

# **Verification Report**

## **Eastern Africa Regional Statistics Program-for-Results, for Tanzania, August 2024**

**United Nations Economic Commission for Africa (UNECA), Addis Ababa**

### **Executive Summary**

The Eastern Africa Regional Statistics Program-for-Results (EARSP-for-R) aims to support the harmonization, availability, and use of core economic and social statistics in East Africa. Funds under a World Bank project are disbursed to the national statistics offices of Kenya, Rwanda, and Tanzania under the program to accomplish specific Disbursement Linked Indicators (DLIs) requiring independent verification. East African Community (EAC) contracted the United Nations Economic Commission for Africa (UNECA) to be the Independent Verification Agency (IVA) and to undertake verification of a subset of the EARSP-for-R Disbursement Linked Results (DLRs) following established verification protocols and methodologies.

In the July verification window, the National Bureau of Statistics (NBS) of the United Republic of Tanzania (URT) thru the Ministry of Finance (Ref. PST/GEN/2024/01/17, 5th July 2024), submitted nine (9) DLRs for verification which was received by the UNECA on the 15<sup>th</sup> of July 2024 through the East Africa Community (EAC) – the Regional Program Coordinating Unit (RPCU) Secretariat for the EARSP for R. The DLRs include:

- DLI 1.1: Improved harmonization & quality of statistics: DLI 1.1 (a) Data quality assurance framework (guidelines) developed and adopted for statistical production for all data to be produced under TSMP2.
- DLI 1.1: Improved harmonization & quality of statistics: DLI 1.1 (b) IMF Data Quality Assessment Framework (DQAF) compiled and published for 2 datasets.
- DLI 1.1: Improved harmonization & quality of statistics: DLI 1.1 (c) Harmonized dimensions of statistics according to applicable regional guidelines.
- DLI 2.2: Improved availability of enterprise-based survey data: DLI 2.2 (a) Statistical Business Register (SBR) updated to 2022 through an establishment census with report and anonymized microdata.
- DLI 2.4: Improved availability of administrative data: DLI 2.4 (b) Manual and tools for integrating administrative data in the Tanzania NSS for filling data gaps in the monitoring of Sustainable Development Goals (SDGs) and official national statistical indicators.
- DLI 2.4: Improved availability of administrative data: DLI 2.4 (c) Publication of preliminary results of the 2022 Population and Housing Census (2022 PHC) and 10% random sample available online for users.

- DLI 2.4: Improved availability of administrative data: DLI 2.4 (e) Integrated database/ data centre of administrative data that is relevant for producing official statistics for three sectors for URT (Mainland and Zanzibar).
- DLI 2.5: Improved availability of price & macroeconomic statistics: DLI 2.5 (c) Harmonized and improved price data collection and rebasing of CPI completed.
- DLI 2.6: Gained experience with big data and new technologies: DLI 2.6 (a) Completed geospatial database with information from Census 2022 and made available for users where justified.

The verification procedures include checking the required documents, reports, and microdata and their availability and accessibility from the NBS and EAC websites and existing NBS databases, data systems and related documents for the onsite verification. The African Centre for Statistics (ACS) of the UNECA under the Program of Cooperation Agreement (PCA) with EAC, also organized a team of Statisticians and non-key experts that conducted the hybrid approach in verifying the results through validation of evidence online and onsite in Dodoma, Tanzania from 29 July to 01 August 2024. A preliminary assessment report was sent by the UNECA to the EAC for comment before writing this verification report.

The final results of the July 2024 verification process are:

- DLI 1.1 (a) – Achieved.
- DLI 1.1 (b) – Achieved.
- DLI 1.1 (c) – Achieved.
- DLI 2.2 (a) – Achieved.
- DLI 2.4 (b) – Achieved.
- DLI 2.4 (c) – Achieved.
- DLI 2.4 (e) – Achieved.
- DLI 2.4 (e) – Achieved.
- DLI 2.5 (c) – Achieved.
- DLI 2.6 (a) – Not achieved.

## I. Introduction

### 1. Background

The Eastern Africa Regional Statistics Program-for-Results aims to strengthen the harmonization, availability, and use of core economic and social statistics generated from the national statistics programs of Kenya, Rwanda, and Tanzania. The Program under the East African Community (EAC) and Africa Union Commission (AUC), supports statistical activities of implementing countries from 2022 - 2027 within the strategic themes of Strategy for the Harmonization of Statistics in Africa (SHaSA). The World Bank finances the program following the disbursement-linked results mechanism which focuses on the achievements of specific results.

The EARSP-for-R is structured into three result areas with disbursement-linked indicators (DLI) and identified disbursement-linked results (DLR). Hence, implementing agencies, particularly the national statistics offices, are expected to report their country-specific achievement of DLRs to the Regional Program Coordination Unit (RPCU) of the East African Community (EAC). These results must be independently verified to disburse the next tranche of funds.

To verify the results of the DLIs reported by national implementing agencies, EAC contracted the United Nations Economic Commission for Africa (UNECA) to be the Independent Verification Agency (IVA) and to undertake verification of a subset of the EARSP-for-R Disbursement Linked Results (DLRs) following established verification protocols and methodologies.

### 2. Disbursement-Linked-Indicator (DLI)

The EARSP-for-R program is structured into three results areas (RA), in which the DLRs are linked with respective RA. The result areas have specific Disbursement Linked Indicators (DLIs). The DLI and result area in which this verification is conducted:

- **Results area 1: Harmonization, quality, dissemination & use of statistics**
  - DLI 1.1: Improved harmonization & quality of statistics.
- **Result Area 2: Availability and New Data Sources.**
  - DLI 2.2: Improved availability of enterprise-based survey data.
  - DLI 2.4: Improved availability of administrative data.
  - DLI 2.5: Improved availability of price & macroeconomic statistics.
  - DLI 2.6: Gained experience with big data and new technologies.

In the July verification window, the National Bureau of Statistics (NBS) of the United Republic of Tanzania (URT) thru the Ministry of Finance (Ref. PST/GEN/2024/01/17, 5th July 2024), submitted nine (9) DLRs for verification which was received by the UNECA on the 15<sup>th</sup> of July 2024 thru the EAC. Thus, this report presents findings related to DLI 1.1 (a); DLI 1.1 (b); DLI 1.1(c); DLI 2.2 (a); DLI 2.4 (b); DLI 2.4 (c); DLI 2.4 (e);

DLI 2.5 (c); and DLI 2.6(a) for United Republic of Tanzania (URT) as reported by the National Bureau of Statistics (NBS) through the Ministry of Finance for the July 2024 verification window.

### 3. Independent Verification

For the July 2024 verification window, the following DLIs were subjected to a set of verifications procedures/protocols which were outlined in Annex 1 of the PCA between EAC and UNECA. The UNECA acting as IVA undertook the verification of the following nine (9) DLRs:

- DLI 1.1 (a) verification that data quality assurance framework (guidelines) developed and adopted including for administrative data and aligns with regional guidelines.
- DLI 1.1 (b) verification that the International Monetary Fund (IMF) Data Quality Assessment Framework (DQAF) was published for two (2) datasets (consumer price index, CPI and national accounts, NA) and are available online.
- DLI 1.1 (c) verification that URT applied regional guidelines (EAC technical guideline) to harmonize statistics (particularly the CPI).
- DLI 2.2 (a) verification that NBS conducts establishment census and produces Statistical Business Register (SBR) disaggregated by gender, sampling error and anonymized microdata available online.
- DLI 2.4 (b) verification that NBS produced the manual and tool with indicator catalogue, data source, and exchange forms for integrating administrative data and available online.
- DLI 2.4 (c) verification that URT published preliminary results of the 2022 Population and Housing Census (PHC) disaggregated by gender, region, and 10% random sample data available to download from the NBS and the Office of the Chief Government Statistician (OCGS) websites.
- DLI 2.4 (e) verification that URT developed complete Integrated database/ statistical portal administrative data in three sectors, interoperable, documented, and updated automatically with functional links.
- DLI 2.5 (c) verification that harmonized and improved price data collection and rebasing of CPI completed with Excel data are produced and available from the NBS and OCGS websites.
- DLI 2.6 (a) verification that completed geospatial database with information from Census 2022 and confirmation of the availability of shapefiles for all Enumeration Areas (EAs) made available for users.

## II. Methodology

The verification procedures followed by UNECA:

- **DLI 1.1 (a) Data quality assurance framework (guidelines) developed and adopted including for administrative data.** NBS has provided necessary links with relevant documents and data.

The methodology for checking the DLR involved UNECA checking the NBS [website](#) conducting further investigation and meeting with the technical team of NBS to confirm that the data quality assurance framework (guidelines) was developed and adopted in at least three ministries, departments and/or agencies (MDA) and are aligned with AU, EAC and ShaSA2 guidelines. The files are also reviewed to ensure they are available and downloadable from the NBS website.

- **DLI 1.1 (b) IMF Data Quality Assessment Framework (DQAF) published for 2 datasets.** The methodology for checking the DLR involved UNECA checking the NBS [website](#) and OCGs [website](#), conducting further investigation, and meeting with the technical team of NBS to confirm that the IMF data quality assessment framework was compiled and published for CPI and NA. The links including the landing pages and the associated links and documents were also checked to ensure they have all the necessary information and are downloadable from respective websites.
- **DLI 1.1 (c) Harmonized dimensions of statistics according to applicable regional guidelines.** NBS provided the necessary links to relevant documents and data. The methodology for checking the DLR involved UNECA checking the EAC [website](#) together with NBS technical staff to confirm that the Harmonized Consumer Price Index (HCPI) aligned with the EAC technical guidelines, standards and methods for URT which include Mainland and Zanzibar. The links, the landing pages and associated documents were also checked to ensure they have all the necessary information and are downloadable from respective web pages. The team were also provided with additional documents including the soft copy of the NBS' concordance with the EAC regional (CPI guidelines) and how they scored for each dimension.
- **DLI 2.2 (a) Statistical Business Register (SBR) updated to 2022 through an establishment census with the report and anonymised microdata.** The methodology for checking the DLR involved UNECA reviewing the NBS [website](#) to confirm that the census of establishment report has been uploaded and that data are disaggregated by gender. Likewise, the team reviewed the website to ensure that sampling and non-sampling errors are available (included in the report), and anonymized microdata are made available [online](#) to users upon approval of the request by the NBS data administrator. UNECA also checked if the information was published and whether the SBR was updated.
- **DLI 2.4 (b) Manual and tools for integrating administrative data in the Tanzania National Statistical System (NSS).** NBS provided the necessary links and additional information on relevant documents and data. UNECA reviewed the [website](#) and documents provided to verify the DLRs and confirm that NBS produced the manual and tool with indicator catalogue, data source, and exchange forms for integrating administrative data from at least three (3) sectors and that exchange tools are available online on the NBS [website](#).

- **DLI 2.4 (c) Publication of preliminary results of the 2022 Population and Housing Census (2022 PHC) and 10% random sample are available online for users.** The methodology for checking the DLR involved UNECA to confirm that URT published [preliminary results](#) of the 2022 PHC which are disaggregated by gender, region, and with 10% random sample [data](#) made available for download from the NBS and OCGS websites.
- **DLI 2.4 (e) Integrated database for administrative data relevant to producing official statistics for three sectors for URT (Mainland and Zanzibar).** NBS provided the necessary links to relevant documents and data. To check the DLR, UNECA reviewed the links and documents to confirm if the URT developed a complete integrated database/statistical portal or tool for administrative data in three (3) sectors which are interoperable, documented, and updated automatically with functional [links](#) in the NBS website.
- **DLI 2.5 (c) Harmonized and improved price data collection and rebasing of CPI completed.** UNECA verified the DLR by reviewing the links and documents provided to confirm that harmonized and improved price data collection and rebasing of CPI completed with Excel data are produced and available on the [EAC website](#). NBS also provide the [URT CPI REBASING REPORT.pdf](#). UNECA also requested additional support documents to validate the consistency of the CPI published on the EAC website with that estimated or available from the NBS data holdings.
- **DLI 2.6 (a) Completed geospatial database with information from 2022 PHC and made available for users, where justified.** NBS provided necessary access to the geospatial database, relevant documents and data. UNECA reviewed the database and information provided to verify the DLR and to confirm if the URT has completed the online geospatial database with information from the 2022 PHC as well as to ensure that shapefiles for all Enumeration Areas (EAs) are made available for users upon approval of the request by the NBS data administrator. The geospatial database with multiple layers and other protocols was verified online and onsite at the NBS office in Dodoma.

### III. Detailed Verification Results for the DLI

#### 1. Inspection/ Review

The African Centre for Statistics (ACS) of the UNECA organized a team of statisticians and non-key experts that conducted the hybrid approach in verifying the results through validation of evidence online and onsite in Dodoma, Tanzania from 29 July to 01 August 2024. A preliminary assessment report was sent by the UNECA to the EAC for comment before writing this verification report.

## 2. Findings.

### a. **DLI 1.1(a). Data Quality Assurance Framework (DQAF).**

The checks confirmed that the DQAF was developed and can be downloaded from the Tanzania NBS [website](#). A manual with quality control guidelines and procedures was produced for administrative data in the Health, Education, and Vital statistics sectors (the three MDAs identified) but not for all official statistical production under TSMP2, including non-traditional data. It also checked that the framework is aligned with EAC, ShaSA2, and UN DQAF guidelines to maintain harmonization and comparability of the data production. So far only the above three (3) sectors have listed data covered that make up for the compilation of the priority indicators and these are listed in the signed MOUs between the NBS and the sector MDA.

The UNECA, however, recognized that full adoption may take time and thus, are inclined to mark the DLI as achieved but requiring follow-up and monitoring to ensure that the DQA guideline is adopted within the project period in consultation with EAC. Further, there was no dissemination workshop to inform users, producers, suppliers, the media, and academia about the existence of such a framework and its purpose. However, there are plans to reach out to countries that have successfully implemented their DQAF to learn from them. UNECA recommends periodic follow-ups with MDAs to monitor whether the commitment to data quality is in place and being implemented.

### b. **DLI 1.1(b). IMF Data Quality Assessment Framework (DQAF) was published for 2 datasets.**

The verification confirmed that IMF DQAF reports for CPI and National Accounts are published and downloadable from the [NBS website](#) and [OCGS website](#). The report presents the assessment made on the 2023 CPI dataset and the 2022 national accounts statistics dataset in line with the prescribed elements and five quality dimensions of the IMFs DQAF. NBS follows the principal steps recommended by the IMF and, describes the situation of each item for Tanzania's national accounts statistics.

UNECA suggested that methodological manual be accessible, CPI revision periods closer to the standard set out in the EAC guideline, use of the LOWE formula instead of the Young formula for aggregation, publishing more detailed series down to class levels for users, display of the CPI compilation manual on its website; develop the method for collecting basic and acquisition prices and estimating margins for trade, transport, and tax by-product for NA; indicate clear statement on compliance with the timetable for publication of the national accounts and others. However, NBS indicated that NBS /OCGS has been using the LOWE formula since 2020.

**c. DLI 1.1(c). Harmonized dimensions of statistics according to applicable regional guidelines.**

The check confirmed that harmonization of Tanzania's CPI with [EAC guidelines](#) is achieved by 76.78%, which is above the minimum score of 60% set for a country to qualify. Further, the Mainland shifted from COICOP 1999 to COICOP 2018 with 13 divisions, and products were re-classified. The CPI also complies with international data quality standards since they are based on the Consumer Price Index Manual; Concept and Methods 2020 of the IMF and contain COICOP 2018 with 13 divisions. The NBS complies with the CPI rebasing timeline, which is 5 years (2010, 2015, and 2020 for the last). The monthly data are available until June 2024 (NBS website) and April 2024 (EAC website). UNECA suggests that NBS publish and update the CPI manual on the EAC site.

UNECA noted that the EAC guideline form has only been partially filled out. The team suggests that NBS provides all the necessary remarks and explanations, especially in areas where they scored low (2 or 1). It is incumbent for NBS to complete the form for documentation and reference moving forward with the harmonization work.

**d. DLI 2.2(a). Statistical Business Register (SBR) updated to 2022 through an establishment census with the report and anonymized microdata.**

The verification assured that the report on the Census of Establishment (CE) for 2023 has been published and information is [accessible online](#). The microdata can be accessed upon registration and approval of the NBS administrator. The CE is conducted following international recommendations, in particular, ISIC rev.4. However, the online SBR itself is yet to be established. Likewise, it is noted that instead of updating an existing SBR or master list of establishments from 2014 CE (the last conduct of the CE before 2023), the NBS produced baseline SBR information using the 2023 CE. Further, UNECA noted that some important information, particularly economic variables such as turnover of assets and or gross revenues were not collected in the CE 2023.

The NBS confirmed that the 2023 CE will be the baseline for the SBR and not an update to any existing master list of establishments nor an update to an SBR. Instead, the NBS utilised the results of the 2023 CE to prepare sampling frames for economic and establishment surveys. Since their benchmark SBR is a CE, it is considered to have a complete enumeration of all establishments in Tanzania. Likewise, it is confirmed that NBS provided information on non-sampling errors and the persons engaged by establishments are disaggregated by sex and activity. Regarding anonymised microdata, the validation is effective because the metadata has been published [online](#) and is well-documented without compromising the respondents' identity. The waiting time for the authorisation to access the data is less than a day as indicated in the metadata.

UNECA recognized that the 2023 CE is currently not harmonized with the 2014 CE which will make updating challenging for NBS. Likewise, while it is confirmed that the microdata are accessible online upon approval of request, it cannot be considered as an online SBR system but simply an online 2023 CE report. We mentioned "system" to emphasize that a census could serve as baseline for an SBR.

However, for an SBR to be completely operationalized and/or called as such, there should be an updating mechanism in place. This means establishing an actual SBR system which will allow for updating information from various sources (primary, secondary, or alternative data sources including administrative) to be integrated into the system. The "nomenclature" was explained to NBS colleagues.

The verification also identified the absence of important economic variables: (i) the date on which the enterprise was created, (ii) the secondary or other activities realized by the establishments, (iii) turnover, (v) enterprise share ownership, (vi) the lifespan of the companies; (vii) closing dates and (vii) gross revenue, etc.) and the unavailability of an actual SBR online system that will allow for updating of information. To address the unavailability of economic variables and increase the use of the SBR, especially for the production of economic statistics (including national accounts), the UNECA recommends the integration and collection of the following variables for future updating of the SBR: turnover, employee remuneration (wages), registration and closing dates; enterprise share ownership, legal organization, gross revenue, secondary or other activities; gender for managers, working status, level of manager education attained.

Since an SBR system is recognized as a dynamic database containing economic and other statistical information on establishment and is an authentic source of data for identifying all the enterprise operating in the country and their development, it should ideally be created from the various censuses and other statistical operations carried out in the country over several periods. As SBR (when available) could play a vital role in monitoring the development of business activity in the country and its possible to estimate the contribution (if the economic variables are integrated) of establishments to the value add ou GDP, it is important to develop an SBR online system that could allow for future updating. As noted earlier, the 2023 CE provides the new elements that need to be added to the existing register or in the current case of the NBS, provides the baseline/benchmark or starting point for building the SBR. To continuously provide the building blocks for the SBR sytem, it is important that the nomenclatures used are identical or comparable (across CE, surveys or source) using a bridging table (harmonized standards and classification tables with concordances) and that a reference situation (in general, the date on which the first census was carried out and/or the baseline) is described. Since this type of register has notably not been created by NBS for the online 2023 CE report (which they currently refer to as SBR), the UNECA recommends that NBS starts settting up an SBR system with set of protocols and variables that are aligned with international standards and practices which will allow for harmonizing and updating the SBR from various sources.

To harmonize the previous establishment and/or enterprise data (2014 CE or any data before 2023) with the CE 2023 and for future updating, whichever is feasible, it is necessary to improve the coordination and consultation between the standards and classification and the economic sector (national accounts) department within the NBS when preparing the online SBR system especially in identifying variables and harmonizing data across various sources including administrative data. Efforts must also be exerted to strengthen communication, collaboration and parthership with potential data sources within the Tanzania national statistical system.

NBS are also encouraged to document and share the data reconciliation protocol and make the files available in other formats besides SPSS and CSV to increase user-friendliness.

**e. DLI 2.4(b) Manual and tool for integrating administrative data in the Tanzania NSS.**

The checks confirmed that NBS produced the manual and tool and they are available on the NBS [website](#). The implementation of the manual to integrate administrative data has so far been done in the Health, Education, and Vital Statistics sectors. The priority indicator catalogue is not present in the manual, rather the indicators are specified in the MoUs. The manual contains the data exchange standards and formats in the form of annexes, of which two relate to the memorandum of understanding (MoU).

Regarding the tool, there is no specific tool developed per se as the tools need to be customized according to the sector. However, NBS has started establishing a legal mechanism tool that will allow the integration of administrative data to augment or fill the gap in some important SDG indicators. In particular, the signing of a MoUs with some key sectors in the NSS and the tax authority for sharing data. This process started in 2023, and the MoU outlines the data-sharing elements and other provisions that will allow data exchange. Nonetheless, it must be confirmed with the EAC if the tools for this verification period referred to in the protocol also include the development of data systems that will allow for seamless data exchange.

**f. DLI 2.4(c). Publication of preliminary results of the 2022 Population and Housing Census (2022 PHC) and 10% random sample available online for users.**

The verification confirmed that Tanzania published the preliminary results of the 2022 Population and Housing Census (2022 PHC) within 45 days after enumeration through completing fieldwork, data entry, and analysis. The reports present results disaggregated by gender and region and are available online using the [link](#) provided by the NBS. Besides the basic census dimension and indicators are also checked and assessed in the report. Concerning sample microdata, about 10% of random sample data is available in SPSS format and downloadable from the NBS [websites](#). Registration and justification for access are required but approval is easily obtained (in less than one day). However, UNECA suggests that the study description accompanying the 10% random sample online needs to be reviewed on selected samples to correspond to the census; and that sample data be published in other formats such as CSV, apart from SPSS, for the benefit of potential users.

**g. DLI 2.4 (e) An integrated database of administrative data for three sectors URT (Mainland and Zanzibar).**

The check confirmed that the United Republic of Tanzania developed a complete Integrated database/statistical portal for administrative data with functional [links](#) in the NBS website. It is a collaborative

project involving key stakeholders comprising the Tanzania NBS, the OCGS, and various MDAs. Data sets, reports, and infographics are available on the portal. The rendering time is fast making it enticing to use and navigate. All links are functional, dynamic, and interoperable and provide access to several datasets. It is also found that the translations from Kiswahili to English and vice versa are working. So far, four sectors have been integrated into the Tanzania NBS database namely, the Ministry of Health, Ministry of Education, Local Government, and Tanzania Food and Nutrition Centre. As for the OCGS (Zanzibar), the sectors are the Ministry of Health, Ministry of Education, and Finance and Planning. The integration is facilitated by the e-Government Authority using API and the Government Service Bus for data sharing. The portal intends to integrate all government systems that produce statistical information.

**h. DLI 2.5(c) Harmonized, improved price data collection and rebasing of CPI completed.**

The verification confirmed that the HCPI of URT is available and downloadable from the [EAC website](#) with 2020 as a base (2020=100). It is also confirmed that the data collection has begun in rural areas. Likewise, rebasing has also started and Excel files with detailed data of the URT are in place. A document titled “Rebasing report for the United Republic of Tanzania” for CPI provided to the UNECA team was useful in the review and it is suggested that the same document be uploaded in the NBS and /or EAC website. For the URT CPI from the EAC website, it was found to be available only until April 2024. However, the Excel file provided by NBS was until June 2024. To this end, the UNECA reiterates its earlier advice to NBS team to check and follow up their data submission to with EAC to ensure that data uploaded to the EAC website for URT’s CPI are updated and consistent with the NBS submission/s.

**i. DLI 2.6(a) Completed geospatial database with information from 2022 Census and made available for users.**

The verification was completed by conducting onsite and online verification, meetings, and discussions between the NBS and the UNECA team lead with the non-key expert participating online. It was found that the preliminary phase of the geospatial database prototype is achieved with a few geospatial datasets for facilities currently accessible to users from the NBS website with restricted access. The NBS indicated that some information is read-only for security purposes but can be accessible with permission from the authority. The DLI is deemed not achieved due to the absence of enumeration area maps, other shapefiles, and satellite images for the geospatial database development, or all the necessary datasets are not uploaded to the website.

In particular, the checks confirmed that the NBS has started the preliminary phase of constituting a geospatial database with some information from the 2022 PHC. Within the office, no geodatabase has all the geospatial files required for census cartography. The archived results indicated some available datasets for the development geospatial database as follows; Education Facilities, Health Facilities, Water (Boreholes), and Ward Boundaries from Tanzania 2022 PHC Ward shapefile. The shapefiles only

contained point location data for education, health, and water facilities, representing a total of three sets of information for the population, but does not mention which variables or spatial data are missing such as; churches, markets, bridges, streets names, location names, districts, regional and state boundary shapefiles and satellite images. Includes but is not limited to the following: Addresses, Buildings and Settlements, Elevation and Depth, Functional Areas, Geographical Name, Geology and Soils, Land Cover and Land Use, Land Parcels, Physical Infrastructure, Population Distribution, Orthoimagery, Transport Networks and Water etc. Government confidentiality and security restrictions made it difficult for ECA to fully verify the quality, quantity, accuracy and compatibility of the datasets on the NADA [website](#).

The evidence has been made accessible through visualization of the shapefile in ArcMap Desktop for Education Facilities, Health Facilities, Water-Boreholes, & Ward Boundaries for the 2022 URT PHC The NBS provided the NADA link (<https://www.nbs.go.tz/tnada/index.php/catalog/49/related-materials>) with clear instructions to access the regional shapefile metadata for the 2022 census for statistical evaluation with concrete procedures to receive and assess data request and grant access. It was expected to find the census fundamental data sets (roads, elevation, administrative level polygons etc.) and Thematic datasets (Enumeration Area maps and attribute information-estimated Household Size, Characteristics, Zone Area number and Size etc). Afterwards, in the search of all attribute tables of the shapefiles, the point shapefiles for Education facilities are missing higher education facilities. NBS indicates that the Points shape file for higher education facilities will be uploaded to the website with xy coordinates.

Furthermore, detailed verification of the number of ward boundaries polygon shapefiles (4,344) does not correspond to the number of ward boundaries polygon shapefiles (3,956) in the 2022 census geography report. The NBS clarified that the total number of ward boundaries for Tanzania (Mainland and Zanzibar) is 4,344 while the ward boundaries polygon shapefiles of 3956 only correspond to the total number for the Mainland and the remaining 388 (which was not covered) were for Zanzibar. The final verification showed that Mainland has 3,948 and Zanzibar has 396, making a total of 4,344 ward boundaries polygon shapefiles.

The expectation from UNECA was to have access to other big geospatial data collected by the NBS Dodoma & Office of the Chief Gov't Statistics Zanzibar such as;

- Line features such as road networks, footpaths, railways, bridges and administrative boundaries at all levels.
- Georeferenced point features such as education facilities (pre-primary schools, primary schools, technical colleges, middle colleges and universities), and health facilities such as (first aid centres, clinics, laboratories, dispensaries, health centres and hospitals).
- Religious facilities such as (churches, mosques, temples and synagogues), Water facilities such as natural water wells, improved water wells, public water tanks, ponds, water taps and water pumps. -Public buildings such as regional offices, district offices, ministry offices and government

institutions, Ward Executive Officers Offices (WEOs), Village Executive Officers Offices (VEOs), Police Station and Court Yards.

- Other landmarks included markets, machines, graveyards, cattle dip, bank, warehouse, hotel and guest houses, petrol stations, bus stand, communication towers, and museums.

Due to government policies on privacy, UNECA was not allowed to access the aforementioned geospatial datasets. Additionally, the geospatial database prototype is still undergoing the development phase but it is not yet accessible for end-users. NBS stated that some information is read-only for security purposes but can be accessible with permission from the authority and all essential functionality will be embedded into the established GIS Portal.

The census cartography partially followed agreed United Nations Principles and Recommendations for Population and Housing Censuses Revision 3 as well as the 2009, United Nations, Handbook on Geospatial Infrastructure in Support of Census Activities.

UNECA suggests making additional geospatial datasets accessible, including population/ demographic data, satellite images, and other relevant data for a multi-user geodatabase system; preparing a Unified Language Model to conceptualize the objectives and intended usage of the geospatial database, facilitating a clear understanding of its purpose and potential applications; utilize a Feature Manipulation Engine server to develop the SQL section, enabling efficient and seamless management of geospatial data within the database; and create a Geospatial Web Portal to provide a platform for users to access and interact with the database, making the geospatial data readily available and usable for authorized users.

## **IV. Conclusions**

UNECA as IVA has successfully conducted verification of the nine (9) DLRs under the DLIs based on the agreed verification protocol and procedures. The process was executed well within the period of verification and follow-up consultations and discussions were conducted to clarify some nomenclatures and points identified in the initial findings and preliminary report. Some advantages, challenges, lessons learnt and recommendations are provided below. The summary of the verification of DLRS for NBS, Tanzania for July 2024 verification is provided in Annex 1.

### **1. Advantages and Challenges during the implementation.**

- **DLI 1.1 (a); DLI 1.1 (b); DLI 1.1(c); DLI 2.2 (a); DLI 2.4 (b); DLI 2.4 (c); DLI 2.4 (e); DLI 2.5 (c); and DLI 2.6(a)**
  - NBS and OCGS provided the necessary links and documents for the DLI result verification. They are instrumental in completing the assignment on time. The reports are easily downloaded, and microdata sets are available and accessible to users.

- Coordination of the verification of DLIs. The NBS assigns the responsible personnel and coordinates the result verification to be completed on time.
- The slow or intermittent connection interrupts the participation of some online verifying consultants in sharing observations related to the DLIs.
- The feedback on the preliminary findings of the verification from EAC and NBS took more than a week. This could delay the preparation of the draft main report to be submitted in the agreed timeline.
- According to DLI 2.6(a), the interaction between the UNECA team (leads, assistants, consultants) and the NBS team during the verification protocol was exhaustive both in-situ and online with detailed clarification from both sides. For the geospatial database, the preliminary phase provides only a few geospatial datasets for facilities that are currently accessible to users on the NBS website.
- Some of the challenges related to collecting geospatial data include issues such as:
  - **Data Availability:** Limited availability of accurate and up-to-date geospatial data from government agencies, especially in developing countries.
  - **Data Quality:** Concerns about the quality and reliability of geospatial data, including accuracy, completeness, and consistency.
  - **Data Integration:** Challenges in integrating different geospatial datasets from various sources into a unified and coherent database for analysis and decision-making.
  - **Access Restrictions:** Restrictions on accessing certain geospatial data due to privacy, security, or proprietary concerns.

## 2. Lesson learnt and Recommendations

- **Importance of conducting onsite verification for the DLR.** The mission recognizes that some DLRs strongly require onsite verification such as the geospatial result, SBR and all other indicators. An online verification has been very helpful in identifying and investigating the achievements and/or actual progress of the work and in recommending possible solutions to ensure delivery of the desired results towards the end of the project cycle. The offsite (online) verification of the DLRs has limitations (including the danger of simplifying the probing and fluid discussions on issues based on agreed protocols) and thus, recommends onsite verification as necessary for effective verification of results.
- **Timing of verification request.** Cognizant of the importance of having all logistics preparation in place before the start of verification, the mission requests the feasibility

for EAC and implementing country to provide ECA with some indication of the domains of the DLRs/DLIs to be verified at least a month before the actual verification date.

- **Understanding of DLR requirements in implementing countries.** The mission recognizes that a better understanding of the DLRs nature and requirements in the implementing agencies is important. However, it is noted that some of the responsible personnel cannot justify or provide adequate clarification on matters related to the DLR and therefore, recommends that implementing countries should discuss with EAC RPCU and/or World Bank to have a better understanding and information about each DLR in their program.
- **Coordination and communication of the verification team.** The engagement and communication of the UNECA team with the NBS team were good in achieving the mission objectives. This should be strengthened in the subsequent verification of DLRs.
- **Accessibility of Geospatial dataset.** It was noted that a geospatial database cannot be completed without a substantial number of datasets for perfect usage. As such, additional geospatial datasets need to be accessible, including population/ demographic data, satellite images, and other relevant data for a multi-user geodatabase system. Moreover, full access should be granted for the next verification window with themes and sets needed for census cartography.
- **Transformation of the geospatial database.** The current geospatial database is at the preliminary database prototype stage and needs additional transformations. Henceforth, the final product of a geospatial database needs to be created as a Geospatial Web Portal to provide a platform for users to access and interact with the database, making the geospatial data readily available and usable for authorized users. For the DLR to be rendered achieved, it is necessary that onsite verification be conducted once the DLR is perceived to have been achieved by NBS (and included in future verification request).
- **Establish a Statistical Business Register (SBR).** Recognizing the importance and contribution of the SBR to the national account, macroeconomic policy formulation, the monitoring of business development and the dynamism and statistical purpose as the sampling frame, it is necessary to establish the SBR with a linkage of the establishment census and other data sources (including administrative data) which are providing key economic statistics. The methodological document for the construction and updating of this register could be shared on the site and updated after each census.
- **Implication of DLI resubmission.** Out of the 9 DLIs submitted for verification, only DLI2.6(a) results is found to be not achieved. The NBS indicated that they will resubmit request for its verification in future. The resubmission of this DLI will require further deliberation between UNECA and EAC to address the implication on the overall DLI verifications and program requirements.

- **Overall Observation.**

- Notwithstanding the delay in the feedback on the preliminary report and the clarifications made between parties, the overall collaboration and support of the NBS, OCGS, and EAC-RPCU were found to be sufficient and efficient. These are vital for UNECA to complete the DLI verification report.

## **Annexes.**

### Annex 1: Summary Table. Verification of Disbursement-Linked- Results (National Bureau of Statistics) Tanzania, July 2024

| Disbursement-Linked-Indicator                           | Disbursement-linked-Result                                                                                                                          | Remark                                                                   | Evidence of attachment                                                                                                                                                                                                                                                                                                                                     | DLI Verification procedure                                                                           | Code  | UNECA Verification procedure                                                     | Result of Verification                                                                                                                                  | Scalable | Links                                                                                                                                                                                                                                                                                                                                                      | Comments / Questions                                                      |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| DLI 1.1: Improved harmonization & quality of statistics | DLR 1.1 (a) Data quality assurance framework (guidelines) developed and adopted for statistical production for all data to be produced under TSMP2. | Data quality assurance guidelines have been developed and adopted.       | <a href="https://www.nbs.go.tz/publications/data-quality-assurance">https://www.nbs.go.tz/publications/data-quality-assurance</a>                                                                                                                                                                                                                          | Verification that the data quality assurance framework is adopted including for administrative data. | A (i) | ECA checks the data quality assurance framework adopted for administrative data. | Yes, DQAF developed with manual, aligned with EAC guide, downloaded from NBS website. It was adopted in Health, Education and Vital statistics sectors. | No       | <a href="https://www.nbs.go.tz/publications/data-quality-assurance">https://www.nbs.go.tz/publications/data-quality-assurance</a>                                                                                                                                                                                                                          | The full adoption for all data in TSMP2 may take time and need follow-up. |
|                                                         | DLR 1.1 (b) IMF Data Quality Assessment Framework (DQAF) compiled and published for 2 datasets.                                                     | IMF DQAF reports for CPI and NA have been compiled and published online. | <a href="https://www.nbs.go.tz/publications/data-quality-assessment">https://www.nbs.go.tz/publications/data-quality-assessment</a> .<br><a href="https://www.ocgs.go.tz/ReportOCGS/DA%20QUALITY%20ASSESSMENT%20REPORT%20(NA&amp;CPI)2024%20(2).pdf">https://www.ocgs.go.tz/ReportOCGS/DA%20QUALITY%20ASSESSMENT%20REPORT%20(NA&amp;CPI)2024%20(2).pdf</a> | Verification that CPI and NA datasets fully compiled IMF DQAF and published online.                  | B(i)  | ECA checks IMF DQAF compiled and published online for NA and CPI.                | Yes, the IMF DQAF compiled for NA and CPI and published online.                                                                                         | Yes      | <a href="https://www.nbs.go.tz/publications/data-quality-assessment">https://www.nbs.go.tz/publications/data-quality-assessment</a> .<br><a href="https://www.ocgs.go.tz/ReportOCGS/DA%20QUALITY%20ASSESSMENT%20REPORT%20(NA&amp;CPI)2024%20(2).pdf">https://www.ocgs.go.tz/ReportOCGS/DA%20QUALITY%20ASSESSMENT%20REPORT%20(NA&amp;CPI)2024%20(2).pdf</a> |                                                                           |
|                                                         | DLR 1.1 (c) Harmonized dimensions of statistics according to                                                                                        | Consumer Price Index (CPI) harmonization has been                        | <a href="https://eac.opendataforafrica.org/pisbbmg/cpi-dashboard-indicators?measur">https://eac.opendataforafrica.org/pisbbmg/cpi-dashboard-indicators?measur</a>                                                                                                                                                                                          | Verification that CPI harmonization aligned with AU and EAC technical                                | C (i) | ECA checks CPI harmonization aligned with AU and EAC technical guidelines on     | Yes, the CPI harmonization is achieved & aligned with EAC                                                                                               | Yes      | <a href="https://eac.opendataforafrica.org/pisbbmg/cpi-dashboard-indicators?measur">https://eac.opendataforafrica.org/pisbbmg/cpi-dashboard-indicators?measur</a>                                                                                                                                                                                          |                                                                           |

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|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                 | applicable regional guidelines.                                                                                                                                              | achieved at 76.78% against the minimum requirement of 60%                 | <a href="#">e=Monthly%20Inflation%20(Month-on-Month%20Inflation)&amp;product=Core%20Products&amp;partner-states=Tanzania</a>                                                                                                                                                                                                                                                                                                     | guidelines on standards and methods for URT and Zanzibar.                                                                                                                                                        |       | standards and methods for URT and Zanzibar.                                                                                                                                     | technical guidelines on standards and methods for URT and Zanzibar.                                                                                                          |    | <a href="#">indicators?measure=Monthly%20Inflation%20(Month-on-Month%20Inflation)&amp;product=Core%20Products&amp;partner-states=Tanzania</a>                                                                                                                                                                                                                                                                                    |  |
| DLI 2.2: Improved availability of enterprise-based survey data. | DLR 2.2 (a) Statistical Business Register (SBR) updated to 2022 through an establishment census with report and anonymized microdata.                                        | Manual and tools for integrating administrative data is published online  | <a href="https://www.nbs.go.tz/uploads/statistics/documents/en-1719735768-2023_24%20Tanzania%20Statistical%20Business%20Register%20(SBR)%20Report%20.pdf">https://www.nbs.go.tz/uploads/statistics/documents/en-1719735768-2023_24%20Tanzania%20Statistical%20Business%20Register%20(SBR)%20Report%20.pdf</a><br><a href="https://www.nbs.go.tz/tnada/index.php/catalog/46">https://www.nbs.go.tz/tnada/index.php/catalog/46</a> | Verification that NBS conducts an establishment census and produces the Statistical Business Register (SBR) 2022 disaggregated by gender, sampling and non-sampling error report and microdata available online. | A(i)  | ECA checks the Statistical Business Register (SBR) 2022 updated report with sampling and non-sampling error report and microdata available online.                              | Yes, census establishment (CE) report published with gender, errors & microdata online but some data not collected. The SBR is not updated instead SBR baseline set from CE. | No | <a href="https://www.nbs.go.tz/uploads/statistics/documents/en-1719735768-2023_24%20Tanzania%20Statistical%20Business%20Register%20(SBR)%20Report%20.pdf">https://www.nbs.go.tz/uploads/statistics/documents/en-1719735768-2023_24%20Tanzania%20Statistical%20Business%20Register%20(SBR)%20Report%20.pdf</a><br><a href="https://www.nbs.go.tz/tnada/index.php/catalog/46">https://www.nbs.go.tz/tnada/index.php/catalog/46</a> |  |
|                                                                 | DLR 2.4 (b) Manual and tools for integrating administrative data in the Tanzania NSS for filling data gaps, monitoring of SDGs and official national statistical indicators. | Manual and tools for integrating administrative data is published online. | <a href="https://www.nbs.go.tz/publications/statistical-guidelines">https://www.nbs.go.tz/publications/statistical-guidelines</a>                                                                                                                                                                                                                                                                                                | Verification that manual and tool for integrating administrative data along the dimensions and FYDP3 indicators, data exchanges standards and formats for at least 3 sectors.                                    | B (i) | ECA checks manual and tool produced for integrating administrative data along the dimensions and FYDP3 indicators, data exchanges standards and formats for at least 3 sectors. | Yes, manual and tool with indicator, data source, forms produced; integrate administrative data in the health, education, vital statistics sectors and available online.     | No | <a href="https://www.nbs.go.tz/publications/statistical-guidelines">https://www.nbs.go.tz/publications/statistical-guidelines</a>                                                                                                                                                                                                                                                                                                |  |

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|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                              | DLR 2.4 (c)<br>Publication of preliminary results of the 2022 Population and Housing Census (2022 PHC) and 10% random sample available online for users.                    | Preliminary results of the 2022 PHC is published online and a random sample is published online for users.          | <a href="https://www.nbs.go.tz/uploads/statistics/documents/s-w-1720088450-2022%20PHC%20Initial%20Results%20-%20English.pdf">https://www.nbs.go.tz/uploads/statistics/documents/s-w-1720088450-2022%20PHC%20Initial%20Results%20-%20English.pdf</a><br><br><a href="https://www.nbs.go.tz/tnada/index.php/catalog/45">https://www.nbs.go.tz/tnada/index.php/catalog/45</a> | Verification that review of main census dimension indicators report from the 2022 PHC, including results disaggregated by gender, and regional level, and 10% sample microdata available to download both from the NBS and OCGS websites. | C(i)  | ECA checks produced preliminary results report of the 2022 PHC disaggregated by gender, and regional level, and 10% sample microdata available and downloaded from the NBS and OCGS websites. | Yes, the preliminary results of the 2022 PHC reports produced, disaggregated by gender, and regional level, and 10% sample microdata available online.     | No | <a href="https://www.nbs.go.tz/uploads/statistics/documents/s-w-1720088450-2022%20PHC%20Initial%20Results%20-%20English.pdf">https://www.nbs.go.tz/uploads/statistics/documents/s-w-1720088450-2022%20PHC%20Initial%20Results%20-%20English.pdf</a><br><br><a href="https://www.nbs.go.tz/tnada/index.php/catalog/45">https://www.nbs.go.tz/tnada/index.php/catalog/45</a> |  |
|                                                              | DLR 2.4 (e)<br>Integrated database/ data center of administrative data that is relevant for producing official statistics for three sectors for URT (Mainland and Zanzibar) | Tanzania Integrated Statistical Portal (TISP) is published online.                                                  | <a href="https://tisp.nbs.go.tz/">https://tisp.nbs.go.tz/</a>                                                                                                                                                                                                                                                                                                              | Verification that the database is complete, updated automatically, well documented and with a functional link to the portal, can be used to generate in real-time, and meets requirements for interoperability.                           | E (i) | ECA checks function integrated database for administrative data, interoperable documented, automatically updates and sharing across government agencies for three sectors for URT.            | Yes, Integrated database/ statistical portal for administrative data is developed, interoperable functional links in MoH, MoE, local Govt, MoF, MoP, TFNC. | No | <a href="https://tisp.nbs.go.tz/">https://tisp.nbs.go.tz/</a>                                                                                                                                                                                                                                                                                                              |  |
| DLI 2.5-TZA: Improved availability of price & macro-economic | DLR 2.5 (c)<br>Harmonized and improved price data collection and rebasing of CPI completed;                                                                                 | URT HCPI for EAC is in place; data collection in rural areas has begun; Rebasing report for the URT CPI is in place | <a href="https://www.eac.int/">https://www.eac.int/</a><br><br><a href="#">URT CPI REBASING REPORT.pdf</a>                                                                                                                                                                                                                                                                 | Verification that Harmonized and improved price data collection and rebasing of CPI completed with excel files detailed data are produced and available from the NBS and OCGS websites.                                                   | C (i) | ECA checks Harmonized and improved price data collection and rebasing of CPI completed with excel files detailed data are produced and available from the NBS and OCGS websites.              | Yes, HCPI is available on <a href="#">EAC website</a> ; checked that data collection has begun in rural areas and the rebasing done, with excel files data | No | <a href="https://www.eac.int/">https://www.eac.int/</a><br><br><a href="#">URT CPI REBASING REPORT.pdf</a>                                                                                                                                                                                                                                                                 |  |

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|                                                                   |                                                                                                                              |                                                                                                       |                                                                                   |                                                                                                                                              |       |                                                                                                                                               | available online.                                                                                                                                                                                                                                    |    |                                                                                   |  |
| DLI 2.6:<br>Gained experience with big data and new technologies. | DLR 2.6(a).<br>Completed geospatial database with information from Census 2022 and made available for users where justified. | A geospatial database with information from Census 2022 is in place and available to users on request | <a href="#">The geospatial database with multiple layers was verified online.</a> | Verification that online availability of geospatial database and confirmation of availability of shapefiles for all Enumeration Areas (EAs), | A (i) | ECA checks the online availability of the geospatial database and confirmation of availability of shapefiles for all Enumeration Areas (EAs). | Yes, NBS has a geospatial database with some data from Census 2022. The shapefile only contained point location data for education, health, and water facilities missing higher education facilities. Hence <b>partial achievement</b> is justified. | No | <a href="#">The geospatial database with multiple layers was verified online.</a> |  |