	Development of institutional sector accounts	Improve the coverage of BBS's national accounts statistics	National Accounts Wing, BBS
4	Produce quarterly estimates of GDP.	Improve periodicity and timeliness of BBS's national accounts statistics. Quarterly GDP is one of the pending requirements for Bangladesh to be a member of IMF's Special	National Accounts Wing, BBS

No.	Recommendation	Reasons for the recommendation	Responsibility
		Data Dissemination Standard (SDDS).	
5	Conduct a quarterly economic indicators survey for key economic activities where the required data is not available.	GDP measured by economic activities using ISIC Rev 4 classification imply a minimum breakdown of GDP by 18 economic activities.	National Accounts Wing, BBS
6	Produce and publish supply and use tables (SUT).	Improve consistency in the GDP estimates using the three different approaches for GDP calculation.	National Accounts Wing, BBS
7	Use the Eurostat tabular approach to exhaustiveness as a framework to estimate and document the adjustments for NOE.	Improve methodological soundness of BBS's national accounts	National Accounts Wing, BBS
8	Apply 2008 SNA formula for the calculation of FISIM.	Implement the 2008 SNA recommendation.	National Accounts Wing, BBS
9	Develop and publish a revision policy for annual national accounts statistics.	Enhance the accessibility of national accounts statistics	National Accounts Wing, BBS
10	Develop and publish an advance release calendar	Advance release calendar information is one of the requirements of the IMF's Special Data Dissemination Standards (SDDS).	National Accounts Wing, BBS
11	Update national accounts metadata documentation at IMF's website	Metadata documentation published in IMF's website is outdated and the information doesn't coincide with metadata published in national accounts publications posted in BBS's website.	National Accounts Wing, BBS
12	Develop the capacity to exchange national accounts data and metadata via the SDMX.	Enhance the accessibility of national accounts statistics	National Accounts Wing, BBS
13	Adopt the new tools to process and disseminate foreign merchandise trade statistics.	Improve the processing and dissemination of foreign merchandise trade statistics using modern tools	National Accounts Wing, BBS

2. Proposed Improvements

The activities carried out under the Project Component C, Improving the Coverage and Quality of National Accounts, involved the development of documents that provide practical guidance (Deliverable C.3, Activity C.3.8) about the tools proposed by KE5 for improvement of the national accounts statistics (Deliverable C.2, Activity C.2.8).

The deliverables for activity C.2.8 include:

- a) Tool for FISIM calculation
- b) Processing and visualization tool for foreign merchandise trade.
- c) Tools for a quarterly economic indicators survey.
- d) Tool for compilation of quarterly GDP estimates.
- e) Training course on “Quarterly national accounts”
- f) Hands-on training session for deliverable C.2.8 on foreign merchandise trade statistics tool.

In this context, KE5 delivered the following three methodological documents:

- a) Compilation Guide IT Solution for BBS Foreign Merchandise Trade Statistics Using Modern Tools

The ToR lists specific improvements to national accounts statistics among which there is an item related to foreign merchandise trade statistics: Item f) Technical support for web or cloud-based software for foreign trade data input and analysis.

Additionally, during the mission to Dhaka, KE5 received a request from the BBS's officer in charge of processing customs data for national accounts purposes to produce a new tool based on a most up to date software to modernize, improve, and simplify the processing methods currently used in BBS for the processing of foreign merchandise trade data.

In this context, KE5 developed an IT Solution for processing foreign merchandise trade data received from customs records with the aim at assisting the National Accounts Wing of BBS in the processing of monthly foreign merchandise trade data, creating a database, as well as in the reporting of the statistics. The solution replicates the processing steps for customs data followed by the National Accounts Wing and provides a simplified way to reach the same results. Hence, the new method aims at replacing the currently used method based on FoxPro.

The IT Solution was developed with Power Query and Power Pivot, which are the new features of the latest MS Excel version (Excel for Microsoft 365) and which have enhanced the software with new tools that provide new database, processing, and visualization capabilities.

The IT Solution developed by KE5 aims at satisfying both requests: (i) improve the processing methods using modern technology and (ii) provide support for a web or cloud-based software for foreign trade data input and analysis.

This Compilation Guide presents the main features of the IT Solution for Foreign Merchandise Trade Statistics. It also describes the new data processing steps and the new visualization options that the Solution provides.

- b) Compilation Guide for the quarterly economic indicators survey.

This document presents the methodology for the Quarterly Economic Indicators Survey (QEIS) describing the planning, operation, and evaluation stages involved in a summarized GSBPM format.

It also provides the model questionnaires that can be used for the different economic activities, gives instructions for the construction of a database using MS Excel as a tool, and provides guidelines for the calculation of the economic indices.

The aim of the proposed tool for a Quarterly Economic Indicators Survey (QEIS) is to collect data on those key areas where there are no available administrative sources, regular quarterly survey nor relevant high frequency indicators produced by any reliable data source, and which are necessary to produce quarterly GDP estimates for Bangladesh.

The Compilation Guide first provides a tentative timeline for the yearly work on QEIS and guidance on how to plan the work within a quarter. Then, it describes the survey design using a simplified GSBPM model. Finally, it introduces the survey tools and gives instructions on how to work with the proposed framework. The annexes to the Compilation Guide provide additional information regarding the MS Excel macro used to run the database and the questionnaire sheet for each economic activity's indicators.

c) Guide for the compilation of quarterly GDP estimates.

This document presents the main features of the Quarterly GDP tool developed by KE5 in the context of the technical assistance under the Twinning Partnership Project to improve the provision of national accounts statistics. It also describes the new data processing steps and the new methods to produce quarterly GDP estimates.

The aim of the Quarterly GDP tool is to provide an instrument for BBS's national account compilers for the compilation of quarterly GDP estimates at current and constant prices by production approach. The file was designed for the final step of the production of quarterly GDP in which all processed data and indicators are brought in together into one comprehensive file in which quarterly GDP is calculated in a time series framework, and it was intended as an internal working file, not as a file nor a template for publication.

The main features of the Quarterly GDP tool are described in the Compilation Guide and can be summarized as follow:

1. Provides a consistent way of producing estimates of quarterly gross domestic product (GDP) by production approach.
2. Provides a friendly framework for the calculation of current and constant price estimates of gross value added (GVA) and GDP, and the implicit deflators.
3. Guides compilers through the steps needed to produce estimates of gross value added for all economic activities.
4. Gives flexibility to compilers for interventions or adjustments in data.
5. Allows for the integration of different data sources into one framework.
6. Helps to check time series consistency and outlier's detection.
7. Helps to maintain consistency with the estimates of annual national accounts.
8. Provides a tool for benchmarking quarterly to annual data using Denton Method.

3. Final Decisions

Several discussions were held with BBS officials during the project. In those discussions, the following decisions were taken for immediate implementation:

1. To produce quarterly estimates of GDP.
Needed for SDDS purposes, this represents an immediate goal for the NAW.
2. To update the formula for FISIM calculation
This would represent an important step towards the implementation of 2008 SNA.
3. To update and improve the methods for processing foreign merchandise trade data.
This will enhance the production of foreign merchandise trade statistics as well as the calculation of GDP by expenditure approach, and it will support the calculation of GDP by production approach.
4. To update the dissemination tools used to publish foreign merchandise trade statistics.
New visualization tools and dynamic charts and tables will enhance the relevance and attractiveness of NAW's figures.

In light of these decisions, KE5 worked on deliverables in order to reach these objectives. Hence, during the implementation phase of the Project, KE5 prepared and delivered the following material under deliverable C.3.8 that accompany the tools prepared under deliverable C.2.8:

- a) Compilation Guide for the IT Solution for BBS Foreign Merchandise Trade Statistics Using Modern Tools
- b) Compilation Guide for the quarterly economic indicators survey.
- c) Compilation Guide for the compilation of quarterly GDP estimates.

Annexes

Annex 1: Manual for the IT Solution for BBS Foreign Merchandise Trade Statistics Using Modern Tools

1. Background

The baseline review of the capacity of Bangladesh to produce the core set of national accounts statistics¹ was developed by KE5 within the framework of the Bangladesh NSDS project whose objective is to assist the Bangladesh Bureau of Statistics (BBS) in the implementation of the National Strategy for the Development of Statistics.

The technical assistance under the project aims at supporting the National Accounts Wing of the BBS to improve the provision of national accounts statistics by assisting them in the implementation of the 2008 SNA, so that BBS is able to provide accurate, reliable and timely data to policy and decision makers (central government and regional agencies, private operators), meeting, as well, the international requirements of data comparability.

The ToR lists specific improvements to national accounts statistics among which there is an item related to foreign merchandise trade statistics: f) Technical support for web or cloud-based software for foreign trade data input and analysis.

Additionally, during the mission to Dhaka, KE5 received a request from the BBS's officer in charge of processing customs data for national accounts purposes to produce a new tool based on a most up to date software to modernize, improve, and simplify the processing methods currently used in BBS for the processing of foreign merchandise trade data.

The IT Solution developed by KE5 aims at satisfying both requests: (i) improve the processing methods using modern technology and (ii) provide support for a web or cloud-based software for foreign trade data input and analysis.

The activities carried out fall into the Project Component C: Improving the Coverage and Quality of National Accounts. Specifically, the development of the tool is part of the Activity C.2.8 – Improvements in the area of National Accounts (Deliverable C.2), while the documentation falls under Activity C.3.8 – Manuals on improved methodology for National Accounts (Deliverable C.3).

2. Introduction

This technical assistance is based on the data and information provided by BBS to KE5, specially during the mission in Dhaka in September 2021. During the mission, KE5 was briefly introduced on the initial steps taken by BBS officials for the processing of foreign merchandise trade data collected from the customs authority of Bangladesh on a soft digital copy². Additionally, KE5 received a request from the BBS's officer in charge of processing customs data for national accounts purposes to produce a new tool based on a most up to date software to modernize, improve, and simplify the processing methods currently used in BBS for the processing of foreign merchandise trade data, currently based on the use of FoxPro software.

¹ The baseline review of the capacity of Bangladesh to produce the core set of national accounts statistics was produced by KE5 in October 2020 as part of the first deliverable of this project.

² The data and information provided by BBS to KE5 are described in Annex 1 of this document.

KES activities related to foreign merchandise trade statistics are identified in item f) of the ToR: Technical support for web or cloud-based software for foreign trade data input and analysis.

In this context, KES developed an IT Solution for the processing foreign merchandise trade data received from customs records with the aim at assisting the National Accounts Wing of BBS in the processing of monthly foreign merchandise trade data, creating a database, as well as in the reporting of the statistics. The solution replicates the processing steps for customs data followed by the National Accounts Wing and provides a simplified way to reach the same results. Hence, the new method aims at replacing the currently used method based on FoxPro.

The IT Solution was developed with Power Query and Power Pivot, which are the new features of the latest MS Excel version (Excel for Microsoft 365) and which has enhanced the software with new tools that provide new database, processing, and visualization capabilities. The software selection considered:

1. The familiarity of BBS officials with the use of MS Excel
2. The desire for the most up to date software to modernize the methods
3. The capabilities of the software for a modern dissemination of data.

The IT Solution provides a set of reports and two dashboards which could be used for publication for general users or for internal use to provide summary reports to the authorities and other high-level officers.

To develop the IT Solution, KES created a data model which is key for working in a Power Query and Power Pivot environment. The additional importance of the data model is that it allows a direct connection with Power BI, which provides more powerful tools for modern online publications of data, reports, and interactive query systems.

This document presents the main features of the IT Solution for Foreign Merchandise Trade Statistics. It also describes the new data processing steps and the new visualization options that the Solution provides. The results shown in this report are obtained using data created by KES based on the templates shared by the BBS officials³.

The annexes of this document provide additional information about the new MS Excel features used for this Solution.

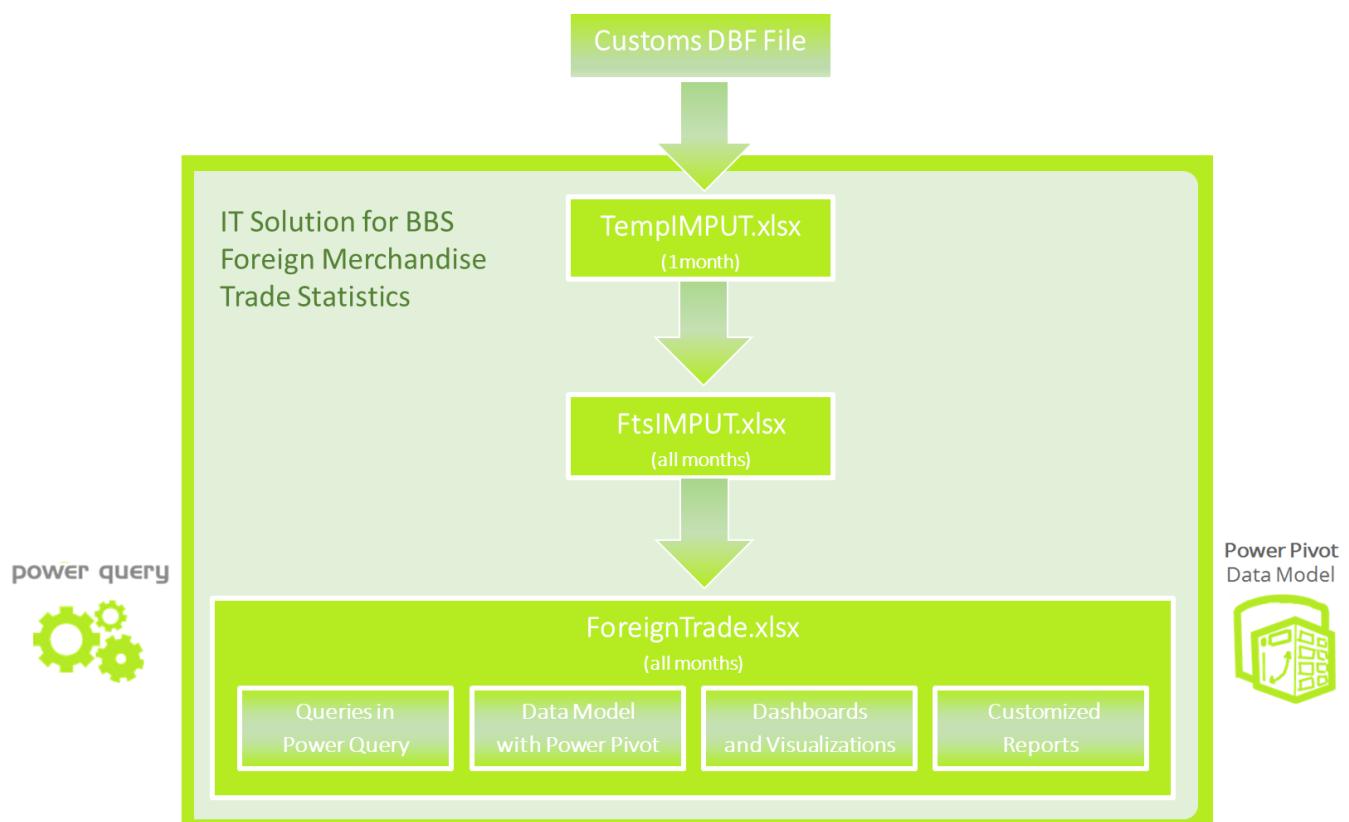
³ To implement this Solution, the BBS must replace the data in the files with actual imports and exports data for Bangladesh.

3. IT Solution for Foreign Merchandise Trade Statistics

3.1 Overview of the IT Solution for Foreign Merchandise Trade Statistics

The following figure 1 shows the file schema design of the IT Solution developed for Foreign Merchandise Trade Statistics. The figure shows the files included in the solution and the interaction between them. It also highlights the components of the final file (queries, data model, dashboards, reports) and the use of the most advanced capabilities of the MS Excel software (Power Query and Power Pivot Data Model)

Figure 1: Diagram of the Solution for Foreign Merchandise Trade: files



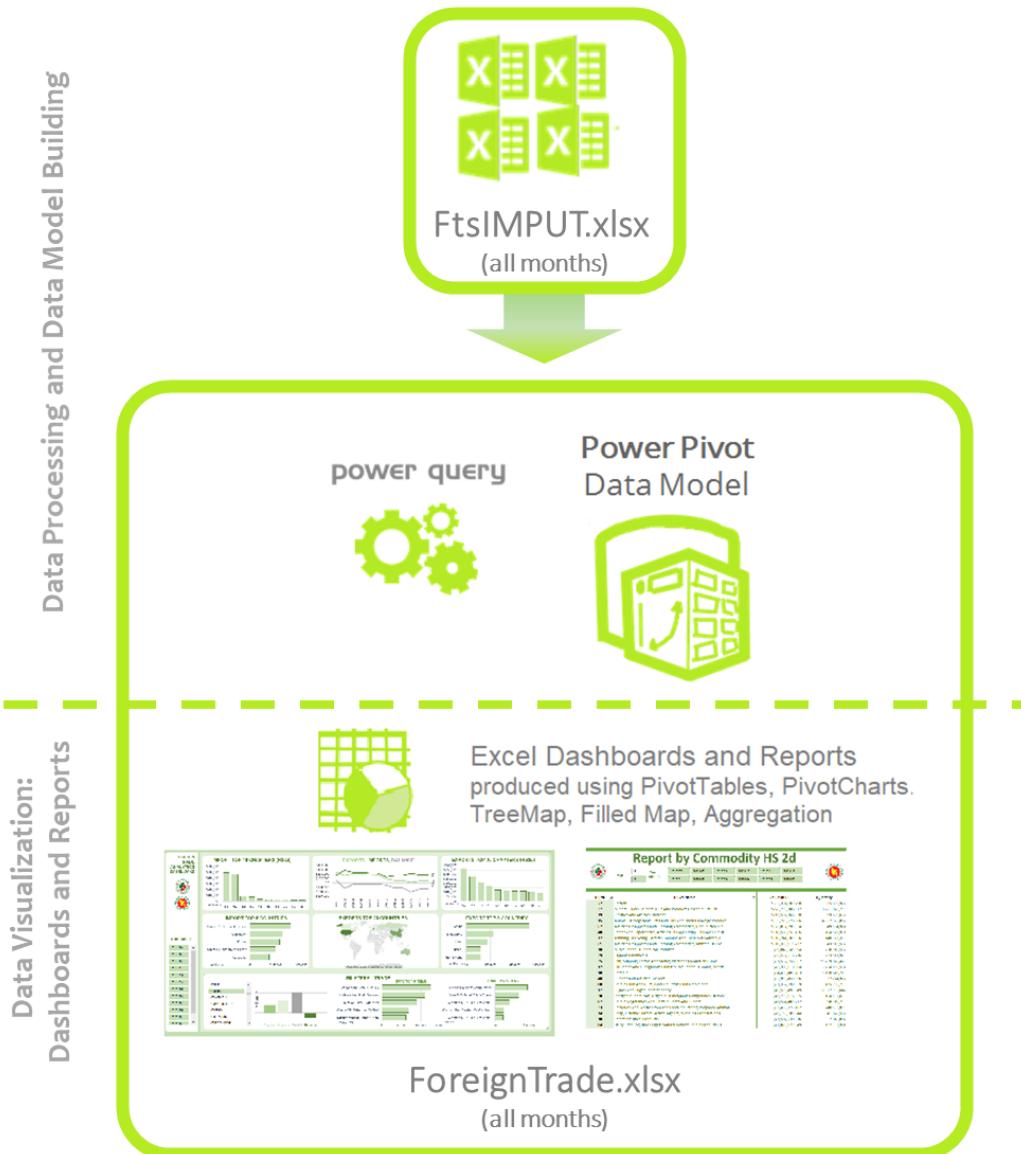
Data processing involves the extraction, transformation and loading of data from the source file (Customs .dbf file). This is done using three MS Excel files:

1. **TempIMPUT.xlsx**, which contains only the current month data for imports and exports. This is a copy in MS Excel of the .dbf file received from the Customs which is transformed to contain the six attributes (columns) currently used by the National Accounts Wing (NAW) plus the additional attributes for Year / Month and Trade code.
2. **E:\FtsIMPUT.xlsx**, which contains data for imports and exports for all months. The template for this file is the same as the **TempIMPUT.xlsx**. All the data contained in this file will be the data available for analysis (dashboard) and dissemination (reports) in the **ForeignTrade.xls** file. It can contain monthly data for one or several years.
3. **ForeignTrade.xlsx**, which contains the data model for processing monthly foreign merchandise trade statistics, the dashboards with the visualizations, and the dissemination reports. This file reads from the **E:\FtsIMPUT.xlsx** to further process the data and generate the reports and dashboards.

The interaction between files, software, and tools is further described in figure 2 below making distinction of the two main blocks of the Solution:

1. Data processing and data model building
2. Data visualization.

Figure 2: Diagram of the Solution for Foreign Merchandise Trade: software, tools, and files interaction



In this context, Power Query⁴ is used to import, clean and load data from the data sources. Then, in Power Pivot⁵ the Data Model (cube) is created using tables, queries, and relationships. The data in the Power Pivot window is stored in an analytical database inside the MS Excel file (ForeignTrade.xls), and a powerful local engine loads, queries, and updates the data in that database.

Power Query and Power Pivot complement each other. While Power Query is used for importing data, Power Pivot is used for the modelling of the data. Both are used to shape the data in Excel, so then dashboards and reports are produced using PivotTables, PivotCharts, TreeMap, FilledMap, and other features are also used

⁴ For more details on Power Query see Annex 2.

⁵ For more details on Power Pivot see Annex 2.

to aggregate and interact with data. Optionally, it can be exported to MS Power BI⁶ and other data visualization software.

3.2 Data Processing and Data Model Building

The new method simplifies the data processing by following the steps described below:

1. Open the .dbf file and export it to an excel file saved as “**TempIMPUT.xlsx**”⁷.
2. Make a backup of the original file received from customs with the 20/25 columns.
3. In **TempIMPUT.xlsx**, delete columns not used by NAW leaving the 6 attributes used:

CS_STN,C,5	CON_CD_ALP,C,3	HSCODE,C,8	QTY,N,14,0	VALUE,N,16,0	CPC,C,4
301	MV	02022010	10884	6381889	1000
355	IN	03027990	6368	7212475	1000

4. Add 2 columns with Year / Month (example “2019 10”⁸) and Trade code (“1” Export):

YEAR MONTH	TRADE,C,1	CS_STN,C,5	CON_CD_ALP,C,3	HSCODE,C,8	QTY,N,14,0	VALUE,N,16,0	CPC,C,4
2019 10	1	301	MV	02022010	10884	6381889	1000
2019 10	1	355	IN	03027990	6368	7212475	1000

5. Copy the current month information from E:\TempIMPUT.xlsx and paste (append) in E:\FtsIMPUT.xlsx after the last row containing previous month data.
6. Repeat steps 1 to 5 for imports data (.dbf file) and assign as “2” Trade code (Import).
7. Open MS Excel **ForeignTrade.xls**⁹ file:

click “Menu – Data - Refresh all” and all data from E:\FtsIMPUT.xlsx will be processed automatically¹⁰. The main processes coded using Power Query and Power Pivot are:

- a. The Power Pivot cube are updated with the new information
- b. HS8, HS4 and HS2 and description is automatically related (added)
- c. Adds country name¹¹
- d. Automatically adds the quantity unit to each HS code (8-digit level)
- e. The Power Pivot cube is updated
- f. The dashboards are updated with the new information
- g. The reports are updated with the new information and ready for dissemination

power query



Power Pivot

Data Model



These steps must be followed every time new information is collected or the source data is modified or updated.

⁶ For more details on Power BI see Annex 3.

⁷ This **TempIMPUT.xlsx** can be placed in any location.

⁸ The Year / Months must follow the format [YYYY MM]. This is entered in the first cell and copied to all cell in the column.

⁹ This **ForeignTrade.xls** can be placed in any location.

¹⁰ Make sure to place the file **FtsIMPUT.xlsx** in the path E:\ since the Pivot Query in **ForeignTrade.xls** reads from this location. BBS can modify the location if desired; for this, BBS will have to update the query in Pivot Query.

¹¹<https://www.statcan.gc.ca/en/subjects/standard/sccai/2011/scountry-desc>

3.2.1 Foreign Merchandise Trade Data Model

A data model (also called entity-relationship model) is a visual representation of the abstract model that organizes entities of data and standardizes how are the relationships between them. A Data Model in Excel, integrates the tables, enabling extensive analysis using PivotTables, Power Pivot, and Power Query.

The data model of the IT Solution includes two-dimension tables:

- HS8new: with data about Harmonized System Codes, HS8¹², HS4 and HS2, code and description, and unit for each HS8.
- dCountry: information about all the countries: codes Alpha-2, Alpha-3 and full name.

These tables can be updated to add, modify, or remove data items if needed, e.g. in case a new country is added to the list of countries, or a new version of the HS code is in force.

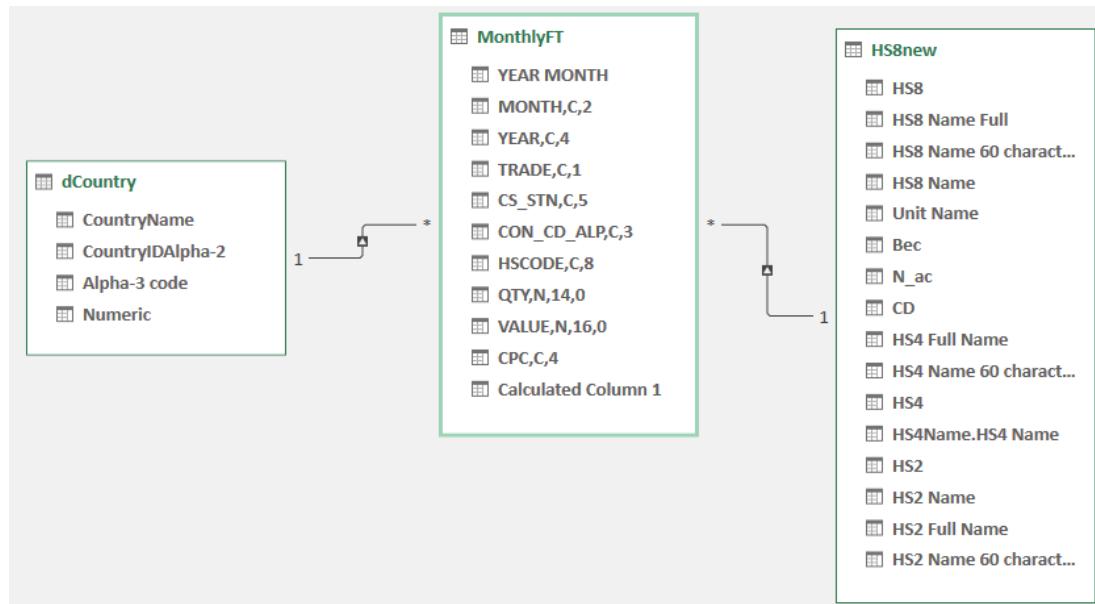
The model also includes a fact table:

- MonthlyFT: which stores all the information related to each transaction (import or export).

Figure 3 shows a diagram view of the data model, which can be accessed through:

1. Open MS Excel ForeignTrade.xls file,
2. click Menu – Data - Data Tools ribbon – **Go to Power Pivot window**.
3. click Menu - Home – View ribbon – **Diagram View**.

Figure 3: Power Pivot File Diagram View: Data Model



3.2.2 Queries in Power Query

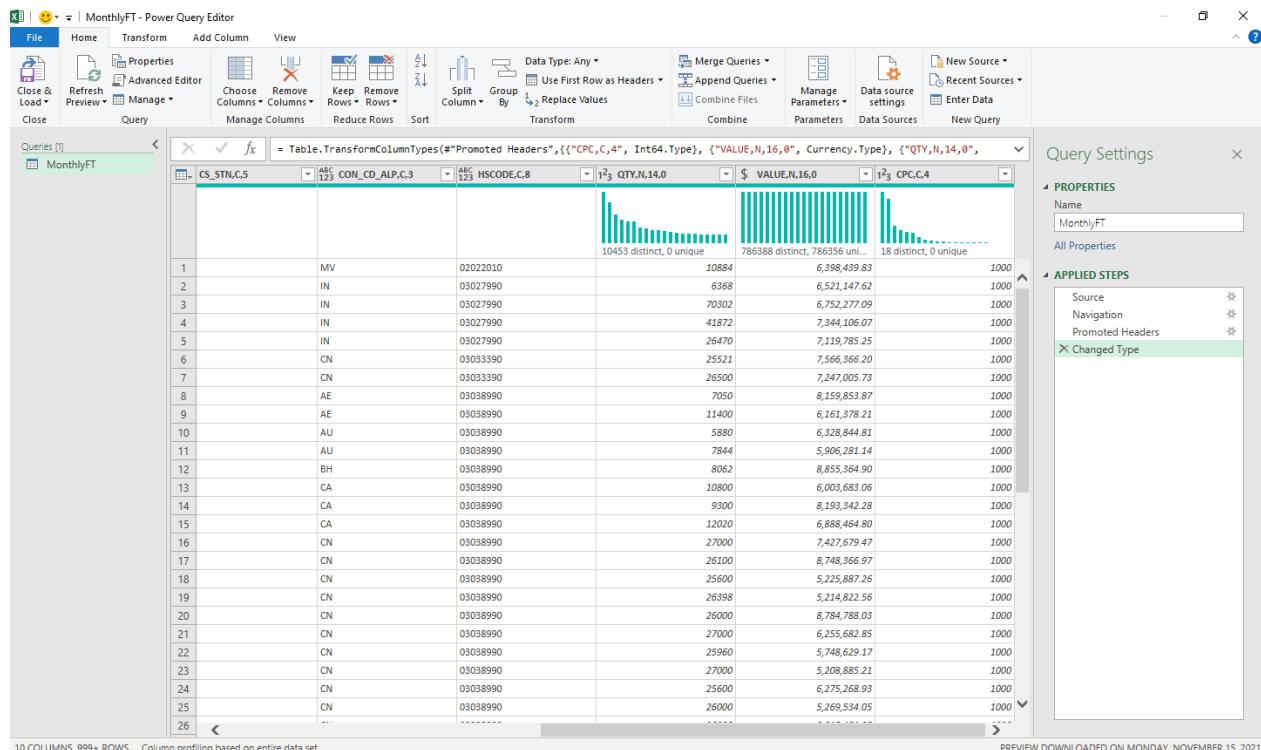
The IT Solution for Foreign Merchandise Trade includes queries to get data from E:\FtsIMPUT.xlsx and transform these data into the format corresponding to the data model used to generate the dashboards and reports.

¹² HS8 corresponds to the local Harmonized System Classification codes at 8-digit level of detail. The list of HS8 codes was provided by BBS to KES.

Figure 4 shows a view of the Power Query Editor¹³, which can be accessed through:

1. Open MS Excel ForeignTrade.xls file,
2. Menu – Data - **Launch Power Query Editor**

Figure 4: Power Query Editor



3.2.3 Refresh All Data

When new data is received from the source (e.g. Customs), the steps 1 to 6 described in [Section 4.2](#) (Data Processing and Data Model Building) must be followed. Then, the data model must be refreshed to incorporate the data for the new month, and any other possible update in the data for previous periods.

Figure 5 shows how to refresh the data in the data model (e.g. when adding data for a new month), which can be accessed through:

1. Open MS Excel ForeignTrade.xls file,
2. click Menu – Data - **Refresh all**

¹³ Using Microsoft Query, it is possible to connect to external data sources, select data from those external sources, import that data into the worksheet, and refresh the data as needed to keep your worksheet data synchronized with the data in the external sources.

All new or updated data in file E:\FtsIMPUT.xlsx will be processed automatically¹⁴. The processes are already developed and coded in the file (ForeignTrade.xls) using Power Query and Power Pivot. The main processes are:

- The Power Pivot cube are updated with the new information
- HS8, HS4 and HS2 and description is automatically related (added)
- Adds country name
- Automatically adds the quantity unit to each HS code (8-digit level)
- The Power Pivot cube is updated
- The dashboards are updated with the new information
- The reports are updated with the new information and ready for dissemination



Figure 5: Refresh all data

The screenshot shows the Microsoft Excel interface with the 'Power Pivot for Excel - ForeignTrade V70.xls' workbook open. The ribbon is set to the 'Power Pivot' tab. A 'Data Refresh' dialog box is displayed, showing the progress of refreshing data from original data sources. The 'Success' section lists three work items: 'dCountry' (Success, 250 rows transferred), 'MonthlyFT' (Success, 786,420 rows transferred), and 'HSnew' (Success, 7,210 rows transferred). The main worksheet area shows a table with columns: MONTH(C_2), YEAR(C_4), TRADE(C_3), CS-STN(C_5), CON(C_6), and YEAR(MONTH). The data consists of 23 rows of trade statistics for the United Kingdom of Great Britain and Northern Ireland.

3.3 Data Visualization: Dashboards and Reports

The IT Solution developed by KE5 provides a new data visualization concept called “Dashboard” and improves the current reports produced by BBS enhancing them with more flexible and dynamic options.

The new dashboards and the improved reports are designed to modernize the current practice of BBS to disseminate foreign merchandise trade statistics. These improvements can be directly implemented by:

- Disseminating the ForeignTrade.xls file, or
- Generating the reports and publishing them as pdf copies (as it is the current practice)

It can also be implemented indirectly with the help of BBS's IT Wing to:

- Provide a dynamic query system to users in BBS website.

The dashboards¹⁵ and reports are built based on the cubes of Power Pivot Data Model. They provide many filtering and sorting options

¹⁴ Make sure to place the file **FtsIMPUT.xlsx** in the path **E:** since the Pivot Query in **ForeignTrade.xls** reads from this location. BBS can modify the location if desired; for this, BBS will have to update the query in Pivot Query.

¹⁵ A dashboard is a visual representation of key metrics that allow to quickly view and analyse data in one place. Dashboards not only provide consolidated data views, but a self-service business intelligence opportunity, where users are able to filter the data to display just what's important to them.

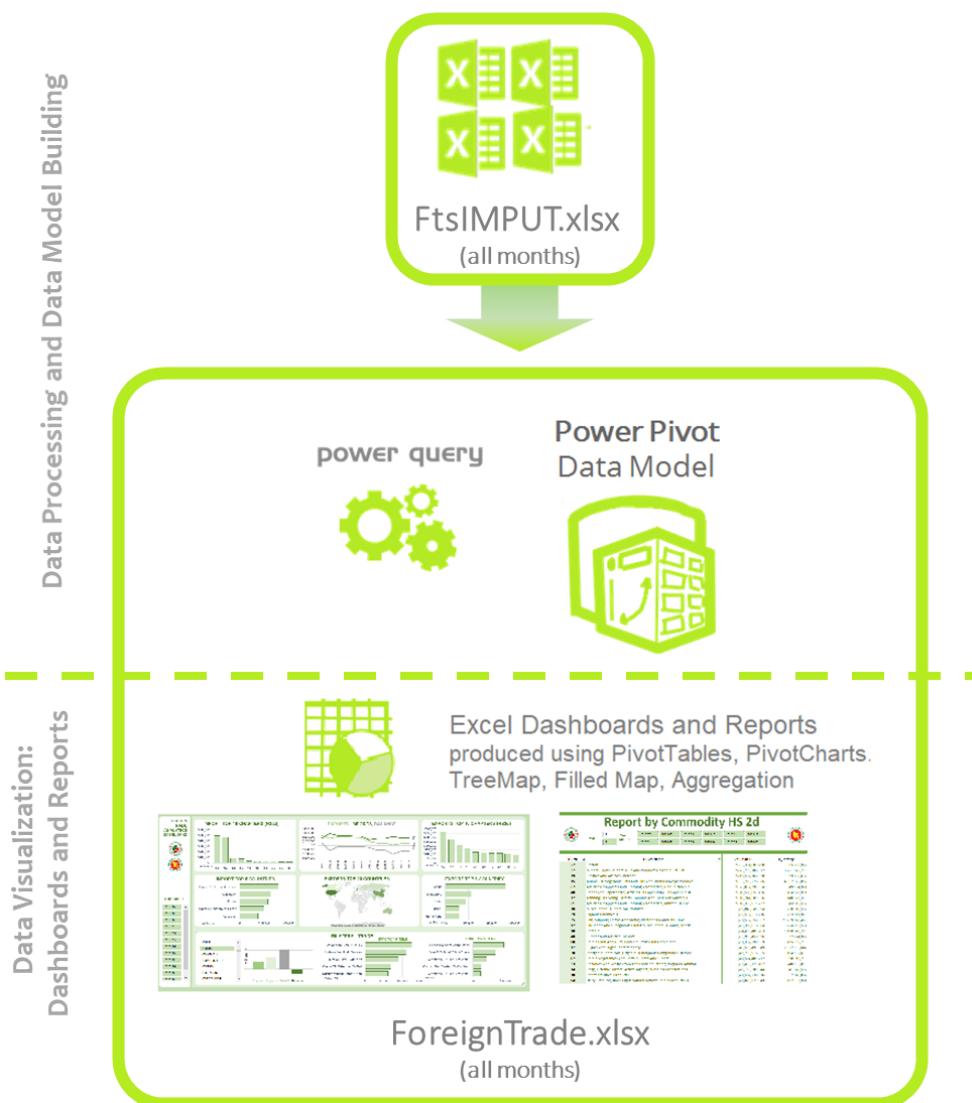
Optionally, the solution can be exported to different visualization tools as Power BI (recommended), Tableau, etc. for more visualization and dissemination options¹⁶.

The dashboards and reports developed in the Solution are described in the next sub sections. They include:

1. Foreign Trade Analytics Dashboard
2. Foreign Trade Commodity Dashboard
3. Report by Country
4. Report of Bilateral trade (trade between Bangladesh and a partner country)
5. Report by Commodity at 2-digit level of the HS code
6. Report by Commodity at 4-digit level of the HS code
7. Report by Commodity at 8-digit level of the HS code

Figure 6 below shows the interaction between the software/tools and the files.

Figure 6: Diagram of the Solution for Foreign Merchandise Trade: software, tools, and files interaction



¹⁶ The implementation of these alternative visualization tools is beyond the scope of KE5 technical assistance.

3.3.1 Foreign Trade Analytics Dashboard

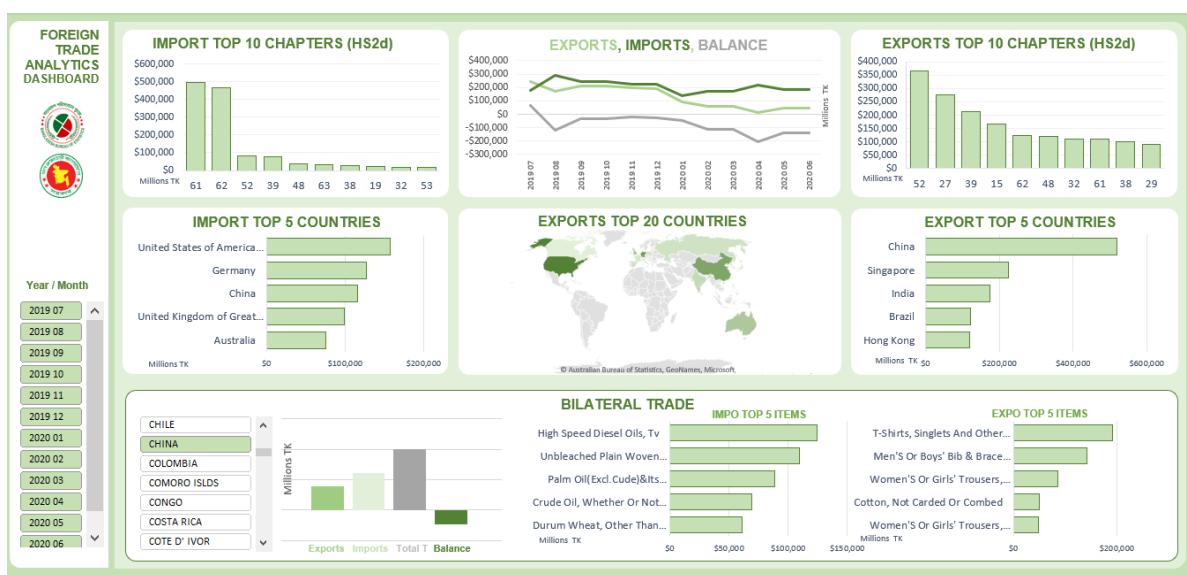
This dashboard (figure 7) summarizes the data about imports and exports and includes information about the commodity types and countries.

The dashboard offers the possibility to Filter by: Year / month. Users can select:

- One particular year/month,
- Two or more year/month (using Control key)
- Two or more consecutive months (using Shift key)
- All periods (using Shift key)

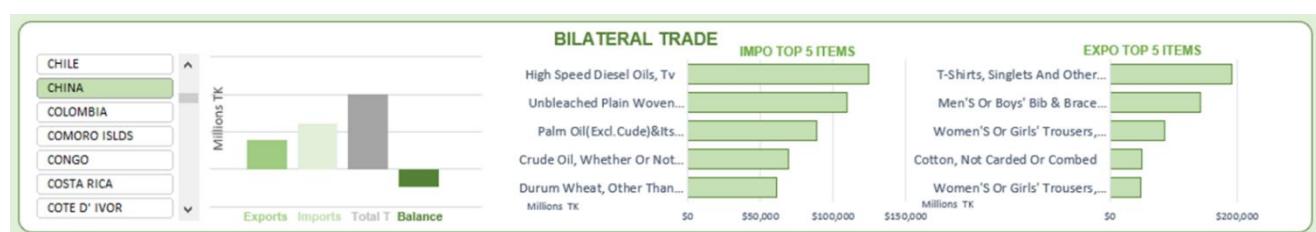
All the data displayed will be related to the period(s) selected being the only exception the timeline graph shown in the top centre, which always shows all periods. Therefore, the file can be used to update the dashboard for any desired period dynamically.

Figure 7: Foreign Trade Analytics Dashboard



The dashboard includes, at the bottom, the analysis of bilateral trade for the selected period. This is shown in figure 8 below:

Figure 8: Bilateral Trade Section in the Foreign Trade Analytics Dashboard



3.3.2 Foreign Trade Commodity Dashboard

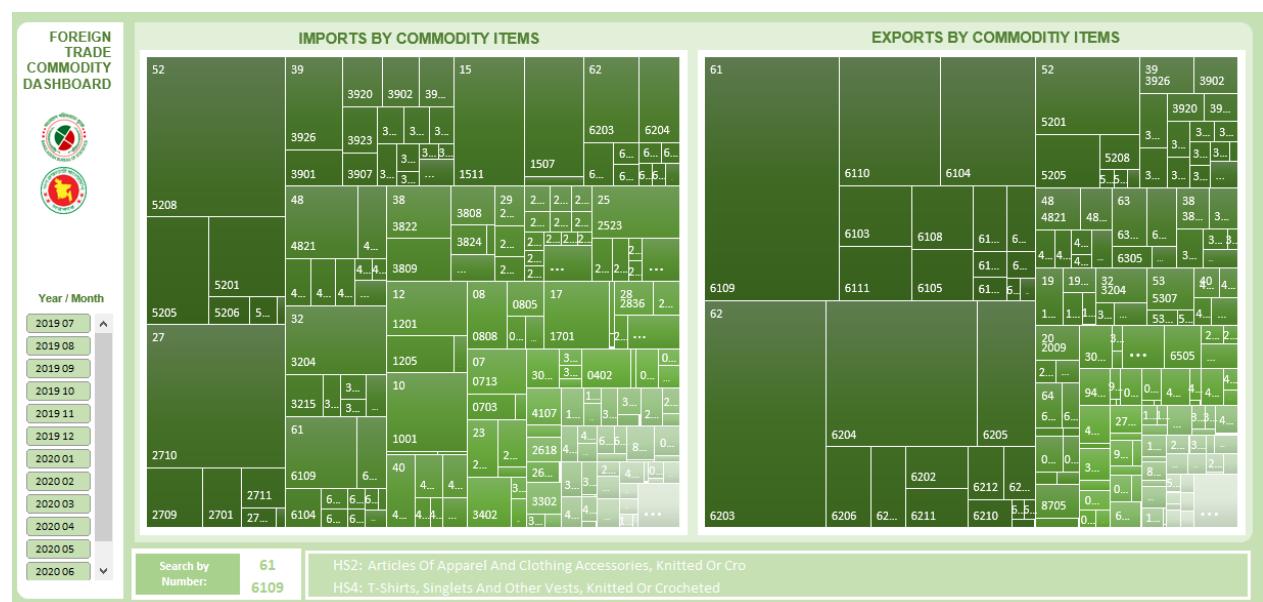
This dashboard (figure 9) summarizes imports and exports data by Commodity HS 2d and HS 4d in a treemap, which identifies the significance of each commodity group in the total (imports or exports) for the selected period.

The dashboard offers the possibility to Filter by: Year / month. Users can select:

- One particular year/month,
- Two or more year/month (using Control key)
- Two or more consecutive months (using Shift key)
- All periods (using Shift key)

Additionally, the box at the bottom of the dashboard allows for a quick search of the HS code description by entering the HS code number (HS at 2-digit level and HS at 4-digit level).

Figure 9: Foreign Trade Commodity Dashboard



3.3.3 Reports

The MS Excel ForeignTrade.xls file already includes a set of reports which were developed considering the BBS output files and publications provided by the NAW to KE5. The file can be used to update the reports for any desired period dynamically.

The reports provided can be customized in several ways. A few examples are:

1. Selecting different period(s) of time
2. Selecting one or more countries
3. Selecting one or more commodities
4. Showing countries or commodities subtotals
5. Sorting exports or imports data by country alphabetically or by trade value
6. Sorting exports or imports data by commodity alphabetically or by trade value

A. Report by Country

This report shows imports or exports data broken down by country. Different options can be explored by the users:

1. Possibility to Filter by:
 - Import or Export
 - Year / month. Could select:
 - One particular year/month,
 - Two or more year/month (using Control key)
 - Two or more consecutive months (using Shift key)
 - All periods (using Shift key)
2. Possibility to Order by:
 - Alphabetic by Countries
 - Biggest to smallest Value in TK
3. Possibility to show data by commodity HS 8-digit level.

The following figures show examples of different ways to customize the report by country.

Figure 10 display imports (code 2) value and quantity data for the fiscal year July 2019 to June 2020 for all countries sorted alphabetically and with details of commodities (HS 8-digit level) for each country. It also shows the import subtotal for each country.

Figure 10: Report by All Countries

Report by Country						
 Trade	1	Year / Month:	2019 07	2019 08	2019 09	2019 10
	2		2020 01	2020 02	2020 03	2020 04
Country	HS 8d	HS 8d Name		Value in TK	Quantity	
Afghanistan	30032000	Medicaments Containing Other Antibiotics,Not For Retail		\$235,878,129	659,508	
Afghanistan	30042010	Mycophenolate Mofetil, Mycophenolate Sodium, Ciclosporin		\$136,939,971	220,212	
Afghanistan Total				\$372,818,100	879,720	
Algeria	08041011	Dates, Fresh, Wrapped/Canned Upto 2.5Kg		\$152,409,959	748,800	
Algeria	08041019	Dates, Fresh, Nes		\$825,680,991	7,224,120	
Algeria	47071000	Recovered (Waste/Scrap) Unbleached Kraft Paper, Paperboard, O		\$116,399,207	5,702,760	
Algeria	53072000	Multiple (Folded) Of Cabled		\$103,348,001	936,000	
Algeria	61091000	T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr		\$85,566,156	138,504	
Algeria Total				\$1,283,404,313	14,750,184	
Angola	61091000	T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr		\$57,150,925	67,536	
Angola Total				\$57,150,925	67,536	
Argentina	07132090	Dried Chickpeas (Garbanzos) Shelled, Nes		\$260,678,902	5,520,000	
Argentina	10011990	Durum Wheat, Other Than Seed, Excl. Wrapped/Canned Upto 2.5		\$8,821,589,318	876,828,000	
Argentina	15071000	Crude Oil, Whether Or Not Degummed		\$31,473,712,866	955,703,400	
Argentina	28402010	Solubo Boron		\$119,098,239	792,000	
Argentina	41071900	Whole Hides And Skins, Nes		\$38,065,305	1,464	
Argentina	41079900	Other, Including Sides, Nes		\$135,139,052	82,524	
Argentina	61012000	Men'S Or Boys' Over/Car Coats, Etc, Of Cotton, Knitted Or Cr		\$39,205,686	1,716	
Argentina	61091000	T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr		\$94,741,040	12,564	
Argentina	61099000	T-Shirts, Singlets, Etc, Of Other Textiles, Nes, Knitted Or		\$38,914,318	1,344	
Argentina	61103000	Jerseys, Pullovers, Cardigans, Waistcoats., Knitted Or Crochet		\$124,858,146	24,804	
Argentina	61121200	Track-Suits Of Synthetic Fibres, Knitted Or Crocheted		\$39,608,747	132	
Argentina	62019300	Men'S Or Boys' Anoraks, Wind Jackets/Cheaters, Etc, Of Man-M		\$89,890,234	10,188	
Argentina	62029300	Woman'S Or Girls' Anoraks, Wind Jackets/Cheaters, Etc, Of Ma		\$137,484,427	12,048	
Argentina	62034200	Men'S Or Boys' Bib & Brace Trousers, Breeches, Shorts, Of Co		\$254,393,382	123,900	
Argentina	62044200	Dresses Of Cotton		\$84,313,595	8,412	
Argentina	62046200	Women'S Or Girls' Trousers, Breeches, Etc, Of Cotton		\$42,660,383	8,100	
Argentina	90031100	Frames And Mountings For Spectacles, Goggles Or The Like, Of		\$46,651,026	1,296	
Argentina Total				\$41,841,004,665	1,839,131,892	

< > | Dashboard | ExplImpCommodity | **ReportCountry** | ReportHS2 | ReportHS4 | ReportHS8 | Data | Visual | dC

Figure 11: Collapsing the Report by Country

Report by Country

Country	HS 8d Name	Value in TK	Quantity
Afghanistan	Antibiotics Containing Other Antibiotics,Not For Retail	\$235,878,129	659,508
Afghanistan	Antimetabolite Mofetil, Mycophenolate Sodium, Ciclosporin	\$136,939,971	220,212
Afghanistan		\$372,818,100	879,720
Algeria	Apparel, Wrapped/Canned Upto 2.5Kg	\$152,409,959	748,800
Algeria	Apparel, Nes	\$825,680,991	7,224,120
Algeria	Apparel, (Waste/Scrap) Unbleached Kraft Paper, Paperboard, Of	\$116,399,207	5,702,760
Algeria	Apparel, Folded Of Cabled	\$103,348,001	936,000
Algeria	Apparel, Singlets And Other Vests, Of Cotton, Knitted Or Cr	\$85,566,156	138,504
Algeria Total		\$1,283,404,313	14,750,184
Angola	Apparel, Singlets And Other Vests, Of Cotton, Knitted Or Cr	\$57,150,925	67,536
Angola Total		\$57,150,925	67,536
Argentina	Apparel, Unbleached Kraft Paper, Paperboard, Upto 2.5	\$260,678,902	5,520,000
Argentina	Apparel, Canned Upto 2.5	\$8,821,589,318	876,828,000
Argentina		\$31,473,712,866	955,703,400
Argentina	Apparel, Knitted Or Crocheted	\$119,098,239	792,000
Argentina		\$38,065,305	1,464
Argentina	Apparel, Collarless, Knitted Or Crocheted	\$135,139,052	82,524
Argentina		\$39,205,686	1,716
Argentina	Apparel, Singlets And Other Vests, Of Cotton, Knitted Or Cr	\$94,741,040	12,564
Argentina	Apparel, Singlets, Etc, Of Other Textiles, Nes, Knitted Or	\$38,914,318	1,344
Argentina	Apparel, Pullovers, Cardigans, Waistcoats.., Knitted Or Crochet	\$124,858,146	24,804
Argentina	Apparel, Boys' Synthetic Fibres, Knitted Or Crocheted	\$39,608,747	132
Argentina	Apparel, Boys' Anoraks, Wind Jackets/Cheaters, Etc, Of Man-M	\$89,890,234	10,188
Argentina	Apparel, Girls' Anoraks, Wind Jackets/Cheaters, Etc, Of Ma	\$137,484,427	12,048
Argentina	Apparel, Boys' Bib & Brace Trousers, Breeches, Shorts, Of Co	\$254,393,382	123,900
Argentina	Apparel, Boys' Trousers, Breeches, Etc, Of Cotton	\$84,313,595	8,412
Argentina	Apparel, Girls' Trousers, Breeches, Etc, Of Cotton	\$42,660,383	8,100
Argentina	Apparel, Mountings For Spectacles, Goggles Or The Like, Of	\$46,651,026	1,296
Argentina Total		\$41,841,004,665	1,839,131,892

Figure 11 shows how to collapse an entire field (Country) to display only the imports data per country subtotals, as shown in figure 12. Additionally, figure 12 shows how to sort data by country on a descending order by value.

Figure 12: Report by Country by descending value of export

Report by Country




Trade	1	Year / Month:	2019 07	2019 08	2019 09	2019 10	2019 11	2019 12
			2020 01	2020 02	2020 03	2020 04	2020 05	2020 06
Country	HS 8d	HS 8d Name						
China			\$635,761,786,163	2,308,491,228				
United States of America	AutoSort		\$256,720,251,473	2,244,830,964				
Singapore		Country: Largest to Smallest by Value in TK	\$253,893,335,606	7,391,858,580				
India			\$229,819,960,932	5,019,944,196				
Germany			\$198,604,560,754	116,854,116				
Hong Kong			\$155,308,104,798	208,189,512				
Malaysia			\$141,415,433,700	3,938,175,636				
Brazil			\$136,819,462,496	5,586,707,448				
United Kingdom of Great Britain			\$131,207,313,955	135,083,304				
Indonesia			\$115,478,555,332	11,166,925,440				
Australia			\$105,876,655,704	395,553,624				
Korea (the Republic of)			\$102,504,797,388	513,610,704				
Japan			\$90,770,491,526	4,002,921,588				
Canada			\$87,673,380,013	3,455,838,708				
Taiwan (Province of China)			\$77,435,575,016	345,790,368				
United Arab Emirates (the)			\$76,973,272,839	9,022,370,964				
Thailand			\$70,682,274,710	6,599,968,608				
Russian Federation (the)			\$69,959,176,755	1,310,706,060				
Viet Nam			\$69,897,848,852	10,958,518,464				
Spain			\$68,429,299,458	65,604,468				
Saudi Arabia			\$63,830,689,225	3,078,465,204				
France			\$62,323,579,417	89,861,868				
Italy			\$60,821,829,509	50,060,232				
Poland			\$53,335,259,388	31,369,836				
Netherlands (the)			\$48,692,580,791	53,344,320				
Belgium			\$46,002,631,429	42,782,676				
Turkey			\$42,298,130,785	218,012,064				
Argentina			\$41,841,004,665	1,839,131,892				
Switzerland			\$35,518,654,822	516,874,392				

Sort (Country) ? X

Sort options

Data source order
 Manual (you can drag items to rearrange them)
 Ascending (A to Z) by:
 Value in TK

Descending (Z to A) by:
 Value in TK

Summary
 Sort Country by Value in TK in descending order

More Options... OK Cancel

Dashboard ExplImpCommodity **ReportCountry** ReportHS2 ReportHS4 ReportHS8 Data Visual dCo

B. Report of Bilateral trade with one Country

This report (figure 13) shows bilateral imports or exports data with one particular country, broken down by HS2 and HS8. Different options can be explored by the users:

1. Possibility to Filter by:

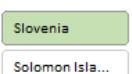
- Import or Export
- Year / month. Could select:
 - One particular year/month,
 - Two or more year/month (using Control key)
 - Two or more consecutive months (using Shift key)
 - All periods (using Shift key)

2. Possibility to Order by:

1. Biggest to smallest to biggest values
2. Alphabetic HS 8d

3. Possibility to show data by commodity HS 8-digit level or HS 2-digit level.

Figure 13: Report for Bilateral trade with one Countries

Report of Bilateral Trade										
	Slovenia	Trade	1	Year / Month:	2019 07	2019 08	2019 09	2019 10	2019 11	2019 12
	Solomon Isla...		2		2020 01	2020 02	2020 03	2020 04	2020 05	2020 06
HS 4	HS 4d Name			HS 8d Name				Value in TK	Quantity	
6103	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and sh...			Men'S Or Boys' Trousers, Etc, Of Cotton, Knitted Or Crochete				\$20,996,865	2,790	
61034200								\$20,996,865	2,790	
6104	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and...			Dresses Of Artificial Fibres, Knitted Or Crocheted				\$78,236,391	102,423	
61044400								\$21,413,442	14,814	
61045200				Skirts And Divided Skirts Of Cotton, Knitted Or Crocheted				\$17,129,756	816	
61046200				Women'S Or Girls' Trousers, Etc, Of Cotton, Knitted Or C...				\$19,213,216	83,247	
61046300								\$20,479,976	3,546	
6108	Women's or girls' slips, petticoats, briefs, panties, nightdresses, pyjamas, négligés, bathrobes, dres...							\$41,634,440	36,513	
61082100				Women'S Or Girls' Briefs And Panties Of Cotton, Knitted Or C...				\$20,361,872	12,732	
61089100								\$21,272,568	23,781	
6109	T-shirts, singlets and other vests, knitted or crocheted							\$79,413,719	41,544	
61091000				T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr...				\$79,413,719	41,544	
6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and sh...							\$37,121,092	18,102	
62034200				Men'S Or Boys' Bib & Brace Trousers, Breeches, Shorts, Of Co...				\$37,121,092	18,102	
6204	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and...							\$58,508,350	16,002	
62043200				Women'S Or Girls' Jackets And Blazers Of Cotton				\$37,799,648	5,118	
62046200								\$20,708,702	10,884	
6205	Men's or boys' shirts (excl. knitted or crocheted, nightshirts, singlets and other vests)							\$17,240,039	4,053	
62052000				Men'S Or Boys' Shirts Of Cotton				\$17,240,039	4,053	
6402	Footwear with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading 6)							\$20,667,622	1,824	
64029900				Footwear, Nes, Exl. Covering The Ankle, Of Rubber Or Plastic				\$20,667,622	1,824	
Grand Total								\$353,818,518	223,251	
	Dashboard	ExplImpCommodity	ReportCountry	ReportBilateral	ReportHS2	ReportHS4	ReportHS8	Data	Visua...	

C. Report by Commodity HS 2d

This report (figure 14) shows imports or exports data (values and quantities) by commodity at the 2-digit level of the Harmonized System code. Different template options can be explored by the users:

1. Possibility to Filter by:

- Import or Export
- Year / month. Could select:
 - One particular year/month,
 - Two or more year/month (using Control key)
 - Two or more consecutive months (using Shift key)
 - All periods (using Shift key)

2. Possibility to Order by:

- Biggest to smallest Value in TK
- HS 2digits, from first to last number

Figure 14: Report by Commodity HS 2d

<h2>Report by Commodity HS 2d</h2>					
 Trade	<input type="button" value="1"/> <input checked="" type="button" value="2"/>	Year / Month:	2019 07	2019 08	2019 09
			2019 10	2019 11	2019 12
			2020 01	2020 02	2020 03
			2020 04	2020 05	2020 06
HS2d		HS 2d Name		Value in TK	Quantity
52		Cotton		\$365,394,009,290	905,850,922
27		Mineral Fuels, Mineral Oils And Products Of Their Distillation		\$276,799,106,312	18,271,020,275
39		Plastics And Articles Thereof		\$213,597,166,838	899,650,677
15		Animal Or Vegetable Fats And Oils And Their Cleavage Product		\$165,220,728,386	4,962,925,857
62		Articles Of Apparel And Clothing Accessories, Not Knitted Or Woven		\$122,017,395,624	49,584,924
48		Paper And Paperboard; Articles Of Paper Pulp, Of Paper Or Of Cellulose		\$118,580,051,426	404,529,911
32		Tanning Or Dyeing Extracts; Tannins And Their Derivatives; Dyes		\$110,741,609,056	148,723,330
61		Articles Of Apparel And Clothing Accessories, Knitted Or Crocheted		\$110,335,915,737	43,512,577
38		Miscellaneous Chemical Products		\$99,843,545,094	250,918,552
29		Organic Chemicals		\$90,512,516,716	233,511,926
25		Salt; Sulphur; Earths And Stone; Plastering Materials, Lime		\$81,512,556,862	29,229,028,466
12		Oil Seeds And Oleaginous Fruits; Miscellaneous Grains, Seeds		\$72,306,018,684	3,724,000,514
10		Cereals		\$64,490,483,783	5,198,649,220
40		Rubber And Articles Thereof		\$56,959,458,696	37,224,927
08		Edible Fruit And Nuts; Peel Of Citrus Fruit Or Melons		\$51,332,790,959	495,730,719
17		Sugars And Sugar Confectionery		\$46,573,491,649	2,577,965,642
28		Inorganic Chemicals; Organic Or Inorganic Compounds Of Precious Metals		\$43,270,916,955	1,104,587,619
07		Edible Vegetables And Certain Roots And Tubers		\$41,564,409,217	1,398,719,713
23		Residues And Waste From The Food Industries; Prepared Animal Feeds		\$33,433,173,497	740,502,870
34		Soap, Organic Surface-Active Agents, Washing Preparations, Laundry Powders		\$29,150,285,944	41,828,592
30		Pharmaceutical Products		\$21,502,738,616	2,046,002
04		Dairy Produce; Birds' Eggs; Natural Honey; Edible Products Of Vegetable Origin		\$21,029,927,649	132,193,981
09		Coffee, Tea, Maté And Spices		\$16,822,318,700	96,205,085
41		Raw Hides And Skins (Other Than Furskins) And Leather		\$16,755,879,132	7,082,103
26		Ores, Slag And Ash		\$15,516,884,709	6,226,283,904

D. Report by Commodity HS 4d

This report (figure 15) shows imports or exports data (values and quantities) by commodity at the 4-digit level of the Harmonized System code. Different template options can be explored by the users:

1. Possibility to Filter by:

- Import or Export
- Year / month. Could select:
 - One particular year/month,
 - Two or more year/month (using Control key)
 - Two or more consecutive months (using Shift key)
 - All periods (using Shift key)
- One or more 4-digit level HS codes

2. Possibility to Order by:

- Biggest to smallest Value in TK
- HS 2digits, from first to last number

Figure 15: Report by Commodity HS 4d



The figure displays a screenshot of the 'Report by Commodity HS 4d' application. At the top, there is a header with the title 'Report by Commodity HS 4d' in large green font, flanked by two circular logos. Below the header is a filter section with 'Trade' dropdowns for '1' and '2', and a 'Year / Month:' dropdown showing a range from '2019 07' to '2020 06'. The main content area is a table with columns for 'HS4d', 'HS 4d Description', 'Value in TK', and 'Quantity'. The table lists various commodity codes and descriptions along with their corresponding values and quantities. At the bottom, there is a navigation bar with buttons for 'Dashboard', 'ExplImpCommodity', 'ReportCountry', 'ReportHS2', 'ReportHS4' (which is highlighted in green), 'ReportHS8', 'Data', and a plus sign button.

HS4d	HS 4d Description	Value in TK	Quantity
0105	Live Poultry, "Fowls Of The Species Gallus Domesticus, Ducks	\$78,749,483	4,884
0202	Meat Of Bovine Animals, Frozen	\$922,915,721	2,227,010
0206	Edible Offal Of Bovine Animals, Swine, Sheep, Goats, Horses,	\$409,421,288	1,028,170
0302	Fish, Fresh Or Chilled (Excl. Fish Fillets And Other Fish Me	\$273,575,575	1,435,532
0303	Frozen Fish (Excl. Fish Fillets And Other Fish Meat Of Headi	\$7,146,223,385	46,437,443
0305	Fish, Fit For Human Consumption, Dried, Salted Or In Brine;	\$934,206,727	1,463,124
0306	Crustaceans, Whether In Shell Or Not, Live, Fresh, Chilled,	\$483,567,784	738,245
0401	Milk And Cream, Not Concentrated Nor Containing Added Sugar	\$408,330,999	62,062
0402	Milk And Cream, Concentrated Or Containing Added Sugar Or Ot	\$18,815,487,728	123,182,046
0403	Buttermilk, Curdled Milk And Cream, Yogurt, Kephir And Other	\$170,477,778	27,148
0404	Whey, Whether Or Not Concentrated Or Containing Added Sugar	\$572,989,343	7,249,000
0405	Butter, Incl. Dehydrated Butter And Ghee, And Other Fats And	\$485,099,668	943,933
0406	Cheese And Curd	\$323,796,139	501,446
0408	Birds' Eggs, Not In Shell, And Egg Yolks, Fresh, Dried, Cook	\$33,042,084	22
0511	Animal Products N.E.S.; Dead Animals Of All Types, Unfit For	\$720,927,964	343,625
0602	Live Plants Incl. Their Roots, Cuttings And Slips; Mushroom	\$330,720,147	245,300
0701	Potatoes, Fresh Or Chilled	\$1,047,868,466	6,705,049
0703	Onions, Shallots, Garlic, Leeks And Other Alliaceous Vegetab	\$12,171,263,497	120,582,057
0705	Lettuce "Lactuca Sativa" And Chicory "Cichorium Spp.", Fresh	\$174,960,463	44,380
0706	Carrots, Turnips, Salad Beetroot, Salsify, Celeriac, Radishe	\$34,777,093	2,200
0708	Leguminous Vegetables, Shelled Or Unshelled, Fresh Or Chille	\$32,206,232	1,716
0709	Other Vegetables, Fresh Or Chilled (Excl. Potatoes, Tomatoes	\$892,797,889	200,695
0710	Vegetables, Uncooked Or Cooked By Steaming Or Boiling In Wat	\$42,288,891	20,753
0711	Vegetables Provisionally Preserved, E.G. By Sulphur Dioxide	\$166,999,114	360,121
0712	Dried Vegetables, Whole, Cut, Sliced, Broken Or In Powder, B	\$403,607,670	1,029,050

E. Report by Commodity HS 8d

This report (figure 16) shows imports or exports data (values and quantities) by commodity at the 8-digit level of the Harmonized System code. Different template options can be explored by the users:

1. Possibility to Filter by:

- Import or Export
 - Year / month. Could select:
 - One particular year/month,
 - Two or more year/month (using Control key)
 - Two or more consecutive months (using Shift key)
 - All periods (using Shift key)
 - One or more 8-digit level HS codes (figures 17 and 18)
2. Possibility to Order by:
- Biggest to smallest Value in TK
 - HS 2digits, from first to last number

Figure 16: Report by Commodity HS 8d

Report by Commodity HS 8d																				
 Trade	Year / Month: <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>1</td><td>2019 07</td><td>2019 08</td><td>2019 09</td><td>2019 10</td><td>2019 11</td><td>2019 12</td></tr> <tr> <td>2</td><td>2020 01</td><td>2020 02</td><td>2020 03</td><td>2020 04</td><td>2020 05</td><td>2020 06</td></tr> </table>	1	2019 07	2019 08	2019 09	2019 10	2019 11	2019 12	2	2020 01	2020 02	2020 03	2020 04	2020 05	2020 06					
1	2019 07	2019 08	2019 09	2019 10	2019 11	2019 12														
2	2020 01	2020 02	2020 03	2020 04	2020 05	2020 06														
HS8d	HS 8d Description	Value in TK	Quantity																	
61091000	T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr	\$191,543,344,263	51,915,820																	
62034200	Men'S Or Boys' Bib & Brace Trousers, Breeches, Shorts, Of Co	\$142,493,116,429	37,267,296																	
62046200	Women'S Or Girls' Trousers, Breeches, Etc, Of Cotton	\$85,143,408,838	15,459,664																	
52010000	Cotton, Not Carded Or Combed	\$49,573,579,841	374,358,416																	
61046200	Women'S Or Girls' Trousers, Etc, Of Cotton, Knitted Or Croch	\$47,770,607,559	14,008,291																	
61102000	Jerseys, Pullovers, Cardigans, Waistcoats & Similar Art., Kn	\$47,725,206,146	10,926,960																	
62052000	Men'S Or Boys' Shirts Of Cotton	\$40,550,499,961	5,999,288																	
61103000	Jerseys,Pullovers,Cardigans,Waistcoats., Knitted Or Crochet	\$26,297,613,882	6,968,536																	
61112000	Babies' Garments, Etc, Of Cotton, Knitted Or Crocheted	\$23,550,956,259	2,383,512																	
62034300	Men'S Or Boys' Bib & Brace Trousers, Breeches & Shorts Of Sy	\$22,521,140,901	6,934,168																	
61034200	Men'S Or Boys' Trousers, Etc, Of Cotton, Knitted Or Crochete	\$21,945,639,284	6,312,086																	
61082100	Women'S Or Girls' Briefs And Panties Of Cotton, Knitted Or C	\$17,772,670,615	2,851,244																	
61044200	Dresses Of Cotton, Knitted Or Crocheted	\$16,488,634,949	3,359,268																	
61051000	Men'S Or Boys' Shirts Of Cotton, Knitted Or Crocheted	\$16,420,021,296	6,460,014																	
62044200	Dresses Of Cotton	\$13,062,865,247	1,573,936																	
62046900	Women'S/Girl'S Trousers,Breeches,Etc,Of Oth.Tex.,(Exl.Wool,C	\$12,124,584,789	1,970,224																	
62063000	Women'S Or Girls' Blouses, Shirts/Blouses Of Cotton	\$11,413,312,187	879,880																	
63062200	Tents Of Synthetic Fibres	\$11,289,193,660	15,099,808																	
48211000	Printed Paper Or Paperboard Labels Of All Kinds	\$10,995,318,658	916,711																	
61071100	Men'S Or Boys' Underpants And Briefs Of Cotton, Knitted Or C	\$10,984,893,081	4,104,419																	
62121000	Brassisres	\$10,361,382,885	1,183,640																	
61099000	T-Shirts, Singlets, Etc, Of Other Textiles, Nes, Knitted Or	\$10,214,228,904	2,037,176																	
62019300	Men'S Or Boys' Anoraks, Wind Jackets/Cheaters, Etc, Of Man-M	\$10,037,536,769	2,141,392																	
62092000	Babies' Garments And Clothing Accessories Of Cotton	\$9,889,804,684	489,200																	
65050000	Hats And Other Headgear, Knitted Or Crocheted, . Trimmed; H	\$9,560,254,918	1,645,929																	

Figure 17: Filtering the Commodity HS 8d report

Report by Commodity HS 8d

Trade

1
2
Year / Month:
2019 08
2019 09
2019 10
2019 11
2019 12
2020 01

2020 02
2020 03
2020 04
2020 05
2020 06



HS8d	HS 8d Description	Value in TK	Quantity
Sort A to Z	ther Vests, Of Cotton, Knitted Or Cr	\$191,543,344,263	51,915,820
Sort Z to A	f Other Textiles, Nes, Knitted Or	\$10,214,228,904	2,037,176
More Sort Options...		\$201,757,573,167	53,952,996
Clear Filter From "HS8d"			
Label Filters			
Value Filters			
Search HS8d			
	<input checked="" type="checkbox"/> 61089900 <input checked="" type="checkbox"/> 61091000 <input checked="" type="checkbox"/> 61099000 <input type="checkbox"/> 61101100 <input type="checkbox"/> 61101200 <input type="checkbox"/> 61101900 <input type="checkbox"/> 61102000 <input type="checkbox"/> 61103000 <input type="checkbox"/> 61109000		
	<input type="button" value="OK"/> <input type="button" value="Cancel"/>		

This same report by Commodity HS 8d can be used to list only the Main Commodities (figure 17 and figure 18), filtering the HS 8d codes needed.

Figure 18: Report by one 8-digit level HS code

Report by Commodity HS 8d

Trade

1
2
Year / Month:
2019 08
2019 09
2019 10
2019 11
2019 12
2020 01

2020 02
2020 03
2020 04
2020 05
2020 06



HS8d	HS 8d Description	Value in TK	Quantity
61091000	T-Shirts, Singlets And Other Vests, Of Cotton, Knitted Or Cr	\$191,543,344,263	51,915,820
61099000	T-Shirts, Singlets, Etc, Of Other Textiles, Nes, Knitted Or	\$10,214,228,904	2,037,176
Grand Total		\$201,757,573,167	53,952,996

3.4 Optional Visualization Tools (Microsoft Power BI)

The same visualization can be implemented in Power BI, with more flexibility and more capabilities.

Microsoft Power BI is a business analytics solution that allows data visualization and easily share of insights across the organization. Power BI can aggregate and analyze hundreds of data sources, then bring your data to life through live dashboards and reports that can be shared with others. These insights can be accessed from anywhere using Power BI apps.

Many of the same tools in Power BI were first introduced in Microsoft Excel, including Data Model, Power Query Editor and DAX Measures. The tool provided by KE5 for processing foreign merchandise trade data using MS Excel new tools (Power Query and Power Pivot) allows for a direct transfer/export of the data into Power BI.

Power BI provides extensive data modeling and real-time analytics. Designed for collaboration (multiple users with access to analyze and comment), Power BI connects with Microsoft solutions (including Excel) and many other sources (web data, API, other databases), and allows for direct and automatic data refresh with Power BI Service. Another important capability of Power BI is the possibility to publish the same dashboards and reports online directly.

The bottom line: Microsoft Excel is a great tool for users making advanced reports and have the functions needed to build their ideal models. Power BI is better at helping you see trends in your data, share the dashboards and visuals, and provide real-time updates.¹⁷

To implement Power BI functions into the work of the BBS foreign trade team, BBS must have:

1. MS Power BI license
2. IT support for installation and setup of the Power BI server
3. Training in Power BI (for the staff in charge of processing foreign merchandise trade statistics)

The use of Power BI tools could initially be done by the foreign trade team, but it would be ideal for a more sophisticated use of Power BI capabilities to involve the IT team in a coordinated environment between both teams.

¹⁷ Based on Microsoft information

Annexes

Annex 1: Information and data provided to KE5

During the mission, KE5 was briefly introduced on the initial steps taken by BBS officials for the processing of foreign merchandise trade data. The steps shown to KE5 are the following:

1. Access database tables for exports and imports received from Customs in a zip file format containing 1-month data.
2. These files are opened with MS Access. Data involve several fields (around 20 or 25), but the NAW team makes use of only 6 fields which include: value, quantity, unit, HS, CPC, and country code. All other fields are eliminated.
3. The MS Access table is saved as a DB4 table and opened in FoxPro for processing. Processing involves adding the fields month, year, and another one to indicate whether the transaction is an export (code 1) or an import (code 2).
4. Three additional fields are then added for classification purposes.
5. Then, missing quantity unit is edited manually checking in a book the corresponding unit per HS8 code.
6. The following country codes received: RS (Serbia), TL (East Timor-Lest), and XK (Kosovo), are manually transformed to 999 (labelled “Other countries”)¹⁸.
7. Other steps follow, but the meeting ended at this point

Additionally, BBS officials provided to KE5 the following data and information on a soft copy (flash drive):

1. 12-months data on imports and exports in .dbf files¹⁹.
2. 13 output files containing tabulated data for dissemination.
3. Customs Tariff-2020-2021 8-digit codes, descriptions, and quantity unit.
4. Command instructions containing FoxPro Command used for foreign trade data processing.
5. Auxiliary .prg containing additional steps used for foreign trade data processing.

KE5 could not work with the original files received by BBS from the customs authority because they were not provided, or they were “corrupt files”.

¹⁸ KE5 recommends avoiding this unnecessary transformation. The countries: Serbia, East Timor-Leste, and Kosovo are recognized countries according to ISO-3166 Alpha-2 and their identification in the database can provide meaningful information.

¹⁹ It was not possible to open .dbf files. Error message displayed was “Corrupt file”. KE5 requested (by email after the mission in Dhaka) to BBS officials for the original customs files for one month, but this was not provided.

Annex 2: Brief introduction to Power Pivot and Power Query

Annex based of Microsoft Official information²⁰.

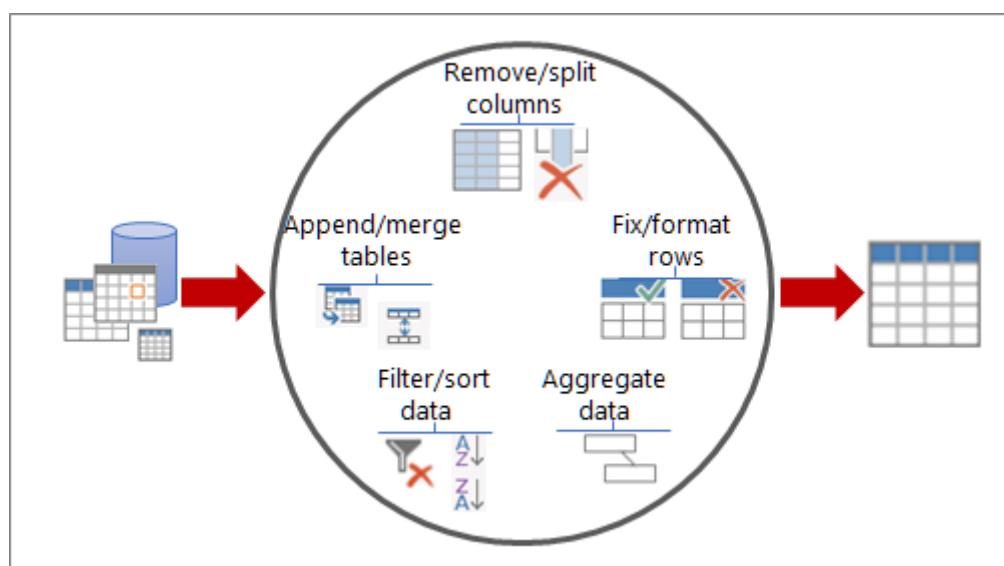
Power Query

With Power Query, it is possible to locate data sources, make connections, and then shape that data (for example remove a column, change a data type, or merge tables) in many ways that meet the needs. Then, load the query into Excel to create charts and reports. There are four phases to using Power Query:

- Connect: Import and make connections to data in the cloud, on a service, or locally.
- Transform: Shape data to meet the needs, while the original source remains unchanged.
- Combine: Further shape data by integrating it from multiple sources to get a unique view into the data.
- Load: Complete the query and save it into a worksheet or Data Model.

A vase starts as a lump of clay that one shapes into something practical and beautiful. Data is the same. It needs shaping into a table that is suitable for the needs and that enables attractive reports and dashboards.

Figure 19: Power Query



²⁰ <https://support.microsoft.com/en-us/office/how-power-query-and-power-pivot-work-together-a5f52cba-2150-4fc0-bb8f-b21d69990bc0>

Power Pivot

Power Pivot is an Excel add-in that can be used to perform powerful data analysis and create sophisticated data models. With Power Pivot, it is possible to mash up large volumes of data from various sources, perform information analysis rapidly, and share insights easily.

In both Excel and in Power Pivot, you can create a Data Model, a collection of tables with relationships. The data model in a workbook in Excel is the same data model in the Power Pivot window. Any data that is imported into Excel is available in Power Pivot, and vice versa.

When the data inside an Excel Data Model, it is possible to:

- Create relationships between tables
- Add calculated columns and measures with Data Analysis Expressions (DAX) in Power Pivot
- Create Key Performance Indicators (KPIs) in Power Pivot
- Create Perspectives
- Organize fields in Hierarchies
- Enhance it by performing analytics in Power Pivot

How the data is stored? The data in the Power Pivot window is stored in an analytical database inside the Excel workbook, and a powerful local engine loads, queries, and updates the data in that database. Because the data is in Excel, it is immediately available to PivotTables, PivotCharts, and other features in Excel that can be used to aggregate and interact with data. All data presentation and interactivity are provided by Excel; and the data and Excel presentation objects are contained within the same workbook file. Power Pivot supports files up to 2GB in size and enables you to work with up to 4GB of data in memory.

How Power Query and Power Pivot work together

Valid for Excel for Microsoft 365 Excel 2021 Excel 2019 Excel 2016 Excel 2013 Excel 2010

Power Query (Get & Transform) and Power Pivot complement each other. Power Query is the recommended experience for importing data. Power Pivot is great for modelling the imported data. Both can be used to shape the data in Excel, so then it is possible to explore and visualize it in PivotTables, PivotCharts, and Power BI.

In short, with Power Query is used to get and transform data into Excel, either in worksheets or the Excel Data Model. With Power Pivot, is used to add richness to that Data Model.

Annex 3: Brief introduction to Power BI

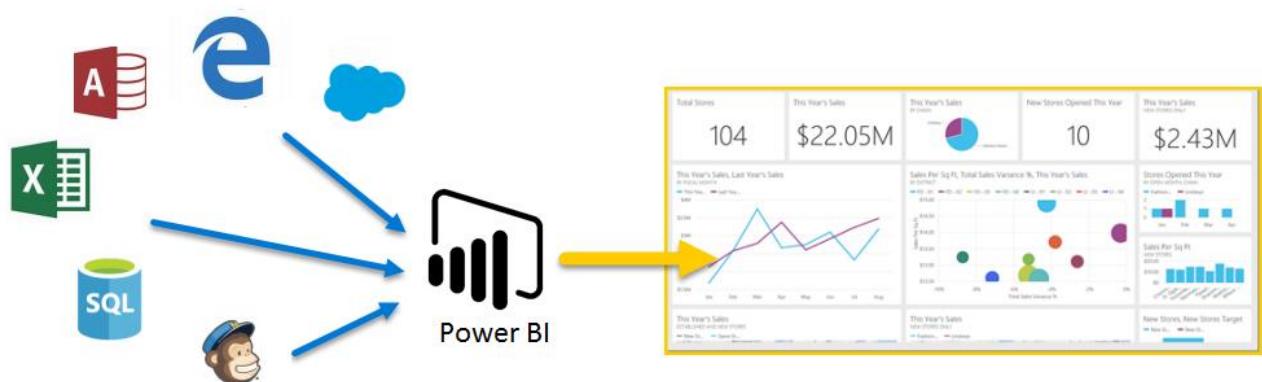
Annex 3 is based on Microsoft Official information.²¹

Connect to and visualize any data using the unified, scalable platform for self-service and enterprise business intelligence (BI) that's easy to use and helps gain deeper data insight.

What is Power BI?

Microsoft Power BI is a collection of software services, apps, and connectors that work together to turn unrelated sources of data into coherent, visually immersive, and interactive insights. Whether the data is a simple Microsoft Excel workbook, or a collection of cloud-based and on-premises hybrid data warehouses, Power BI lets easily connect to data sources, clean, and model your data without affecting the underlying source, visualize (or discover) what's important, and share that with anyone or particular people.

Figure 20: Power BI

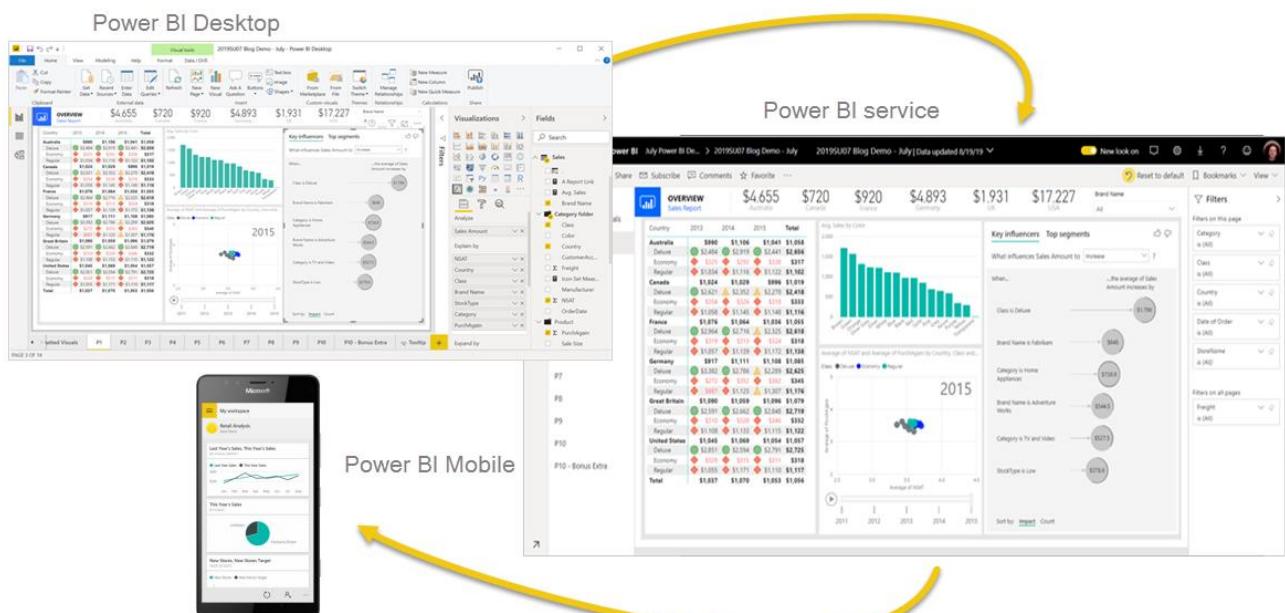


The parts of Power BI

Power BI consists of a Microsoft Windows desktop application called Power BI Desktop, an online SaaS (Software as a Service) service called the Power BI service, and mobile Power BI apps that are available on phones and tablets.

²¹ <https://docs.microsoft.com/en-us/learn/modules/introduction-power-bi/2-what-power-bi>

Figure 21: Parts of Power BI



These three elements — Desktop, the service, and Mobile apps—are designed to let people create, share, and consume business insights in the way that serves them, or their role, most effectively.

Power BI concepts

The major building blocks of Power BI are: *datasets*, *reports*, and *dashboards*. They are all organized into *workspaces*, and they are created on *capacities*.

A **dataset** is a collection of data that is *imported* or *connected* to. Power BI lets connect to and import all sorts of datasets and bring all of it together in one place. Datasets can also source data from dataflows.

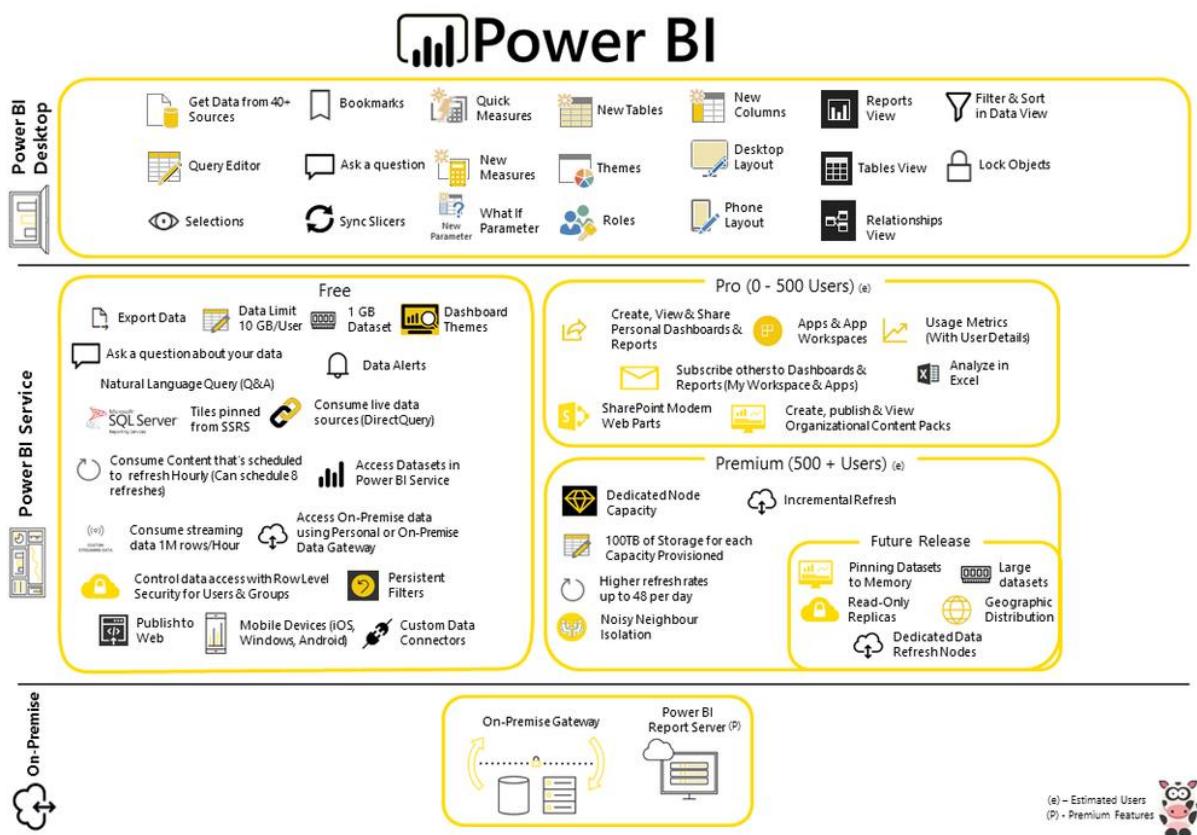
A Power BI **report** is one or more pages of visualizations such as line charts, maps, and treemaps. Visualizations are also called **visuals**. It is possible to create reports from scratch within Power BI or create them when its connect to datasets from Excel, Power BI Desktop, databases, and SaaS applications.

A **dashboard** is something created **in the Power BI service**. It is a single canvas that contains zero or more tiles and widgets. Each tile pinned from a report or from Q&A displays a single visualization that was created from a dataset and pinned to the dashboard. Entire report pages can also be pinned to a dashboard as a single tile. There are many ways to add tiles to your dashboard.

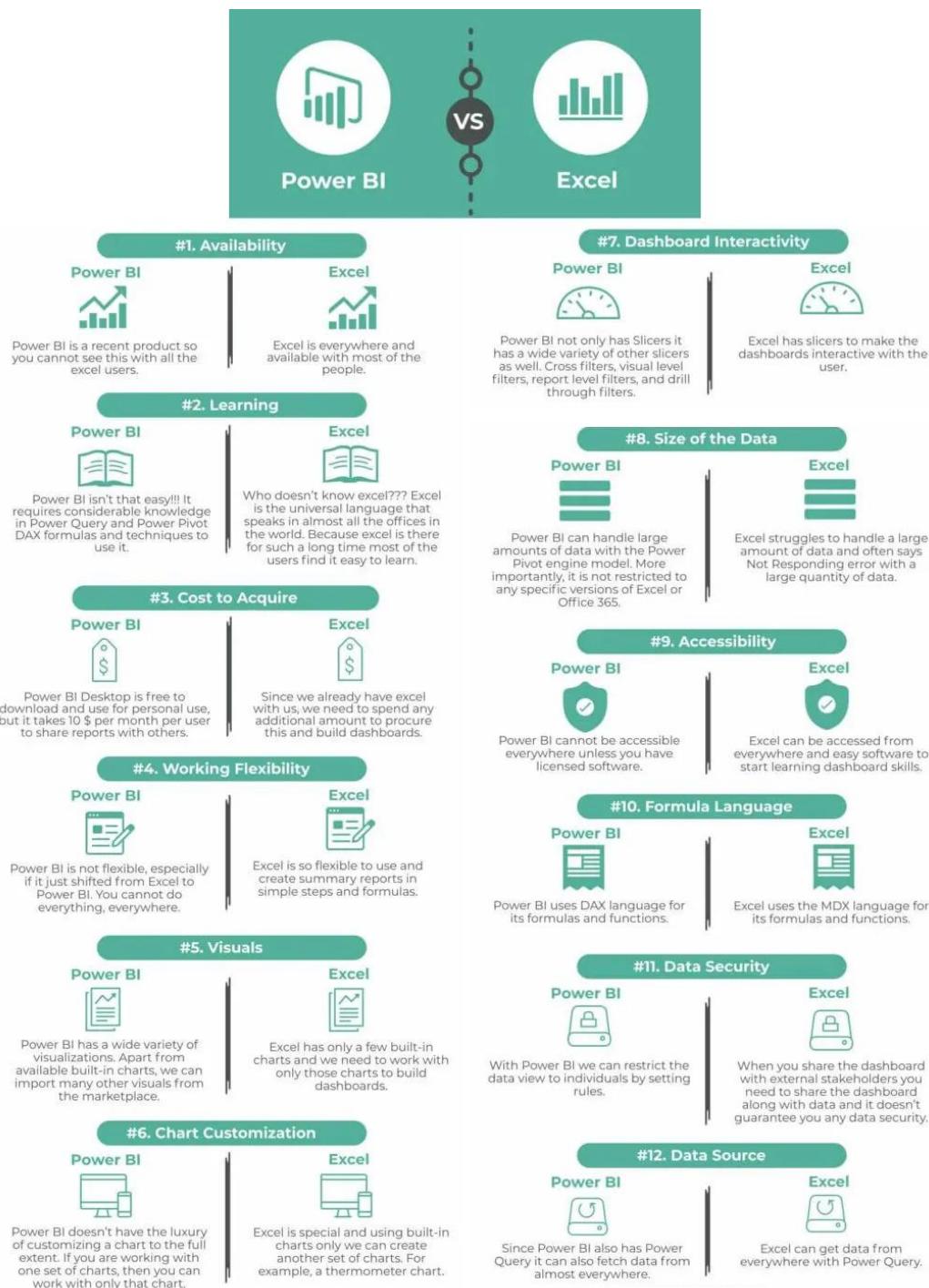
Why do people create dashboards? Here are just some of the reasons:

- to see, in one glance, all the information needed to make decisions.
- to monitor the most-important information about the business.
- to ensure all colleagues are on the same page, viewing and using the same information.
- to monitor the health of a business or product or business unit or marketing campaign, etc.
- to create a personalized view of a larger dashboard and show all the metrics that matter to them.

Functionalities of Power BI Service, Desktop and On-Premise



Comparison: Excel vs Power BI²²



²² Source wallstreetmojo.com

Annex 2: Manual for the quarterly economic indicators survey

Background

The baseline review of the capacity of Bangladesh to produce the core set of national accounts statistics was developed by KE5 within the framework of the Bangladesh NSDS project whose objective is to assist the Bangladesh Bureau of Statistics (BBS) in the implementation of the National Strategy for the Development of Statistics.

The assessment found that the National Accounts Wing is currently able to produce 5 out of 18 of the annual tables of the Minimum Requirement Dataset (MRDS), a tool defined by the UNSD to monitor the degree of 2008 SNA implementation. The assessment further found that the absence of quarterly GDP estimates hinders the possibility of BBS to apply to the IMF's Special Data Dissemination Standard (SDDS).

With the information and data gathered during the project inception, meetings, and mission to Dhaka, the KE5 concluded that the development of quarterly national accounts statistics is not only desired (as expressed by the National Accounts Wing's officials) but achievable. This development will be beneficial not only to data users but also to national accounts compilers as it will provide better tools for a closer monitoring of the recent economic events instead of relying on old trends as it is the current methodology for many economic activities. Additionally, quarterly GDP is one of the requirements for Bangladesh to be part of IMF's Special Data Dissemination Standard (SDDS) country members.

The activities carried out fall into the Project Component C: Improving the Coverage and Quality of National Accounts. Specifically, the development of the tool is part of the Activity C.2.8 – Improvements in the area of National Accounts (Deliverable C.2), while the documentation falls under Activity C.3.8 – Manuals on improved methodology for National Accounts (Deliverable C.3).

Introduction

The BBS is planning to develop the quarterly estimates of Bangladesh's gross domestic product which will allow for the provision of information about the evolution of the economy in a timelier manner than annual data, and more comprehensively than individual short-term indicators. At the same time, it will allow the BBS to fulfill an important requirement in its plan to apply for the IMF's Special Data Dissemination standard.

Data requirements for quarterly gross domestic product differ from those of the annual gross domestic product in the timelines, periodicity, and coverage. Data collection frequently focus on a limited set of economic indicators about the evolution of prices, production quantities, sales, production costs, etc., instead of the full set of business accounting as it is the case for the annual estimates of gross domestic product.

The methods used for the compilation of quarterly GDP also differ from those of the annual estimates. Often, index numbers are produced from the economic indicators relying in either the outputs or the inputs of the production process and gross value added is derived assuming a stable relationship between output and intermediate consumption, as opposed to the annual methods in which independent estimates of output and intermediate consumption are produced and gross value added is derived as the difference between them.

The aim of this proposed framework for a Quarterly Economic Indicators Survey (QEIS) is to collect data on those areas where there are no available administrative sources, regular quarterly survey nor relevant high frequency indicators produced by any reliable data source, and which are necessary to produce quarterly GDP estimates for Bangladesh.

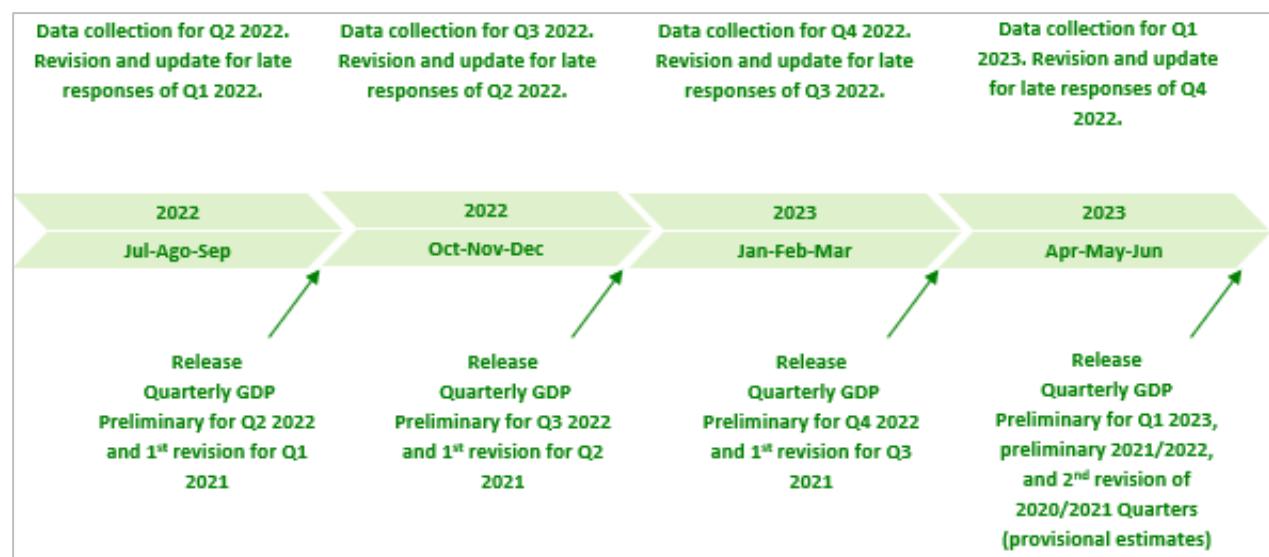
This document presents the methodology for the QEIS describing the planning, operation, and evaluation stages involved in a summarized GSBPM format. It also provides the model questionnaires that can be used for the different economic activities, gives instructions for the construction of a database using MS Excel as a tool, and provides guidelines for the calculation of the economic indices.

1. Timeline for Quarterly Economic Indicators Survey Work

The QEIS is conducted on a regular basis in accordance with the dissemination of the quarterly GDP. The workflow must also take into consideration the time needed for the statistical units to collect their own data and to be able to reply to the QEIS questionnaire.

The following figure 1 presents the timeline for the work on the Quarterly Economic Indicators Survey for the year 2022/2023. The timeline assumes that every time a new quarter is released the immediate previous quarter is revised; therefore, during the time of data collection for the new quarter, data for the immediate previous quarter is revised and updated with late responses. By the end of the year 2022/2023 (end of June 2023) it is assumed that annual date for the year 2020/2021 is collected and the quarterly estimates are benchmarked accordingly. Then, provisional estimates for the quarters of 2020/2021 are produced and, consequently, new preliminary estimates for the quarters of 2021/2022 are also calculated and ready for dissemination together with the preliminary estimates of the first quarter of 2023.²³

Figure 1: Example of a timeline for Quarterly Economic indicators Survey.



The main activities for the QEIS involve:

- Validate survey frame
- Contacting the statistical units and sending the questionnaires
- Providing clarification about the questionnaire to respondents
- Collecting data
- Editing data
- Following up with respondents

²³ This is an example of a revision policy for quarterly economic indicators survey. BBS can tailor this example to adjust to its own revision policy for national accounts statistics in case it has one or use this example as an initial model to develop its own policy.

- g. Cleaning data and Imputing data gaps
- h. Storing and maintaining database

These activities are conducted regularly in every quarter. During the first month of the quarter, activities are usually concentrated in:

- i) Revising the survey frame and data collected for previous periods,
- ii) integrating late responses
- iii) starting data collection for the current quarter.

During the second month, activities focus on:

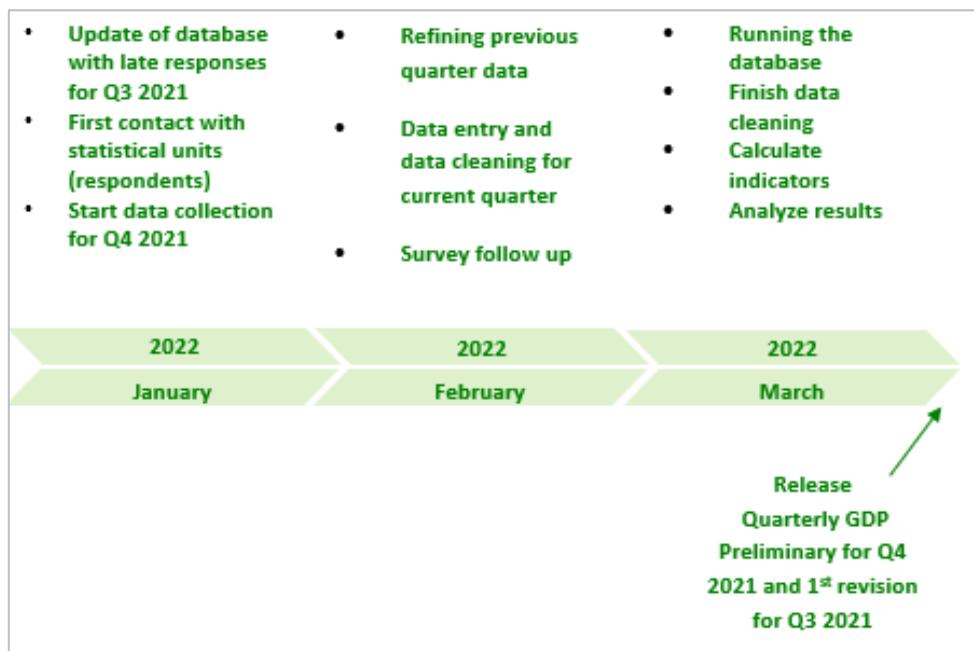
- (i) refining of previous quarter data and data imputations,
- (ii) continuing the process of data entry and starting the process of data cleaning for the current quarter starts,
- (iii) following up with main data providers to ensure their participation.

On the last month of the quarter the main activities aim at:

- (i) finalizing data entry and data cleaning,
- (ii) running database with the most updated data.

This work must be finalized with enough time in advance to allow the national accounts team to calculate the economic indicators and to analyze the results. These activities are summarized in the figure 2 below.

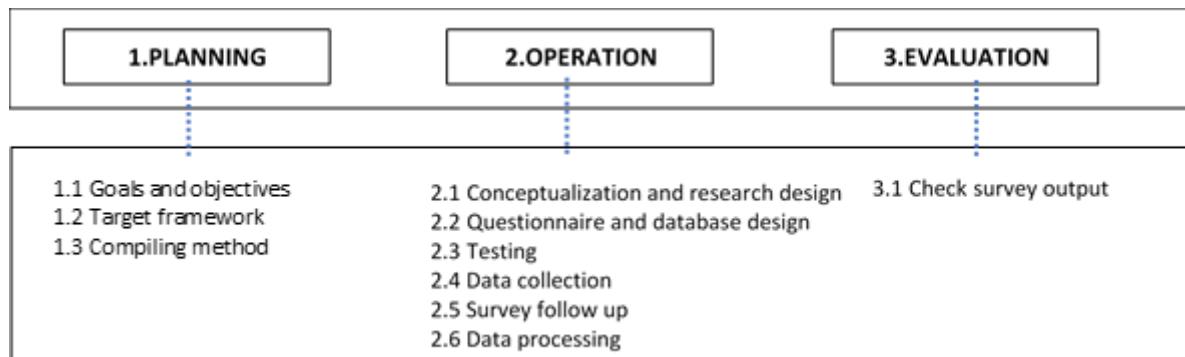
Figure 2: Example of the workflow during the first quarter of 2022.



2. Survey design system and processing

A survey refers to any form of data collection to a predefined group of respondents. The design and maintenance of the Quarterly Economic Indicators Survey is described here using three main stages of the GSBPM model: planning, operation, and evaluation. Figure 3 below presents the scheme of the simplified GSBPM model used for Bangladesh's QEIS and the elements are described below.

Figure 3: Simplified GSBPM model for the design of the Quarterly Economic Indicators Survey.



2.1 Planning

In the planning stage the goals and objective are defined, the survey content is specified, and the survey procedures are established.

2.1.1 Goals and objectives

The goal of this survey is to collect reliable data for the estimate of quarterly economic indicators of different economic activities conducted in Bangladesh, with the aim at providing useful data for the calculation of quarterly gross value added and quarterly gross domestic product by production approach. The survey is meant to supplement other data sources (administrative, other surveys, and/or data models) used in the compilation of quarterly GDP, by providing a framework for data collection in those areas where no data or indicators are available.

2.1.2 Target Framework

The statistical units belonging to the targeted economic activities are the permanent establishments²⁴ obtained from the Economic Census 2013. The targeted economic activities are selected according to: (i) their importance in the gross domestic product of the base year and (ii) the availability of quarterly economic indicators from other sources.

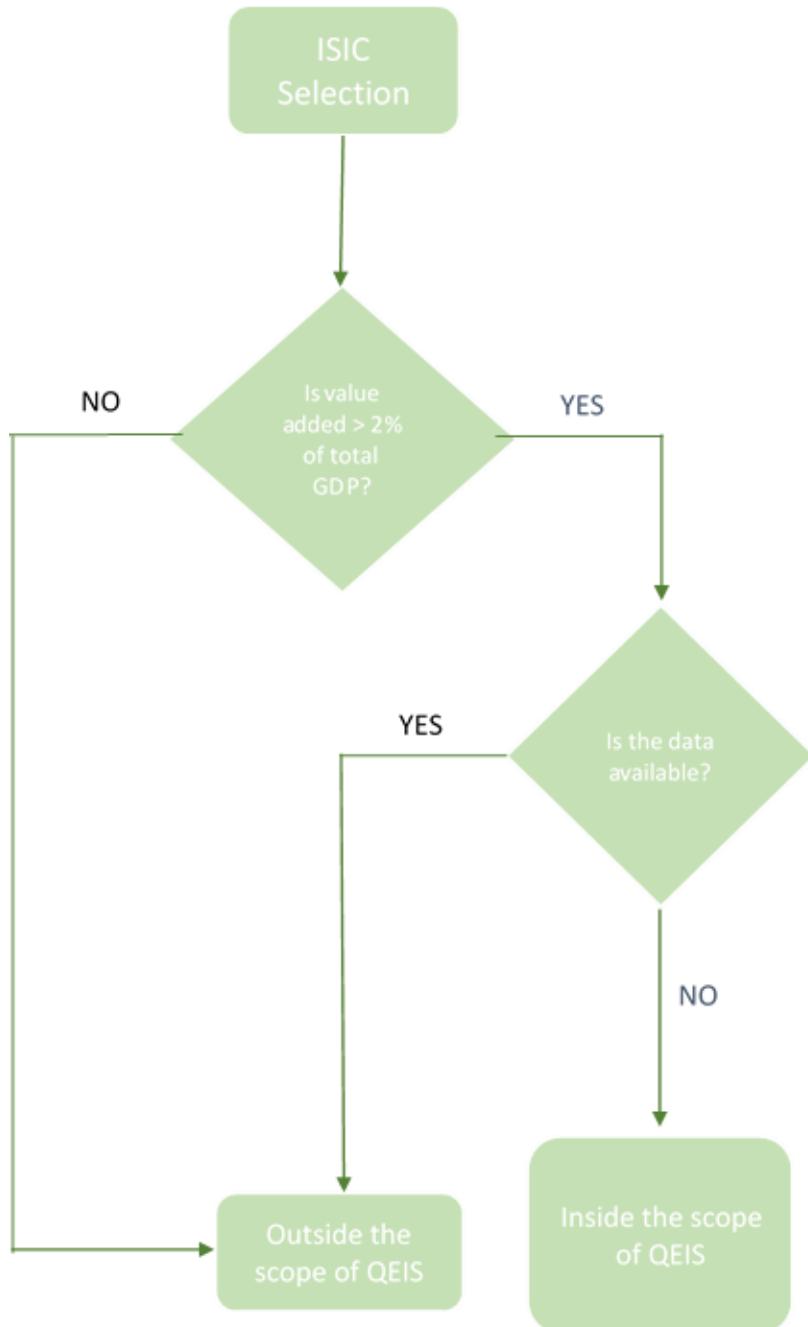
As an example, quarterly data of manufacturing activities are available in the Industrial Production Index disseminated by the BBS; therefore, these activities should not be part of the target framework of this QEIS. Similarly, agriculture, mining and quarrying, and electricity and water production activities should not be part of the QEIS target framework since alternative sources are available.

²⁴ An economic unit outside household having fixed location and permanent structure is a permanent establishment. Permanent establishment is organized in a permanent structure. Source: Page 38 of the Preliminary Report on Economic Census 2013.

(http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/f2661853_b857_49c5_8761_e1641e3a_ec9b/Pre_Report_Econo_Cen_13.pdf)

The decision tree presented in figure 4 provides guidance²⁵ in the selection of the target framework.

Figure 4: Decision tree for the selection of the target framework.



A tentative list comprises thirty-two economic activities to be included in the Quarterly Economic Indicators Survey²⁶. These activities are listed below in figure 5 with their corresponding ISIC Rev. 4 codes.

²⁵ This decision tree does not represent a fixed rule. BBS must adjust it according to its needs.

²⁶ This is a tentative example of a maximum level of disaggregation of the ISIC to obtain a reasonable level of representativeness of the estimates. BBS must work on the list of activities to ensure that it is the most appropriate according to its data availability.

Figure 5: Tentative list of economic activities to be part of the QEIS.

SECTION	ISIC	Division
F Construction	41	Construction of buildings
F Construction	42	Civil engineering
F Construction	43	Specialized construction activities
G Wholesale and Retail trade	45	Wholesale and retail trade and repair of motor vehicles and motorcycles
G Wholesale and Retail trade	46	Wholesale trade, except of motor vehicles and motorcycles
G Wholesale and Retail trade	47	Retail trade, except of motor vehicles and motorcycles
H Transportation and Storage	49	Land transport and transport via pipelines
H Transportation and Storage	50	Water Transport
H Transportation and Storage	51	Air Transport
H Transportation and Storage	52	Warehousing and support activities for transportation
I Accommodation and Food service activities	55	Accommodation
I Accommodation and Food service activities	56	Food and beverage service activities
K Financial and Insurance activities	649	Other financial service activities, except insurance and pension funding activities
K Financial and Insurance activities	65	Insurance, reinsurance and pension funding, except compulsory social security
L Real Estate	68	Real estate activities
M Professional, scientific and technical activities	69	Legal and accounting activities
M Professional, scientific and technical activities	70	Activities of head offices; management consultancy activities
M Professional, scientific and technical activities	7110	Architectural and engineering activities and related technical consultancy
M Professional, scientific and technical activities	7120	Technical testing and analysis
M Professional, scientific and technical activities	73	Advertising and market research
N Administrative and support service activities	77	Rental and leasing activities
N Administrative and support service activities	78	Employment activities
N Administrative and support service activities	79	Travel agency, tour operator, reservation service and related activities
N Administrative and support service activities	80	Security and investigation activities
N Administrative and support service activities	81	Services to buildings and landscape activities
P Education	85	Education
Q Human health activities	86	Human health activities
R Arts, entertainment and recreation	91	Libraries, archives, museums and other cultural activities
R Arts, entertainment and recreation	93	Sports activities and amusement and recreation activities
S Other service activities	94	Activities of membership organizations
S Other service activities	95	Repair of computers and personal and household goods
S Other service activities	96	Other personal service activities

2.1.3 Compiling Method

The Quarterly Economic Indicators Survey covers the economic activities defined in the target framework in whose permanent establishments have 10 or more workers.

The compiling method employed is based on a probabilistic sample technique²⁷ in which all large units are included in the survey while small and medium units would be selected on a sample basis.

The formula used to determine the sample size for each economic activity is

$$n_i = \frac{c_i^2}{e_i^2}$$

Where n stands for sample size, c for coefficient of variation, e for margin of error, and i for economic activities defined in the target framework. Coefficient of variation is calculated using persons engaged in the respective establishments obtained from the Economic Census 2013.

2.2 Operation

The operation phase involves the design of the questionnaire, data collection, and data processing. Six steps are described:

2.2.1 Conceptualization and research design

The first step of the operation phase involves defining the subject of study and the type of data to be collected.

The survey targets the collection of quarterly value and/or volume indicators to monitor the economic activities conducted in Bangladesh for which no short-term indicators are available. For the purpose of this survey, the statistical units (establishments) are classified into economic activities defined according to International Standard Classification of All Economic Activities Revision 4 (ISIC Rev. 4)²⁸.

The selection of the economic indicators relevant for the different economic activities is based on the recommendations of the Quarterly National Accounts Manual, 2017 Edition²⁹, the International Recommendations for the Index of Industrial Production³⁰, and the Compilation Manual for an Index of Service Production³¹.

²⁷ Probability sampling refers to the selection of a sample from a population, when this selection is based on the principle of randomization, that is, random selection or chance.

²⁸ https://unstats.un.org/unsd/publication/seriesm/seriesm_4rev4e.pdf

²⁹ <http://www.imf.org/external/pubs/ft/qna/>

³⁰ <https://unstats.un.org/unsd/statcom/doc10/BG-IndustrialStats.pdf>

³¹ <https://www.oecd.org/sdd/business-stats/37799074.pdf>

Figure 6: List of economic indicators.

ISIC SECTION and DIVISION		Indicator
F Construction		
41	Construction of buildings	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Total value of work done (during the quarter) Progress Payment Receivable for Work Done (during quarter)
42	Civil engineering	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Total value of work done (during the quarter) Progress Payment Receivable for Work Done (during quarter)
43	Specialized construction activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Total value of work done (during the quarter) Progress Payment Receivable for Work Done (during quarter)
G Wholesale and Retail trade		
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter) Number of New Cars Sold Number of Used Cars Sold Number of Other New Motor Vehicles Sold Number of Other Used Motor Vehicles Sold
46	Wholesale trade, except of motor vehicles and motorcycles	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter) Cost of Goods Sold
47	Retail trade, except of motor vehicles and motorcycles	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter) Cost of Goods Sold
H Transportation and Storage		
49	Land transport and transport via pipelines	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Passenger Revenue Freight Revenue Passenger Miles Freight Tonne Miles
50	Water Transport	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Total Weight of the Cargo Handled Revenue Earned
51	Air Transport	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Passenger Revenue Freight Revenue Passenger Miles Freight Tonne Miles

ISIC SECTION and DIVISION	Indicator
52 Warehousing and support activities for transportation	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Turnover/Sales Tonnes of Goods Handled Tonnes of Goods Carried
I Accommodation and Food service activities	
55 Accommodation	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Bed-Nights Revenue from Rooms Restaurant Sales Other Revenue
56 Food and beverage service activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Meals Sold Revenue From Sales and Services Number of Customers
K Finantial and Insurance activities	
649 Other financial service activities, except insurance and pension funding activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Loan Accounts Number of Deposit Accounts Number of Current Accounts
65 Insurance, reinsurance and pension funding, except compulsory social security	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Non Life Insurance Policies in Force Number of Clients
L Real Estate	
68 Real estate activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Turnover Number of Property Transactions Number of Dwellings Rented Number of Non-residential Buildings Rented
M Professional, scientific and technical activities	
69 Legal and accounting activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Turnover Number of Contracts Drawn Up Number of Campaigns Run Number of Billable Hours
70 Activities of head offices; management consultancy activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter)
7110 Architectural and engineering activities and related technical consultancy	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Designs Commissioned Number of Survey Commissioned Number of Billable Hours
7120 Technical testing and analysis	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Designs Commissioned Number of Survey Commissioned Number of Billable Hours

ISIC SECTION and DIVISION		Indicator
73	Advertising and market research	Number of Employees (End of the Quarter)
		Salary and wages (Total for Quarter)
		Number Of Campaigns Carried Out
		Number Of Units Of Media Space
		Number Of Newspaper/Magazine Subscriptions
N Administrative and support service activities		
77	Rental and leasing activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter)
78	Employment activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter)
79	Travel agency, tour operator, reservation service and related activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number Of Bookings
80	Security and investigation activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter)
81	Services to buildings and landscape activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter)
P Education		
85	Education	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Enrolled Students (at the end of quarter) Revenue earned
Q Human health activities		
86	Human health activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Patients Attended (Total for Quarter) Revenue Earned
R Arts, entertainment and recreation		
91	Libraries, archives, museums and other cultural activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter)
93	Sports activities and amusement and recreation activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter)
S Other service activities		
94	Activities of membership organizations	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter)
95	Repair of computers and personal and household goods	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter)
96	Other personal service activities	Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Value of Sales (Total in each Quarter)

2.2.2 Questionnaire and database design

The questionnaire is designed in MS Excel to be ideally uploaded in BBS website or sent by electronic means, but it can also be printed and handled as a hard copy if needed. Data entry and editing is done using same layout of the questionnaire, adding years and quarters as columns on the right to build in the time series. Survey responses are stored in this Data Entry file in which each sheet contains data for one statistical unit.

The questionnaire³² has the following elements:

- a) Introduction: introduces the survey.
- b) Instruction: provides information regarding to the fill in the questionnaire, and the date and email address for data submission.
- c) Concepts: provides key definitions and concepts relevant for the survey.
- d) General data: asks for general information about the statistical unit and the person in charge of replying to the survey.
- e) Economic data: asks for the economic indicators which vary according to the economic activity.

Figure 7: Questionnaire introduction

Twinning Partnership
National Strategy for the Development of Statistics
(NSDS)
 Implementation Support Project

Quarterly Economic Indicators Survey: Introduction

The Quarterly Economic Indicators Survey provides short-term economic indicators to measure the behaviour of the economic activity on a quarterly basis.

These short-term indicators are essential for the calculation of the quarterly value added of each economic activity, from which the estimate of the Quarterly Gross Domestic Product (GDP) is derived. Because of this, your contribution to this survey is highly valued.

Data provided in this questionnaire are considered confidential and are used only for statistical purposes as economic indicator. For this, data is transformed into index numbers and grouped with data from other respondents belonging to the same economic activity.

Please, read the guidelines provided in the 'Instructions sheet' before completing this questionnaire.

Feel free to contact us for any query about how to complete this questionnaire or how we use your data for statistical purposes. You can write an e-mail to or call us at

³² BBS may consider modifying the layout of the questionnaire to be aligned to other BBS's survey forms.

Figure 8: Questionnaire Instructions section

Twinning Partnership
National Strategy for the Development of Statistics
(NSDS)
Implementation Support Project

devstat **ibf** **INTERPOLANT CONSULTING**

Quarterly Economic Indicators Survey: Instructions

Please, follow the steps to complete the questionnaires:

1. Enter to the website and download the electronic questionnaire for the Quarterly Survey on Construction and Services Indicators.
2. Type the Username that was given to you in the 'General_Data' sheet cell B7 ('Username'). Data regarding general information about your company will appear after you have entered the Username.

3. In sheet 'Economic Data' fill the template with data regarding the economic activity of your establishment for the relevant quarter according to the schedule provided below.
4. For your reference, you may consider the concepts provided in 'Concepts' sheet while filling the questionnaire.
5. Add any relevant comment that you consider it will help us understand your data in 'Notes' sheet. You can also use this sheet to provide any clarification note in case the data provided is not strictly related to the concept requested or is provided in a unit different from the requested one.
6. Send the questionnaire by e-mail to

Delivery Schedule for Filled up certified copy of Questionnaire 2022 :

Q1 (Jan-Mar)	by 10/05/2022
Q2 (Apr-Jun)	by 10/08/2022
Q3 (Jul-Sep)	by 10/11/2022
Q4 (Oct-Dec)	by 10/02/2022

Figure 9: Questionnaire concepts section

  	Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project	 
Quarterly Economic Indicators Survey: Concepts		
<p>Residence is a key concept and relates to the activities held in the country. Data provided should account for activity of establishments resident of the country. If your company has branches or subsidiaries abroad and conducts economic activities outside the country, please, make sure that this information is EXCLUDED from the data provided in this questionnaire.</p> <p>Salary and wages include wages, salaries, overtime payments, allowances, bonuses due during the quarter</p> <p>Value of work done represents the value of the work carried out by the establishment during the quarter, whether partial or complete stage is achieved. This excludes value of work done by sub-contractors.</p> <p>Progress payments are installments that relate to the amount of work done. To the extent that progress payments closely match work done, they can be used as indicator. However, if payments are infrequent, delayed, or have a substantial bonus component at the end, they give a misleading time series, and a cost-based measure should be used as indicator of production. The measure of input costs should be as complete as possible: The input costs should include compensation of employees, intermediate consumption, other taxes less subsidies on production, and costs of using land and capital (rent, consumption of fixed capital, and interest).</p>		

Figure 10: Questionnaire general information section

  	Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project	 																
Quarterly Economic Indicators Survey																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Username</td> <td style="width: 50%; text-align: right;">41999</td> </tr> <tr> <td>ISIC 4 Section</td> <td style="text-align: right;">F Construction</td> </tr> <tr> <td>ISIC 4 digit code</td> <td style="text-align: right;">41</td> </tr> <tr> <td>ISIC 4 Description</td> <td style="text-align: right;">Specialized construction activities</td> </tr> <tr> <td>Serial Number</td> <td></td> </tr> </table>	Username	41999	ISIC 4 Section	F Construction	ISIC 4 digit code	41	ISIC 4 Description	Specialized construction activities	Serial Number									
Username	41999																	
ISIC 4 Section	F Construction																	
ISIC 4 digit code	41																	
ISIC 4 Description	Specialized construction activities																	
Serial Number																		
Please, answer the following general information																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Name of the Company</td> <td style="width: 50%; text-align: center;">Example Name 1</td> </tr> <tr> <td>Manager</td> <td></td> </tr> <tr> <td>Phones</td> <td></td> </tr> <tr> <td>Email</td> <td></td> </tr> <tr> <td>Contact person</td> <td></td> </tr> <tr> <td>Job Title</td> <td></td> </tr> <tr> <td>Phones</td> <td></td> </tr> <tr> <td>Email</td> <td></td> </tr> </table>	Name of the Company	Example Name 1	Manager		Phones		Email		Contact person		Job Title		Phones		Email			
Name of the Company	Example Name 1																	
Manager																		
Phones																		
Email																		
Contact person																		
Job Title																		
Phones																		
Email																		
Confidential Data For internal use																		

Figure 11: Questionnaire economic data section

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 41999 ISIC 4: 41 F Construction Construction of buildings								
Year 2021				Year 2022				
Economic Indicators	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Total value of work done (during the quarter)								
Progress Payment Receivable for Work Done (during the quarter)								
<small>Please, express values in TK, do not express values in thousands nor in million or in a different currency.</small>								
<small>Confidential Data</small>								

The frame number and ISIC code are displayed here as identifiers for the database.

Indicators where each activity has its unique economic indicator, but they all have "number of employees" and "salaries and wages".

Represents the year and the quarter in which the data is entered. In the data entry file, quarters of different years are merged so data is stored in a time series format.

Figure 12: Questionnaire Notes

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project											
Confidential Data											
Quarterly Economic Indicators Survey											
Notes on the Data											
Note 1:											
Note 2:											
Note 3:											
Note 4:											

In order to build a database, a data entry file is design to compile all answers from the economic data section of the questionnaire. This file aims at building a time series data for each statistical unit from the survey responses and store these data in a template that is friendly and flexible for editing, consulting, and building the database.

A database file is created to store data from all responses of the QEIS. This file uses a MS Excel Macro (see Annex 2) to merge and transform all data from the data entry file in a single database file. The layout of the database is shown in the figure below:

Figure 13: Representation of the database generated by the macro.

Frame Number	ISIC	Year_R	Quarter_R	Indicator	Value	Year	Quarter	ISIC4	ISIC4Desc	blishmer
41999	41	Year 2021	Q1 (Jan-Mar)	Number of Employees (End of the Quarter)	39	2021	Q1	4100	Construction	Name 1
41999	41	Year 2021	Q1 (Jan-Mar)	Salary and wages (Total for Quarter)	429000	2021	Q1	4100	Construction	Name 1
41999	41	Year 2021	Q1 (Jan-Mar)	Total value of work done (during the quarter)	0	2021	Q1	4100	Construction	Name 1
41999	41	Year 2021	Q1 (Jan-Mar)	Payment Receivable for Work Done(during the quarter)	0	2021	Q1	4100	Construction	Name 1
41999	41	Year 2021	Q2 (Apr-Jun)	Number of Employees (End of the Quarter)	41	2021	Q2	4100	Construction	Name 1
41999	41	Year 2021	Q2 (Apr-Jun)	Salary and wages (Total for Quarter)	451000	2021	Q2	4100	Construction	Name 1
41999	41	Year 2021	Q2 (Apr-Jun)	Total value of work done (during the quarter)	0	2021	Q2	4100	Construction	Name 1
41999	41	Year 2021	Q2 (Apr-Jun)	Payment Receivable for Work Done(during the quarter)	0	2021	Q2	4100	Construction	Name 1
41999	41	Year 2021	Q3 (Jul-Sep)	Number of Employees (End of the Quarter)	41	2021	Q3	4100	Construction	Name 1
41999	41	Year 2021	Q3 (Jul-Sep)	Salary and wages (Total for Quarter)	451000	2021	Q3	4100	Construction	Name 1
41999	41	Year 2021	Q3 (Jul-Sep)	Total value of work done (during the quarter)	0	2021	Q3	4100	Construction	Name 1
41999	41	Year 2021	Q3 (Jul-Sep)	Payment Receivable for Work Done(during the quarter)	0	2021	Q3	4100	Construction	Name 1
41999	41	Year 2021	Q4 (Oct-Dec)	Number of Employees (End of the Quarter)	46	2021	Q4	4100	Construction	Name 1
41999	41	Year 2021	Q4 (Oct-Dec)	Salary and wages (Total for Quarter)	506000	2021	Q4	4100	Construction	Name 1
41999	41	Year 2021	Q4 (Oct-Dec)	Total value of work done (during the quarter)	0	2021	Q4	4100	Construction	Name 1
41999	41	Year 2021	Q4 (Oct-Dec)	Payment Receivable for Work Done(during the quarter)	0	2021	Q4	4100	Construction	Name 1
41999	41	Year 2022	Q1 (Jan-Mar)	Number of Employees (End of the Quarter)	0	2022	Q1	4100	Construction	Name 1
41999	41	Year 2022	Q1 (Jan-Mar)	Salary and wages (Total for Quarter)	0	2022	Q1	4100	Construction	Name 1
41999	41	Year 2022	Q1 (Jan-Mar)	Total value of work done (during the quarter)	0	2022	Q1	4100	Construction	Name 1
41999	41	Year 2022	Q1 (Jan-Mar)	Payment Receivable for Work Done(during the quarter)	0	2022	Q1	4100	Construction	Name 1
41999	41	Year 2022	Q2 (Apr-Jun)	Number of Employees (End of the Quarter)	0	2022	Q2	4100	Construction	Name 1
41999	41	Year 2022	Q2 (Apr-Jun)	Salary and wages (Total for Quarter)	0	2022	Q2	4100	Construction	Name 1
41999	41	Year 2022	Q2 (Apr-Jun)	Total value of work done (during the quarter)	0	2022	Q2	4100	Construction	Name 1
41999	41	Year 2022	Q2 (Apr-Jun)	Payment Receivable for Work Done(during the quarter)	0	2022	Q2	4100	Construction	Name 1
41999	41	Year 2022	Q3 (Jul-Sep)	Number of Employees (End of the Quarter)	0	2022	Q3	4100	Construction	Name 1
41999	41	Year 2022	Q3 (Jul-Sep)	Salary and wages (Total for Quarter)	0	2022	Q3	4100	Construction	Name 1
41999	41	Year 2022	Q3 (Jul-Sep)	Total value of work done (during the quarter)	0	2022	Q3	4100	Construction	Name 1
41999	41	Year 2022	Q3 (Jul-Sep)	Payment Receivable for Work Done(during the quarter)	0	2022	Q3	4100	Construction	Name 1
41999	41	Year 2022	Q4 (Oct-Dec)	Number of Employees (End of the Quarter)	0	2022	Q4	4100	Construction	Name 1
41999	41	Year 2022	Q4 (Oct-Dec)	Salary and wages (Total for Quarter)	0	2022	Q4	4100	Construction	Name 1
41999	41	Year 2022	Q4 (Oct-Dec)	Total value of work done (during the quarter)	0	2022	Q4	4100	Construction	Name 1
41999	41	Year 2022	Q4 (Oct-Dec)	Payment Receivable for Work Done(during the quarter)	0	2022	Q4	4100	Construction	Name 1
42999	42	Year 2021	Q1 (Jan-Mar)	Number of Employees (End of the Quarter)	252	2021	Q1	4290	Construction	Name 2
42999	42	Year 2021	Q1 (Jan-Mar)	Salary and wages (Total for Quarter)	2772000	2021	Q1	4290	Construction	Name 2
42999	42	Year 2021	Q1 (Jan-Mar)	Total value of work done (during the quarter)	0	2021	Q1	4290	Construction	Name 2

2.2.3 Testing

A testing exercise needs to be done with some data providers to refine the questionnaire before the launch of the survey. This step is only done once when launching the survey for the first time.

2.2.4 Data collection

Data collection starts with a first contact of the statistical units by BBS officials. This can be done by phone, email, or a physical visit. The questionnaire can then be download by respondents from BBS website or BBS officials can send it by email.

Respondents are requested to submit the data within 75 days after the reference period.

Data collection may start 15 days after the refence period and may continue until 75 days after the refence period for the first preliminary results. For late responses, data collection may continue for 90 more days to produce revised figures for the quarter.³³

2.2.5 Survey follow up

Survey follow up is an essential part of the data collection process. It serves multiple purposes such as:

- Avoid disruptions and/or delays in data submission
- Building relationship with data providers
- Ask for clarification of data
- Collect additional information about the data provided

After the first check on the preliminary results the team conducts a follow up of respondents to collect missing data.

The follow up can be done by phone calls, emails, or visiting the statistical unit in person.

2.2.6 Data processing

Editing and imputation are an integral part of the data-processing operations. The editing involves routine checks for typical errors of editing and missing values, and valid value range check (mainly used to check some technical relationship between the indicators). The technique of imputation is used for estimating the missing data in the case of item non-response.

Data processing involves the following stages:

2.2.6.1 Integrate data

The survey design allows for the integration with other sources. For example, supplementary data can be collected from financial statements of the corporations obtained from the stock exchange or from the corporations' website.

2.2.6.2 Classify and code

In the QEIS statistical units are classified into economic activities based on ISIC Rev. 4 and must be in line with the codes used in the Economic Census and the Survey of Manufacturing Industries.

³³ The number of days needs to be adjusted by BBS according to its needs.

2.2.6.3 Review and validate

The review and validate process examines data to try to identify potential problems, errors and discrepancies such as outliers, item non-response and miscoding. It may be run iteratively, validating data against predefined edit rules, usually in a set order. It may flag data for automatic or manual inspection or editing.

When working with the indicators, it can be challenging to understand the reasons for significant increases and drops in responses' values. This could happen in the revenue, number employees, salaries, or other variables. Some of these changes might be justified, whereas others might be an error in reporting or data entry. To make sure that these errors are caught and fixed on time, a pivot table is used to check all history data reported for the frame.

Figure 14: Pivot table for data check for a particular frame.

Frame Nun 30121												
Sum of Va			2019 Total		2020		2020 Total		2021		2021 Total	
Row La	ISIC4	Indicator	Establishment_Name	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
47	4712	Cost of goods sold	فروشی فرد	91,548,946	35,383,213	29,518,745	31,281,413	33,700,136	129,883,507	36,283,536	37,310,776	73,594,312
	4712	Number of Employees (End)	فروشی فرد	661	225	223	224	221	893	221	220	441
47	4712	Salary and wages (Total for Qua)	فروشی فرد	6,567,590	2,171,507	2,213,526	2,195,596	2,281,190	8,861,819	2,281,076	1,578,328	3,859,404
47	4712	Value of Sales (in each Qua)	فروشی فرد	125,744,634	47,930,204	42,853,047	42,266,068	45,239,360	178,288,679	45,542,059	46,705,114	92,247,173
Grand Total				223,861,831	85,485,149	74,585,541	75,743,301	81,220,907	317,034,898	84,106,892	85,594,458	169,701,330

This time series analysis helps identifying data outliers. Ratios are also effective in detecting problems in data, for example: the accuracy of salaries and wages data can be assessed by dividing the salaries by number of employees and checking for any break in this time series; also, the monthly salary per employee can be calculated and this is expected to be relatively stable in the short run.

Significant changes in data will most probably require contacting the company and asking for clarification.

2.2.6.4 Edit and impute

Where data are considered incorrect, missing or unreliable, new values may be inserted in this subprocess. There are different methods to do this, often using a rule-based approach.

Specific steps typically include:

- the determination of whether to add or change data (i.e. is erroneous data flagged or is it replaced accordingly in the dataset?);
- the selection of the method to be used;
- adding / changing data values;
- writing the new data values back to the data set, and flagging them as changed;
- the production of metadata on the editing and imputation process.

Different imputation methods are used in this process. Two of the most commonly used methods are described below:

Deductive imputation method: Deductive imputation uses logic or an understanding about the relationship between variables and units to fill in missing values. This include deriving a value as a function of other values, adopting a value from a related unit, and adopting a value from data reported in previous periods. For example, if a company do not report in the current quarter, either the value of the same quarter on the previous year can be used or the value for the previous quarter but taking into consideration the seasonality between the consecutive quarters.

Donor imputation method: There are different options within this method, such as the Nearest Neighbor, Random Hot Deck, Sequential Hot Deck, and Predictive Mean Matching. Missing values are imputed using data retrieved from a related case in the dataset. In the case of QEIS, missing values can be imputed from data reported by statistical units classified under the same economic activity code.

2.2.6.5 Calculate Indicators: Weights and Aggregates

This stage creates aggregate data from permanent establishments to economic activity (ISIC codes).

Calculated weights are used for normalization purposes to create indicators by economic activity groups (ISIC list as defined for the purpose of GDP calculation). Permanent establishment data are aggregated into economic activities using the reporting revenues or wages as weights. Then, the resulting indicator is re-referenced to the base year period.

2.2.6.6 Finalize data files

This stage brings together the results of the QEIS after all previous processing steps in a data file ready to be used for the calculation of GDP by economic activities.

The indices obtained from QEIS (stage 5.2.6.5) are applied in GDP estimates using the Quarterly GDP framework³⁴, the later framework is used as the input to the analysis and dissemination of GDP quarterly data.

2.3 Evaluation

The evaluation phase consists of checking macro-consistency of the outputs, analyzing measures of average and dispersion, and the discussion of the results of the survey with some of the stakeholders.

2.3.1 Check survey output

For statistical outputs produced regularly, evaluation should, at least in theory occur for each iteration, determining whether future iterations should take place, and if so, whether any improvements should be implemented. However, in some cases, particularly for regular and well-established statistical business processes, evaluation may not be formally carried out for each iteration. In such cases, this phase can be seen as providing the decision as to whether the next iteration should start from the Specify Needs phase, or from some later phase (often the Collect phase).

³⁴ The Quarterly GDP framework consist of a tool built in a MsExcel file called "Quarterly_GDP.xlsx", which was developed by KE5 under the Twinning Partnership project.

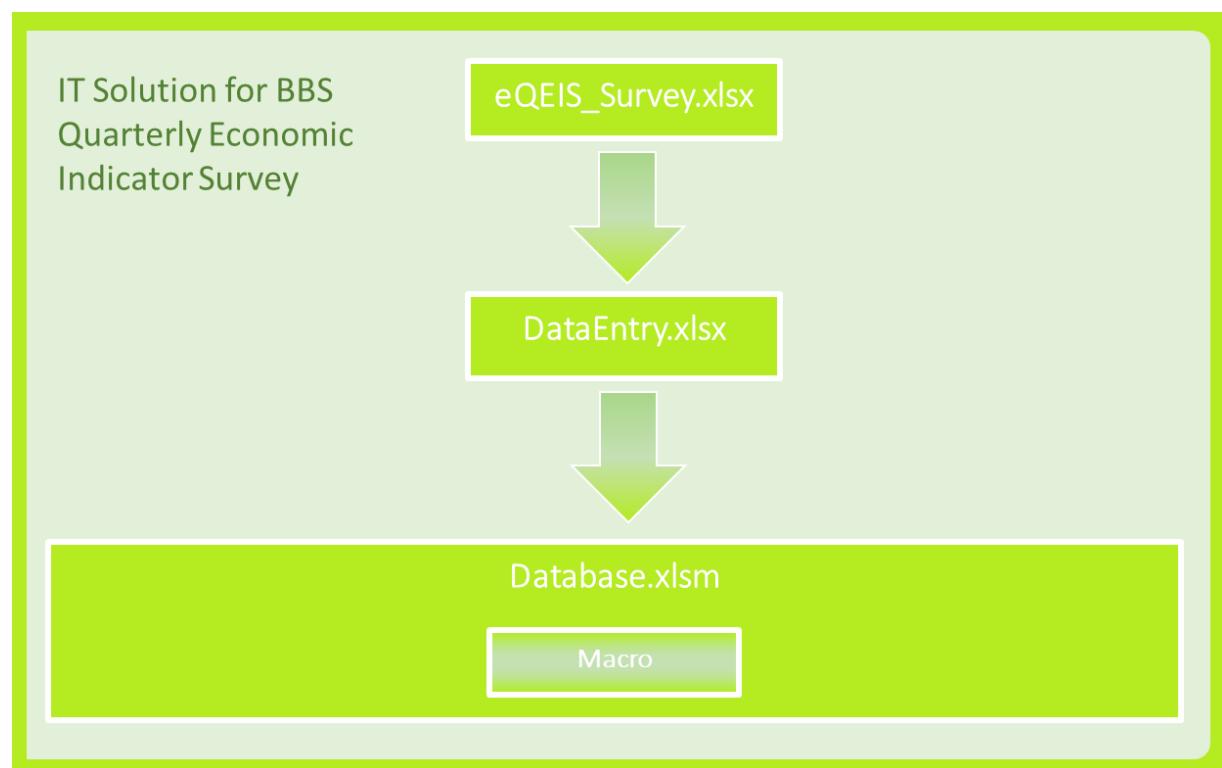
3. The Quarterly Economic Indicator Survey Framework

The Quarterly Economic Indicator Survey Framework developed by KE5 consists of the following tools:

- a. Survey Questionnaire: eQEIS_Survey.xlsx
- b. Data Entry file: DataEntry.xlsx
- c. Database file: Database.xlsm

The framework is design using Microsoft Excel because it is the software currently used in BBS's national accounts for the calculation of annual GDP, provides flexibility usually needed in the compilation of quarterly GDP, and its storage capacity is adequate for a relatively small survey such as the QEIS.

Figure 15: Quarterly Economic Indicator Survey Framework



This framework could be enhanced, in a later stage, with the assistance of the IT Wing to provide an environment that:

- i. Is more secure for data storage
- ii. Maintains processing flexibility
- iii. Provides online questionnaires for data respondents

3.1 Survey Questionnaire: eQEIS_Survey.xlsx

The questionnaire is designed in MS Excel. The file is ready to be uploaded into BBS website or to be sent to data providers by electronic means, but it can also be sent as a hard copy after printed, if needed.

The economic indicators for each economic activity are selected taking in consideration the recommendations of the IMF Quarterly National Accounts Manual, 2017 Edition³⁵, and the OECD Compilation Manual for an Index of Service Production³⁶. The questionnaire was structured in two sections: the first asked for general information about the project; the second asked for the different indicators which vary according to the economic activity

3.2 Data Entry file: DataEntry.xlsx

The data entry file is design as a replicated copy of the questionnaire of each statistical unit. This file aims at building a time series data for each statistical unit from the survey responses and store these data in a template that is easy for editing, consulting, and, ultimately, building the survey database.

The first sheet called “Sheet_Frame_Mapping” contains the list of statistical units’ frame number and the link to the corresponding MS Excel sheet, which are labelled S1, S2, S3... (from here onwards referred as “Sx” sheets) for the purpose of running an MS Excel Macro to build the database³⁷. Each “Sx” sheet in the file contains the history of the responses for one statistical unit. Data editing and the first steps of data analysis are conducted in these “Sx” sheets.

Figure 16: Representation of the Sheet Frame mapping the Data Entry file.



Twinning Partnership
National Strategy for the Development of Statistics
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Implementation Support Project



ISIC	Frame Nu	Sheet Nar	ISIC 4-dig	New_Est_Name	Check_ Sta	Comment	Action to be taken
41	41999	S1	4100	Name 1			
42	42999	S2	4290	Name 2			
43	43999	S3	4330	Name 3			
45	45999	S4	4511	Name 4			
46	46999	S5	4632	Name 5			
47	47999	S6	4712	Name 6			
49	49999	S7	4923	Name 7			
50	50999	S8	5010	Name 8			
51	51999	S9	5110	Name 9			
52	52999	S10	5229	Name 10			
55	55999	S11	5511	Name 11			
56	56999	S12	5611	Name 12			
649	64999	S13	6492	Name 13			
65	65109	S14	6510	Name 14			
68	68999	S15	6810	Name 15			
69	69999	S16	6910	Name 16			
70	70999	S17	7020	Name 17			
7110	71109	S18	7110	Name 18			
7120	71209	S19	7120	Name 19			
73	73999	S20	7310	Name 20			
77	77999	S21	7710	Name 21			
78	78999	S22	7810	Name 22			
79	79999	S23	7911	Name 23			
80	80999	S24	8010	Name 24			
81	81999	S25	8100	Name 25			
85	85999	S26	8514	Name 26			
86	86999	S27	8610	Name 27			

³⁵ <http://www.imf.org/external/pubs/ft/qna/>

³⁶ <https://www.oecd.org/sdd/business-stats/37799074.pdf>

³⁷ The sentences for the MS Excel Macro are given in Annex 2.

3.3 Database file: Database.xlsm

This file creates and stores a database from all responses of the QEIS. It uses a MS Excel Macro³⁸ (see Annex 2) to collect all data from "Sx" sheets in Data Entry file.

This file is to be refreshed when new data is stored in the Data Entry file. In general, the database will be refreshed when a significant amount of data has been received and the national accounts team is ready to do more precise data analysis and to calculate the economic indicators.

As times pass and the database become more extensive, different options can be explored for the refresh of the database with minor modifications in the MS Excel Macro. The following are some examples:

- Run Macro for the current year and fix all previous years data if only data for the current year is being.
- Run Macro for the current quarter and fix all previous quarters data if only data for the current quarter is being.
- Run Macro for a particular year and fix all other years data when revising data for a particular year.

Figure 17: Representation of the MS Excel Macro used to create a database from the Data Entry file.

```
' Function that will get values from an excel file (DataEntry.xlsx) with different sheets to the output file (Database.xlsm)
' Database for 2021 and 2022

Sub TestGetValue()
    ' Counter for iteration (must account for the number of sheets in Data Entry file;
    ' in current example there are 32 "S" sheets belonging to 32 statistical units
    ' reporting to the quarterly survey
    For c = 1 To 32
        p = "H:\QEIS"
        F = "DataEntry V19.xlsx"
        s = "S" & c
        x = 56 * (c - 1)

        Cells(c + 1 + x, 1).Value = GetValue(p, F, s, "D3")
        Cells(c + 1 + x, 2).Value = GetValue(p, F, s, "D4")
        Cells(c + 1 + x, 3).Value = GetValue(p, F, s, "B5")
        Cells(c + 1 + x, 4).Value = GetValue(p, F, s, "B6")
        Cells(c + 1 + x, 5).Value = GetValue(p, F, s, "A7")
        Cells(c + 1 + x, 6).Value = GetValue(p, F, s, "B7")
        Cells(c + 2 + x, 1).Value = GetValue(p, F, s, "D3")
        Cells(c + 2 + x, 2).Value = GetValue(p, F, s, "D4")
        Cells(c + 2 + x, 3).Value = GetValue(p, F, s, "B5")

        .....

        Cells(c + 56 + x, 3).Value = GetValue(p, F, s, "F5")
        Cells(c + 56 + x, 4).Value = GetValue(p, F, s, "I6")
        Cells(c + 56 + x, 5).Value = GetValue(p, F, s, "A13")
        Cells(c + 56 + x, 6).Value = GetValue(p, F, s, "I13")

    Next c
    Columns("E").SpecialCells(xlCellTypeBlanks).EntireRow.Delete
End Sub
```

box, click Enable content for this session for each macro. -> 5-Click OK

When you open the file a yellow message bar will appear. On the Message Bar, click Enable Content. To enable macros for the duration that the file is open go to: 1-Click the File tab.-> 2-In the Security Warning area, click Enable Content. -> 3-Select Advanced Options. -> 4-In the Microsoft Office Security Options dialog box, click Enable content for this session for each macro. -> 5-Click OK.

³⁹ See Annex 1 for the full Macro sentences.

In case BBS requires to add more Establishment, new Year or new Economic Activity, those variables should be updated.

4. Annexes

4.1 Annex 1: Questionnaire for Economic Indicators Data

Questionnaire: F Construction / 41 Construction of buildings

<p style="text-align: center;">Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project</p>								
<p style="text-align: center;">Quarterly Economic Indicators Survey</p>								
<p style="text-align: center;">Frame: 41999 ISIC 4: 41 F Construction</p>								
<p style="text-align: center;">Construction of buildings</p>								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Total value of work done (during the quarter)								
Progress Payment Receivable for Work Done (during the quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: F Construction / 42 Civil engineering

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 42999 ISIC 4: 42 F Construction Civil engineering								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Total value of work done (during the quarter)								
Progress Payment Receivable for Work Done (during the quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: F Construction / 43 Specialized construction activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 43999 ISIC 4: 43 F Construction Specialized construction activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Total value of work done (during the quarter)								
Progress Payment Receivable for Work Done (during the quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: G Wholesale and Retail trade / 45 Wholesale and retail trade and repair of motor vehicles and motorcycles

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 45999 ISIC 4: 45 G Wholesale and Retail trade Wholesale and retail trade and repair of motor vehicles and motorcycles								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Value of Sales (Total in each Quarter)								
Number of New Cars Sold								
Number of Used Cars Sold								
Number of Other New Motor Vehicles Sold								
Number of Other Used Motor Vehicles Sold								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: G Wholesale and Retail trade / 46 Wholesale trade, except of motor vehicles and motorcycles

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 46999 ISIC 4: 46 G Wholesale and Retail trade Wholesale trade, except of motor vehicles and motorcycles								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Value of Sales (Total in each Quarter)								
Cost of Goods Sold								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: G Wholesale and Retail trade / 47 Retail trade, except of motor vehicles and motorcycles

		Twinning Partnership				National Strategy for the Development of Statistics (NSDS)						
		Implementation Support Project										
Quarterly Economic Indicators Survey												
Frame: 47999												
ISIC 4: 47 G Wholesale and Retail trade												
Retail trade, except of motor vehicles and motorcycles												
Economic Indicators	Year 2021				Year 2022							
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)				
Number of Employees (End of the Quarter)												
Salary and wages (Total for Quarter)												
Value of Sales (Total in each Quarter)												
Cost of Goods Sold												
Please, express values in TK, do not express values in thousands nor in million or in a different currency.												
Confidential Data												

Questionnaire: H Transportation and Storage / 49 Land transport and transport via pipelines

		Twinning Partnership				National Strategy for the Development of Statistics (NSDS)						
		Implementation Support Project										
Quarterly Economic Indicators Survey												
Frame: 49999												
ISIC 4: 49 H Transportation and Storage												
Land transport and transport via pipelines												
Economic Indicators	Year 2021				Year 2022							
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)				
Number of Employees (End of the Quarter)												
Salary and wages (Total for Quarter)												
Passenger Revenue												
Freight Revenue												
Passenger Miles												
Freight Tonne Miles												
Please, express values in TK, do not express values in thousands nor in million or in a different currency.												
Confidential Data												

Questionnaire: H Transportation and Storage / 50 Water Transport

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 50999 ISIC 4: 50 H Transportation and Storage Water Transport								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Total Weight of the Cargo Handled								
Revenue Earned								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: H Transportation and Storage / 51 Air Transport

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 51999 ISIC 4: 51 H Transportation and Storage Air Transport								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Passenger Revenue								
Freight Revenue								
Passenger Miles								
Freight Tonne Miles								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: H Transportation and Storage / 52 Warehousing and support activities for transportation

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 52999 ISIC 4: 52 H Transportation and Storage Warehousing and support activities for transportation								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Turnover/Sales								
Tonnes of Goods Handled								
Tonnes of Goods Carried								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: I Accommodation and Food service activities / 55 Accommodation

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 55999 ISIC 4: 55 I Accommodation and Food service activities Accommodation								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Bed-Nights								
Revenue from Rooms								
Restaurant Sales								
Other Revenue								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: I Accommodation and Food service activities / 56 Food and beverage service activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 56999 ISIC 4: 56 I Accommodation and Food service activities Food and beverage service activities								
Economic Indicators Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Meals Sold Revenue From Sales and Services Number of Customers	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: K Financial and Insurance activities / 649 Other financial service activities, except insurance and pension funding activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 64999 ISIC 4: 649 K Financial and Insurance activities Other financial service activities, except insurance and pension funding activities								
Economic Indicators Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Employees (End of the Quarter) Salary and wages (Total for Quarter) Number of Loan Accounts Number of Deposit Accounts Number of Current Accounts	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: K Financial and Insurance activities / 65 Insurance, reinsurance and pension funding, except compulsory social security

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 65999 ISIC 4: 65 K Financial and Insurance activities Insurance, reinsurance and pension funding, except compulsory social security								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Non Life Insurance Policies in Force								
Number of Clients								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: L Real Estate / 68 Real estate activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 68999 ISIC 4: 68 L Real Estate Real estate activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Turnover								
Number of Property Transactions								
Number of Dwellings Rented								
Number of Non-residential Buildings Rented								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: M Professional, scientific and technical activities / 69 Legal and accounting activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 69999 ISIC 4: 69 M Professional, scientific and technical activities								
Legal and accounting activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Turnover								
Number of Contracts Drawn Up								
Number of Campaigns Run								
Number of Billable Hours								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: M Professional, scientific and technical activities / 70 Activities of head offices; management consultancy activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 70999 ISIC 4: 70 M Professional, scientific and technical activities								
Activities of head offices; management consultancy activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: M Professional, scientific and technical activities / 7110 Architectural and engineering activities and related technical consultancy

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 71109 ISIC 4: 7110 M Professional, scientific and technical activities Architectural and engineering activities and related technical consultancy								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Designs Commissioned								
Number of Survey Commissioned								
Number of Billable Hours								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: M Professional, scientific and technical activities / 7120 Technical testing and analysis

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 71209 ISIC 4: 7120 M Professional, scientific and technical activities Technical testing and analysis								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Designs Commissioned								
Number of Survey Commissioned								
Number of Billable Hours								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: M Professional, scientific and technical activities / 73 Advertising and market research

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 73999 ISIC 4: 73 M Professional, scientific and technical activities Advertising and market research								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number Of Campaigns Carried Out								
Number Of Units Of Media Space								
Number Of Newspaper/Magazine Subscriptions								
Plese, express values in TK, do not express values in thousands nor in million or in a different currency.	Confidential Data							

Questionnaire: N Administrative and support service activities / 77 Rental and leasing activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 77999 ISIC 4: 77 N Administrative and support service activities Rental and leasing activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Plese, express values in TK, do not express values in thousands nor in million or in a different currency.	Confidential Data							

Questionnaire: N Administrative and support service activities / 78 Employment activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 78999 ISIC 4: 78 N Administrative and support service activities								
Employment activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: N Administrative and support service activities / 79 Travel agency, tour operator, reservation service and related activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey Frame: 79999 ISIC 4: 79 N Administrative and support service activities								
Travel agency, tour operator, reservation service and related activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number Of Bookings								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: N Administrative and support service activities / 80 Security and investigation activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 80999 ISIC 4: 80 N Administrative and support service activities								
Security and investigation activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: N Administrative and support service activities / 81 Services to buildings and landscape activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 81999 ISIC 4: 81 N Administrative and support service activities								
Services to buildings and landscape activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

Questionnaire: P Education / 85 Education

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 85999 ISIC 4: 85 P Education								
Education								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Enrolled Students (at the end of quarter)								
Revenue earned								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: Q Human health activities / 86 Human health activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 86999 ISIC 4: 86 Q Human health activities								
Human health activities								
Economic Indicators	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Number of Patients Attended (Total for Quarter)								
Revenue Earned								

Please, express values in TK, do not express values in thousands nor in million or in a different currency. Confidential Data

Questionnaire: R Arts, entertainment and recreation / 91 Libraries, archives, museums and other cultural activities

		Twinning Partnership		National Strategy for the Development of Statistics (NSDS)					
								  	
Implementation Support Project									
Quarterly Economic Indicators Survey									
Frame: 91999 ISIC 4: 91 R Arts, entertainment and recreation									
Libraries, archives, museums and other cultural act		Year 2021				Year 2022			
Economic Indicators		Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)									
Salary and wages (Total for Quarter)									
Value of Sales (Total in each Quarter)									
Please, express values in TK, do not express values in thousands nor in million or in a different currency.									
Confidential Data									

Questionnaire: R Arts, entertainment and recreation / 93 Sports activities and amusement and recreation activities

		Twinning Partnership		National Strategy for the Development of Statistics (NSDS)					
								  	
Implementation Support Project									
Quarterly Economic Indicators Survey									
Frame: 93999 ISIC 4: 93 R Arts, entertainment and recreation									
Sports activities and amusement and recreation act		Year 2021				Year 2022			
Economic Indicators		Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)									
Salary and wages (Total for Quarter)									
Value of Sales (Total in each Quarter)									
Please, express values in TK, do not express values in thousands nor in million or in a different currency.									
Confidential Data									

Questionnaire: S Other service activities / 94 Activities of membership organizations

		Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								 	
		Quarterly Economic Indicators Survey				Year 2021					
Activities of membership organizations		Frame: 94999	ISIC 4: 94	S Other service activities							
Economic Indicators		Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)		
Number of Employees (End of the Quarter)											
Salary and wages (Total for Quarter)											
Value of Sales (Total in each Quarter)											
Please, express values in TK, do not express values in thousands nor in million or in a different currency.											
Confidential Data											

Questionnaire: S Other service activities / 95 Repair of computers and personal and household goods

		Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project									
		Quarterly Economic Indicators Survey				Year 2021					
Repair of computers and personal and household g		Frame: 95999	ISIC 4: 95	S Other service activities							
Economic Indicators		Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)		
Number of Employees (End of the Quarter)											
Salary and wages (Total for Quarter)											
Value of Sales (Total in each Quarter)											
Please, express values in TK, do not express values in thousands nor in million or in a different currency.											
Confidential Data											

Questionnaire: S Other service activities / 96 Other personal service activities

Twinning Partnership National Strategy for the Development of Statistics (NSDS) Implementation Support Project								
Quarterly Economic Indicators Survey								
Frame: 96999 ISIC 4: 96 S Other service activities								
Other personal service activities	Year 2021				Year 2022			
	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
Number of Employees (End of the Quarter)								
Salary and wages (Total for Quarter)								
Value of Sales (Total in each Quarter)								

Please, express values in TK, do not express values in thousands nor in million or in a different currency.

Confidential Data

4.2 Annex 2: Macro for getting values from a closed workbook and different worksheets

Private Function GetValue(path, file, sheet, ref)

' Retrieves a value from a closed workbook

Dim arg As String

' Make sure the file exists

If Right(path, 1) <> "\" Then path = path & "\\"

If Dir(path & file) = "" Then

 GetValue = "File Not Found"

 Exit Function

End If

' Create the argument

arg = "" & path & "[" & file & "]" & sheet & "!" & _
 Range(ref).Range("A1").Address(, , xlR1C1)

' Execute an XLM macro

GetValue = ExecuteExcel4Macro(arg)

End Function

' Function that will get values from an excel file (DataEntry.xlsx) with different sheets to the output file
(Database.xlsm)

' Database for 2021 and 2022

Sub TestGetValue()

For c = 1 To 32 ' Counter for iteration (must account for the number of sheets in Data Entry file;

 ' in current example there are 32 "S" sheets belonging to 32 statistical units

 ' reporting to the quarterly survey

p = "H:\QEIS" ' path for Data Entry file
F = "DataEntry V19.xlsx" ' name of Data Entry file

s = "S" & c ' s is used in loop for sheet identification in Data Entry file

x = 56 * (c - 1) ' 28 rows per each year (4 quarters x 7 variables/indicators), in this example 28x2=56

Cells(c + 1 + x, 1).Value = GetValue(p, F, s, "D3")

Cells(c + 1 + x, 2).Value = GetValue(p, F, s, "D4")

Cells(c + 1 + x, 3).Value = GetValue(p, F, s, "B5")

Cells(c + 1 + x, 4).Value = GetValue(p, F, s, "B6")

Cells(c + 1 + x, 5).Value = GetValue(p, F, s, "A7")

Cells(c + 1 + x, 6).Value = GetValue(p, F, s, "B7")

Cells(c + 2 + x, 1).Value = GetValue(p, F, s, "D3")

Cells(c + 2 + x, 2).Value = GetValue(p, F, s, "D4")

Cells(c + 2 + x, 3).Value = GetValue(p, F, s, "B5")

Cells(c + 2 + x, 4).Value = GetValue(p, F, s, "B6")

Cells(c + 2 + x, 5).Value = GetValue(p, F, s, "A8")

Cells(c + 2 + x, 6).Value = GetValue(p, F, s, "B8")

Cells(c + 3 + x, 1).Value = GetValue(p, F, s, "D3")

Cells(c + 3 + x, 2).Value = GetValue(p, F, s, "D4")

Cells(c + 3 + x, 3).Value = GetValue(p, F, s, "B5")

Cells(c + 3 + x, 4).Value = GetValue(p, F, s, "b6")

Cells(c + 3 + x, 5).Value = GetValue(p, F, s, "A9")

Cells(c + 3 + x, 6).Value = GetValue(p, F, s, "B9")

Cells(c + 4 + x, 1).Value = GetValue(p, F, s, "D3")

Cells(c + 4 + x, 2).Value = GetValue(p, F, s, "D4")

Cells(c + 4 + x, 3).Value = GetValue(p, F, s, "B5")

Cells(c + 4 + x, 4).Value = GetValue(p, F, s, "b6")

```

Cells(c + 4 + x, 5).Value = GetValue(p, F, s, "A10")
Cells(c + 4 + x, 6).Value = GetValue(p, F, s, "B10")
Cells(c + 5 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 5 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 5 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 5 + x, 4).Value = GetValue(p, F, s, "b6")
Cells(c + 5 + x, 5).Value = GetValue(p, F, s, "A11")
Cells(c + 5 + x, 6).Value = GetValue(p, F, s, "B11")
Cells(c + 6 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 6 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 6 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 6 + x, 4).Value = GetValue(p, F, s, "b6")
Cells(c + 6 + x, 5).Value = GetValue(p, F, s, "A12")
Cells(c + 6 + x, 6).Value = GetValue(p, F, s, "B12")
Cells(c + 7 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 7 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 7 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 7 + x, 4).Value = GetValue(p, F, s, "b6")
Cells(c + 7 + x, 5).Value = GetValue(p, F, s, "A13")
Cells(c + 7 + x, 6).Value = GetValue(p, F, s, "B13")

Cells(c + 8 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 8 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 8 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 8 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 8 + x, 5).Value = GetValue(p, F, s, "A7")
Cells(c + 8 + x, 6).Value = GetValue(p, F, s, "C7")
Cells(c + 9 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 9 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 9 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 9 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 9 + x, 5).Value = GetValue(p, F, s, "A8")
Cells(c + 9 + x, 6).Value = GetValue(p, F, s, "C8")
Cells(c + 10 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 10 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 10 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 10 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 10 + x, 5).Value = GetValue(p, F, s, "A9")
Cells(c + 10 + x, 6).Value = GetValue(p, F, s, "C9")
Cells(c + 11 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 11 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 11 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 11 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 11 + x, 5).Value = GetValue(p, F, s, "A10")
Cells(c + 11 + x, 6).Value = GetValue(p, F, s, "C10")
Cells(c + 12 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 12 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 12 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 12 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 12 + x, 5).Value = GetValue(p, F, s, "A11")
Cells(c + 12 + x, 6).Value = GetValue(p, F, s, "C11")
Cells(c + 13 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 13 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 13 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 13 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 14 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 14 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 14 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 14 + x, 4).Value = GetValue(p, F, s, "C6")
Cells(c + 14 + x, 5).Value = GetValue(p, F, s, "A13")
Cells(c + 14 + x, 6).Value = GetValue(p, F, s, "C13")

Cells(c + 15 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 15 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 15 + x, 3).Value = GetValue(p, F, s, "B5")
Cells(c + 15 + x, 4).Value = GetValue(p, F, s, "D6")
Cells(c + 15 + x, 5).Value = GetValue(p, F, s, "A7")
Cells(c + 15 + x, 6).Value = GetValue(p, F, s, "D7")
Cells(c + 16 + x, 1).Value = GetValue(p, F, s, "D3")

```



```
Cells(c + 50 + x, 6).Value = GetValue(p, F, s, "I7")
Cells(c + 51 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 51 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 51 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 51 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 51 + x, 5).Value = GetValue(p, F, s, "A8")
Cells(c + 51 + x, 6).Value = GetValue(p, F, s, "I8")
Cells(c + 52 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 52 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 52 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 52 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 52 + x, 5).Value = GetValue(p, F, s, "A9")
Cells(c + 52 + x, 6).Value = GetValue(p, F, s, "I9")
Cells(c + 53 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 53 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 53 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 53 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 53 + x, 5).Value = GetValue(p, F, s, "A10")
Cells(c + 53 + x, 6).Value = GetValue(p, F, s, "I10")
Cells(c + 54 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 54 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 54 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 54 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 54 + x, 5).Value = GetValue(p, F, s, "A11")
Cells(c + 54 + x, 6).Value = GetValue(p, F, s, "I11")
Cells(c + 55 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 55 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 55 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 55 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 55 + x, 5).Value = GetValue(p, F, s, "A12")
Cells(c + 55 + x, 6).Value = GetValue(p, F, s, "I12")
Cells(c + 56 + x, 1).Value = GetValue(p, F, s, "D3")
Cells(c + 56 + x, 2).Value = GetValue(p, F, s, "D4")
Cells(c + 56 + x, 3).Value = GetValue(p, F, s, "F5")
Cells(c + 56 + x, 4).Value = GetValue(p, F, s, "I6")
Cells(c + 56 + x, 5).Value = GetValue(p, F, s, "A13")
Cells(c + 56 + x, 6).Value = GetValue(p, F, s, "I13")
```

Next c
Columns("E").SpecialCells(xlCellTypeBlanks).EntireRow.Delete

End Sub

Annex 3: Manual for processing of quarterly GDP data.

Background

The baseline review of the capacity of Bangladesh to produce the core set of national accounts statistics⁴⁰ was developed by KE5 within the framework of the Bangladesh NSDS project whose objective is to assist the Bangladesh Bureau of Statistics (BBS) in the implementation of the National Strategy for the Development of Statistics.

The technical assistance under the project aims at supporting the National Accounts Wing of the BBS to improve the provision of national accounts statistics by assisting them in the implementation of the 2008 SNA, so that BBS is able to provide accurate, reliable and timely data to policy and decision makers (central government and regional agencies, private operators), meeting, as well, the international requirements of data comparability.

The assessment found that the National Accounts Wing is currently able to produce 5 out of 18 of the annual tables of the Minimum Requirement Dataset (MRDS), a tool defined by the UNSD to monitor the degree of 2008 SNA implementation. The assessment further found that the absence of quarterly GDP estimates hinders the possibility of BBS to apply to the IMF's Special Data Dissemination Standard (SDDS).

With the information and data gathered during the project inception, meetings, and mission to Dhaka, the KE5 concluded that the development of quarterly national accounts statistics is not only desired (as expressed by the National Accounts Wing) but achievable. This development will be beneficial not only to data users but also to national accounts compilers as it will provide better tools for a closer monitoring of the recent economic events instead of relying on old trends as it is the current methodology for many economic activities. Additionally, quarterly GDP is one of the requirements for Bangladesh to be part of IMF's Special Data Dissemination Standard (SDDS) country members.

The activities carried out fall into the Project Component C: Improving the Coverage and Quality of National Accounts. Specifically, the development of the tool is part of the Activity C.2.8 – Improvements in the area of National Accounts (Deliverable C.2), while the documentation falls under Activity C.3.8 – Manuals on improved methodology for National Accounts (Deliverable C.3).

Introduction

The BBS is planning to develop the estimates of the quarterly gross domestic product which will allow for the provision of information about the evolution of the economy in a timelier manner than annual data, and more comprehensively than individual short-term indicators, so it plays a crucial role in economic research and economic policy. At the same time, it will allow the BBS to fulfill an important requirement in its plan to apply for the IMF's Special Data Dissemination standard. In the quarterly gross domestic product, the emphasis is placed on growth rates and their characteristics over time such as acceleration, deceleration or change in sign. Like other short-term indicators used for business cycle analysis, quarterly GDP presents a seasonal pattern and is affected by calendar events.

Quarterly gross domestic product is based on the same principles, definitions, and structure as annual gross domestic product. In practice, the constraints on data availability, time, and resources mean that quarterly gross domestic product may differ from the annual estimates. However, there are different methods that can be used for reconciling quarterly with the corresponding annual estimates.

⁴⁰ The baseline review of the capacity of Bangladesh to produce the core set of national accounts statistics was produced by KE5 in October 2020 as part of the first deliverable of this project.

Data requirements for quarterly gross domestic product differ from those of the annual gross domestic product in the timelines, periodicity, and coverage. Data collection frequently focus on a limited set of economic indicators about the evolution of prices, production quantities, sales, production costs, etc., instead of the full set of business accounting as it is the case for the annual estimates of gross domestic product.

The methods used for the compilation of quarterly GDP also differ from those of the annual estimates. Often, index numbers are produced from the economic indicators relying in either the outputs or the inputs of the production process and gross value added is derived assuming a stable relationship between output and intermediate consumption, as opposed to the annual methods in which independent estimates of output and intermediate consumption are produced and gross value added is derived as the difference between them.

Currently, BBS produces and disseminates on an annual basis (covering the fiscal year July-June) the estimates of gross domestic product (GDP) at current market prices by industrial activity and expenditure categories and GDP at constant prices (base 2005/06). These annual estimates of GDP do not provide the basis for:

- a. Early identification of changes in trends
- b. Timely implementation of economic policies
- c. Macroeconomic forecasts, including early estimates of annual accounts
- d. Framework for business cycle analysis
- e. Econometric modeling, including studies of seasonal patterns

These objectives are best achieved with the quarterly estimates of GDP.

This document presents the main features of the Quarterly GDP Framework. It also describes the new data processing steps and the new methods to produce quarterly GDP estimates. The results shown in this report are obtained using data created by KE5 based on BBS officials national accounts publications⁴¹.

The aim of the Quarterly GDP framework is to provide a tool for BBS's national account compilers for the compilation of quarterly GDP estimates at current and constant prices by production approach. The file is designed for the final step of the production of quarterly GDP in which all processed data and indicators are brought in to one comprehensive file in which quarterly GDP is calculated in a time series framework, and it is design as an internal working file, not as a file nor a template for publication.

1. Establish and Maintain Quarterly Gross Domestic Product

To establish and maintain the quarterly GDP it is important to address strategic statistical and organizational issues that facilitate an efficient operation of the compilation system. The most important statistical issues to be considered are the following: (i) coverage of the quarterly GDP and (ii) assessment of quarterly source data and the compilation process. Other key issues are resource requirements, the compilation schedule, and the release calendar.

The overall process involves two phases: (i) a development phase and (ii) an operational phase. In the (i) development phase, the compilation approach is developed and assessed, source data are selected, and past series of quarterly GDP data are established. An important first step in this phase is to consult with potential users to determine how they may use the quarterly GDP data. User needs evolve over time and users may have a better understanding of their needs after new data become available; therefore, consultation with

⁴¹ To implement this Quarterly GDP Framework, the BBS must replace the data in the files with actual data for Bangladesh.

users should proceed on an ongoing basis. In the (ii) operational phase, estimates are compiled for the reference quarter and estimates for previous quarters may be revised when new quarterly and annual information becomes available. The data sources, statistical techniques, and compilation system used for establishing the past series in the development phase and for updating the series in the operational phase should be identical, as far as possible.

The steps to establish quarterly GDP are the following:

1. Consult potential users
2. Take inventory of sources and methods
3. Design compilation methods
4. Review the quality of source data and compilation procedure
5. Generate time series of quarterly GDP data for past years
6. Compile quarterly GDP for quarters of the current year (year y)
7. First release

The selection of methods relevant for the different economic activities is based on the recommendations of the Quarterly National Accounts Manual, 2017 Edition⁴², and the International Recommendations for the Index of Industrial Production 2010⁴³.

The statistical units are classified into economic activities defined according to International Standard Classification of All Economic Activities Revision 4 (ISIC Rev. 4)⁴⁴. The classification level of disaggregation is defined to ensure a reasonable level of representativeness of the estimates and according to the availability of quarterly economic indicators.

⁴² <http://www.imf.org/external/pubs/ft/qna/>

⁴³ <https://www.oecd.org/sdd/business-stats/37799074.pdf>

⁴⁴ https://unstats.un.org/unsd/publication/seriesm/seriesm_4rev4e.pdf

2. Timeline for Quarterly Gross Domestic Product

The compilation of quarterly gross domestic product is conducted on a regular basis. There are usually four times in the year when quarterly GDP is released, but each quarter may be published more than once during the year depending on the revision policy in place.

Revising quarterly GDP estimates is a good practice because:

1. Source data from earlier quarters may be revised
2. Some of the source data only become available after the first release of the quarter
3. Quarterly GDP data are always benchmarked to ensure their consistency with the latest available Annual GDP
4. The final annual GDP figures become only available after approximately t+2 years and because of benchmark they affect the quarterly GDP.

Revisions to some previously published quarterly GDP estimates can be avoided by freezing the quarterly values for those periods. This practice should be defined clearly in the revision policy of quarterly GDP data and not be changed from one quarter to the next without advance communication to users. To avoid introducing significant distortions to the benchmarked series, however, at least two to three years preceding (and following) years should be allowed to be revised each time new annual data become available. In general, the impact on more distant years will be negligible.

The following figure 1 presents a timeline for the annual work and the release of quarterly GDP data for the year 2022/2023. The timeline assumes that quarterly GDP is released with a timeliness of three months after the reference period and that every time a new quarter is released the immediate previous quarter is revised; therefore, during the time of data collection for the new quarter, data for the immediate previous quarter is revised (i.e. the first revision of a quarter is six months after the reference period or three months after its first publication). By the end of the year 2022/2023 (end of June 2023) it is assumed that annual date for the year 2020/2021 is collected and the quarterly estimates are benchmarked accordingly. Then, provisional estimates for the quarters of 2020/2021 are produced and, consequently, new preliminary estimates for the quarters of 2021/2022 are also calculated and ready for dissemination together with the preliminary estimates of the first quarter of 2023.⁴⁵

[Figure 1](#): Example of a timeline for Quarterly National Accounts Work

⁴⁵ This is an example of a revision work for quarterly GDP. BBS can tailor this example to adjust to its own revision policy for national accounts statistics in case it has one or use this example as an initial model to develop its own policy.



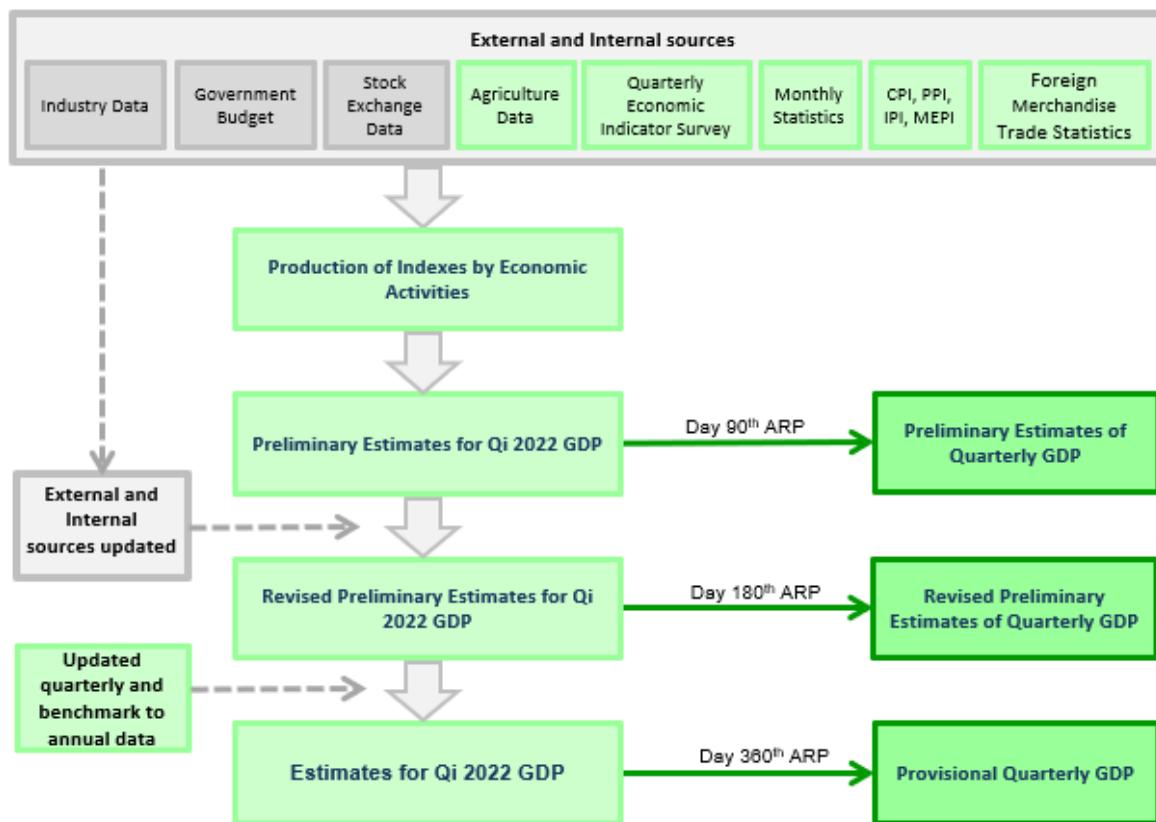
The next figure 2 shows a diagram for the workflow of quarterly GDP for a given quarter (Qi 2022 GDP). It shows the steps for quarterly GDP from the data collection process until the release of provisional estimates. These steps are summarized as follow⁴⁶:

1. Data collection from internal (BBS) and external sources
2. The production of indexes by economic activities
3. The preliminary estimates of Qi 2022 GDP
4. Dissemination of the preliminary estimates of Qi 2022 GDP on date 90th after the reference period
5. Collection of new data, update and data correction
6. First revision⁴⁷ of the preliminary estimates of Qi 2022 GDP
7. Dissemination of the first revision of the preliminary estimates of Qi 2022 GDP on date 180th after the reference period
8. Update of quarterly data sources and integration with annual data sources
9. Provisional estimates of Qi 2022 GDP
10. Dissemination of the provisional estimates of Qi 2022 GDP on date 360th after the reference period.

⁴⁶ This is an example of a workflow for quarterly GDP. BBS can tailor this example to adjust to its own revision policy for national accounts statistics in case it has one or use this example as an initial model to develop its own policy.

⁴⁷ See Box 1 (Data revisions: why does QNA data change?).

Figure 2: Diagram of Quarterly GDP Workflow for a given quarter in 2022



3. Methods for Quarterly Gross Domestic Product

The compilation of quarterly GDP requires specific techniques and estimation methods to process, transform, and integrate quarterly source data within the System of National Accounts (SNA) framework. Typically, sub-annual data are derived from a small sample of the population, they are influenced by seasonal effects, and they are subject to short-term volatility or atypical events.

3.1 Indicator Methods

- Quarterly GDP at current prices: From the base year annual GDP by production approach produce quarterly estimates using inflation, extrapolation, or commodity flow techniques.
 - i. Extrapolation: involves the movement forward of base year estimates with value indices.
 - ii. Inflation: inflate (multiply) the estimates at constant prices by the appropriate price index.
 - iii. Commodity flow: describe the product balance at current prices in the economy by tracking the flows of goods and services from the producer to the consumer providing information on product flows passing through trade, transport and tax scheme. These flows trace the different sources of supply of products to their subsequent use under various categories.

- Quarterly GDP at constant prices: From the base year annual GDP by production approach produce quarterly estimates using deflation, extrapolation, or commodity flow methods.
 - i. Extrapolation: involves the movement forward of base year estimates with volume indices.
 - ii. Deflation: deflate (divide) the estimates at current prices by the appropriate price index.
 - iii. Commodity flow: describe the product balance at constant prices in the economy by tracking the flows of goods and services from the producer to the consumer providing information on product flows passing through trade, transport and tax scheme. These flows trace the different sources of supply of products to their subsequent use under various categories.

The following table shows an indicative list of methods (deflation or extrapolation) used to calculate **quarterly GDP at constant prices** by sections and divisions of the ISIC Rev 4.

This list of tentative methods must be evaluated based on the availability and quality of the indicators. Different options between extrapolation, deflation and commodity flow methods could be available for the same activity. As a general rule, the indicator that shows the closer correlation to the annual estimates must be considered as the best option. Therefore, the indicators must be regularly monitored and assessed (taking into consideration the quarterly GDP revision policy schedule).

Figure 3: Indicative list of methods for quarterly GDP by economic activity

ISIC Rev. 4 Sections	Activity	Method	Price Deflator (1)	Volume Indicator (2)	Value Indicator (3)
A	Agriculture, forestry and fishing	Extrapolation	CPI - Food	Agriculture production	(1)*(2)
B	Mining and Quarrying	Extrapolation	PPI	Oil and Gas production	(1)*(2)
C	Manufacturing	Extrapolation	PPI	SMI	(1)*(2)
D+E	Electricity, gas, steam and air conditioning supply; Water supply, sewerage, waste management and remediation activities	Extrapolation	PPI	Electricity generation and water production	(1)*(2)
F	Construction	Extrapolation	PPI	QEIS	(1)*(2)
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	Deflation/Commodity flow	CPI – Goods composite index	(3)/(1)	QEIS
H	Transportation and storage	Deflation/Commodity flow	(3)/(2)	QEIS	QEIS
I	Accommodation and food service activities	Deflation / Extrapolation	CPI - Accommodation / CPI - food service activities	QEIS	(1)*(2)
J	Information and communication	Deflation	CPI - Communication	(3)/(1)	Revenues
K	Financial and insurance activities	Deflation / Extrapolation	(3)/(2)	Deflated loans and deposits	Financial statements
L	Real estate activities	Deflation	CPI - Rent	Population Growth / QEIS	(1)*(2)
M + N	Professional, scientific and technical activities; Administrative and support service activities	Extrapolation	(3)/(2)	QEIS	QEIS
O	Public administration; compulsory social security	Extrapolation	(3)/(2)	QEIS	Budgetary execution
P	Education	Extrapolation	(3)/(2)	QEIS	QEIS
Q	Human health and social work activities	Extrapolation	(3)/(2)	QEIS	QEIS
R+S	Arts, entertainment and recreation. Other service activities (ISIC Rev.4, section R+S):	Extrapolation	(3)/(2)	QEIS	QEIS
T	Activities of households as employers ; undifferentiated goods- and services-producing activities of households for own use	Deflation	CPI - Households services	Population Growth	(1)*(2)
	FISIM	Extrapolation	(3)/(2)	Volume Index of deflated loans and deposits	Financial statements
	Import duties	Extrapolation	(3)/(2)	Imports deflated by CPI goods	Budget execution

ISIC Rev. 4 Sections	Activity	Method	Price Deflator (1)	Volume Indicator (2)	Value Indicator (3)
	Non-deductible VAT and other taxes less subsidies on products	Deflation / Commodity flow	CPI&PPI	(3)/(1)	Budget execution

The indicative list of methods described above is worked out in detail in the working file called “Quarterly GDP.xlsx” taking into consideration a further disaggregation of the ISIC code. The file was produced by KE5 as a framework to calculate quarterly GDP estimates.

3.2 Benchmark Quarterly to Annual data

Benchmarking methods in the national accounts are used to derive quarterly GDP series that are consistent with their corresponding annual benchmarks while preserving the short-term movements of quarterly economic indicators.

Benchmarking techniques improves the quality of quarterly GDP series by making them consistent with annual as well as coherent with the short-term evolution of quarterly economic indicators. However, the accuracy of quarterly GDP data depends on the accuracy of the annual GDP and quarterly indicators. A necessary condition for the quality for the quarterly GDP data depends on the information that measures precisely what is happening in the economy, both in normal times and during periods of unexpected changes. The role of benchmarking is to combine in the best possible way the annual and quarterly information at disposal.

In the quarterly GDP, benchmarking serves two purposes:

- quarterly distribution (or interpolation) of annual data to construct time series of benchmarked quarterly GDP estimates (“back series”) and
- quarterly extrapolation to derive the quarterly GDP estimates for quarters for which annual GDP benchmarks are not yet available (“forward series”).

The pro rata method, which is a simple method of benchmarking. The pro rata method distributes the temporal discrepancies—the differences between the annual sums of the quarterly estimates and the annual data—in proportion to the value of the indicator in the four quarters of each year. However, this method might create a step problem between the quarter of the year and the first quarter of the year, so this method should be avoided.

The proportional Denton method, which is proportional benchmarking methods with movement preservation of indicators, keeps the quarterly BI ratio⁴⁸ as stable as possible subject to the restrictions provided by the annual data. The preferred solution as suggested in the Quarterly National Accounts Manual is the proportional Denton method since it avoids the step problem.

Benchmarking methods with movement preservation (such as Denton method and the Cholette–Dagum method) minimize the impact of revisions on the historical movements of the quarterly GDP series. In principle, previously published quarterly GDP estimates for all preceding periods and following years may have to be adjusted to preserve the short-term movements in the indicator, if the errors in the indicator are large. In practice, however, with most benchmarking methods, the impact of new annual data will gradually be diminishing and zero for sufficiently distant periods.

⁴⁸The BI ratio is the ratio of the annual benchmark to the sum of the four quarters of the indicator.

KES recommends the use of XLPBM2⁴⁹ which is a Microsoft Excel macro developed by the IMF Statistics Department for benchmarking quarterly series to annual series using the proportional Denton method and the proportional Cholette–Dagum method with first-order autoregressive error. This tool is particularly suited for quarterly GDP compilation systems based on spreadsheets reason why this macro is embedded in the Quarterly GDP MS Excel file. The Denton method described above is, therefore, worked out in detail in the working file called “Quarterly GDP.xlsx”.

4. Tool to implement Quarterly Gross Domestic Product conceptual framework

KES designed a tool to implement the conceptual framework in a MS Excel file for the compilation of quarterly GDP estimates at current and constant prices by production approach. The file contains the template and formulas needed for BBS national accounts compilers. In this respect, the framework is meant as an internal working file, not as a file nor a template for publication.

The file is designed for the final step of the production of quarterly GDP in which all processed data and indicators are brought in to one comprehensive file in which quarterly GDP is calculated in a time series framework.

The file includes tool called “XLPBM2” which is a Macro that produces quarterly data benchmarked to annual data, using Denton method. This is important to connect quarterly estimates usually produced with limited data with annual estimates calculates from more comprehensive data and to avoid the step problem that arises when using prorated methods. The file must, therefore, be saved as a “Macro-enable Excel file”.

The main features of the file are the following:

1. Provides a consistent way of producing estimates of quarterly gross domestic product (GDP) by production approach.
2. Provides a friendly framework for the calculation of current and constant price estimates of gross value added (GVA) and GDP, and the implicit deflators.
3. Guides compilers through the steps needed to produce estimates of gross value added for all economic activities.
4. Gives flexibility to compilers for interventions or adjustments in data.
5. Allows for the integration of different data sources into one framework.
6. Helps checking time series consistency and outlier's detection.
7. Helps maintaining consistency with the estimates of annual national accounts.
8. Provides a tool for benchmarking quarterly to annual data using Denton Method.

The file comprises of nine spreadsheets that are described below:

1. **High_Freq_Indicators:** contains quarterly year on year percentage changes by economic activities that are used in sheet ‘indices’ to build in the quarterly value and volume indices.
2. **Prices:** store the price indices that are used for deflation or inflation.
3. **Indices:** calculates the quarterly indices (value, volume, and implicit deflators) using 2015/16 as a reference/base year from sheets ‘High_Freq_Indicators’ and ‘Prices’. The indices calculated in ‘Indices’ are used in (i) sheets ‘Denton current’ and ‘Denton constant’ to produce benchmarked

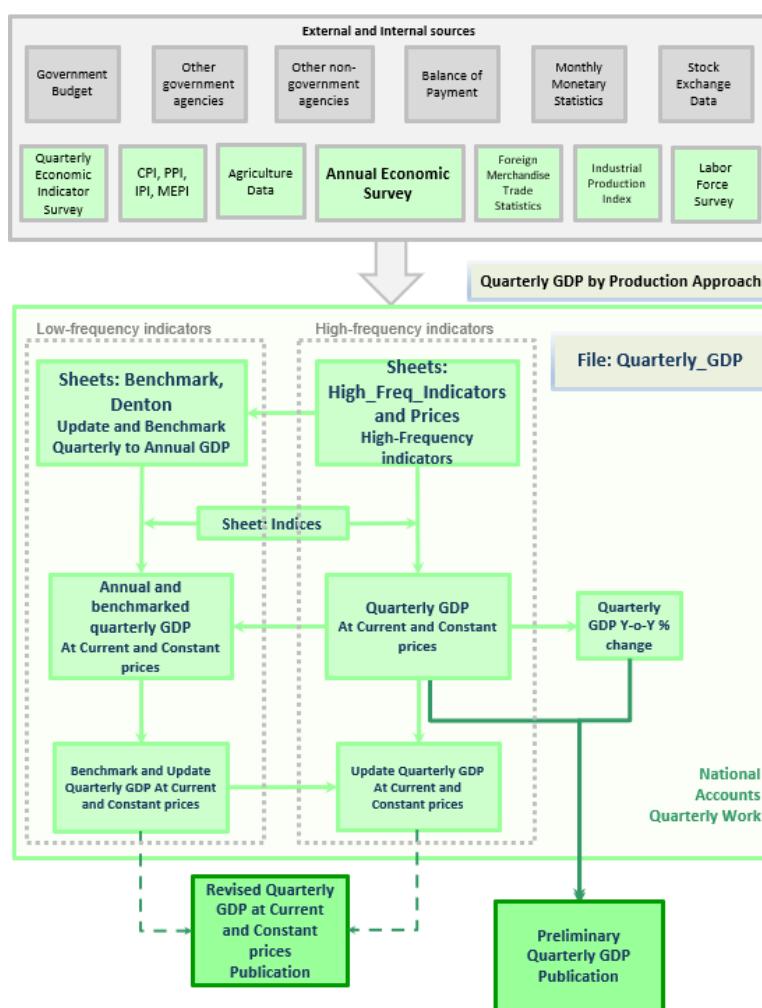
⁴⁹ The XLPBM2 is a Ms Excel add-in designed by the IMF for benchmarking high-frequency data to low-frequency data using Denton or Cholette methods. (<https://www.imf.org/external/pubs/ft/wp/2012/wp12169.pdf>)

quarterly estimates of GVA and GDP and (ii) sheet ‘Quarterly GDP’ to produce the preliminary estimates of the current year (or the years with no annual benchmark).

4. **Benchmark:** contains annual data used as benchmarks, i.e. the low frequency indicator
5. **Denton current:** calculates quarterly data from annual benchmarks (current prices) and quarterly indicators (current prices) using Denton Method.
6. **Denton constant:** calculates quarterly data from annual benchmarks (constant prices) and quarterly indicators (constant prices) using Denton Method.
7. **Quarterly GDP:** calculates gross value added by economic activities and gross domestic product building from ‘Denton current’ and ‘Denton constant’, and from the sheet ‘Indices’.
8. **Quarterly Y-o-Y:** calculates year on year percentage changes from sheet ‘Quarterly GDP’.
9. **Quarterly Q-o-Q:** calculates quarter on quarter percentage changes from sheet ‘Quarterly GDP’.

Figure 4 below shows a diagram of the flow of data and processes used for the calculation of quarterly gross domestic product by production approach using the MS Excel tool built by KE5. The flow starts with the compilation of internal and external data sources which are brought into the quarterly GDP tool as high frequency indicators used to (i) calculate the preliminary versions of quarterly GDP and (ii) provide the quarterly indicators for benchmarking quarterly to annual GDP and produce revised or final GDP figures.

[Figure 4: Diagram of Quarterly GDP Work](#)



The structure of the spreadsheets High_Freq_Indicators and Prices is flexible and can be adjusted by BBS's national accounts compilers according to their needs and the availability of indicators. These sheets bring collected indicators (such as the consumer price index, the producer price index, the manufacturing production index, etc.) and the results of the data processing for the different economic activities done in different working files into the quarterly GDP framework.

Figure 5: Structure of the High_Freq_Indicators spreadsheet

	A	F	G	H	I	J	K	L	M	N	O
1	High Frequency Indicators	Current				Current				Current	
2		Q3 -19	Q4 -19	Q1 -20	Q2 -20	Q3 -20	Q4 -20	Q1 -21	Q2 -21	Q3 -21	Q4 -21
3	Economic Activity										
40											
41	Electricity and Water	3.71	32.04	45.18	47.43	17.49	1.71	4.97	-11.13	-1.85	9.50
42	PPI -Water Electricity Growth	3.0	2.6	7.8	5.1	-6.6	-0.5	2.4	-8.7	-1.1	5.3
43											
44	ppi construction	-4.8	-3.2	-2.2	-4.7	0.7	-0.8	-2.9	2.3	3.7	14.3
45	Building and Construction	-5.81	-5.7	-4.5	-6.4	-2.39	-4.0	-7.4	-2.7	0.24	15.0
46	Trade, Restaurants & Hotels										
47	6.1 Trade	-0.7	0.5	0.5	0.8	-3.7	-35.4	-6.4	-4.8	2.1	33.6
48	6.2 Hotels	-0.43	1.9	12.1	28.4	6.56	-18.7	5.2	5.2	19.99	42.9
49	6.3 Restaurants	-0.51	-1.06	1.90	4.5	-4.13	-56.19	-26.40	-24.8	-4.84	57.13
50	CPI Restaurant	2.3	0.7	0.4	1.0	1.7	1.8	4.2	-0.5	4.7	5.4
51	Transport and Communications										
52	7.1 Land Transport	-14.83	-6.2	-2.8	-5.0	-14.2	-8.3	-14.9	-14.5	0.5	36.4
53	7.2 Sea Transport	-2.8	-2.1	1.8	4.4	11.1	10.4	7.2	1.0	-0.2	7.5
54	7.3 Air Transport	5.78	13.2	6.0	10.7	-0.3	-48.7	-50.3	-36.8	-25.4	58.1
55	7.4 Services Incidental To Transport	2.17	13.8	5.9	11.2	25.1	10.3	-10.6	-10.6	15.1	0.6
56	7.5 Communications	-5.0	-3.4	-6.5	-11.3	-2.6	-3.2	2.5	8.0	2.4	8.6
57											
58	Finance, Insurance, Auxiliary to financial intermediation										
59	8.1 Banks	6.9	9.6	8.6	11.5	9.6	7.3	9.2	7.3	15.8	20.8
60	8.2 Insurance	4.6	0.5	8.0	-4.7	-1.3	-1.7	-12.6	-25.0	-21.1	-4.5
61	8.3 financial intermediation services	3.62	3.1	0.5	1.3	-33.5	-25.1	2.7	-6.9	9.7	15.4
62	Real Estate & Business Services										
63	9.1 Real Estate	-3.63	-5.9	-4.5	-4.8	-11.8	-18.6	-11.6	-4.4	0.4	5.0
64	Owner Occupied Dwellings	-1.52	-2.90	-2.40	-4.00	-3.57	-0.65	-0.47	-5.14	-6.34	-7.46
65	9.2 Business Services	4.6	0.86								
66	Population Growth	3.4	1.65	2.06	0.5	0.6	3.1	4.0	-1.2	-4.5	-7.5
67	CPI Rent growth	-4.74	-4.47	-4.38	-4.5	-4.16	-3.68	-4.34	-4.0	-5.02	-5.70
68	Government Services	13.9	17.0	15.7	14.3	10.2	5.7	3.4	1.3	-2.1	-0.6
69	Population Growth for Government	9.7	12.0	11.4	11.0	8.7	5.7	2.9	0.8	-1.3	-0.8
70	Social Services										
71	Education	8.50	10.84	10.12	8.22	3.47	-1.03	-3.11	-6.18	-4.85	-2.17
72	Employees	1.5	1.5	1.0	-0.7	0.0	-2.0	-4.2	-7.3	-6.3	-4.9
73	CPI Education service	6.9	9.2	9.0	9.0	3.5	0.9	1.1	1.2	1.6	2.9
74	Health	3.48	6.65	6.97	4.30	2.33	-1.12	-2.78	-7.45	-10.47	-6.15
75	CPI Health	4.75	4.82	2.69	1.90	-0.13	0.24	2.88	1.15	0.71	1.47
76	Other Services	-0.74	1.01								
77	CPI other Social service	0.08	-0.47	0.08	-1.61	0.67	-1.08	-2.49	-0.89	-4.95	-4.01
78	Employees-Domestic Services	3.4	1.6	2.1	0.5	0.6	3.1	4.0	-1.2	-4.5	-7.5

Figure 6: Structure of the Prices spreadsheet

	A	F	G	H	I	J	K	L	M	N	O
1	Price Indicators										
2	CPI 2015/16 = 100										
3	National Account Eco. Activity	Q3 -19	Q4 -19	Q1 -20	Q2 -20	Q3 -20	Q4 -20	Q1 -21	Q2 -21	Q3 -21	Q4 -21
4	Rent & Energy free CPI	100.4	99.9	99.1	99.7	99.9	99.9	99.3	96.8	97.6	97.7
5	Agriculture, Forestry and Fishing	99.5	100.3	98.1	95.7	100.0	99.1	99.4	99.3	101.3	100.9
6	Electricity and water	100.7	100.3	107.0	104.8	94.1	99.8	109.5	95.6	93.0	105.0
7	Wholesale and Retail Trade	100.0	100.1	99.8	102.0	100.8	101.0	100.6	95.5	96.6	96.0
8	Hotels	97.8	93.7	89.2	90.1	94.2	101.5	102.3	98.7	110.7	101.0
9	Restaurants	99.9	100.6	99.8	101.0	101.6	102.3	104.1	100.6	106.3	107.8
10	Land Transport	98.9	105.3	106.2	107.1	108.9	108.9	104.0	104.0	108.0	110.0
11	Water Transport	100.0	100.1	99.8	102.0	100.8	101.0	100.6	95.5	96.6	96.0
12	Air Transport	101.2	99.3	94.8	98.3	98.3	95.1	104.0	128.0	136.3	136.0
13	Services Incidental to Transport	101.9	97.5	92.8	89.0	90.9	92.1	85.0	75.0	68.0	70.0
14	Post and Telecommunication	98.6	93.3	93.0	92.8	92.5	91.0	90.5	90.0	91.8	91.6
15	Banks	100.4	99.9	99.1	99.7	99.9	99.9	99.3	96.8	97.6	97.7
16	Insurance	100.4	99.9	99.1	99.7	99.9	99.9	99.3	96.8	97.6	97.7
17	Other Financial services	100.4	99.9	99.1	99.7	99.9	99.9	99.3	96.8	97.6	97.7
18	Real Estate	99.3	98.1	97.5	96.1	95.2	94.5	93.3	92.2	90.4	89.1
19	Business Services	100.4	99.9	99.1	99.7	99.9	99.9	99.3	96.8	97.6	97.7
20	Government Services	101.0	102.0	102.1	101.6	102.4	102.0	102.7	102.1	101.5	102.3
21	Education	102.2	105.1	105.1	105.1	105.7	106.1	106.2	106.3	107.4	109.1
22	Health	101.2	101.2	101.0	101.1	101.1	101.5	103.9	102.2	101.8	102.9
23	Other Social Services	99.7	99.7	100.3	98.7	100.4	98.6	97.9	97.9	95.4	94.7
24	Domestic Services	100.1	101.2	102.1	102.1	102.3	102.7	102.3	102.3	102.1	102.1
25	FISIM	100.2	99.6	98.8	99.0	98.9	98.8	98.1	95.9	96.1	96.0
26	Construction[PPI based]	100.0	97.0	95.1	93.0	93.2	88.5	90.3	91.0	87.3	90.3
27	Import Duties (CPI Goods)	100.0	100.1	99.8	102.0	100.8	101.0	100.6	95.5	96.6	96.0
28	CPI-Rent	99.3	98.1	97.5	96.1	95.2	94.5	93.3	92.2	90.4	89.1
29											
30	PPI 2015/16 = 100	Q3 -19	Q4 -19	Q1 -20	Q2 -20	Q3 -20	Q4 -20	Q1 -21	Q2 -21	Q3 -21	Q4 -21
31	General	103.9	103.7	94.5	91.1	87.9	88.5	82.3	51.0	58.1	67.6
32	Mining	104.2	105.1	96.1	89.9	87.4	88.7	80.7	44.1	52.6	63.5
33	extracted crude oil	106.1	100.4	92.5	98.3	90.4	93.6	78.3	37.9	59.5	63.3
34	extracted natural Gas	103.3	107.2	97.8	85.9	85.9	86.4	81.8	46.8	49.2	63.4
35	Other Mining	100.1	100.8	100.9	100.6	100.4	100.1	96.6	95.9	92.8	92.1
36	Electricity & Water	100.7	100.3	107.0	104.8	94.1	99.8	109.5	95.6	93.0	105.0
37	Manufacturing	103.4	100.9	90.8	93.5	89.0	87.8	85.1	65.0	69.4	75.7
38	Manufacturing NAS	103.8	101.4	90.1	93.6	88.4	87.7	84.4	61.3	66.9	73.7
39	Construction NAS	100.0	97.0	95.1	93.0	93.2	88.5	90.3	91.0	87.3	90.3
40	NAS: Manufacture of food products, bev	100.0	100.0	100.5	101.1	100.7	100.8	100.7	101.2	100.9	101.5
41	NAS: Manufacture of textiles, wearing ap	99.4	99.6	100.0	102.1	97.4	97.4	97.6	95.1	92.7	91.3
42	NAS: Manufacture of wood and paper pr	101.6	101.6	103.2	103.5	102.5	104.6	105.9	106.3	107.7	110.3
	High_Freq_Indicators	Prices	Indices	Benchmark	Denton_current	Denton_constant	Qua				

The structure of the spreadsheets Indices, Quarterly GDP, Quarterly Y-o-Y, and Quarterly Q-o-Q is the same, i.e. rows represent the same activity category and valuation type in all these spreadsheets, and columns represent the same accounting period in all these spreadsheets. The tool provides an ISIC Rev. 4 breakdown proposal for processing the quarterly GDP data which may differ from the desired publication format. National accounts compilers can modify the proposed breakdown by adding or removing rows, but they must keep in mind the following:

- Once defined and the work on quarterly GDP is ongoing, the breakdown of ISIC categories should not be modified.

2. When choosing the desired breakdown of ISIC Rev. 4 for working purposes compilers need to take into consideration the availability of annual GDP data and quarterly indicators, and the possibility of building new indicators in the near future.
3. When adding or removing rows, bear in mind that all four sheets mentioned should be equally amended.
4. When adding or removing rows, bear in mind that spreadsheets Denton current and Denton constant will also need to be amended.

Figure 7: Structure of the Indices spreadsheet with ISIC Rev. 4 breakdown for working purposes

1	2	3	4	A	B	C	D	J	K	L	M	N	O	P	Q	R	S	T	U
1	Table: Value Added classified according ISIC4																		
2	Source:																		
3	Comments: Value, volume, and implicit price indices (2015/16 = 100)																		
4	Values																		
5		Code	Description		Q3 -19	Q4 -19	Q1 -20	Q2 -20	2019/20	Q3 -20	Q4 -20	Q1 -21	Q2 -21	2020/21	Q3 -21	Q4 -21			
117	Volume (2015/16=100)																		
118		Code	Description		Q3 -19	Q4 -19	Q1 -20	Q2 -20	2019/20	Q3 -20	Q4 -20	Q1 -21	Q2 -21	2020/21	Q3 -21	Q4 -21			
119	Ind	A	Agriculture, forestry and fishing																
120	O11 + O12 + 0	O11 + O12	Growing of non-perennial and perennia	106.3	104.2	98.2	98.9	101.9	107.0	107.4	102.1	97.8	103.6	103.5	101.2				
121	O14 + O15	O14 + O15	Animal production; Mixed farming	106.3	104.2	98.2	98.9	101.9	107.0	107.4	102.1	97.8	103.6	103.5	101.2				
122	O16 + O17	O16 + O17	Support activities to agriculture a	106.3	104.2	98.2	98.9	101.9	107.0	107.4	102.1	97.8	103.6	103.5	101.2				
123	O2	O2	Forestry and logging	106.3	104.2	98.2	98.9	101.9	107.0	107.4	102.1	97.8	103.6	103.5	101.2				
124	O3	O3	Fishing and aquaculture	106.3	104.2	98.2	98.9	101.9	107.0	107.4	102.1	97.8	103.6	103.5	101.2				
125	B		Mining and quarrying																
126	IPI	B	05 + 07 + 0	Other mining and quarrying	89.5	88.6	85.7	85.7	87.4	85.6	73.5	80.4	88.4	82.0	95.3	94.9			
127	IPI	0610	06	Extraction of crude petroleum and natural gas	94.7	98.3	97.0	97.3	96.8	93.2	92.8	94.3	92.0	93.1	87.5	95.1			
128	IPI	B	09	Mining support service activities	99.5	99.5	103.7	98.9	100.4	97.8	97.7	98.7	92.5	96.7	98.3	96.9			
129	C		Manufacturing																
130	IPI	C	10	Manufacture of food products	89.2	103.0	115.3	92.9	100.1	95.3	137.8	149.5	44.4	106.7	100.1	144.7			
131	IPI	C	11	Manufacture of beverages	100.2	97.8	110.0	112.9	105.2	107.1	130.9	142.6	54.0	108.6	112.4	137.4			
132	IPI	C	12	Manufacture of tobacco products	109.8	110.0	108.9	120.2	112.2	117.3	147.2	141.2	57.5	115.8	123.2	154.5			
133	IPI	C	13	Manufacture of textile	104.4	88.2	76.5	99.8	92.2	81.3	91.1	78.7	135.7	96.7	85.4	95.7			
134	IPI	C	14	Manufacture of wearing apparel	59.2	79.7	82.0	114.6	83.9	46.1	82.3	84.4	155.8	92.2	48.4	86.4			
135	IPI	C	15	Manufacture of leather and related products	105.7	102.6	82.0	108.1	95.6	82.3	106.0	84.4	146.9	104.9	86.4	111.3			
136	IPI	C	16	Manufacture of wood and products	86.3	96.7	97.8	136.4	104.3	83.5	118.8	116.5	321.0	159.9	87.7	124.7			
137	IPI	C	17	Manufacture of paper and paper products	130.4	154.2	91.7	111.7	122.0	97.7	147.4	87.4	120.5	113.3	102.6	154.8			
138	IPI	C	18	Printing and reproduction of records	104.0	95.0	73.8	90.5	90.8	78.0	90.8	70.3	97.6	84.2	81.9	95.3			
139	IPI	C	19	Manufacture of coke and refined petroleum products	112.3	118.3	65.3	82.4	94.6	66.4	96.4	53.2	121.4	84.3	69.7	101.2			
140	IPI	C	20	Manufacture of chemicals and chemical products	105.6	106.1	60.5	86.5	89.7	62.5	86.4	49.3	127.4	81.4	65.6	90.7			
141	IPI	C	21	Manufacture of Pharmaceuticals	130.9	102.7	61.2	91.9	96.7	77.4	83.7	49.8	135.4	86.6	81.3	87.9			
142	IPI	C	22	Manufacture of rubber and plastic products	103.9	106.7	59.4	86.1	89.0	61.4	86.9	48.4	126.8	80.9	64.5	91.3			
143	IPI	C	23	Manufacture of other non-metallic mineral products	97.5	98.2	71.9	87.7	88.8	67.6	87.7	64.2	64.9	71.1	71.0	92.1			
144	IPI	C	24	Manufacture of basic metals	95.0	95.7	54.1	110.9	88.9	49.5	96.0	58.7	216.3	105.1	52.0	100.8			
145	IPI	C	25	Manufacture of fabricated metal products	101.2	98.8	63.5	92.6	89.0	62.1	79.1	50.8	135.6	81.9	65.2	83.0			
146	IPI	C	26	Manufacture of computer, electronic and optical equipment	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
147	IPI	C	27	Manufacture of electrical equipment	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
148	IPI	C	28	Manufacture of machinery and equipment	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
149	IPI	C	29	Manufacture of motor vehicles, trailers and semi-trailers	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
150	IPI	C	30	Manufacture of other transport equipment	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
151	IPI	C	31 + 32 + 33	Manufacture of furniture; Other non-metallic mineral products	116.5	97.4	42.4	49.1	76.4	47.7	51.5	22.2	9.6	32.8	50.0	54.1			
152	D		Electricity, gas, steam and air conditioning, and water supply																
153	IPI	D	351	Electric power generation, transmission and distribution	89.9	105.3	125.1	98.1	104.6	92.7	105.3	128.0	95.3	105.3	92.0	109.6			
				High_Freq_Indicators	Prices	Indices	Benchmark	Denton_current	Denton_constant	Quarterly GDP	Quarterly GDP_YoYchange	Qu							

The structure of the Benchmark spreadsheet follows the breakdown of economic activities (ISIC) chosen for the quarterly GDP compilation. In case annual GDP data has a higher breakdown, data should be aggregated in order to align them with the ISIC breakdown of quarterly GDP compilation file.

Figure 8: Structure of Benchmark spreadsheet

1	2	3	B	C	D	E	F	G
1	Table: Value Added classified according ISIC4							
2	Source:							
3	Comments: Annual current and constant (2015/16 = 100) GVA/GDP, and implicit deflators							
4	Current Prices							
5	Code	Description			2018/19	2019/20	2020/21	
6	A	Agriculture, forestry and fishing			3,534,431	3,804,464	4,061,340	
7	A	011 + 012 + 013	Growing of non-perennial and perennial crops; Plant propagation		866,891	930,580	980,874	
8	A	014 + 015	Animal production; Mixed farming		562,897	597,153	632,923	
9	A	016 + 017	Support activities to agriculture and post-harvest crop activities;		866,891	930,580	980,874	
10	A	02	Forestry and logging		466,390	503,992	548,061	
11	A	03	Fishing and aquaculture		771,362	842,160	918,609	
12	B	Mining and quarrying			526,098	552,239	568,745	
13	B	05 + 07 + 08	Other mining and quarrying		365,000	392,425	412,113	
14	B	06	Extraction of crude petroleum and natural gas		120,543	116,211	110,842	
15	B	09	Mining support service activities		40,556	43,603	45,790	
16	C	Manufacturing			6,259,374	6,530,638	6,994,480	
17	C	10	Manufacture of food products		678,516	707,921	758,202	
18	C	11	Manufacture of beverages		21,282	22,204	23,781	
19	C	12	Manufacture of tobacco products		182,774	190,695	204,239	
20	C	13	Manufacture of textile		880,694	918,861	984,123	
21	C	14	Manufacture of wearing apparel		2,180,766	2,275,274	2,436,877	
22	C	15	Manufacture of leather and related products		275,412	287,348	307,757	
23	C	16	Manufacture of wood and products of wood and cork		20,656	21,551	23,082	
24	C	17	Manufacture of Paper and paper products		20,656	21,551	23,082	
25	C	18	Printing and reproduction of recorded media		114,547	119,511	127,995	
26	C	19	Manufacture of coke and refined petroleum products		78,242	81,633	87,431	
27	C	20	Manufacture of chemicals and chemical products		229,719	239,674	256,697	
28	C	21	Manufacture of Pharmaceuticals and medicinal chemical		515,146	537,472	575,646	
29	C	22	Manufacture of rubber and plastic products		97,646	101,878	109,114	
30	C	23	Manufacture of other non-metalic mineral products		445,667	464,981	498,007	
31	C	24	Manufacture of basic metals		197,170	205,715	220,326	
32	C	25	Manufacture of fabricated metal products except machinery		145,217	151,511	162,272	
33	C	26	Manufacture of computer, electronic and optical products		9,389	9,796	10,492	
34	C	27	Manufacture of electrical equipment		45,693	47,674	51,060	
35	C	28	Manufacture of machinery and equipment n.e.c		11,267	11,755	12,590	
36	C	29	Manufacture of motor vehicles,trailers and semi trailers		8,137	8,490	9,093	
37	C	30	Manufacture of other transport equipment		45,693	47,674	51,060	
38	C	31 + 32 + 33	Manufacture of furniture; Other manufacturing		55,082	57,470	61,551	
39	D	Electricity, gas, steam and air conditioning supply			381,438	445,225	530,695	
40	D	351	Electric power generation, transmission and distribution		302,389	369,260	453,224	
41	D	352 + 353	Manufacture of gas; distribution of gaseous fuels through mains;		79,049	75,965	77,475	
42	E		Water supply; sewerage, waste management and remediation activities		26,736	27,607	28,904	
43	F	26	Water collection, treatment and supply		24,062	24,846	26,014	
			High_Freq_Indicators	Prices	Indices	Benchmark	Denton_current	Denton_constant
							Quarterly	

Finally, the structure of the **spreadsheets** Denton current and Denton constant takes into consideration the ISIC Rev. 4 breakdown of quarterly GDP as well as the layout needed for running the MS Excel add-in called XLPBM2. In case the ISIC Rev. 4 breakdown of quarterly GDP is modified, the columns of these two Denton spreadsheets must be modified accordingly.

Below there is a description of the sequence of steps required to use Denton current and Denton constant spreadsheets to calculate new quarterly GDP figure from annual data and using Denton method for benchmarking:

(i) Denton Current spreadsheet:

1. For a new year (e.g. 2020/21), bring a copy of the new annual GDP estimates to Benchmark spreadsheet.
2. In Denton Current spreadsheet select all values in the range called Denton, delete them, and run the algorithm add-in XLPBM2.xla. The XLPBM2 macro creates an array formula⁵⁰. To run this formula, first select the cell containing the xlpm2 formula, then select and change the input range within the formula, next select the entire output range, and finally confirm the formula by pressing Ctrl+Shift+Enter.

(ii) Denton Constant spreadsheet:

In the same way that values at current prices are calculated, values at constant prices are also calculated:

1. For a new year (e.g. 2020/21), bring a copy the new annual GDP estimates to Benchmark spreadsheet.
2. In Denton Constant spreadsheet select all values in the range called Denton, delete them, and run the algorithm add-in XLPBM2.xla following the procedure described above.

(iii) Quarterly GDP spreadsheet:

This spreadsheet combines the quarterly data obtained by applying the benchmark method for the periods where annual GDP estimates are available (interpolation) with quarterly data obtained by extrapolation with indicator method.

1. For current prices:
 - i. For benchmark years: Bring all the values calculated in Denton Currents spreadsheet which correspond to quarters benchmarked to the annual GDP
 - ii. For non-benchmark years: Two methods are used for non-benchmark years, namely, extrapolation of current estimates of the previous year and constant estimates adjusted by a specific price index.
2. For constant prices:
 - i. Deflation: Use the quarterly GDP estimates at current prices (benchmarked and non-benchmarked years) and divide them by the corresponding price indices:
 - ii. Extrapolation: this method is used in two steps.
 1. For benchmark years use the benchmarked data that was calculated in Denton spreadsheet.
 2. For non-benchmark years: Use the quarterly indicators to extrapolate the constant benchmarked data brought from Denton spreadsheet at constant prices.

⁵⁰ An array formula is a formula that can perform multiple calculations on one or more items in an array.

Annual figures can either be calculated by fiscal or calendar year by adding the quarterly values generated in the Quarterly GDP file.

Figure 9 below presents the layout of the Denton spreadsheet showing the three different data blocks: Benchmark Current GVA, Indicator, and Denton.

Next, figure 10 shows the structure of the quarterly GDP spreadsheet highlighting in line 4 whether data for that period is benchmarked (Denton) or not (Indicator Method).

[Figure 9: Structure of Denton spreadsheets](#)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																			
2		Benchmark Current GVA																	
3		011 + 012 + 013	014 + 015	016 + 017	02	03	05 + 07 + 08	06	09	10	11	12	13	14	15	16	17	18	19
4	2018/19	986,891	562,897	866,891	466,390	771,362	365,000	120,543	40,556	678,516	21,282	182,774	880,694	2,180,766	275,412	20,656	20,656	114,547	78,242
5	2019/20	930,580	597,153	930,580	503,992	842,160	392,425	116,211	43,603	707,921	22,204	190,695	918,861	2,275,274	287,348	21,551	21,551	119,511	81,633
6	2020/21	980,874	632,923	980,874	548,061	918,609	412,113	110,842	45,790	758,202	23,781	204,239	984,123	2,436,877	307,757	23,082	23,082	127,999	87,431
7																			
8																			
9	Indicator																		
10	Q3 -18	98.3	98.3	98.3	98.3	98.3	107.7	76.8	76.2	79.7	88.4	89.9	75.0	45.5	85.9	79.1	100.7	92.4	121.0
11	Q4 -18	99.4	99.4	99.4	99.4	99.4	96.7	71.5	71.7	95.6	89.0	94.9	57.9	57.2	77.8	90.9	130.3	86.1	127.2
12	Q1 -19	93.6	93.6	93.6	93.6	93.6	89.6	74.8	73.7	110.9	103.5	95.8	74.5	85.6	84.7	96.9	113.6	98.2	121.6
13	Q2 -19	95.6	95.6	95.6	95.6	95.6	86.9	90.0	80.4	90.0	108.6	106.3	84.5	98.9	97.8	95.3	105.0	101.4	97.7
14	Q3 -19	105.8	105.8	105.8	105.8	105.8	90.3	88.2	95.6	89.7	100.2	113.3	90.9	53.8	110.8	77.8	137.6	103.2	111.0
15	Q4 -19	104.5	104.5	104.5	104.5	104.5	89.1	97.2	89.5	104.1	99.9	113.9	80.9	74.8	98.5	86.4	164.0	99.7	113.4
16	Q1 -20	96.3	96.3	96.3	96.3	96.3	86.0	87.9	90.6	116.1	107.2	111.6	87.6	73.9	77.1	83.0	96.3	77.8	62.7
17	Q2 -20	94.7	94.7	94.7	94.7	94.7	85.7	91.1	87.7	93.6	109.9	125.6	89.2	102.0	106.2	108.1	117.3	92.1	81.0
18	Q3 -20	106.9	106.9	106.9	106.9	106.9	82.7	73.6	78.9	96.0	104.5	124.3	64.8	37.7	84.7	62.8	104.0	77.6	65.4
19	Q4 -20	106.5	106.5	106.5	106.5	106.5	70.4	36.4	43.0	139.4	124.5	156.4	40.8	46.6	86.2	78.4	153.2	87.2	93.6
20	Q1 -21	101.5	101.5	101.5	101.5	101.5	74.6	57.7	51.9	150.8	132.3	152.0	43.2	52.4	67.0	83.2	88.6	68.3	51.6
21	Q2 -21	97.1	97.1	97.1	97.1	97.1	81.4	60.3	58.7	45.1	49.3	63.4	84.2	104.2	123.1	236.9	117.7	95.2	113.1
22																			
23																			
24	Denton																		
25	Q3 -18	218,643	142,436	218,643	117,653	194,119	100,432	31,624	10,857	144,568	4,886	43,823	236,969	352,650	70,350	4,405	4,765	27,928	18,953
26	Q4 -18	221,808	144,306	221,808	119,347	197,107	91,295	28,675	9,978	173,168	4,899	45,734	179,820	440,460	63,026	5,107	6,101	26,044	20,513
27	Q1 -19	210,103	136,327	210,103	113,031	187,041	86,557	28,553	9,790	199,811	5,647	45,071	223,645	651,666	67,137	5,542	5,185	29,770	20,752
28	Q2 -19	216,337	139,828	216,337	116,358	193,095	86,716	31,691	9,930	160,970	5,850	48,145	240,259	735,990	74,899	5,601	4,604	30,805	18,024
29	Q3 -19	242,034	155,645	242,034	130,141	216,766	93,878	27,387	10,574	158,606	5,298	48,552	238,116	386,298	80,780	4,736	5,722	31,438	22,438
30	Q4 -19	241,397	154,794	241,397	130,182	217,434	96,908	28,832	9,805	182,733	5,253	46,897	211,348	533,910	70,609	5,335	6,685	31,090	24,740
31	Q1 -20	224,596	143,922	224,596	121,856	203,908	98,307	27,501	10,845	202,325	5,687	44,918	189,231	546,317	55,998	5,077	4,017	25,312	14,564
32	Q2 -20	222,552	142,792	222,552	121,812	204,052	103,332	32,492	12,379	163,657	5,967	50,328	280,166	808,748	79,961	6,403	5,127	31,670	19,891
33	Q3 -20	253,066	162,889	253,066	140,106	234,772	105,325	31,548	13,699	168,270	5,889	50,563	238,782	334,818	68,011	3,491	4,887	28,538	16,852
34	Q4 -20	253,307	163,402	253,307	141,386	236,971	93,286	17,393	8,381	245,072	7,206	64,381	167,113	450,044	72,561	4,105	7,585	33,872	25,035
35	Q1 -21	242,021	155,551	242,021	132,075	222,005	101,562	20,720	10,000	205,102	7,772	60,005	199,442	520,204	50,100	4,140	4,874	32,200	14,410
		High_Freq_Indicators	Prices	Indices	Benchmark					Denton_current			Denton_constant	Quarterly GDP	Quarterly GDP_Yochange				

Figure 10: Structure of Quarterly GDP spreadsheet

1	2	3	B	C	D	J	K	L	M	N	O	P	Q	R	S	T	U
1			Table: Value Added classified according ISIC4														
2			Source:														
3			Comments: Current and constant (2015/16 = 100) GVA/GDP, and implicit deflators.														
4			Current Prices														
5			Denton														
			Benchmarked														
6			Denton														
7	A	011 + 012 + 013	Agriculture, forestry and fishing														
8	A	014 + 015	Growing of non-perennial and perennial crops														
9	A	016 + 017	Animal production; Mixed farming														
10	A	02	Support activities to agriculture and post-harvest handling														
11	A	03	Forestry and logging														
12	B	05 + 07 + 08	Fishing and aquaculture														
13	B	06	Mining and quarrying														
14	B	09	Other mining and quarrying														
15	B	10	Extraction of crude petroleum and natural gas														
16	C	09	Mining support service activities														
17	C	10	Manufacturing														
18	C	11	Manufacture of food products														
19	C	12	Manufacture of beverages														
20	C	13	Manufacture of tobacco products														
21	C	14	Manufacture of textile														
22	C	15	Manufacture of wearing apparel														
23	C	16	Manufacture of leather and related products														
24	C	17	Manufacture of wood and products of wood														
25	C	18	Manufacture of paper and paper products														
26	C	19	Manufacture of printing and reproduction of recorded media														
27	C	20	Manufacture of coke and refined petroleum products														
28	C	21	Manufacture of pharmaceuticals and medical products														
29	C	22	Manufacture of rubber and plastic products														
30	C	23	Manufacture of other non-metallic mineral products														
31	C	24	Manufacture of basic metals														
32	C	25	Manufacture of fabricated metal products														
33	C	26	Manufacture of computer, electronic and optical equipment														
34	C	27	Manufacture of electrical equipment														
35	C	28	Manufacture of machinery and equipment n.e.c.														
36	C	29	Manufacture of motor vehicles, trailers and semi-trailers														
37	C	30	Manufacture of other transport equipment														
38	C	31 + 32 + 33	Manufacture of furniture; Other manufacturing														
39	D	Electricity, gas, steam and air conditioning supply	Electric power generation, transmission and distribution														
40	D	351	Manufacture of gas; distribution of gaseous materials														
41	D	352 + 353	Water supply; sewerage, waste management and remediation services														
42	E	Water supply; sewerage, waste management and remediation services	Water supply; sewerage, waste management														
			Quarterly GDP														
			Quarterly GDP_YoYchange														
			Quarterly GDP_QoQ														

ANNEXES

ANNEX 1: SNA Definitions

The SNA contains a number of classifications which in a sense constitute the skeleton of the System:

1. Transactions and other flows (what?)
2. Producing units and products
3. Prices
4. IC, GVA and GDP by Production approach

1. Transactions and other flows

Institutional units and their members fulfil various economic functions; that is, they produce, consume, save, invest, etc. They engage in various economic activities (agriculture, manufacturing, etc.) as entrepreneurs or wage-earners or suppliers of capital, or they are unemployed. In all aspects of their economic functions and activities, they undertake a great number of elementary economic actions. These actions result in economic flows, which, in addition to their specific nature (wages, taxes, fixed capital formation) create, transform, exchange, transfer or extinguish economic value; they involve changes in the volume, composition or value of an institutional unit's assets or liabilities. The economic value may take the form of ownership rights on concrete objects (a loaf of bread, a dwelling) or intangible assets (a film original) or of financial claims (liabilities being understood as negative economic value). In all cases, it represents a certain quantum of abstract economic value which is potentially usable to acquire goods or services, pay wages or taxes, etc.

Main types of transactions and other flows

Elementary transactions and other flows are innumerable. They are grouped into a relatively small number of types according to their nature. The System's main classification of transactions and other flows includes four first-level types, with each subdivided according to a hierarchical classification. It is designed to be used systematically in the accounts and tables of the central framework and cross-classified with institutional sectors, industry and product, and purpose classifications.

Transactions in goods and services (products)

Describe the origin (domestic output or imports) and use (intermediate consumption, final consumption, capital formation or exports) of goods and services. By definition, goods and services in the System are always a result of production, either domestically or abroad, in the current period or in a previous one. The term products is thus a synonym for goods and services.

Distributive transactions

Consist of transactions by which the value added generated by production is distributed to labor, capital and government and of transactions involving the redistribution of income and wealth (taxes on income and wealth and other transfers). The System draws a distinction between current and capital transfers, with the latter deemed to redistribute saving or wealth rather than income

Transactions in financial instruments (or financial transactions)

Refer to the net acquisition of financial assets or the net incurrence of liabilities for each type of financial instrument. Such changes often occur as counterparts of non-financial transactions. They also occur as

transactions involving only financial instruments. Transactions in contingent assets and liabilities are not considered transactions in the SNA.

Other accumulation entries

Cover transactions and other economic flows not taken into account before which change the quantity or value of assets and liabilities. First, they include consumption of fixed capital and acquisitions less disposals of non-produced non-financial assets. Then, they cover other economic flows of non-produced assets, such as discovery or depletion of subsoil resources or transfers of other natural assets to economic activities. They also cover the effects of non-economic phenomena such as natural catastrophes and political events (wars for example). Finally, they include holding gains or losses, due to changes in prices, and some minor items.

2. Producing units and products

Producing units

Institutional units such as corporations may produce various types of goods and services. These goods and services result from processes of production which may differ as regards materials and supplies consumed, kind of equipment and labor employed, and techniques used. In other words, they may come from different economic activities.

Establishments that have the same principal activity are grouped in industries according to the **International Standard Industrial Classification of All Economic Activities (ISIC)**.

Given the fundamental role played by the market in modern economies, the SNA distinguishes, as an essential feature of its structure, between establishments which are market producers, producers for own final use and other non-market producers. Market establishments produce mostly goods and services for sale at prices which are economically significant. Producers for own final use produce mostly goods and services for final consumption or fixed capital formation by the owners of the enterprises in which they are produced. Other non-market establishments supply most of the goods and services they produce without charge or at prices which are not economically significant.

Products

Goods and services, also called products, are the result of production. They are exchanged and used for various purposes: as inputs in the production of other goods and services, as final consumption or for investment. Here again the SNA makes a conceptual distinction between market, own final use and other non-market goods and services, allowing in principle any kind of good or service to be either type. In order to study transactions in goods and services in detail, the **System uses the Central Product Classification (CPC)**.

3. Prices

Basic Price

The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, by the producer as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer.

Producer's Price

The producer's price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any value added tax (VAT), or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer.

Purchaser's price

The Purchaser's price is the amount paid by the purchaser, excluding any VAT or similar tax deductible by the purchaser, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place.

Relationships between prices

BASIC PRICE
+ Taxes on products excluding invoiced VAT
- Subsidies on products
= PRODUCER'S PRICE
+ VAT not deductible by the purchaser
+ Separately invoiced transport charges
+ Wholesalers' and retailers' margins
= PURCHASER'S PRICES

4. IC, GVA and GDP by Production approach

Intermediate Consumption (IC)

The intermediate consumption (IC) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. P2

Production account and Gross value added (GVA)

The production account is designed to emphasize **Value Added** as one of the main balancing items in the System. Consequently, it does not cover all transactions linked with the production process, but only the result of production (**Output P1**) and the using up of goods and services when producing this output (**Intermediate Consumption P2**). Intermediate consumption does not cover the progressive wear and tear of fixed capital. The latter is recorded as a separate transaction (consumption of fixed capital) making the difference between the gross and net balancing items.

The production account records the activity of producing goods and services as defined within the System. Its balancing item, gross value added, is defined as the value of output less the value of intermediate consumption and is a measure of the contribution to GDP made by an individual producer, industry, or sector. Gross value added is the source from which the primary incomes of the System are generated and is therefore carried forward into the primary distribution of income account. Value added may also be measured net by deducting consumption of fixed capital.

$$\text{GVA} \text{ Gross Value Added } \text{B1g} = \text{Output P1} - \text{Intermediate Consumption P2}$$

Gross Domestic Product (GDP) by Production approach

Gross domestic product (GDP) at market prices represents the final result of the production activity of resident producer units. Basically, GDP is a concept of value added. It is the sum of gross value added of all resident producer units (institutional sectors or, alternatively, industries) plus that part (possibly the total) of taxes, less subsidies, on products which is not included in the valuation of output.

Domestic product is calculated at constant prices in order to measure the change in volume which occurs from one period to another

From the production side,

$$\text{GDP} = \text{GVA} + \text{Taxes} - \text{Subsidies on products}$$

$$\text{GDP B1} = \text{Output P1} - \text{Intermediate Consumption P2} + \text{Taxes} - \text{Subsidies on products}$$

If basic prices are used for valuing output, GDP is equal to the sum of gross value added of all resident producer units plus all taxes on products (less subsidies on products). If producers' prices are used for valuing output, GDP is equal to the sum of gross value added of all resident producer units plus taxes and duties on imports, less import subsidies - in absence of a value added tax system - or plus taxes and duties on imports (less import subsidies) and value added type taxes - when such a taxation system does exist.

ANNEX 2: Standards

System of National Account

The System of National Accounts 2008 was adopted by the United Nations Statistical Commission in its fortieth session held in New York from 24-27 February 2009. It is published jointly by the United Nations, the Commission of the European Communities, the International Monetary Fund, the Organization for Economic Co-operation and Development, and the World Bank.

The System of National Accounts consists of an integrated set of macroeconomic accounts, balance sheets and tables based on internationally agreed concepts, definitions, classifications, and accounting rules. Together, these principles provide a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision-taking and policy-making.

The first national accounts standard was released in 1953, with major updates in 1968, 1993 and 2008.

As market economies and economic interactions in the world evolved, the 2008 SNA has changed from its 1953, 1968 and 1993 version. Reference materials about the revision of the 1993 SNA are available under Towards the 2008 SNA⁵¹. Towards the 2008 SNA webpage contains in detail all documents (work-programme, issue papers and recommendations, draft chapters, comments from the global consultations, etc.) and additional information (meetings, etc.) that led to the adoption of the 2008 SNA.

The latest version of the SNA is the System of National Accounts 2008 (2008 SNA). The 2008 SNA is an update of the 1993 SNA to address issues brought about by changes in the economic environment, advances in methodological research and the needs of users.

The 1993 SNA represented a major advance in national accounting and embodies the result of harmonizing the SNA and other international statistical standards more completely than in previous versions.

The 1968 SNA extended the scope of the national accounts substantially by adding input-output accounts and balance sheets; giving more attention to estimates at constant prices; and making a comprehensive effort to bring the SNA and the Material Product System (MPS) closer together.

The 1953 SNA was published under the auspices of the UNSC. It consisted of a set of six standard accounts and a set of 12 standard tables presenting detail and alternative classifications of the flows in the economy. The concepts and definitions of the accounts were widely applicable for most countries, including developing countries.

Aspects such as globalization, digitalization, well-being, and the appearances of new economic phenomena warranted an incremental update of 2008 SNA and have led to the development of the 2025 SNA. All information about the update progress can be found on the Towards the 2025 SNA website⁵².

⁵¹ <https://unstats.un.org/unsd/nationalaccount/hist2008.asp>

⁵² <https://unstats.un.org/unsd/nationalaccount/Towards2025.asp>

International Standards Industrial Classification of All Economic Activities (ISIC) Rev. 4

The International Standards Industrial Classification of All Economic Activities is a standard international classification of economic activities arranged so that entities can be classified according to the activity they carry out.

The groups and divisions, the successively broader levels of classification, combine the statistical units according to the inputs of goods, services and factors of production; the process and technology of production; the characteristics of outputs; and the use to which the outputs are put. At the most detailed level of the classification, preference has been given to the process and technology of production to define individual ISIC classes, particularly in the classes related to services. At higher levels, characteristics of outputs and the use to which outputs are put become more important to create analytically useful aggregation categories. Wide use has been made of ISIC, both nationally and internationally, in classifying data according to kind of economic activity in the fields of population, production, employment, gross domestic product and other economic activities.

ISIC is a basic tool for studying economic phenomena, fostering international comparability of data and for promoting the development of sound national statistical systems.

ISIC Publication reference: United Nations. 2008. International Standard Industrial Classification of all Economic Activities (ISIC) Revision 4. Department of Economic and Social Affairs, Statistics Division, Statistical papers, Series M, No 4, Rev. 4. United Nations, New York⁵³.

Top Level of ISIC Rev.4

- A - Agriculture, forestry and fishing**
- B - Mining and quarrying**
- C - Manufacturing**
- D - Electricity, gas, steam and air conditioning supply**
- E - Water supply; sewerage, waste management and remediation activities**
- F - Construction**
- G - Wholesale and retail trade; repair of motor vehicles and motorcycles**
- H - Transportation and storage**
- I - Accommodation and food service activities**
- J - Information and communication**
- K - Financial and insurance activities**
- L - Real estate activities**
- M - Professional, scientific and technical activities**
- N - Administrative and support service activities**

⁵³ <http://unstats.un.org/unsd/class/default.asp>

O - Public administration and defense; compulsory social security

P - Education

Q - Human health and social work activities

R - Arts, entertainment and recreation

S - Other service activities

T - Activities of households as employers; undifferentiated goods and services producing activities of households for own use

U - Activities of extraterritorial organizations and bodies

CPC V2.1 / Central Product Classification

The Central Product Classification (CPC) constitutes a complete product classification covering all goods and services. It serves as an international standard for assembling and tabulating all kinds of data requiring product detail, including statistics on industrial production, domestic and foreign commodity trade, international trade in services, balance of payments, consumption and price statistics, and other data used within the national accounts. It provides a framework for international comparison and promotes harmonization of various types of statistics related to goods and services.

The ongoing revision of this classification is evidence of the commitment to systematize the improvement of the classification over time, keeping it current and making it more responsive to existing economic and technological reality while maintaining conceptual consistency.

The primary purpose of CPC Version 2.1 is to classify the goods and services that are the result of production in any economy. This production is accounted for in the national accounts of countries and can be measured and analyzed using the System of National Accounts (SNA). CPC Version 2.1 is useful in studying transactions in goods and services in detail. It can also be used as a basis for developing lists of goods and services for specific purposes, such as price statistics surveys, tourism statistics surveys or ICT-related surveys, with its primary advantage being that it meets the criteria of an international standard. It has broad acceptance and facilitates the maintenance of systems of categories of products, both with regard to character and definition. It can therefore serve as a framework for international comparison.

CPC Publication reference: United Nations. 2008. Central Product Classification (CPC) Version 2. Department of Economic and Social Affairs, Statistics Division, Statistical papers, Series M, No 77, Ver. 2.1. United Nations, New York⁵⁴.

Top Level of CPC Ver.2.1

1. Agriculture, forestry and fishery products;
2. Food products, beverages and tobacco; textiles, apparel and leather products;
3. Other transportable goods, except metal products, machinery and equipment;
4. Metal products, machinery and equipment;
5. Constructions and construction services;

⁵⁴ <https://unstats.un.org/unsd/classifications/unsdclassifications/cpcv21.pdf>

6. Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services;
7. Financial and related services; real estate services; and rental and leasing services;
8. Business and production services;
9. Community, social and personal services.

The hierarchies and the corresponding counting for ISIC Rev.4 and CPC Ver.2.1 classifications are shown in the table below:

Hierarchy	<i>ISIC, Rev.4</i>	<i>CPC, Ver.2.1</i>
Sections (one-digit)	21	10
Divisions (two-digit)	88	71
Groups (three-digit)	238	329
Classes (four-digit)	419	1,299
Sub-classes or basic headings (five-digit)	N/A	2,887

ANNEX 3: Classification of Transactions (SNAC_CODE)

This annex provides the classification of transactions and other flows described in the 2008 SNA.

The transaction classifications (P, D, F, and NP codes) relate to:

- a. Products (including produced assets) (P codes);
- b. Distributive transactions (D codes);
- c. Financial transactions (F codes)

Additionally, the 2008 SNA provide classifications for balancing items (B codes), and entries related to stocks of assets and liabilities, namely, non-financial assets (AN codes), non-produced assets (NP codes), and financial assets (AF codes), as well as a classification for other flows, namely economic appearance/disappearance of assets (K codes).

a. Transactions in products (P)

- P.1 Output
 - P.11 Market output
 - P.12 Output for own final use
 - P.13 Other non-market output
- P.2 Intermediate consumption
- P.3 Final consumption expenditure
 - P.31 Individual consumption expenditure
 - P.32 Collective consumption expenditure
- P.4 Actual final consumption
 - P.41 Actual individual consumption
 - P.42 Actual collective consumption
- P.5 Capital formation
 - P.51g Gross fixed capital formation
 - P.51c Consumption of fixed capital
 - P.51n Net fixed capital formation
- P.52 Changes in inventories
- P.53 Acquisitions less disposals of valuables
- P.6 Exports of goods and services
 - P.61 Exports of goods
 - P.62 Exports of services
- P.7 Imports of goods and services
 - P.71 Imports of goods
 - P.72 Imports of services

b. Distributive transactions (D)

- D.1 Compensation of employees
- D.11 Wages and salaries
- D.12 Employers' social contributions
 - D.121 Employers' actual social contributions
 - D.1211 Actual pension contributions
 - D.1212 Actual non-pension contributions
 - D.122 Employers' imputed social contributions
 - D.1221 Imputed pension contributions
 - D.1222 Imputed non-pension contributions
- D.2 Taxes on production and imports
 - D.21 Taxes on products
 - D.211 Value added type taxes (VAT)
 - D.212 Taxes and duties on imports excluding VAT
 - D.2121 Import duties
 - D.2122 Taxes on imports excluding VAT and duties
 - D.213 Export taxes
 - D.214 Taxes on products except VAT, import and export taxes
 - D.29 Other taxes on production
- D.3 Subsidies
 - D.31 Subsidies on products
 - D.311 Import subsidies
 - D.312 Export subsidies
 - D.319 Other subsidies on products
 - D.39 Other subsidies on production
- D.4 Property income
 - D.41 Interest
 - D.42 Distributed income of corporations
 - D.421 Dividends
 - D.422 Withdrawals from income of quasi-corporations
 - D.43 Reinvested earnings on foreign direct investment
 - D.44 Investment income disbursements
 - D.45 Rent
- D.5 Current taxes on income, wealth, etc.
 - D.51 Taxes on income
 - D.59 Other current taxes
- D.61 Net social contributions

- D.611 Employers' actual social contributions
- D.612 Employers' imputed social contributions
- D.613 Households' actual social contributions
- D.614 Households' social contributions supplements
- Social insurance scheme service charges (-)*
- D.62 Social benefits other than social transfers in kind
- D.621 Social security benefits in cash
- D.622 Other social insurance benefits
- D.623 Social assistance benefits in cash
- D.63 Social transfers in kind
- D.7 Other current transfers
- D.71 Net non-life insurance premiums
- D.72 Non-life insurance claims
- D.73 Current transfers within general government
- D.74 Current international cooperation
- D.75 Miscellaneous current transfers
- D.751 Current transfers to NPISHs
- D.752 Current transfers between resident and non-resident households
- D.759 Other miscellaneous current transfers
- D.8 Adjustment for the change in pension entitlements
- D.9 Capital transfers
- D.91 Capital taxes
- D.92 Investment grants
- D.99 Other capital transfers

c. Transactions in financial instruments (F) (net acquisition of financial assets/net incurrence of liabilities)

- F.1 Monetary gold and SDRs
- F.2 Currency and deposits
- F.21 Currency
- F.22 Transferable deposits
- F.29 Other deposits
- F.3 Securities other than shares
- F.31 Short-term
- F.32 Long-term
- F.4 Loans
- F.41 Short-term
- F.42 Long-term

- F.5 Equity and investment fund shares
- F.51 Equity
- F.52 Investment fund shares/units
- F.6 Insurance, pension and standardized guarantee schemes
- F.61 Non-life insurance technical provisions
- F.62 Life insurance and annuity entitlements
- F.63 Pension entitlements
- F.64 Claim of pension funds on pension managers
- F.65 Entitlements to non-pension benefits
- F.66 Provisions for calls under standardized guarantees
- F.7 Financial derivatives and employee stock options
- F.71 Financial derivatives
- F.72 Employee stock options
- F.8 Other accounts receivable/payable
- F.81 Trade credits and advances
- F.89 Other accounts receivable/payable

d. Classification of balancing items (B)

- B.1 Value added / B.1* Domestic product
- B.2 Operating surplus
- B.3 Mixed income
- B.4 Entrepreneurial income
- B.5 Balance of primary incomes/ B.5* National income
- B.6 Disposable income
- B.7 Adjusted disposable income
- B.8 Saving
- B.9 Net lending/net borrowing
- B.10 Changes in net worth
 - B.10.1 Changes in net worth due to saving and capital transfers f, g
 - B.10.2 Changes in net worth due to other changes in volume of assets
 - B.10.3 Changes in net worth due to nominal holding gains/losses
 - B.10.31 Changes in net worth due to neutral holding gains/losses
 - B.10.32 Changes in net worth due to real holding gains/losses
- B.11 External balance of goods and services
- B.12 Current external balance
- B.90 Net worth

e. A. Non-financial assets (AN)

- AN.1 Produced assets
- AN.11 Fixed assets by type of asset
 - AN.111 Dwellings
 - AN.112 Other buildings and structures
 - AN.113 Machinery and equipment
 - AN.114 Weapons systems
 - AN.115 Cultivated biological resources
 - AN.116 Costs of ownership transfer on non-produced assets
 - AN.117 Intellectual property products
- AN.12 Inventories by type of inventory
 - AN.121 Materials and supplies
 - AN.122 Work-in-progress
 - AN.123 Finished goods
- AN.13 Valuables
 - AN.131 Precious metals and stones
 - AN.132 Antiques and other art objects
 - AN.133 Other valuables
- AN.2 Non-produced assets
 - AN.21 Natural resources
 - AN.211 Land
 - AN.212 Mineral and energy reserves
 - AN.213 Non-cultivated biological resources
 - AN.214 Water resources
 - AN.215 Other natural resources
 - AN.22 Contracts, leases and licenses
 - AN.221 Marketable operating leases
 - AN.222 Permissions to use natural resources
 - AN.223 Permissions to undertake specific activities
 - AN.224 Entitlements to future goods and services on an exclusive basis
 - AN.23 Purchases less sales of goodwill and marketing assets

f. Acquisitions less disposals of non-produced assets (NP)

- NP.1 Acquisitions less disposals of natural resources
- NP.2 Acquisitions less disposals of contracts, leases and licences
- NP.3 Purchases less sales of goodwill and marketing assets

g. B. Financial assets/liabilities (AF)

- AF.1 Monetary gold and SDRs
- AF.2 Currency and deposits
- AF.3 Securities other than shares
- AF.4 Loans
- AF.5 Shares and other equity
- AF.6 Insurance technical reserves
- AF.7 Other accounts receivable/payable

h. Other changes in assets account (K)

- K.1 Economic appearance of assets
- K.2 Economic disappearance of non-produced assets
- K.21 Depletion of natural resources
- K.22 Other economic disappearance of non-produced assets
- K.3 Catastrophic losses
- K.4 Uncompensated seizures
- K.5 Other changes in volume n.e.c.
- K.6 Changes in classification
 - K.61 Changes in sector classification and structure
 - K.62 Changes in classification of assets and liabilities
- K.7 Nominal holding gains and losses
 - K.71 Neutral holding gains and losses
 - K.72 Real holding gains and losses

Annex 4: Office order

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ পরিসংখ্যান বুরো
এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট
পরিসংখ্যান ভবন (৯ম তলা, ব্লক-বি)
ই-২১/এ, আগারগাঁও, ঢাকা-১২০৭
www.bbs.gov.bd

নং- ৫২.০১.০০০০.৮০৯.০৬.০১২.১৮.৭৯৫

তারিখ: ২৮ আগস্ট ১৪২৭
১৫ অক্টোবর ২০২০

বিষয়: বাংলাদেশ পরিসংখ্যান বুরোর 'এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট' এর আওতায় নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) কর্তৃক সময় সময় সরবরাহকৃত ডেলিভারেবলস্ (Deliverables) পর্যালোচনা ও চূড়ান্তকরণ বিষয়ক কমিটি গঠন প্রসঙ্গে।

বাংলাদেশ পরিসংখ্যান বুরোর 'এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট' এর আওতায় নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) কর্তৃক সময় সময় সরবরাহকৃত ডেলিভারেবলস্ (Deliverables) পর্যালোচনা ও চূড়ান্তকরণবিষয়ক কমিটি নিম্নরূপভাবে গঠন করা হলো:

ক্রমিক নং	কর্মকর্তাদের নাম, পদবি ও কর্মসূল (জেন্ট্যার ক্রমানুসারে নথ)	কমিটিতে পদবি
০১.	উপমহাপরিচালক, বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সভাপতি
০২.	ডেলিভারেবলস্ সংশ্লিষ্ট উইঁ পরিচালক/পরিচালকগণ বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য
০৩.	ড. দিপংকর রায়, প্রকল্প পরিচালক, HIES 2020-2021 প্রকল্প বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য
০৪.	প্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য
০৫.	প্রতিনিধি, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা	সদস্য
০৬.	আয়ন ও ব্যয়ন কর্মকর্তা, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য
০৭.	ড. মন্তুর আহমেদ, ইকোনমিস্ট, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য
০৮.	উপপ্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা	সদস্য সচিব

কমিটির কার্যপরিধি:

(০১) নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) কর্তৃক Terms of Reference (ToR) অনুযায়ী সরবরাহকৃত ডেলিভারেবলস্ (Deliverables) এর সামগ্রিক বিষয় পর্যালোচনাপূর্বক চূড়ান্তকরণের লক্ষ্যে প্রয়োজনীয় সুপারিশ প্রদান করবে;

(০২) নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) কর্তৃক সরবরাহকৃত ডেলিভারেবলস্ (Deliverables) এর Terms of Reference (ToR) অনুযায়ী গুণগতমান বিশ্লেষণপূর্বক মতামত প্রদান করা;

১/২

- (০৩) উপর্যুক্ত কার্যক্রম বাস্তবায়নের লক্ষ্যে প্রয়োজনে নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) এর সাথে সভা করবে;
এবং
- (০৪) বর্তিত কার্যক্রম সম্পাদনপূর্বক নিয়োগকৃত কনসাল্টিং ফার্ম (Twinning Partnership) DevStat Servicos de Consultoria Estadistica, S.L Spain (Lead Firm) কর্তৃক সরবরাহকৃত ডেলিভারেবলস্
(Deliverables) গ্রহণের সুপারিশ করবে।



১৫. ১০. ২০২০
 মোহাম্মদ মোস্তফাজুল ইসলাম
 মহাপরিচালক
 (অতিরিক্ত সচিব)
 ফোন: ০২-৫৫০০৭০৫৬
 ইমেইল:
 dg@bbs.gov.bd

অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য অনুলিপি প্রেরণ করা হ'ল (জ্ঞেষ্ঠ্যতার ক্রমানুসারে নয়):

- ০১। সচিব, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, পরিকল্পনা মন্ত্রণালয়, ঢাকা (একজন প্রতিনিধি মনোনয়নের অনুরোধসহ)।
- ০২। উপমহাপরিচালক, বাংলাদেশ পরিসংখ্যান ব্যৱো, আগারগাঁও, ঢাকা।
- ০৩। পরিচালক (সকল)..... উইং, বাংলাদেশ পরিসংখ্যান ব্যৱো, আগারগাঁও, ঢাকা।
- ০৪। ড. দিপৎকর রায়, প্রকল্প পরিচালক, HIES প্রকল্প, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৫। প্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৬। উপপ্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রকল্প, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৭। ড. মনতুর আহমেদ, ইকোনমিস্ট, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৮। আয়ন ও ব্যয়ন কর্মকর্তা, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।

সদয় অবগতির জন্য অনুলিপি: (জ্ঞেষ্ঠ্যতার ক্রমানুসারে নয়)

- ০১। অতিরিক্ত সচিব (উর্ময়ন), পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, পরিকল্পনা মন্ত্রণালয়, ঢাকা।
- ০২। সচিবের একান্ত সচিব, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, আগারগাঁও, ঢাকা (সচিব মহোদয়ের সদয় অবগতির জন্য)।
- ০৩। টাঙ্ক টিম লিডার, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বিশ্বব্যাংক ঢাকা অফিস, আগারগাঁও, ঢাকা।
- ০৪। Mr. Jose Luis Cervera Ferri, CEO, DevStat Servicos de Consultoria Estadistica, S.L. C/ALMIRANTE CADARSO 26, WAYCO RUSSAFA, 46005 Valencia, Spain. Representative of: JV of (a) DevStat Servicos de Consultoria Estadistica, S.L. (Lead Firm); (b) IOE (Bangladesh) Limited; (c) IBF International Consulting SA, Belgium.
- ০৫। স্টাফ অফিসার, মহাপরিচালকের কার্যালয়, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৬। পরামর্শক (সকল)....., এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা।
- ০৭। অফিস কপি।

২/২

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ পরিসংখ্যান বুরো
এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট
পরিসংখ্যান ভবন (৯ম তলা, ব্লক-বি)
ই-২৭/এ, আগারগাঁও, ঢাকা-১২০৭।
www.bbs.gov.bd



নং: ৫২.০১.০০০০.৮০৯.১৮.১৩৫.২০.৬৮৪

তারিখ: ২৪ চৈত্র ১৪২৭
২৪ এপ্রিল ২০২১

অফিস আদেশ

বাংলাদেশ পরিসংখ্যান বুরোর 'এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট' এর আওতায় নিয়োগকৃত আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat চূক্ষি অনুযায়ী ২৪ (চৰিষ) টি Deliverable প্রকল্প দলের দাবিল করবে পরিসংখ্যান ও তথ্য ব্যবহাগনা বিভাগে গত ১১ মার্চ ২০২১ তারিখে অনুষ্ঠিত প্রকল্পসমূহের ফেব্রুয়ারি ২০২১ মাসের অগ্রগতি পর্যালোচনা সভার কার্যবিবরণীর ৩ এর ব নং সিঙ্কেত অনুযায়ী Deliverable গুলো পুরোনোভাবে বাচাই-বাছাই, বিশ্লেষণ, প্রস্তুত, সংরক্ষণ এবং ডিজিটাল ব্যবহার নিশ্চিতকরণে নিয়ন্ত্রণ করা হবে।

Sl.	Name of the Deliverable	Name of the Specific Counterpart
01.	Report on MoUs	Director, FA & MIS Wing
02.	Report on Administrative Data	Director, Computer Wing (Related to all subject matter wing)
03.	Report on Functional Review of BBS	Director, FA & MIS Wing
04.	Report on HR Recruitment	Director, FA & MIS Wing
05.	Training on Quality Management	Director, SSTI
06.	Training Policy	Director, SSTI
07.	Training Plan	Director, SSTI
08.	Training Inventory	Director, SSTI
09.	Training Materials	Director, SSTI
10.	Basic Training	PD, NSDS-ISP
11.	Subject-matter and Advanced Training	PD, NSDS-ISP
12.	Website Development	Director, Computer Wing
13.	ICT Plan	Director, Computer Wing
14.	Baseline Review of Core Statistics:	
	a) Demography and Vital Statistics: Health Statistics, Gender Statistics, Vital Statistics etc.	Director, Demography and Health Wing, BBS
	b) Population and Housing Statistics: Population and Housing Census	Director, Census Wing, BBS
	c) Industry and Labor Statistics: Labor Statistics and Industry Statistics	Director, Industry and Labor Wing, BBS
	d) Price Statistics and Poverty Statistics	Director, National Accounting (Price and Wage) Wing, BBS
	e) National Accounts Statistics	Director, National Accounting (GDP and FT) Wing, BBS
	f) Agriculture Statistics: Crop Statistics, Land Statistics, Livestock Statistics and Fishery Statistics etc.	Director, Agriculture Wing, BBS
15.	Improvements in Core Statistics:	
	a) Demography and Vital Statistics: Health Statistics, Gender Statistics, Vital Statistics etc.	Director, Demography and Health Wing, BBS
	b) Population and Housing Statistics: Population and Housing Census	Director, Census Wing, BBS
	c) Industry and Labor Statistics: Labor Statistics and Industry Statistics	Director, Industry and Labor Wing, BBS
	d) Price Statistics and Poverty Statistics	Director, National Accounting (Price and Wage) Wing, BBS
	e) National Accounts Statistics	Director, National Accounting (GDP and FT) Wing, BBS

Page 1 of 2

Sl.	Name of the Deliverable	Name of the Specific Counterpart
	f) Agriculture Statistics: Crop Statistics, Land Statistics, Livestock Statistics and Fishery Statistics etc.	Director, Agriculture Wing, BBS
16.	Manuals on Improved Methodologies of Core Statistics:	
	a) Demography and Vital Statistics: Health Statistics, Gender Statistics, Vital Statistics etc.	Director, Demography and Health Wing, BBS
	b) Population and Housing Statistics: Population and Housing Census	Director, Census Wing, BBS
	c) Industry and Labor Statistics: Labor Statistics and Industry Statistics	Director, Industry and Labor Wing, BBS
	d) Price Statistics and Poverty Statistics	Director, National Accounting (Price and Wage) Wing, BBS
	e) National Accounts Statistics	Director, National Accounting (GDP and FT) Wing, BBS
	f) Agriculture Statistics: Crop Statistics, Land Statistics, Livestock Statistics and Fishery Statistics etc.	Director, Agriculture Wing, BBS
17.	Advance Release Calendar	Director, FA & MIS Wing (Planning & Development cell)
18.	Protocol for Advance Release Calendar	Director, FA & MIS Wing (Planning & Development cell)
19.	Data Visualization	Director, Computer Wing
20.	Metadata Documentation	Director, Computer Wing
21.	Codes and Syntaxes	Director, Computer Wing
22.	Survey Documentation	Director, Computer Wing
23.	Data Policy	Director, Computer Wing
24.	Data Anonymization	Director, Computer Wing

০২। বিক্রিএস এর উইঁ পরিচালকগণ সংশ্লিষ্ট Deliverable পুঁজুনগুজ্জতাবে যাচাই-বাহাই ও বিশ্লেষণগুর্বক সুনির্দিষ্ট কাউটারপার্ট হিসেবে বুরো নিবেদন এবং Deliverable গুলো ভবিষ্যতে সংরক্ষণ ও প্রয়োজনীয় ব্যবহার নিশ্চিত করবেন। সংশ্লিষ্ট Deliverable এ কোন বিষয়ে ঘাটতি থাকলে তা পুরুণকল্পে NSDS-ISP প্রকল্পের সহায়তায় সকল ব্যবহাৰ গ্ৰহণ কৰবেন।

০৩। সংশ্লিষ্ট Deliverable বুৰো নেয়াৰ ক্ষেত্ৰে কোন বিশেষজ্ঞ সহায়তা প্ৰয়োজন হলে NSDS-ISP সংশ্লিষ্ট সকল সহযোগিতা প্ৰদান কৰবেন।

০৪। Deliverable এর সুনির্দিষ্ট কাউটারপার্ট হিসেবে বুৰো নেয়াৰ জন্য প্ৰকল্পের সংস্থান অনুযায়ী এ সংশ্লিষ্ট সকলে আৰ্থিক ও অন্যান্য সুবিধাদি প্ৰাপ্তি হবেন।

০৫। এ আদেশ জনস্বার্থে জাৱি কৰা হলো।

মোহাম্মদ তাজুল ইসলাম
(অতিৰিক্ত সচিব)

মহাপরিচালক :

ফোন: ০২-৫৫০০৭০৫৬

ইমেইল: dg@bbs.gov.bd

বিতৰণ: সদয় কাৰ্যালয়ে/ জ্ঞাতাৰ্থে (জ্যোতিৰ ক্ৰমানুস৾ৰে নথি):

- ১। পরিচালক (সকল) বাংলাদেশ পরিসংখ্যান বুৰো, ঢাকা
- ২। প্ৰকল্প পরিচালক, এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্ৰজেক্ট, বিক্রিএস
- ৩। সচিবেৰ একাত্ সচিব, পৰিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা (সচিব মহোদয়েৱ সদয় অবগতিৰ জন্য)
- ৪। ফোকাল পয়েন্ট কৰ্মকৰ্তা (সকল)
- ৫। স্টাফ অফিসাৰ, মহাপরিচালকেৰ দপ্তৰ, বাংলাদেশ পৰিসংখ্যান বুৰো, ঢাকা
- ৬। স্টাফ অফিসাৰ, উপমহাপরিচালকেৰ দপ্তৰ, বাংলাদেশ পৰিসংখ্যান বুৰো, ঢাকা
- ৭। বাণিজ্যিক কৰ্মকৰ্তা, অতিৰিক্ত সচিব (উৱ্যব), পৰিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা (অতিৰিক্ত সচিব মহোদয়েৱ সদয় অবগতিৰ জন্য)
- ৮। অফিস কপি।

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
 বাংলাদেশ পরিসংখ্যান ব্যৱো
 এনএসডিএস ইমপ্লিমেন্টেশন সাপোর্ট প্রজেক্ট
 পরিসংখ্যান ভবন (৯ম তলা, ব্লক-বি)
 ই-২৭/এ, আগারগাঁও, ঢাকা-১২০৭।
www.bbs.gov.bd

নং- ৫২.০১.০০০০.৮০৯.১৮.১৩৫.২০ (অংশ-১).২৭৮

তারিখ : ২৭ভাদ্র ১৪৩০
১৮ সেপ্টেম্বর ২০২৩

বিষয়: ‘এনএসডিএস ইমপ্লিমেন্টেশন সাপোর্ট প্রজেক্ট’ এর আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কর্তৃক প্রেরিত ডেলিভারেবলস্ (Deliverables) পর্যালোচনা ও চূড়ান্তকরণ বিষয়ক কমিটির সভার কার্যবিবরণী।

১.১ সভাপতি

জনাব পরিমল চন্দ্র বসু, উপমহাপরিচালক, বাংলাদেশ পরিসংখ্যান ব্যৱো, ঢাকা

১.২ সভার তারিখ ও সময়

০৭ সেপ্টেম্বর ২০২৩; রোজ বৃহস্পতিবার, বিকাল ৩.০০ ঘটকা

১.৩ সভার স্থান

সভাকক্ষ, এনএসডিএস ইমপ্লিমেন্টেশন সাপোর্ট প্রজেক্ট, ৯ম তলা (ব্লক-বি), বিবিএস

১.৪ সভায় উপস্থিতি

সংযোজনী-ক দ্রষ্টব্য

২.০ সভাপতি সভার শুরুতে উপস্থিত সকলকে স্বাগত জানিয়ে সভার কার্যক্রম শুরু করেন। তিনি বলেন যে, বিবিএস এর চলমান ও ভবিষ্যতে করণীয় কাজগুলোর রীতি পদ্ধতি (methodology) পর্যালোচনা এবং প্রযোজ্য ক্ষেত্রে কারিগরি সহযোগিতা গ্রহণের মাধ্যমে আন্তর্জাতিকমানে উন্নিতকরণের পাশাপাশি একটি টেকসই কাঠামোর উপর প্রতিষ্ঠা করার লক্ষ্যে ‘এনএসডিএস ইমপ্লিমেন্টেশন সাপোর্ট প্রজেক্ট’ এর আওতায় আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কে নিয়োগ প্রদান করা হয়। উক্ত consulting firm বেশ কিছু ডেলিভারেবলস্ ইতোমধ্যে সম্পন্ন করেছে এবং ৬ষ্ঠ দফতর আরও ০৩টি ডেলিভারেবলস্ (Improvements in Core Statistics, Manuals on Improved Methodologies, ICT Plan) প্রকল্প দপ্তরে দাখিল করেছে। তিনি এ বিষয়ে বিস্তারিত আলোচনার জন্য প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন-কে আহ্বান জনান।

৩.০ সভাপতির আহ্বানে প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন জানান যে, গত ০৮ এপ্রিল ২০২০ তারিখ আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat এর সাথে বিবিএস এর চুক্তি সম্পাদনের পর থেকে এ প্রতিষ্ঠান ১৪টি ডেলিভারেবলস্ প্রস্তুত করার লক্ষ্যে কাজ করে যাচ্ছে। ইতোমধ্যে ১৭টি ডেলিভারেবলস্ এর কাজ চূড়ান্তভাবে সম্পন্ন হয়েছে এবং ৭টি ডেলিভারেবলস্ এর কাজ বর্তমানে চলমান রয়েছে। এর মধ্যে ৩টি ডেলিভারেবলস্ (Improvements in Core Statistics, Manuals on Improved Methodologies, ICT Plan) এর খসড়া DevStat প্রকল্প দপ্তরে দাখিল করেছে। উক্ত ডেলিভারেবলসমূহ বিবিএস এর সকল উইঁ এর পরিচালক ও ‘এনএসডিএস ইমপ্লিমেন্টেশন সাপোর্ট প্রজেক্ট’ এর উইঁভিত্তিক ফোকাল পয়েন্ট কর্মকর্তাদের নিকট হার্ডকপি ও ইমেইলে সফ্টকপি প্রেরণ করা হয়েছে। তিনি আরও বলেন যে, অদ্যকার এ সভায় উপস্থিত সদস্যগণ প্রেরিত ডেলিভারেবলস্ এর ওপর মতামত প্রদান করতে পারেন। এ মতামতসমূহ সংশ্লিষ্ট ডেলিভারেবল এ অন্তর্ভুক্তির জন্য আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কে প্রেরণ করা হবে।

৪.০ সভার আলোচনা ও মতামত:

৪.১ আলোচনায় অংশ নিয়ে জনাব কবির উদ্দিন আহমদ, পরিচালক, কম্পিউটার টেক্নোজন যে, খসড়া ICT Plan ডেলিভারেবল বিষয়ে উইং এর সংশ্লিষ্ট কর্মকর্তাদের নিয়ে ইতোমধ্যে একাধিক সভার আয়োজন করা হয়েছে। ডেলিভারেবলটি বিস্তারিত পর্যালোচনা ও যাচাই বাছাইয়ের জন্য আরও কয়েকটি সভা আয়োজনের প্রয়োজনীয়তা রয়েছে বলে তিনি উল্লেখ করেন। তিনি আরও বলেন যে, খসড়া ICT Plan এ ৩ (তিনি) বছরের জন্য operational road map প্রস্তাব করা হয়েছে। এটা ৫-১০ বছর হওয়া উচিত বলে তিনি মতামত ব্যক্ত করেন। তিনি আরও উল্লেখ করেন যে, বিবিএস র জন্য Cloud Infrastructure, Big Data ব্যবহার, Database, Application ও Cyber Security, প্রয়োজনীয় Software ও Hardware, প্রয়োজনীয় Human Resource উন্নয়ন এবং Transition Mechanism কি হবে তা পরিকারণাবে ICT Plan এ উল্লেখ থাকা বাস্তুনীয়।

৪.২ আলোচনার এ পর্যায়ে বিভিন্ন উইং এর পরিচালকগণ বলেন যে, ইতোমধ্যে প্রকল্প দপ্তর হতে ডেলিভারেবলসমূহের হার্ডকপি ও সফটকপি পাওয়া গিয়েছে। ডেলিভারেবলগুলো প্রাথমিকভাবে পর্যালোচনা করে দেখা যায় যে, অধিকাংশ ক্ষেত্রে পুরানো methodology এবং পুরানো technology ব্যবহারের প্রস্তাব করা হয়েছে যেখান থেকে বিবিএস ইতোমধ্যে অনেক এগিয়ে গেছে এবং advanced লেভেলে কাজ করছে বলে পরিচালকগণ উল্লেখ করেন। পরিচালকগণ আরও জানান যে, ডেলিভারেবল ০৩টি বিস্তারিত পর্যালোচনা করে মতামত প্রদানের জন্য আরও কিছুটা সময় প্রয়োজন। তাই মতামত প্রদানের জন্য একটি সময়সীমা নির্ধারণ করা উচিত। এ বিষয়ে উপর্যুক্ত অন্যান্য সদস্যগণও একমত পোষণ করেন।

৪.৩ আলোচনায় অংশ নিয়ে প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন উইং পরিচালকদের দৃষ্টি আকর্ষণ করে 'Improvements in Core Statistics' ডেলিভারেবলটি যাচাই বাছাই ও পর্যালোচনার ক্ষেত্রে অন্যান্য বিষয়ের পাশাপাশি আন্তর্জাতিক পরামর্শক প্রতিষ্ঠানের সাথে সম্পাদিত চুক্তিতে বর্ণিত ডেলিভারেবলটির সুনির্দিষ্ট উদ্দেশ্যসমূহ (৪টি বিষয়) আবশ্যিকভাবে বিবেচনা করার বিষয়ে মতামত ব্যক্ত করেন।

৪.৪ সভায় উপমহাপরিচালক, বিবিএস বলেন যে, আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কর্তৃক প্রেরিত উল্লিখিত ০৩টি ডেলিভারেবলসং পুঙ্গানুপুঙ্গভাবে যাচাই বাছাই ও পর্যালোচনা করে বিস্তারিত মতামত প্রদান করতে হবে। এ লক্ষ্যে প্রয়োজনে উইং পরিচালকগণ তার স্ব স্ব উইংয়ে এ বিষয়ে সভা করে সবাইকে সংযুক্ত করে সিফার্ট প্রহণ করবেন। এ বিষয়ে বিভিন্ন উইং এর জন্য নির্ধারিত প্রকল্পের ফোকাল পয়েন্ট কর্মকর্তাগণকে কার্যকরী ভূমিকা পালন করতে হবে বলে তিনি মতামত ব্যক্ত করেন।

৫.০ উপর্যুক্ত আলোচনার পর নিম্নোক্ত সিফার্টসমূহ সর্বসম্মতিক্রমে গৃহীত হয়:

৫.১ 'Improvements in Core Statistics' Deliverableটি যাচাই বাছাইয়ের ক্ষেত্রে অন্যান্য বিষয়ের পাশাপাশি আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান (DevStat) এর সাথে সম্পাদিত চুক্তিতে বর্ণিত নিম্নলিখিত ৪ (চারটি) বিষয় আবশ্যিকভাবে বিবেচনা করতে হবে এবং এ বিষয়ে বিবিএস এর সংশ্লিষ্ট উইং এর পরিচালক ব্যবাবর পত্র প্রেরণ করতে হবে:

- (a) Improved definitions, classifications, methodologies and questionnaires;
- (b) Improved sampling design;

- (c) Better incorporation of Computer Assisted Personal Interviews (CAPI) to improve efficiency in data collection, quality and management;
- (d) Introduction of a quality framework to improve supervision during data collection.

- ৫.২ উইং পরিচালকগণ ডেলিভারেবলস্ সংক্রান্ত সিদ্ধান্ত গ্রহণে প্রয়োজনে উইং এর সকলকে নিয়ে সভা করে মতামত প্রদান করবেন;
- ৫.৩ আগামী ২০ সেপ্টেম্বর ২০২৩ তারিখের মধ্যে উইং পরিচালকগণ ডেলিভারেবলস্ সংক্রান্ত তাদের লিখিত মতামত (বিশ্বারিত) প্রকল্প দপ্তরে প্রেরণ করবেন;
- ৫.৪ ডেলিভারেবলস্ (Deliverables) পর্যালোচনা ও চূড়ান্তকরণ বিষয়ক কমিটির সদস্যগণও উল্লিখিত ডেলিভারেবল ০৩টি যাচাই বাছাই ও পর্যালোচনা করে তাদের মতামত এ কমিটির পরবর্তী সভায় উপস্থাপন করবেন;
- ৫.৫ উইং হতে মতামত প্রাপ্তির পর এ বিষয়ে পরবর্তী সভার আয়োজন করতে হবে।

৬.০ অতঃপর সভায় আর কোন আলোচনা না থাকায় সভাপতি উপস্থিতি সকলকে ধন্যবাদ জানিয়ে সভার সমাপ্তি ঘোষণা করেন।


পরিমল চন্দ্ৰ বসু
উপমহাপরিচালক
বাংলাদেশ পরিসংখ্যান বুরো

বিতরণ: (জ্যোত্তার ক্রমানুসারে নয়):

- (১) ডেলিভারেবলস্ সংশ্লিষ্ট উইং পরিচালক/ পরিচালক (সকল).....
- (২) প্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা
- (৩) প্রতিনিধি, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা
- (৪) প্রকল্প পরিচালক, HIES 2020-2021 প্রকল্প, বাংলাদেশ পরিসংখ্যান বুরো, ঢাকা
- (৫) আয়ন-ব্যয়ন কর্মকর্তা, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বিবিএস
- (৬) ড. মনছুর আহমেদ, ইকোনমিস্ট, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট, বিবিএস, ঢাকা
- (৭) জনাব.....

অনুলিপি: (জ্যোত্তার ক্রমানুসারে নয়)

- (১) অতিরিক্ত সচিব (উরয়ন), পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা
- (২) সচিবের একান্ত সচিব, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা (সচিব মহোদয়ের সদয় অবগতির জন্য)
- (৩) স্টাফ অফিসার, মহাপরিচালক, বিবিএস, ঢাকা (মহাপরিচালক মহোদয়ের সদয় অবগতির জন্য)
- (৪) অফিস কপি।

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ পরিসংখ্যান বুরো
এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট
পরিসংখ্যান ভবন (৯ম তলা, ব্রক-বি)
ই-২৭/এ, আগারগাঁও, ঢাকা-১২০৭।
www.bbs.gov.bd

২৪ মার্চ ১৪৩০
০৭ ফেব্রুয়ারি ২০২৪

নং ৫২,০১,০০০০,৪০৯.১৮,১৩৫.২০ (অংশ-১)। ১০৬-৫

বিষয়: বাংলাদেশ পরিসংখ্যান বুরো (বিবিএস) কর্তৃক বাস্তবায়নাধীন ‘এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট’ এর International Twinning Partner (DevStat-IOE-ibf) কর্তৃক প্রণয়নকৃত এবং বিবিএস কর্তৃক গৃহীত ডেলিভারেবলসমূহের ওপর আলোচনা সভার কার্যবিবরণী।

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| ১.১ সভাপতি | জনাব মোহাম্মদ মিজানুর রহমান, মহাপরিচালক, বাংলাদেশ পরিসংখ্যান বুরো |
| ১.২ সভার তারিখ ও সময় | ২৮ আনুযায়ী ২০২৪; রোজ রবিবার, সকাল ১১.০০ ঘটকা |
| ১.৩ সভার স্থান | সভাকক্ষ, মহাপরিচালকের দপ্তর, ২য় তলা (ব্রক-এ), বিবিএস |
| ১.৪ সভায় উপস্থিতি | সংযোজনী-ক দ্রষ্টব্য |

২.০। সভাপতি শুরুতে উপস্থিত সকলকে স্বাগত জানিয়ে সভার কার্যক্রম শুরু করেন। তিনি জানান, বাংলাদেশ পরিসংখ্যান বুরো (বিবিএস) কর্তৃক বাস্তবায়নাধীন ‘এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট’ এর আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat-IOE-ibf Joint-Venture তাদের সাথে চুক্তি অনুযায়ী বিভিন্ন ডেলিভারেবলসু প্রশংসনপূর্বক বিবিএস এ প্রেরণ করেছে। তিনি আরও বলেন, একাধিক ভ্যালিডেশন ওয়ার্কশপ ও ডেলিভারেবলসু পর্যালোচনা ও চূড়ান্তকরণ সভার মাধ্যমে অধিকাংশ ডেলিভারেবল বিবিএস কর্তৃক চূড়ান্তভাবে প্রস্তুত করা হয়েছে। আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান কর্তৃক প্রেরিত এসকল ডেলিভারেবল এর বর্তমান অবস্থা ও বাস্তবায়ন বিষয়ে আলোচনার লক্ষ্যে এ সভা আহ্বান করা হয়েছে বলে তিনি উল্লেখ করেন। এ বিষয়ে বিস্তারিত উপস্থাপনার জন্য ‘এনএসডিএস ইমপ্লিমেটেশন সাপোর্ট প্রজেক্ট’ এর প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন কে তিনি আহ্বান জানান।

৩.০। সভাপতির আহ্বানের প্রেক্ষিতে প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন PowerPoint উপস্থাপনার মাধ্যমে প্রকল্পের সংক্ষিপ্ত বিবরণ ও আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান কর্তৃক প্রেরিত ডেলিভারেবলসমূহের বর্তমান অবস্থার নিয়ন্ত্রণ চিত্র সভায় তুলে ধরেন:

৩.১। NSDS Implementation Support প্রকল্পের সংক্ষিপ্ত বিবরণী:

ক. প্রকল্পের নাম: National Strategy for the Development of Statistics (NSDS) Implementation Support Project

খ. মন্ত্রণালয়/বিভাগের নাম	পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ পরিকল্পনা মন্ত্রণালয়
গ. বাস্তবায়নকাল	মার্চ ২০১৮ - ফেব্রুয়ারি ২০২৪
ঘ. বাস্তবায়নকারী সংস্থা	বাংলাদেশ পরিসংখ্যান বুরো
ঙ. সেন্ট্রু	আর্থ-সামাজিক অবকাঠামো বিভাগ, পরিকল্পনা কমিশন
চ. প্রকল্পের প্রশাসনিক অনুমোদন	২৫ জুন ২০১৮
ছ. বিশ্বব্যাংক কর্তৃক Effectiveness Declaration	১২ সেপ্টেম্বর ২০১৮
জ. বিশ্বব্যাংক কর্তৃক প্রথম Fund Release	২৭ মে ২০১৯

৩.২। প্রকল্পের মূল উদ্দেশ্য:

বাংলাদেশ সরকার কর্তৃক গৃহীত ও মন্ত্রিপরিষদ কর্তৃক অনুমোদিত জাতীয় পরিসংখ্যান উন্নয়ন কৌশলগত্ব (NSDS) বাস্তবায়নে সহায়তা করা। এর দ্বারা বাংলাদেশ পরিসংখ্যান বুরোর সার্বিক সক্ষমতা বৃক্ষির মাধ্যমে আন্তর্জাতিক মানসম্পদ পরিসংখ্যান প্রণয়নের দ্বার উভয়টি হবে। নীতিনির্ধারক, পরিকল্পনাবিদসহ অন্যান্য তথ্য-উপাত্ত ব্যবহারকারীগণ যথাসময়ে মানসম্পদ সঠিক ও নির্ভরযোগ্য পরিসংখ্যান পাবে।

৩.৩। প্রকল্পের সুনির্দিষ্ট উদ্দেশ্যসমূহ:

- সীমাবদ্ধ সম্পদের সর্বোত্তম ব্যবহারের মাধ্যমে পরিসংখ্যান প্রস্তুতের লক্ষ্যে জরিপের পরিবর্তে 'প্রশাসনিক উৎস' থেকে নিয়মিত তথ্য সংগ্রহের জন্য তথ্য প্রস্তুতকারি বিভিন্ন মন্ত্রণালয়/বিভাগ/দপ্তর/ অধিদপ্তরের সাথে প্রাতিষ্ঠানিক সম্পর্ক স্থাপন করা এবং এ লক্ষ্যে সময়োত্তো স্মারক (MoU) স্বাক্ষর করা।
- দ্রুতত্ব সময়ে তথ্য সংগ্রহ, সংকলন, প্রক্রিয়াকরণ ও বিশ্লেষণের সাধ্যমে যথাসময়ে প্রতিবেদন প্রকাশের লক্ষ্যে তথ্য সংগ্রহ থেকে রিপোর্ট প্রকাশ পর্যন্ত সামগ্রিক প্রক্রিয়া স্বয়ংক্রিয় করার লক্ষ্যে একটি Comprehensive ICT পরিকল্পনা প্রণয়ন করা;
- দাপ্তরিক পরিসংখ্যান প্রণয়ন একটি টেকনিক্যাল বিষয়। এ কাজ সঠিকভাবে সম্পাদনের জন্য দক্ষ জনবল অপরিহার্য। তাই নিবিএস এ কর্মরত সকল ধরনের জনবলকে দেশে-বিদেশে নিয়মিত প্রশিক্ষণের মাধ্যমে দক্ষ জনবল হিসেবে গড়ে তোলা;
- সঠিক, নির্ভরযোগ্য, আন্তর্জাতিক মানসম্পদ পরিসংখ্যান প্রণয়নের লক্ষ্যে বাংলাদেশ পরিসংখ্যান বুরো কর্তৃক পরিচালিত প্রধান প্রধান (core) জরিপসহ অন্যান্য পরিসংখ্যানগত কার্যক্রমের পরিচালনা পদ্ধতি (Methodology) পরীক্ষা-নিরীক্ষাপূর্বক যুক্তপূর্ণ করা; এবং
- বিবিএস বর্তুক প্রস্তুতবৃত্ত পরিসংখ্যান দ্রুত ও সহজে জনগণের দোরগোড়ায় পৌছানোর লক্ষ্যে তথ্য প্রকাশনা পদ্ধতি আধুনিকায়ন।

৩.৪। প্রকল্পের প্রধান কম্পোনেন্টসমূহ:

কম্পোনেন্ট - এ: পরিসংখ্যান কার্যক্রম সমন্বয় ও ব্যবস্থাপনার উন্নয়ন;

কম্পোনেন্ট - বি: মানবসম্পদের উন্নয়ন এবং তথ্য সংগ্রহ ও ব্যবহারণার উন্নয়নের নিয়মিত একটি সমন্বিত আইসিটি পরিকল্পনা প্রণয়ন;

কম্পোনেন্ট - সি: নীতিনির্ধারণ ও পরিকল্পনা প্রণয়নে ব্যবহার্য প্রধান (Core) পরিসংখ্যানের পরিধি ও গুণগতমান উন্নয়ন;
কম্পোনেন্ট - ডি: মরকারি পরিসংখ্যান ব্যবহার নিশ্চিত করার লক্ষ্যে সহজে ব্যবহারকারীগণের নিখন তথ্য পৌছানোর ব্যবস্থাকরণ।

৩.৫। আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান কর্তৃক প্রেরিত ডেলিভারেবলসমূহের বর্তমান অবস্থা:

Sub Components	SI No.	Deliverables	Custodian Wing	Present Status
Component A: Improving the Coordination and Management of Statistical Activities				
A.1. Improving the coordination with other data producers		A.1.1- Report on MoUs	FA & MIS Wing BBS	<p>১। ডেলিভারেবল ড্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাটোডিয়ান উৎসে প্রেরণ করা হয়েছে।</p>
	2	A.1.2- Report on Administrative Data	Computer Wing BBS	<p>১। ডেলিভারেবল ড্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p>

Sub Components	SI. No.	Deliverables	Custodian Wing	Present Status
A.2. Strengthening Management Systems	3	A.2.1- Report on Functional Review of BBS	FA & MIS Wing BBS	<p>১। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	4	A.2.2 - Report on HR Recruitment	FA & MIS Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	5	A.2.3- Training on Quality Management	SSTI, BBS	<p>১। আগর্জাতিক পরামর্শক প্রতিষ্ঠান কর্তৃক তাদের বিশেষজ্ঞ প্রশিক্ষকের মাধ্যমে বিবিএস এবং বিডিএম মন্ত্রণালয় ও সংস্থার ৪২ জন কর্মকর্তাকে ১০ (দশ) দিনবাবণী দুইপর্বে যথাক্রমে BRAC-CDM, Rajendrapur, Gazipur এবং The Palace Luxury Resort, Bahubal, Habiganj এ Quality Management in Official Statistics সংগ্রাহ প্রশিক্ষণ পদান করা হয়েছে।</p> <p>২। প্রশিক্ষণের কনটেক্ট ও ম্যানুয়াল ভবিষ্যতে ব্যবহারের জন্য এসএসটিআই উইংয়ে হস্তান্তর করা হয়েছে।</p>

Component B: Developing Human Resources and ICT Infrastructure to produce and manage data

B.1. Investing in Core skills and Competencies	6	B.1.1- Training Policy	SSTI, BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	7	B.1.2- Training Plan	SSTI, BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	8	B.1.3- Training Inventory	SSTI, BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	9	B.1.4- Training Materials	SSTI, BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p>

Sub Components	Sl. No.	Deliverables	Custodian Wing	Present Status
	10	B.1.5- Basic Training (500)	NSDS-ISP, BBS	১। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।
	11	B.1.6- Subject-matter and Advanced Training (150)	NSDS-ISP, BBS	১। আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান কর্তৃক তাদের বিশেষজ্ঞ প্রশিক্ষকের মাধ্যমে বিবিএস এবং নিভিন সন্তোষজনক ও সংস্থার ৫০০ জন কর্মকর্তা/কর্মচারীগণকে পরিসংখ্যান সংক্রান্ত বিভিন্ন বিষয়ের উপর 'Local Basic Training' শীর্ষক প্রশিক্ষণ প্রদান করা হয়েছে।
B.2. Investing in Information and Communications Technology	12	B.2.1- Website Development	Computer Wing BBS	১। বৈদেশিক ভ্রমণ বিষয়ে সরকারি বিধি-নিয়েধের কারণে ডেলিভারেবলটি বাস্তবায়িত হ্যানি। উল্লেখ, আন্তর্জাতিক পরামর্শক প্রতিষ্ঠানের সাথে চুক্তি অনুযায়ী তাদের আওতায় সম্পাদিতব্য কার্যক্রম হতে ডেলিভারেবলটি বাদ দেয়া হয়। ২। ওয়েবসাইট সংশ্লিষ্ট বিবিএস এর ০৬জন কর্মকর্তা/কর্মচারীকে নতুন ওয়েবসাইট পরিচালনা, রক্ষণাবেক্ষণ ও হালনাগাদকরণের নিমিত্ত 'The Newly Developed Website of BBS' শীর্ষক ০২ (দুই) দিনব্যাপী প্রশিক্ষণ প্রদান করা হয়েছে।
	13	B.2.2- ICT Plan	Computer Wing BBS	২৮ ডিসেম্বর ২০২৩ তারিখ পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ এ অনুষ্ঠিত ICT Plan প্রণয়ন সম্পর্কিত সভায় ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হ্যানি। (এ বিষয়ে কোন উইংয়ের কোন মতামত থাবলে অব্য সভায় আলোচনা হতে পারে)।

Component-C: Improving the Coverage and Quality of Core Statistics required for Policy and planning

C. Improving the Coverage and Quality of Core Statistics Required for Policy and Planning	14	C.1- Baseline Review of Core Statistics	Demography and Health Wing, Census Wing, Industry and Labour Wing, National Accounting Wing, Agriculture Wing	১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে। ২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।
	15	C.2- Improvements in Core Statistics	DevStat	১। আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কর্তৃক প্রেরিত <u>Improvements in Core Statistics</u> এবং <u>Manuals on Improved Methodologies</u> ডেলিভারেবল দুটি পুঁজোনুপোজ্যভাবে যাচাই-বাছাই, বিশেষণ এবং প্রযোজ্যক্ষেত্রে সংযোজন/ বিয়োজনের নিমিত্ত সংশ্লিষ্ট কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়।
	16	C.3- Manuals on Improved Methodologies		২। সংশ্লিষ্ট উইংসমূহের এতৎসংক্রান্ত মতামত পরামর্শক প্রতিষ্ঠান DevStat বরাবর প্রেরণ করা

Sub Components	SI. No.	Deliverables	Custodian Wing	Present Status
				হয়। প্রযোজনক্ষেত্রে পরামর্শক প্রতিষ্ঠানের সংশ্লিষ্ট key expert-দের সাথে উইংসমূহের সরাসরি/অনলাইন সভার আয়োজন করা হয়।
Component D: Promoting and Strengthening Access to and the Use of Official Statistics				
D.1. Implementing an effective and clear dissemination policy	17	D.1.1- Advance Release Calendar	FA & MIS Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	18	D.1.2- Protocol for Advance Release Calendar	FA & MIS Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইং: ৩/৫ প্রেরণ করা হয়েছে।</p>
D.2. Documenting statistical activities and providing better access to metadata	19	D.2.1- Data Visualization	Computer Wing BBS	<p>১। ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	20	D.2.2- Metadata Documentation	Computer Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। বিবিএস এ কর্মরত কর্মকর্তাদের জরিপ ও শুধুমাত্র তথ্য উপাত্তের ডকুমেন্টেশন সংক্রান্ত দক্ষতা বৃক্ষির লক্ষ্যে আন্তর্জাতিক প্রশিক্ষক কর্তৃক Metadata Documentation বিষয়ে ০৫ (পাঁচ) দিনব্যাপী ১৫ জন কর্মকর্তাকে প্রশিক্ষণ প্রদান করা হয়েছে।</p> <p>৩। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>

Sub Components	Sl. No	Deliverables	Custodian Wing	Present Status
	21	D.2.3- Codes and Syntaxes	Computer Wing BBS	<p>১। ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। বিবিএস এর কর্মকর্তাদের জরিপ ও শুমারির তথ্য উপাত্ত ডকুমেন্টেশনে প্রযুক্তিগত দক্ষতা বৃদ্ধির লক্ষ্যে Codes and Syntax এর ওপর ১৩ জন কর্মকর্তাকে প্রশিক্ষণ প্রদান করা হয়েছে।</p> <p>৩। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	22	D.2.4- Survey Documentation	Computer Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
D.3. Expanding access to microdata for further research and analysis	23	D.3.1- Data Policy	Computer Wing BBS	<p>১। ডেলিভারেবল ভ্যালিডেশন ওয়ার্কশপ এবং ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। চূড়ান্ত ডেলিভারেবলটি কাস্টোডিয়ান উইংয়ে প্রেরণ করা হয়েছে।</p>
	24	D.3.2- Data Anonymization	Computer Wing BBS	<p>১। ডেলিভারেবল পর্যালোচনা ও চূড়ান্তকরণ কমিটির মাধ্যমে ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়েছে।</p> <p>২। বিবিএস এ কর্মরত কর্মকর্তাদের জরিপ ও শুমারির তথ্য উপাত্তের গোপনীয়তা রক্ফার্থে Data Anonymization বিষয়ে দক্ষতা বৃদ্ধির লক্ষ্যে আর্জাতিক প্রশিক্ষণ কর্তৃক ০৩ (তিনি) দিনব্যাপী ৮ জন কর্মকর্তাকে প্রশিক্ষণ প্রদান করা হয়েছে।</p>

০৪। আলোচনা:

অতঃপর সভাপতি সভায় উপস্থিত সকলকে প্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেটেশন সাপোর্ট প্রজেক্ট কর্তৃক উপস্থাপিত বিষয়ের ওপর আলোচনায় অংশগ্রহণ করার জন্য আহ্বান জানান। উক্ত আহ্বানের প্রেছিতে সভায় নিম্নুপ আলোচনা ও মতামত উপস্থাপন করা হয়।

৪.১। আলোচনায় অংশ নিয়ে কাস্টোডিয়ান সকল উইংসমূহের পরিচালকগণ প্রকল্প পরিচালক কর্তৃক উপস্থাপিত ডেলিভারেবলসমূহের বর্তমান অবস্থার সাথে একমত পোষণ করেন। জনাব কবির উদ্দিন আহমেদ, পরিচালক, কম্পিউটার উইং ‘Report on Administrative Data’ বিষয়ে বলেন যে, ডেলিভারেবলটি শুধু কম্পিউটার উইং ব্যবহার করবে না; বিবিএস এর সকল উইং সরকারের বিভিন্ন মন্ত্রণালয়, দস্তর ও সংস্থার সাথে প্রশাসনিক তথ্য উপাত্ত আদান প্রদানে এ ডেলিভারেবল অনুসরণ করবে। তিনি চূড়ান্ত ডেলিভারেবলগুলোর সফ্টবুলি ও মুদ্রিতকপি দ্রুত সকল উইং এ প্রেরণ করার বিষয়ে অভিমত ব্যক্ত করেন।

৪.২। আলোচনার এ পর্যায়ে মহাপরিচালক, বিবিএস Annual Crop Production Survey (ACPS), Health and Morbidity Status Survey (HMSS) ও Survey of Manufacturing (SMI) এর পাইলটিং সম্পর্কে

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জানতে চান। জবাবে জনাব আলাউদ্দিন আল আজাদ, পরিচালক, এগ্রিকালচার উইং, বিবিএস, জনাব মোঃ মাসুদ আলম, পরিচালক, ডেমোগ্রাফি অ্যান্ড হেলথ উইং, বিবিএস এবং জনাব মুহাম্মদ আতিকুল কবির, পরিচালক, ইত্তাস্টি অ্যান্ড লেবার উইং, বিবিএস যথাক্রমে ACPS, HMSS ও SMI এর পাইলটিং কার্যক্রমের সার্বিক অবস্থা সভাকে অবহিত করেন। জনাব আলাউদ্দিন আল আজাদ জানান যে, ACPS এর প্রিটেস্টিং কার্যক্রম সম্পন্ন করা হয়েছে এবং আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat এর সহায়তায় প্রশ্নপত্র ও স্যাপ্ল চূড়ান্তকরণসহ পাইলটিংয়ের প্রস্তুতি চলমান রয়েছে। জনাব মোঃ মাসুদ আলম ও জনাব মুহাম্মদ আতিকুল কবির যথাক্রমে HMSS ও SMI সম্পর্কে আরও জানান যে, এ দু'টি সার্ভের প্রিটেস্টিং ও পাইলটিংয়ের তথ্য সংগ্রহ কার্যক্রম সম্পন্ন করা হয়েছে, বর্তমানে রিপোর্ট প্রস্তুতের কাজ চলমান রয়েছে।

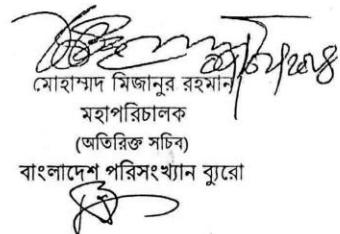
৪.৩। আলোচনায় অংশ নিয়ে প্রকল্প পরিচালক জনাব মোঃ দিলদার হোসেন বলেন যে, গত ২৮ ডিসেম্বর ২০২৩ তারিখ পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ এ অনুষ্ঠিত ICT Plan প্রণয়ন সম্পর্কিত সভায় ডেলিভারেবলটি চূড়ান্তভাবে গৃহীত হয়। তবে এ বিষয়ে কোন উইংয়ের আরও কোন মতামত থাকলে অদ্য সভায় তা আলোচনা হতে পারে বলে তিনি উল্লেখ করেন। জবাবে বিবিএস এর উইং পরিচালকগণের পক্ষ হতে এ বিষয়ে আর কোন মতামত নাই মর্মে সভাকে অভিত্ত করা হয়।

৪.৪। আলোচনার শেষ পর্যায়ে মহাপরিচালক, বিবিএস বলেন যে, আন্তর্জাতিক পরামর্শক প্রতিষ্ঠান DevStat কর্তৃক প্রণয়নকৃত বর্ষিত ডেলিভারেবলসমূহ বিবিএস এর জন্য অত্যন্ত গুরুত্বপূর্ণ ও প্রয়োজনীয়। বিবিএস এর দৈনন্দিন কার্যক্রমে এসকল ডেলিভারেবল ব্যবহারের বিষয়ে তিনি বিশেষ গুরুত্ব আরোপ করেন। তিনি আরও বলেন যে, যেহেতু প্রকল্পটি ২৮ ফেব্রুয়ারি ২০২৪ তারিখ শেষ হতে যাচ্ছে, তাই উল্লিখিত তিনি সার্ভের চলমান পাইলটিং কার্যক্রমসহ প্রকল্পের সকল অসমাপ্ত কার্যক্রম দ্রুত সম্পন্ন করতে হবে। তিনি উল্লেখ করেন যে, Statistical Staff Training Institute-সহ বিবিএস সকল উইং/প্রজেক্ট/প্রোগ্রাম কর্তৃক আয়োজিত সকল প্রশিক্ষণের ক্ষেত্রে Training Policy ডেলিভারেবলটি অনুসরণ করতে হবে এবং প্রযোজ্য ক্ষেত্রে প্রশিক্ষণ শেষে স্টার্টিফিকেট প্রদানের ব্যবস্থা রাখতে হবে। তিনি আরও বলেন যে, চূড়ান্তভাবে গৃহীত ডেলিভারেবলসমূহ বিবিএস এর নতুন websit এ upload করার জন্য প্রয়োজনীয় ব্যবস্থা গ্রহণ করতে হবে এবং বিবিএস এর Advance Release Calendar সর্বদা হালনাগাদ রাখতে হবে। এ বিষয়ে এফএ অ্যান্ড এমআইএস উইং প্রয়োজনীয় ব্যবস্থা গ্রহণ করবে বলে তিনি উল্লেখ করেন। তিনি প্রকল্পের সকল কার্যক্রম যথাযথভাবে সম্পন্ন হচ্ছে মর্মে উল্লেখ করে প্রকল্প টিমকে ধন্যবাদ জাগন করেন।

০৫। বিস্তারিত আলোচনার পর সর্বসমতিক্রমে সভায় নিম্নোক্ত সিদ্ধান্তসমূহ গৃহীত হয়:

- ৫.১। ডেলিভারেবলসমূহের কাস্টোডিয়ান উইং চূড়ান্তভাবে গৃহীত ২১টি ডেলিভারেবল সংশ্লিষ্ট সকল উইংয়ে প্রেরণ করবে।
- ৫.২। এনএসিএস ইমপ্রিমেন্টেশন সাপোর্ট প্রকল্প দপ্তর চূড়ান্তভাবে গৃহীত সকল ডেলিভারেবল এর সফ্টকপি বিবিএস এর সকল উইংয়ে প্রেরণ করবে।
- ৫.৩। Improvements in Core Statistics এবং Manuals on Improved Methodologies ডেলিভারেবল দু'টির আলোকে চলমান Annual Crop Production Survey (ACPS), Health and Morbidity Status Survey (HMSS) ও Survey of Manufacturing (SMI) এর পাইলটিংয়ের সার্বিক কার্যক্রম সম্পাদনপূর্বক ডেলিভারেবল দু'টি দ্রুত চূড়ান্ত করতে হবে। এ দু'টি ডেলিভারেবল সম্পন্ন হওয়ার পর যথাযথ কর্তৃপক্ষ কর্তৃক গৃহীত হলে ডেলিভারেবল দু'টির হার্ডকপি ও সফ্টকপি সংশ্লিষ্ট সকল উইংয়ে প্রেরণ করতে হবে।
- ৫.৪। কম্পটার উইং, বিবিএস চূড়ান্তভাবে গৃহীত ডেলিভারেবলসমূহ বিবিএস এর নতুন websit এ upload করার জন্য প্রয়োজনীয় ব্যবস্থা গ্রহণ করবে।

- ৫.৫। ICT Plan ডেলিভারেবল বিষয়ে কোন উইঁয়ের আর কোন মতামত না থাকায় সভায় ডেলিভারেবলটি চূড়ান্ত মর্মে গৃহীত হলো।
- ৫.৬। Statistical Staff Training Institute (SSTI)-সহ বিবিএস সকল উইঁ/প্রজেক্ট/প্রোগ্রাম কর্তৃক আয়োজিত সকল প্রশিক্ষণের ক্ষেত্রে Training Policy ডেলিভারেবলটি অনুসরণ করতে হবে এবং প্রযোজ্য ক্ষেত্রে প্রশিক্ষণ শেবে সার্টিফিকেট প্রদানের ব্যবস্থা রাখতে হবে।
- ৫.৭। আন্তর্জাতিক পরামর্শক প্রতিঠান কর্তৃক প্রশিক্ষিত বিবিএস এর Advance Release Calendar সর্বদা হালনাগাদ রাখতে হবে। এ বিষয়ে এফএ অ্যান্ড এমআইএস উইঁ প্রয়োজনীয় ব্যবস্থা গ্রহণ করবে।
- ৫.৮। এনএসডিএস ইমপ্রিমেন্টেশন সাপোর্ট প্রজেক্ট এর আন্তর্জাতিক পরামর্শক প্রতিঠান DevStat কর্তৃক প্রণয়নকৃত সকল ডেলিভারেবল এর যথাযথ ব্যবহার সংশ্লিষ্ট উইঁ কর্তৃক নিশ্চিত করতে হবে।
- ৬.০। অতঃপর সভায় আর কোন আলোচ্য বিষয় না থাকায় সভাপতি প্রকল্প টিমসহ উপস্থিত সকলকে ধন্যবাদ জানিয়ে সভার সমাপ্তি ঘোষণা করেন।



মোহাম্মদ মিজানুর রহমান
মহাপরিচালক
(অতিরিক্ত সচিব)
বাংলাদেশ পরিসংখ্যান বুরো

বিতরণ: (জ্যোষ্ঠার ক্রমানুসারে নয়)

১. উপমহাপরিচালক, বাংলাদেশ পরিসংখ্যান বুরো
২. পরিচালক (সকল).....
৩. প্রকল্প পরিচালক, এনএসডিএস ইমপ্রিমেন্টেশন সাপোর্ট প্রজেক্ট, বিবিএস
৪. কোকাল গঞ্জেন্ট কর্মকর্তা (সকল), এনএসডিএস-আইএসপি, বিবিএস
৫. জনাব....., এনএসডিএস ইমপ্রিমেন্টেশন সাপোর্ট প্রজেক্ট, বিবিএস
৬. আয়ন-ব্যয়ন কর্মকর্তা, এনএসডিএস ইমপ্রিমেন্টেশন সাপোর্ট প্রজেক্ট, বিবিএস

অনুলিপি: (জ্যোষ্ঠার ক্রমানুসারে নয়)

১. অতিরিক্ত সচিব (উন্নয়ন), পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা
২. যুগ্মসচিব (উন্নয়ন), পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা
৩. উপসচিব (উন্নয়ন-১ অধিশাখা), পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা
৪. সচিবের একান্ত সচিব, পরিসংখ্যান ও তথ্য ব্যবস্থাপনা বিভাগ, ঢাকা (সচিব মহোদয়ের সদয় অবগতির জন্য)
৫. অফিস কপি।

Project Implementation Unit (PIU)	
NSDS Implementation Support Project, BBS	
SI No.	Name and Designation
1.	Mr. Md. Dilder Hossain, Project Director
2.	Mr. Mohammad Salim Sarker, Deputy Director
3.	Mr. Pratik Bhattacharjee, Deputy Director
4.	Mr. Swajan Hayder, Deputy Director
5.	Mr. Sheikh Tanvir Ahmed, Statistical Officer
6.	Ms. Ismat Zerin, Statistical Officer