The United Republic of Tanzania

Implications of the Corona Virus Disease, 2019 (COVID-19) Pandemic on Statistical Operations of the Tanzania National Bureau of Statistics

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**National Bureau of Statistics,
Ministry of Finance and Planning.**

Contents

1.0 Introduction

The National Bureau of Statistics (NBS) of Tanzania has been established as an autonomous public office by the Statistics Act Cap 351 to produce official statistics to the Government, business community and the public at large. The Act mandates the NBS to produce and to coordinate production of official statistics within the National Statistical System (NSS). The coordination aims at ensuring efficiency and quality in production of official statistics. Specifically, NBS roles includes: - conducting population censuses and surveys, developing statistical standards, methodologies and providing statistical consultancies.

2.0 The Global COVID-19 Crisis

Due to the outbreak of Corona Virus Disease, 2019 (COVID-19) pandemic, the Government of Tanzania, like many other governments around the global has taken some measures to contain spread of the virus. These measures includes: closing of schools, introducing a fourteen days mandatory quarantine for international arrivals at their own costs, restrictions on international travels, encouraging the practice of social distancing, and restrictions of non essential movements and public gatherings. Some world governments have adopted more strict measures to avoid more infections. These have included measures such as: closing national boarders, strict restrictions on social activities and movements and total lockdown. These restrictions are also a potential possibility in Tanzania depending on the trajectory of COVID-19 infections in future. As such, this will negatively impact on the normal conduct of statistical operations of data collection, processing and dissemination.

Most of the countries in the Sub-Saharan Africa including Tanzania have been facing financial and logistical challenges, as limited resources are availed to statistical activities. The outbreak of COVID-19 has added an extra burden to already heavily underfunded statistical activities in the developing world as more so to Tanzania. In this regard, it is of paramount importance for the NBS to strategize and implement well thought remedial actions to minimize the impacts of COVID-19 and measures to contain its effects on statistical operations in Tanzania.

3.0 Current Practices on Statistical Operations at NBS

The methodology widely used in data collection has ever since been face to face interviews in all of the household based surveys and censuses, whereby up to the recent past the technology has been Paper based Personal Interviews (PAPI) where an interviewer visits the households or establishments and administers face to face interview and responses are recorded on paper using pen or a pencil.

As technology advances the Computer Assisted Field Entry (CAFE) technology was introduced whereby data are collected using paper questionnaires are entered into a computer by an enumerator to allow running of consistencies before the interviewer leave the survey area. This allows for re-visit of a household, if necessary, within the shortest interval from the time of concluding the interview. The re-visit usually aims at clarifying some of the recorded responses that appear to diverge from the common reality or are inconsistent with other responses from the same interviewee.

Computer Assisted Personal Interview (CAPI) is another technology which is rapidly growing and used in conducting face to face interviews. This allows the programing of a questionnaire for a survey or census into mobile devices such as tablets and smart phones. The technology combines at least two stages (data collection, data manual editing, and data manual entry) into one. In addition, the use mobile devices allows for skip instructions, and consistencies to be pre-programmed to minimise human errors. The technology further reduces the time between data collection and releasing of the results. This is possible due to the fact that once the interview is completed, the information is directly sent to the central server ready for another advanced stage of processing.

Apart from these technological interviewing methods that are mostly applied in household based surveys, mail questionnaire is an old method which is still in use to collect information from establishments. The questionnaire with clear instructions for each question is either sent to a respondent through postal address or delivered directly by an officer from the NBS. The respondent (establishment) is required to respond to the questionnaire and mail it back to the NBS within a specified period.

4.0 Implementation of the NBS' Medium Term Expenditure Framework For Financial Year 2020/21 (MTEF FY 2020/21) Given the CORONA Virus

During the FY 2020/21 the NBS has planned to implement a number of statistical activities including routine and periodic ones such as the Demographic and Health Survey (DHS), the National Panel Survey

(NPS), Integrated Labor Force Survey (ILFS) and National Sample Census of Agriculture (NSCA). The routine surveys includes: monthly National Consumer Prices Index (NCPI), quarterly Gross Deomestic Products (GDP), quarterly Industrial Statistics; and trade, transport and tourism statistics.

Given the precautionary measures to minimise risks of spreading the virus, at the same time making sure the country is served with the needed statistics timely, the NBS is obliged to device a short term plan during this period at least to ensure routine statistics are produced timely. **The following are proposed emergency plan for routine data production:**

4.1 Routine Statistics (CPI, GDP, Industrial Statistics, Trade, Transport and Tourism Statistics) for FY 2020/21

- **Mail Questionnaire:** Reliable contacts and Memorandum of Understanding (MoU) between the NBS and establishments should be devised to ensure the establishments respond timely on the questionnaires that will be sent to them by mail.
- **Online or electronic questionnaire:** An alternative to mailing a questionnaire, an online or electronic questionnaire should be designed by the IT department in collaboration with both subject matter departments and stakeholders to ease the need for printing the questionnaires and scanning the completed questionnaires and send them back to the NBS.
- **Computer Assisted Telephone Interview (CATI):** Another proposed technology is the Computer Assisted Telephone Interview (CATI). This allows for interview between the interviewer and interviewee through telephone. Responses from the interviewee are computerised as interview progresses.
- **Other plans includes:**
  - Use of online meeting such as video conferencing, Skype calls and webex meetings,
  - Strengtening compilation of administrative data,
  - Implement data modelling techniques,
  - Reduction of sample size,
  - Reduction of number of questions to focus on key indicator only and
  - Strengthening collaboration with data community specifically the private sector and higher learning institutions in provision of data solutions such as data modelling, data sharing mechanisms.

The proposed options above can hardly work for NCPI perishable goods which are normaly purchased and weighted on monthly basis to obtain the standard units of measurement due to the nature of markets.

To address this, NBS will adapt the IMF Guideline, 2020 concerning the Consumer Price Index Continuity *(Attached as Annex 1).*

4.1.1   Likely Challenges to the Proposed Alternatives

i).   **Risk of spread of corona virus:** the need for physical visits at the beginning may not be avoided to establish contacts and entering into MoU between the establishments and NBS; hence risk of spread of corona virus, should the spread extend to other parts of the country other   than Dar es Salaam,

ii).   **Inadequate Quality:** quality of the collected information in the first few months is likely to be compromised given low level of statistical literacy among key stakeholders and the public in general,

iii). **Low Response Rate and Increased Number of Missing Cases:** It is likely that the response rate will be affected and number of missing cases will increase due to new methods of data collection proposed. It will require well planned online training for effective implementation of the new approaches,

iv).   **Financial constraint**s: financial constraints to initiate these emergency mechanisms and especially updating of the Business Register can pose a threat of coverage and response,

v).   **ICT Infrastructure and Equipments:** Staff will require ICT infrastructure such as access to reliable internet access to allow them work remotely or implement social distancing measures set by the Government,

vi).   **Data security:** inadequate knowledge to develop protocols to ensure sensitive data such as CPI and GDP data remain secure and confidentiality in both sides (prices and respondents) not at risk,

vii). **Human resources**: Implementing techniques such as statistical imputations and data modelling may require refresher trainings to the human resource. This is important for ensuring production of quality and reliable estimates. Private sector and higher learning institutions can provide trainings on the required skills through collaborations with the NBS

Once the proposed mechanisms are in place and working, they can continue to be long term ones and in turn reduce costs of producing statistics originating from establishments routinely as well as the CPI.

4.2 Periodic Household Based Surveys that are Planned During FY 2020/21

4.2.1   Short Term Solution for Households Surveys

Currently, the none-existence of frame of all households with contact telephone number(s) for each of the household members is a threat to periodic surveys in the country should the corona virus threat persist. The available unreliable contact telephone numbers is for the heads of households that were contacted during the 2017/18 Household Budget Survey, the 2014/15 National Panel Survey, and the 2014 Integrated Labor Force Survey. At least to start with for the planned DHS and ILFS surveys the available information can serve as frames from which the sample can be drawn only if their sample designs fits into the list. This can serve as a short term/emergency plan as it can not be a long term plan. If it is adopted as a medium or long term plan, it may result into the following challenges;

i). It may introduce some biases into the information collected resulting from not changing the frame, as well as fatigue on the side of respondents being the same for all the household surveys; household frames are dynamic, so they need updating from time to time,

ii). Unreliability of mobile networks coupled with poor coverage of the service to majority of rural stratum of the country, and

iii). Quality of collected information through this approach can be compromised as some of the topics/questions are too sensitive to respond through telephone

4.2.2 Long Term Solution for Households Surveys

- **Electronic Population Registration System (ePRS):** The best approach that can sustainably solve the issue of sampling frame for household based surveys is the scaling-up of the electronic Population Registration System (ePRS). The system was jointly developed by the Eastern Africa Statistical Training Centre (EASTC), NBS, and Presidents Office – Regional Admiration and Local Government (PO-RALG) and hosted by PO-RALG. It was piloted in all wards of Bagamoyo district and implemented in all of the councils of Songwe region. The system can be scaled up to the remaining councils in the country and be used as frame for household surveys as it is updated regularly by the local leaders and accessed electronically.

The system impressed the Prime Minister as it was one of the presentations given during his official visit to Songwe region conducted from 20th thru 24th July 2017 and he commended the innovative efforts to register every citizen and wanted this to be scaled-up to the remaining regions. Since then, the assessment of the system was done together with documenting key steps towards the scaling-up to other regions. The assessment details technical, administrative, and financial/costing issues of the system so as to ensure it is sustainable once introduced to the remainder of other regions of the country.

The system uses mobile technology whereby mass registration is done using smart phones whereby a registration assistant (preferably) a village officer collects key information of every member of the household such as names, age (year, month, date), education, occupation, disability, ownership of the houshold's dwelling unit(s), mobile phone number(s), etc. Other information including GPS coordinates of the household, registration information of each member in other systems such as NIDA, NEC, birth certifacte, etc. are collected. During registration, a passport size photograph of each member is captured.

Updating of the information for each of the households when necessary (when someone moves away from the households, or a new member moves into the household, newborns, deaths, etc.), is done by a local leader (VEO/MEO) and can be done using any type of a mobile phone (be smart or ordinary/simple cellphone).

Piloting of the system in Bagamoyo district and implementation in Songwe region were financed by the UNICEF, UNFPA, and the Government and other partners through the TSMP.

Computer Assisted Telephone Interview (CATI): Once the ePRS is in place then the CATI technology can be an option for household surveys. However, households surveys conducted through CATI should not contain sensitive subjects that can make one hesitant to respond.

- **Strengthen the Civil Registration and Vital Statistics (CRVS):** The best approach to minimise the need for physical interviews for sensitive subjects usually collected during the DHS, is to strengthen the Civil Registration and Vital Statistics (CRVS) system of the country. The system is under the mandate of Registration, Insolvency and Trusteeship Agency (RITA) and captures routinely the vital events that include **births, deaths, marriages, divorces, and adoption.** However the system is not comprehensively and reliably covering the entire country. The assessment was done and a strategy to implement a comprehensive system was developed. The comprehensive implementation of the strategy is at a certain stage of the government approval.

4.2.3   Other Major Statistical Activities Planned Between FY 2019/20 and 2020/21

Other major statistical activities include the National Sample Census of Agriculture whose listing has already been done; if the corona virus threat extends, CATI can be applied but some of subjects/topics

that need physical visits/observations can be skipped though this can jeopardise the usefulness of the intended statistics. Another planned activity is Geographical Information System (GIS) work as part of preparations for the 2022 Population and Housing Census. The activity entails physical visits to establish boundaries and coordinates for each demarcated enumeration area. Very little or none can be done as an alternative to the physical visits to perform demarcation.

5.0 Anticipated Challenges on the side of Data Providers

In most cases, the proposed actions and recommendations are new in Tanzania and therefore likely to face challenges in their uptake by respondents. Furthermore, data providers may not accord the usual cooperation and compliance to statistical undertakings. This is most likely to be a consequence of their limited interaction with enumerators, who are important for sensitization and clarifications during data collection. Limited opportunity for clarification of some of the questions in the questionnaires may lead into providing irrelevant information.