Ministerial Response to the Fourth Report of the Joint Select Committee on Finance and Legal Affairs on an inquiry into the effectiveness and efficiency of the Central Statistical Office (CSO), Second Session (2021/2022), Twelfth Parliament

OBJECTIVE 1: TO ASSESS THE EFFECTIVENESS OF THE CSO IN FULFILLING ITS MANDATE TO PROVIDE RELEVANT AND CURRENT DATA FOR NATIONAL POLICY DEVELOPMENT

Recommendation 21 A

Whilst the capacity constraints associated with the range of data sets produced by the CSO is noted, this must be balanced against the need to obtain data on prevailing issues or trends which have an impact on society. Due to the lack of 'longitudinal' data over the period, a preliminary overview of COVID-19's effect on the socio-economic landscape of Trinidad and Tobago could not have been accurately determined. It is imperative that the CSO give more consideration to directing resources to future endeavours and finding innovative solutions to overcome these obstacles.

Response

The Central Statistical Office (CSO) will endeavour to exploit the opportunities which Big Data can provide. Big Data are data sets that are too large or complex to be dealt with by traditional data-processing methods. Typically, Big Data are characterized by large volumes of data in many environments, the wide variety of data types and the high velocity at which the data are generated. Big data may allow also for the extraction, processing and dissemination of higher frequency indicators that can meet the criteria for assessing short terms trends. However, significant investment in data science training will be needed for staff and it is to be noted that Cabinet has approved the commencement of training, which was proposed by the CSO, in data science at an introductory level in fiscal year 2023.

It should also be noted that the CSO is endeavouring to implement Computer Assisted Web Interviewing (CAWI) techniques on a limited scale in the upcoming Population and Housing Census. Capacity development to conducting data collection via this approach will allow for the faster distribution of survey instruments to potential respondents and the real time availability to the CSO of data for processing thereby providing greater flexibility in conducting rapid response type surveys on prevailing issues or trends which impact on society.

The CSO agrees with the need to innovate at all levels and is desirous of partnering with International Development Partners in this regard and will endeavour to do so.

Recommendation 21 B

The details of the official protocol to guide the collection of data by CSO staff should be communicated to the Committee in the Ministerial Response of the Ministry of Planning and Development which becomes due within sixty (60) days of this report being laid in both Houses of Parliament.

Response

The protocol that guides the collection of data by the CSO is attached at **Appendix I**.

Recommendation 21 C

There may be need to conduct some type of job evaluation of the operational and technical job positions within the CSO with a view to determining whether the current qualifications and skills that are documented for positions are properly aligned to the actual job responsibilities.

Response

The Civil Service Job Evaluation and Job Compensation Exercise is presently being conducted by the Personnel Department with the consultancy firm, Price Waterhouse Coopers. It should be noted that the Personnel Department is the entity responsible for developing Job Descriptions within the Civil Service.

In this regard, all the Technical and Operational positions within the CSO were evaluated. Officers who function in such offices were nominated by Section Heads and approved by the Permanent Secretary to participate in the exercise. Persons were directed to complete a Position Analysis Questionnaire (PAQ) by accurately reflecting the role requirements and providing details on their roles, qualifications, knowledge, experience, skills and abilities required for the office, as well as accountabilities, tasks performed and key points of interaction. Consequently, the PAQs were analysed by the Job Analyst teams from the Personnel Department and Price Waterhouse Coopers. At the conclusion of gathering and analysing the information, the Permanent Secretary and Supervisors validated the information. Thereafter, revised Job Descriptions are to be drafted, which will be used as the basis for scoring by established Job Evaluation Committees. It is to be further noted that the final recommendations are to be approved by the Chief Personnel Officer and the Public Services Association.

It should also be noted that Statistics Sweden produced a report in 2012 from the Project of Restructuring the Central Statistical Office of Trinidad and Tobago entitled 'Job Descriptions' which identified responsibilities, skills and qualifications recommended for various management, technical and operational positions of the proposed National Statistical Institute for Trinidad and Tobago (NSITT). Likewise, the Task Force for the NSITT produced a report in 2017 'Report for the Establishment of the National Statistical Institute of Trinidad and Tobago' which also outlined the recommended responsibilities, skills and qualifications for subject matter positions within the proposed NSITT.

Recommendation 21 D

The Committee advises that the CSO utilise the leverage of its website to build public trust and awareness of the various initiatives undertaken to improve its operations including:

> i. Publicising the various methods that inform their use of data and survey design via infographics and other media;
>
> ii. Building appreciation for statistical awareness;
>
> iii. Raising awareness of the various initiatives to improve its operations such as adherence to the Open Data Inventory and Enhanced General Data Dissemination System; and
>
> iv. Creating a public feedback portal on the website where the public can provide feedback on the operations of the CSO. While there exists a means of public engagement on the CSO's website via the 'Contact Us' tab, using an anonymous portal with minimal sections to fill will be more user friendly.

Response

The CSO agrees with the recommendations made and will continue to enhance the website both in terms of content and building public awareness of the initiatives and statistical work of the CSO.

OBJECTIVE 2: TO DETERMINE THE EXISTING GAPS IN THE CREATION OF A MODERN, RELEVANT AND OBJECTIVE NATIONAL STATISTICAL INSTITUTE

Recommendation 31 A

Whilst the collection of data by staff within Ministries, Departments and Agencies would advance the CSO's mandate, this would also result in more persons who are external to the organisation

being privy to confidential information. Due to the potential negative impact on citizens' privacy, such arrangements should be pursued with caution.

Response

The National Statistical System (NSS) which includes all those entities which supply or disseminate data that become part of official statistics is extensive and complex. It is not possible in any National Statistical System for the National Statistical Office (such as the CSO) to collect and process data pertaining to all aspects of official statistics. The NSS will become more efficient if subject matter data that are collected by Ministries, Departments and Agencies as part of their daily operations can smoothly be integrated into the production and dissemination of data that is submitted to the CSO for further processing and dissemination.

To the extent that this is done, data collection and processing staff residing in the various data producing government offices will need to be properly trained in the methods of data editing, validation and coding as recommended and approved by the National Statistical Office in the role as coordinator of the NSS. As with all external data collection agencies, adherence to their own confidentiality rules and regulations will need to be adhered to and the CSO will only disseminate data in accordance the Statistical Act.

Recommendation 31 B

Although the human resources and technological deficiencies existing within the CSO requires urgent attention, the Ministry of Planning and Development should:

- consider conducting an evaluation of the qualification criteria used to employ staff to ensure that it meets current needs; and
- provide in the Ministerial Response, an update on all the initiatives taken to improve the human resource capacity and technological infrastructure of the CSO.

Response to Bullet Point 1

While the Civil Service Job Evaluation and Job Compensation Exercise is ongoing, the Ministry has sought the assistance of the Service Commissions Department (SCD) in filling a number of vacant offices that currently exist on the permanent establishment of the Division in an effort to augment the human resource capacity therein.

In this regard, it is to be noted that the SCD has recently filled twenty-eight (28) vacancies in the Division, namely:

- 2 Senior Statisticians (promoted)
- 2 Statisticians II (promoted)

- 8 Statisticians I (appointed)
- 2 Principal Statistical Officers (promoted)
- 12 Survey Interviewers I (appointed) – only six (6) has assumed duty to date
- 1 Systems Analyst I (appointed)
- 1 Programmer I (promoted)

Of the remaining one hundred and twenty-eight (128) vacant offices in the Division, the CSO was advised that the SCD is in the process of filling the following twenty-five (25) vacant posts in the Division:

- 1 Principal Statistical Officer
- 3 Statistical Officers III
- 4 Statistical Survey Officers
- 2 Survey Interviewers III
- 2 Survey Interviewers II
- 2 E.D.P. Data Conversion Supervisors
- 11 E.D.P. Data Conversion Equipment Operator

Additionally, the Ministry has requested that the SCD advertise the following fifty-four (54) vacant offices in the CSO:

- Statistical Officer I (22 vacancies)
- Statistical Aide (20 vacancies)
- Survey Interviewer I (2 vacancies)
- Assistant Field Interviewer I (6 vacancies)
- E.D.P. Operations Supervisor (1 vacancy)
- E.D.P. Control Supervisor (1 vacancy)
- Computer Operator II (1 vacancy)
- Computer Operator I (1 vacancy)

This will reduce the number of vacant offices in the Division to forty-nine (49), once those vacancies listed above are filled.

Response to Bullet Point 2

The Ministry of Planning and Development (MPD) has facilitated and supported all capacity development work between the CSO and international development partners and external agencies in improving the range of statistical products and services produced by the CSO. Most of the capacity development work would have by necessity involved the specific development of the human resource capacity. Some of the initiations undertaken to build the human resource capacity are as follows:

i. Collaboration with the Caribbean Regional Technical Assistance Centre (CARTAC) to officially implement the production and dissemination of quarterly GDP: All statistical staff involved in this project have benefitted from training in National Accounting techniques and concepts.

ii. Continued production of its core statistical products and adherence to the Enhanced General Data Dissemination Systems (e-GDDS): Staff have benefitted from interaction with IMF experts in the implementation of standards for data dissemination.

iii. The CSO partnered with Inter-American Development Bank (IADB) and consulted with the International Labour Organization (ILO) to undertake labour force training and revise the survey instrument for the revised labour force survey. Presentations by ILO experts in labour force concepts and the development of an internationally accepted labour force survey instrument have improved the human resource skills in conducting labour force surveys. Additionally, a consultant hired by the IADB conducted training in labour force concepts and techniques.

iv. The upgrade of the website to allow for easier querying of data, including time series data was completed and the CSO is currently working with the IADB to implement an Open Data Policy for the dissemination of statistical products. The consultant working on the project conducted training in open data concepts and standards to the management and technical staff of the CSO.

v. Collaboration with the Ministry of Trade and Industry, via an IADB funded project, for the upgrade of the trade data extraction tool: Web-Comext, which allows data users access to trade data at a very detailed level was established.

vi. Use of the Computer Assisted Personal Interview (CAPI): this method of data collection in sample surveys involves data collection on computer tablets or similar digital devices which enables the faster processing and dissemination of data. Interactions with experts from Statistics Canada and the UNFPA have guided the relevant staff in the organizational requirements for the implementation of this new approach to data collection.

vii. The CSO, working with development partners, has continued to work on the development of major surveys:

    a. *Multiple Indicator Cluster Survey (MICS)*: This is a survey on the status of women and children and is a large scale sample survey (approximately 7,000 households). Intense training with UNICEF representatives has imparted valuable statistical capacity in the conduct of this survey using the CAPI approach to data collection and processing.

    b. *Population and Housing Census*: Significant progress has been made in the planning of the census with the preparation of a draft census proposal and the completion of the draft Census survey instrument. There is ongoing collaboration with Statistics Canada and the IADB on the planning and implementation of the Census. All senior and management staff of all divisions within the CSO have participated in this collaborative planning with the consequent human resource

capacity development in the conduct of a modern Population and Housing Census using the latest data collection techniques.

Furthermore, the CSO and the MPD have put forward a proposal to Cabinet, which was accepted, entitled: *Institutional Strengthening of the Central Statistical Office, Ministry of Planning and Development.* This initiative is for human resource capacity development training (to be conducted by the UWI) for the fiscal period 2022-2023 in the following areas.

1. Applied Sampling
2. Statistical Software – SPSS and R
3. Introductory Data Science
4. Demography

Technological Infrastructure of the CSO

The Ministry of Planning and Development's ICT Division continues to the support the development of the efficiencies and efficacy of the CSO's information and communication technology component. The ICT Division of the Ministry has supported very closely the CSO's ICT Director and Team, with a very synergistic relationship of knowledge transfer and infrastructure development. The Ministry's ICT Team engaged with the CSO ICT Team in June 2022 to advise and provide technical guidance and directives on the evaluation and assessment of its current ICT network and server infrastructure to determine the best industry standard implementation for efficiently and effectively meeting the needs of the CSO's extensive fiscal 2023 initiatives.

The CSO, upon the advice of the Ministry's ICT Division, concurred with the recommended ICT Infrastructure solution and engaged in the procurement process for selecting the server infrastructure that will meet and exceed the Division's fit for purpose needs assessment.

The ICT solution includes hosting all the centralized server-side resources required for secured storage of all data repositories and databases used for hosting the data captured from its census Computer Assisted Personal Interviewing (CAPI) and Computer Assisted Web interviewing (CAWI) data gathering exercises. The new technological infrastructure will facilitate data redundancy and high availability environment that will allow for greater data integrity and availability. The data will not be compromised by mitigating data loss due to hardware failure. The data will be redundant and simultaneously written to multiple disks, as such if one disk fails the data is automatically utilized from the operational disk. This allows the server administrator and CSO ICT Team to replace the failed hardware without any downtime or disruption to the service availability.

The technological improvements will facilitate industry standards such as Microsoft SharePoint

services that securely store data that is accessible only to authenticated Officers with the rights and permissions to access secure and confidential public data. Authenticated users must enter unique user credentials to access data on a need to know or levels of access criteria. Without authenticated access, an explicit deny is enforced for all persons attempting to access secure data. Public confidential data remains confidential, thereby mitigating data leakage and ensuring liability is explicitly to those Officers with access to the data, known as nonrepudiation. Nonrepudiation ensures that no party granted access to confidential data can deny they did not access secured data because a digital signature is tied to the Officer's authenticated access account information.

In summary, the CSO's ICT team has been working on the upgrade of its computer infrastructure that will meet and exceed the Division's fit for purpose needs assessment. The technological infrastructure improvements at the CSO will mitigate data loss and data leakage and enforce data confidentiality, thereby keeping data confidential and accessible only on a need to know or need to access privilege environment. Data retrieved from CAWI and CAPI initiatives is also reliable and non-compromised. Data is highly available and less prone to disruptions and accessibility downtime, because the technology infrastructure is resilient to failure and data is written in multiple copies on the server. In the event of one storage drive failure service operations and access to the secured CSO data is 99.99% operational.

Recommendation 31 C

Consideration should be given to gaining stakeholder feedback on the most relevant and useful categories of data with respect to the expansion in the data collected relevant to children, youth and gender.

Response

The CSO and by extension the MPD acknowledges and is in agreement with the recommendation. The CSO will continue to engage stakeholders including its international partners of the United Nations, particularly UNICEF. The MPD is a partner in a UN SDG funded project entitled: 'Modernising Trinidad and Tobago's Statistical Ecosystem through enhanced SDG Data Development' which seeks to enhance data collected concerning vulnerable groups and related statistics including children, youth and gender data and statistics.

OBJECTIVE 3: TO EVALUATE THE CHANGE MANAGEMENT SYSTEMS AND PROCEDURES THAT ARE PROPOSED TO MANAGE THE TRANSITION TO THE NEW PROPOSED NATIONAL STATISTICAL INSTITUTE (NSITT)

Recommendation 39 A

Whilst the Committee is aware of the benefits of the transition to the NSITT, the removal of the special majority, without due consideration for its initial imposition, may be regarded as an arbitrary undertaking which the Ministry must bear in mind.

Response

The MPD has noted and understands the merit of this recommendation. The MPD has determined that a more proportionate approach would be taken with the NSITT Bill to overcome the special majority requirements whilst still achieving the goal of acquiring necessary confidential information. This would be achieved by reviewing the UK Statistics and Registration Services Act, 2007 and the UK Data Protection Act, 2018 in relation to information sharing to see whether they could provide a remedy to clauses 33-34 of the Bill. Necessary amendments would be drafted to cause the legislation to be made proportionate in terms of balancing the rights of the public interest versus the individual right, centred on Suratt and Others v Attorney General of Trinidad and Tobago [2007] UKPC 55 and the recent judgement of Dominic Suraj and Others v Attorney General of Trinidad and Tobago [2022] UKPC 26. The NSITT policy and Bill will be reviewed and amended accordingly.

Recommendation 39 B

The Committee advises that the CSO prioritise the employment of professional statistical staff in the short-term as barring the transition to the NSITT, this would have a significant improvement on the productive capacity of the organisation.

Response

The CSO is in agreement with the recommendation and is of the view that employing professional staff on contract may be an option in the short term. The CSO has a Social Statistical Unit that is in need of professional staff and there are plans to recruit a Statistical Analyst that will assist with the work of the Division.

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Protocols for Data Collection

There is no single protocol that currently exists for data collection. Protocols vary by way of data collected and may be specific for each survey or method of data collection. However, the data collected by National Statistical Offices (NSOs) such as the Central Statistical Office (CSO) fall generally into three categories:

1. Data collected from establishment Surveys: These are entities such as businesses of all types and non-profit institutions which produce economic goods and services.
2. Data collected from Household Surveys.
3. Administrative Data: Data already collected by the National Statistical System.

The protocols for the major establishment, household and administrative data collection activities of the CSO are described below.

A. Establishment Survey – Annual Survey of Business Establishments

What is the Annual Survey of Business Establishments (ASE)?

The Annual **Survey of Business Establishments (ASE)** is conducted on an **annual basis** by the Business Surveys Unit of the Central Statistical Office (CSO) and is used to capture up-to-date basic information on the operations of business units and institutions, which further provides statistics critical to our understanding of the structure, trends, and levels of economic activity in Trinidad and Tobago. The data collected is primarily financial in nature and consists of the expenditure, revenue, asset and liabilities of business establishments.

Ultimately, information supplied by these establishments are collated by the National Accounts Division of the CSO and are utilised to estimate the **Gross Domestic Product (GDP)** of the economy of Trinidad and Tobago. Data collected from the ASE is also used to maintain and update the **CSO's Business Register**, from which statistics on the business community are readily made available to the wider community.

Steps in Data Collection and Processing

The following section highlights the steps taken in collecting and processing the data obtained from the ASE:

Step 1: Sample Selection

Industry Specialists of the National Accounts Division are required, on an *annual* basis, to select a sample of business establishments from their respective Economic Industries[1]. The **Business Register**, which contains key characteristics on all business establishments within the economy (*for example, name and address of establishment, contact information, employment data, economic activity classification etc.*), is used as the **sampling frame** for this exercise.

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[1] These industries are currently based on the ISIC Rev. 4 Classification.

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Step 2: Preparation of packages to be dispatched

After the sample is selected, packages are prepared for distribution to the respective establishments. Each package contains the <u>relevant documents</u> required by the respondents to successfully complete the survey, i.e.

1. Cover Letter – detailing the purpose of the survey, requirements of the respondent, deadline date for questionnaire to be returned by, various methods for submission, contact information for the Officer in Charge (Statistician I – Business Surveys)
2. Information Pamphlet on the **Annual Survey of Business Establishments**
3. Blank Questionnaire and General Instructions needed to complete form

Time for Response

It should be noted that companies are usually given **six (6) weeks** after the mailing date to complete and re-submit the Survey to the Central Statistical Office.

Step 3: Dispatch of packages

Packages are <u>primarily</u> dispatched to selected business establishments via **TTPOST**. Alternatively packages can be hand delivered by an <u>authorised</u> CSO Field Officer or a soft copy of all documents can be sent via email.

Step 4: Submission/ Collection of Questionnaires

Upon completion, establishments are provided with several options in which they can submit their responses. These include:

- Mail Submission (via TTPOST/ Registered Mail)
- Hand Delivery/ Courier to the CSO Office
- Soft Copy/ Email Submission to Officer in Charge (Statistician I – Business Surveys)
- Collection from company via CSO Field Officer

Alternatively, if establishments for any given reason are unable to successfully complete the questionnaire, they are given two (2) additional options, i.e.

- The respondent is allowed to complete the front page of the form – characteristics section – and submit this along with their <u>financial statements</u> to the CSO Office. Upon receipt, the Editing section of the Business Surveys Unit is required to complete the questionnaire on the company's behalf, extracting the relevant data from the attached financial documents.
- The respondent can also request for an **authorised CSO Field Officer** to visit their establishment and complete the questionnaire using financial records provided.

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Step 5: Processing/ Editing of Questionnaires

Processing of Surveys

Upon return to the Central Statistical Office, the **Survey Unit** of the Business Surveys Section, is responsible for processing the completed questionnaires. Questionnaires are stamped and recorded in a <u>Survey Database</u> and details such as the date the questionnaire was received, as well as the manner in which it was received is further documented. After all relevant data is extracted and entered, the questionnaires are then distributed to the Editing Unit for further processing.

Editing Procedures

The **Editing Unit** of the Business Surveys Section is primarily responsible for ensuring the accurate completion of the ASE. The unit employs various *editing procedures and checks* to validate the information provided, thereby enhancing the quality of responses captured.

The members of staff assigned to this section (i.e. Editors) are trained adequately to obtain a clear knowledge and understanding of the questionnaire and to ensure that it is edited professionally and accurately. As such, their training focuses on strengthening their technical skills in **financial accounting** necessary for interpreting, completing and editing the ASE. In addition to an **entry-level** training workshop[2], a "refresher" course is conducted each year to reinforce the technical capacity and knowledge base of the Editors. This also ensures that they are able to keep well-informed of any changes/ updates within the reporting of financial data (eg. Tax laws etc.). It should also be noted that the <u>entire</u> National Accounts section, also partake in these training courses as the information is also pertinent for them to complete their duties as compilers of National Accounts. Hence, the Statisticians of this section are also well equipped to edit the survey, and further provide an additional quality check for the data supplied.

Addressing Queries

To improve the accuracy and quality of data received, the Editing unit, is **<u>required to</u>** contact the respondents for any queries that may arise. Common queries include missing data (example employment data), clarification/misplacement of items on the questionnaire, request for further detailed breakdowns of expenses and inventories, missing balance sheet etc.

Non-response of Questionnaires

Reminder Letters

After the due date for submission, a series of reminder/ warning letters are mailed out to the non-responding establishments. The **first reminder letter** is sent out 4-6 weeks after the survey's due date has passed and the **second reminder letter** is sent out one (1) month after the deadline date for the first reminder. If firms still have not yet responded within the timelines outlined, a **final**

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[2] This workshop is generally conducted by the Field Supervisor and the Officer in Charge of the Business Surveys Section (Statistician I). A **<u>detailed</u>** guide on using financial statements to complete the CSO survey Instrument is utilised, and practice exercises are conducted.

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reminder letter is sent out approximately 4- 6 weeks after the deadline date of the second reminder letter.

If non response persists after the **final reminder letter** is dispatched, the firm is sent communication by the Director of Statistics reminding them of their obligation to respond to the CSO under the Statistics Act, reassuring them of the confidentiality of the data under the Statistics Act, the purpose to which their data will be put and how they can benefit from responding to the CSO.

Traditionally, the CSO has relied on moral suasion to encourage responses. While the legal avenue does exist to pursue the respondent, no action of this type has been taken to date.

Field Staff/ Travelling Officers

A work schedule is prepared for authorised Field Officers who assist with the collection of non-responding firms. These officers are assigned to different regional corporations and actively reach out/ visit these firms to aid in the collection of their outstanding data. Additionally, all staff of the National Accounts Division are also responsible for following up (calls/emails) on tardy respondents, within the respective sub-industries. It should be acknowledged that the travelling officers in the section also assist with the field work, visiting firms to either complete or collect outstanding surveys.

Of note is that the field officers assigned to the Division are also assigned the field work for the Index of Retail Prices i.e. data collection for two weeks of every month. This hampers their ability to fully devote themselves to the work of the Business Surveys Section, National Accounts Division.

Training of CSO Field Staff

The CSO field staff assigned to the Business Establishment Survey are comprehensively trained on extracting financial data and completing the questionnaire. As such, the Chief Census and Survey Officer, who is the reporting officer for the field staff, is required to arrange an appropriate training programme which entails formal training similar to that of the Business Surveys Editing Staff, in addition to, methods and approaches to contacting and maintaining working relationships with the business community. As previously mentioned, each Field Officer is assigned a workload schedule based on a specific area and are required to continuously liaise with firms to obtain outstanding questionnaires. Due to the issue of non-compliance by the respondents, the work of the Field Officers is imperative to the CSO organisation.

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Figure 1: Data collection and processing of ASE Form (Option 2)

Step 1: Sample Selection

Step 2: Preparation of packages/ mail

Step 3: Dispatch of packages/mail

Step 4: Collection/Submission of Surveys

Step 5: Processing and Editing of Surveys

B.   Household Survey – Continuous Sample Survey of the Population (CSSP)

Overview

Since its inception in 1963, the Continuous Sample Survey of Population (CSSP) has been the Nation's Premier Household Probability Sample Survey designed as a medium to acquire Labor Force Statistics both at national and sub-national levels. It is also used as a compendium survey for mounting myriad, high profile social and economic investigations by researchers in both the public and private sectors as well as social scientists from international organizations that are cognizant of the capacity and sustainability of CSSP's scientifically selected samples.

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CSSP's function is the collection, compiling, analyzing and abstracting of statistical information relating to social and economic activities in addition to production of the Labor Force Report and Bulletins for distribution to various institutions, public organizations and stakeholders.

What is the Continuous Sample Survey of Population (CSSP)?

The CSSP is the enumerating or counting of a scientifically selected sample of all the persons living in the country during a given period and at the same time obtaining information on a number of characteristics of the inhabitants so selected. The CSSP surveys small samples of the population continuously, week after week.

CSSP's Design and Procedures

The following section highlights the CSSP's design and procedures:

CSSP Design

Households are sampled utilizing a Stratified two stage cluster sampling Design. The Population Frame is Trinidad and Tobago where the County/Wards represent the Strata's. Each stratum is clustered by Enumeration Districts and Enumeration Districts are clustered by Households.

a. In the first stage a calculated sample of Enumeration Districts from each County/Ward is selected systematically from the sampling frame.
   a. Part of this selected sample is sent to the Geographic Information System (GIS) Unit for the generation of maps.

b. In the second Stage a calculated number of targeted households to be surveyed are systematically selected from the listing record of the selected Enumeration Districts.

Workload Preparation and Distribution

The listing selection of households is used to prepare the workload distribution and then assigned to the enumerators and supervisors who are trained in the collection process. This team of survey interviewers are assigned to the North, South/Central and Tobago. There are 17 survey interviewers attached to the North, 19 to the south/central and 4 for Tobago.
The population is surveyed via personal interview with a suitable respondent from each household. Thus completing the questionnaires which are then returned to CSSP Subject Matter.

Processing of the CSSP Questionnaire

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Receipt of all questionnaires are verified and recorded. The questionnaires are edited for completeness, thus ensuring all individual's relevant questions are answered. If not, such forms are returned to field enumerators for completion. These forms are manually coded using International Standard Classification of Occupations (ISCO) and The Standard Industrial Classification of all Economic Activities (SIC). The coded questionnaires are batched and prepared for data entry in the Data Preparations Section of the Computer Division. (See CSSP's Workflow diagram at Attachment I).

Data Capture and Cleaning

The data on each questionnaire are captured using CENTRY, the data entry module of IMPS, which is a DOS based application. Data by period is then sent to the CSSP Section, to be cleaned, validated and edited. Once all the errors have been fixed, the required tables are generated and further consistency assessments applied.

Dissemination of the Labour Force Data

The following section highlights the dissemination of the labour force data.

Data Dissemination

The tables are then prepared using Microsoft Excel and checked for consistency and completeness. The accuracy of the data is verified using relevant economic indicators. The required reports are then generated for dissemination to the Public via the CSO's website. The tables available on the website are up to 2nd Quarter 2022.

Some of the tables disseminated are:
   a. Non-Institutional Population Aged 15 Years Old and Over and Labour Force By Employment Status, Age and Sex
   b. Labour Force By Employment Status, Occupational Group and Sex
   c. Labour Force By Employment Status, Sex and Industrial Group
   d. Labour Force By Employment Status Educational Attainment and Sex
   e. Labour Force By Employment Status Type Of Worker and Sex

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Level 0 - CSSP System

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C. **Administrative Data – Population, Social and Vital Statistics**

Collection of Administrative Data:

The **Population, Social and Vital Statistics Division** within the Central Statistical Office (CSO), constitutes the Population and Vital Statistics Section and the Social Statistics Unit. The Vital Statistics Sections and Social Statistics Unit is **solely** dependent on Administrative Data sources for the output of its data.

Population data is derived from the Population and Housing Census and during the inter-censual years, Mid- Year Population Estimates are generated.

Vital Statistics:

The Vital Statistics Section has the responsible for producing statistics on **Births, Deaths, Stillbirths, Marriages and Divorces (Muslim)**. These statistics are produced under the guidance of '**The Principles and Recommendations for a Vital Statistics System Rev3,**' which is produced by the Department of Economic and Social Affairs of the United Nation Secretariat. The principles and recommendations provides advice on establishing a functioning system for collecting, processing and disseminating vital statistics. It also provides information on improving sources of vital statistics, primarily the functioning of the **civil registration system** and the role of complementary sources of vital statistics, for example public-health records, household surveys and population censuses. Having an effective civil registration system is a prerequisite for generating accurate, reliable and regular statistics.

The Registrar General Office has the overall responsibility for the Civil Registration System and is the main supplier of the administrative data to the Vital Statistics Section.

Data Collection:

- ❖ During the second quarter of the calendar year request are made to the RGs Office for the above mentioned datasets.
- ❖ Additionally, during the year, the hard copy '**Medical Certificate of Cause of Death'** forms are obtained from the District Registrars located across Trinidad & Tobago. These medical certificates are used to determine the 'Underlying Cause of Death'.
- ❖ There are one hundred and eight (108) Registration districts manned by approximately nineteen (19) District and four (4) Deputy District Registrars.
- ❖ The **Principal Statistical Officer** is in charge of the Vital Statistics Section and is responsible for the collection of all death returns from the outstations: Mt. Hope, Sangre Grande, San Fernando, Arima and City Hall to name a few.
- ❖ The **Statistical Officer III (SOIII)** is directly responsible for the 'Death Coding' and is also responsible for:
  - o receiving the death returns
  - o sorting them by districts i.e. Registrar Number
  - o putting the registration numbers in numerical sequence

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- o entering them on an excel sheet
- o putting documents in batches of 75 – 100 and
- o ensuring they are dispatched for data capture fortnightly.

Editing, Coding and Verification of Data:

Once the datasets and hard copies are received, rigorous edit checks are performed on the raw data, before any coding or analysis is undertaken.

- ❖ **Births, Stillbirths Marriages and Divorces:**
  - o The **electronic datasets** are first checked for duplicated records. Once identified and verified, duplicated records are removed from the dataset.
  - o Error, edit/consistency checks are then made in the various datasets, for example:
  - o in the Birth and Stillbirths dataset the age of the Mother at first birth, should be **equal to or less than age** of Mother at present.
  - o Missing ages can be imputed if National ID information is available.
  - o If marriage denomination is omitted, various hard copy list of Officiant's Names can be used to code the denomination.

If the queries identified in all datasets cannot be addressed internally, the source agency is contacted for clarification, adjustments and amendments. After all identified queries are resolved, corrections are executed, and the dataset is deemed cleaned, it is then coded and tables generated.

Example of Birth Information Required

|	
✓ Date of Birth	✓ Name of Father
✓ Sex of Baby	✓ Age of Father
✓ Is this birth Live or Still	✓ National ID Card # of Father
✓ Is this birth single/twin/triplets etc.	✓ Person in attendance at birth (Doctor/Registered Midwife/Other person)
✓ Name of Mother	
✓ Age of Mother at last birthday	✓ Place of birth (Private Home, Private Nursing Home, Government Hospital, Other)
✓ National ID Card # of Mother	
✓ Age of Mother when she had her first live/still born	
	✓ Birth Facility Type
✓ How many:	✓ Parents Married

Protocols for Data Collection

▪ Live born ▪ Still born ▪ Total born ▪ Total children still alive including this one. ✓ Usual Place of Residence of Mother (address)	✓ Birth Weight Grams ✓ Occupation of Mother ✓ Occupation of Father

❖ **Deaths**: The Medical Certificates of Cause of Death are edited and coded by three coders who are trained in ICD 10 (International Classification of Diseases 10) and supervised by a SO III.

    o All editing and coding must be done in red ink.

    o Examples of codes that need to be inserted onto the cause of death certificate include:

1. Usual residence of deceased
2. Sex
3. Age of deceased
4. Race of deceased
5. Cause of death
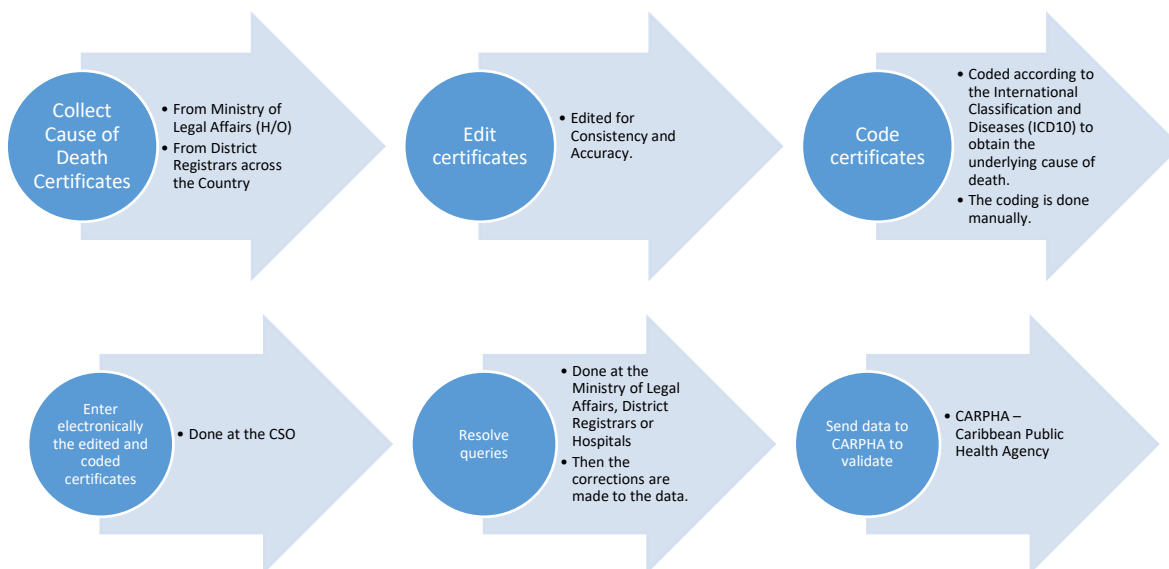6. Place where death occurred e.g. private home, hospital etc.
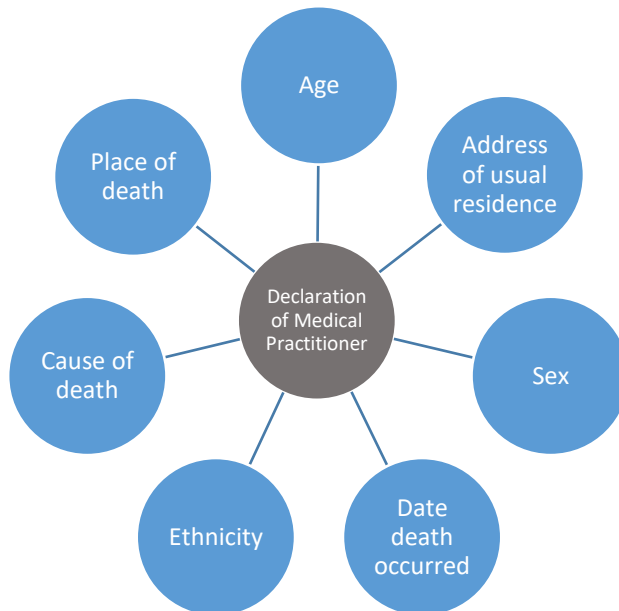
<u>Appendix I</u>
Protocols for Data Collection

On completion of the editing and coding, the documents are batched (approx.75 – 100 documents) entered in the Batch/Control Register and dispatched to the Computer Division for data capture. Upon completion the information is sent to subject matter via server in notepad format. When all the documents belonging to a particular year for e.g 2019 has been punched and verified, the different files from the 2019 folder will be concatenated by subject matter to get the total. Once the totals match, the file is sent to the Programmer to run an error list. The error list is submitted via email and the batches with errors are taken out and the queries corrected using the CSpro programme. Upon completion, this file is resubmitted to the Programmer in notepad format and once the data is 'clean or error free,' it is then sent to CARPHA for verification.

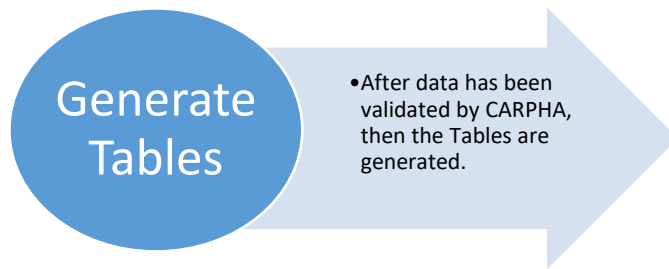**Verification of the Death Data by CARPHA**:

This is a very important exercise and all the rules and notes must be used to verify these documents. The coders must ensure that if a code must be changed, the new code should be validated by the other coders. On completion of the verification exercise from the coders, all changes will then be made on the worksheet from CARPHA. These additional changes will also be made using CSPro programme and this clean, verified data will then be sent to the Programmers to generate the tables. The tables are then checked by the Principal Statistical Officer and the data analyzed and compared to previous years for any inconsistencies before the final tables are produced.

Processing Cause of Death Certificates by the Central Statistical Office

Collect Cause of Death Certificates
- From Ministry of Legal Affairs (H/O)
- From District Registrars across the Country

Edit certificates
- Edited for Consistency and Accuracy.

Code certificates
- Coded according to the International Classification and Diseases (ICD10) to obtain the underlying cause of death.
- The coding is done manually.

Enter electronically the edited and coded certificates
- Done at the CSO

Resolve queries
- Done at the Ministry of Legal Affairs, District Registrars or Hospitals
- Then the corrections are made to the data.

Send data to CARPHA to validate
- CARPHA – Caribbean Public Health Agency

Appendix I
Protocols for Data Collection

Generate Tables

- After data has been validated by CARPHA, then the Tables are generated.

Social Statistics:

Currently the CSO produces Social Statistics on Education, Crime and Traffic.

- **Education Statistics**: The Ministry of Education (MOE) is responsible for administering the Annual Statistical Returns (ASR) for ECCE, Primary and Secondary Schools throughout Trinidad & Tobago. These electronic surveys are usually dispatched to principals and returned to the MOE within the end of the first term of the school year. During the end of the first quarter of the calendar year, the CSO will request the completed datasets and the ASR questionnaires.

- **Crime and Traffic Statistics**: The Crime and Problem Analysis Branch (CAPA), Probations, Trinidad & Tobago Prison Service and The Police Traffic and Highway Branch are the agencies responsible for the provision of crime and traffic data to the CSO. CSO writes to the relevant agencies annually and the data is received both electronically and in hard copy.

Editing, Coding and Verification of Data: Once the datasets are received, rigorous edit checks are performed on the raw data, before any coding or analysis is undertaken.

- ❖ **Education**: The **electronic datasets** are first checked for duplicated records. Once identified and verified, duplicated records are removed.
- ❖ Consistency and accuracy checks are made against the ASR questionnaires to ensure data represented in the dataset are in alignment with the ASRs.

If the queries identified cannot be addressed internally the source agencies (MOE, CAPA, Prisons, Police Traffic & Highway Branch, Probations) are contacted for clarification, adjustments and amendments. Once the reporting officer is satisfied that all queries are rectified and all validation checks have been made the data is then analyzed, tables generated and reports created.