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SOMALIA

TECHNICAL ASSISTANCE REPORT—NATIONAL ACCOUNTS STATISTICS MISSION

November 2023

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TECHNICAL ASSISTANCE REPORT

SOMALIA
Report on National Accounts Mission
(May 3–14, 2023)

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Acronyms and Abbreviations

CBS	Central Bank of Somalia
COICOP	Classification of Individual Consumption by Purpose
COMTRADE	United Nations COMTRADE database of trade by partner country and product
CPI	Consumer price index
FSNAU	Food Security and Nutrition Analysis Unit - Somalia
GNDI	Gross national disposable income
SIHBS	Somalia Integrated Household Budget Survey
SNBS	Somalia National Bureau of Statistics
USD	US dollars

Summary of Mission Outcomes and Priority Recommendations

1   A technical assistance mission was conducted during May 3–14, 2023, to support the Somalia National Bureau of Statistics (SNBS) to compile 2022 GDP estimates. The mission's purpose was to provide technical assistance (TA) to the Somalia National Bureau of Statistics (SNBS) in conducting a comprehensive GDP revision to incorporate latest source data and methods and to update the base year from 2017 to 2022. The mission was financed by the IMF Somalia Country Fund. The mission coincided with a mission on updating weights for the Consumer Price Index (CPI).

2   Reliable measurement of national accounts statistics by the SNBS is essential for informed economic policymaking by the Federal Government of Somalia. These data also provide the private sector, foreign investors, and the public in general with important inputs in their decision-making, while informing both domestic economic policy and IMF surveillance. The most recent IMF Staff Report (December 2022)[1] noted that "data provision has serious shortcomings that significantly hamper surveillance." The updating of the national accounts is part of SNBS plans to improve the availability and quality of GDP data for Somalia.

3   The mission assisted the SNBS to produce updated annual GDP time series up to 2022. New data sources were incorporated and the base year for constant prices updated from 2017 to 2022. The preliminary results prepared by the mission showed that Somalia's real GDP for 2023 increased by 2.3 percent. While all major demand components grew faster, a substantial proportion was met by import growth. Mainly as a result of new household budget survey data, the preliminary level of GDP per capita was revised upwards to approximately USD 660.

4   There is a continuing need to improve source data. While the GDP compilation system makes good use of the limited available data, the foundation for the national accounts remains weak. SNBS will conduct a Business Census in respect of 2023, with implementation gearing up at the end of 2023. It also plans to conduct the first Population Census since 1985, which will also support improvements, especially if designed to provide measures of the informal sector. In addition, after Population Census results are available, it is planned to introduce a labor force survey, with a smaller sample to monitor developments on a more frequent, timely basis than would be possible with a full census.

5   To support progress towards these objectives, the mission recommended a detailed action plan with the following priority recommendations carrying particular weight to make headway in improving the completeness of Somalia's national accounts statistics.

TABLE 1. Priority Recommendations

Target Date[1]	Priority Recommendation	Responsible Institutions
June 2023	Publish final, updated and rebased GDP time series up to 2022 on the SNBS website.	SNBS

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[1] Available at: https://www.imf.org/-/media/Files/Publications/CR/2022/English/1SOMEA2022003.ashx.

Target Date[1]	Priority Recommendation	Responsible Institutions
	Explain the new sources and revised base year to users.	
September 2023	Plan that national accounts data gaps are addressed by the forthcoming Business Census, Agriculture Census, and Population Census.	SNBS

6   Further details on the priority recommendations and the related actions/milestones can be found in the action plan under Detailed Technical Assessment and Recommendations.

Section I. Detailed Technical Assessment and Recommendations

TABLE 2. Detailed Recommendations

Priority	Action/Milestone	Target Completion Date[1]
Outcome: Data are compiled and disseminated using appropriate statistical techniques, including dealing with data sources, and/or assessment and validation of intermediate data and statistical outputs.		
High	Publish final, updated and rebased GDP time series up to 2022 on the SNBS website. Explain the new sources and revised base year to users.	June 30, 2023
High	Continue to provide outreach to users. Explain the new sources and revised base year to users.	September 30, 2023
High	National Accounts staff to be involved in designing the Population Census and emphasize the priority for collecting data on employment by industry to provide data to estimate the informal sector.	December 31, 2023
Medium	Maintain contact with other users of SIHBS data with a view to ensuring consistency and replicability of results. Review the experience of the SIHBS to develop guidance for designing the next SIHBS.	December 31, 2023
Medium	Explore development of additional data sources, including the Business Census, data from the taxation authorities, government wages, and additional surveys.	March 31, 2024

A. GDP COMPILATION FOR 2022

7   The mission reviewed the GDP compilation system. This uses an easy-to-follow Excel-based compilation system. As well, a document setting out sources and methods has been published on the SNBS website. With the limited number of indicators, an Excel system is quite adequate at this stage of statistical development. The GDP data are published on a regular schedule in June, about five-six months after the end of the reference period. The SNBS provides public outreach for the release of new data, However, despite these good dissemination practices, the range and quality of the underlying data sources is limited, with a shortage of indicators of both levels and annual trends. Annual activity indicators are limited to exports and imports (mainly Central Bank of Somalia - CBS) and government accounts. The 2022 Somalia Integrated Household Budget Survey (SIHBS) has provided much improved estimates of the level of household consumption, but annual growth rates continue to be based on assumptions in the absence of annual measures. Priority should be attached to developing an annual business survey and possible use of information from tax collections.

8   During the mission, estimates were updated. Data were assembled for 2022 and data for earlier years revised when needed. The base year for the constant price estimates was updated from 2017 to 2022. The results of the SIHBS were incorporated, and possible new data sources and methods were explored. The results showed that Somalia's real GDP increased by 2.3 percent in 2022 compared with an increase of 3.6 percent in 2021. The 2021 result reflected Somalia's partial emergence from the COVID-19 pandemic shock in 2020, recovering from negative growth in 2020. However, growth moderated in 2022, as the drought continued while imports continued to rise. Gross national expenditure exceeds GDP by about 60 percent because of spending made possible by remittances and official transfers. It should be noted that while data on government and livestock have strong foundations, the annual estimates of movements in expenditure rely on extrapolations and indirectly related indicators (chiefly imports), so are subject to some uncertainty.

9   The geographical coverage of the new benchmarks has improved, though further developments are needed. In particular, the SIHBS covered all six Federal Member States (FMS), including Somaliland. The results were scaled up using national population numbers and so implicitly cover non-sampled regions, albeit by assuming national average consumption patterns. Coverage of the other components of GDP by expenditure remains as described in the Sources and Methods document published during 2022;[2] this will need to be updated to reflect the updates to HFCE.

TABLE 3. Preliminary Results - Somalia's GDP: 2021 and 2022

	2021	2022
Constant 2022 Prices (percentage change from previous year)		
GDP	3.6	2.3
Household final consumption expenditure	2.9	5.2
Government final consumption expenditure	9.3	7.7
Gross fixed capital formation	13.5	35
Exports of goods and services	17	13.7
Imports of goods and services	8.3	20.2
Other related series		
Population (persons)	15,188,775	15,614,061
GDP per capita (US dollars)	641	659

10   Results may be revised after the mission due to checking or to be consistent with any revisions to source data. Household final consumption expenditure is the largest component of GDP and increased by 5.2 percent in 2022. The level of household consumption is more than 100 percent of GDP, reflecting that a high proportion of consumption is supplied from imports. Non-food is the fastest

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[2] Available at: https://nbs.gov.so/wp-content/uploads/2023/07/National-Accounts-Concepts-Sources-and-Methods-Somalia.pdf.

growing component, while food and housing are assumed to have grown in line with the population. As noted below under improvements, the SIHBS results have been used to develop a more comprehensive measure of the level of spending in 2022. The rebased estimates make use of the existing CPI series as further work needs to be completed before the updated, national CPI series can be published (although for the HFCE categories for Food, Housing and Other, the new SIHBS weights are already built in). It is standard practice to avoid revising historical CPI series and instead to adopt new CPI items and weights going forward, with the old series spliced on to the new series. If this practice is followed, then the introduction of the new CPI, proposed to take place in late in 2023, would not in itself have an impact on the GDP estimates published up to 2022.

11   Government final consumption expenditure is a relatively small component, only 7.4 percent of GDP. As it is based on government accounts, this component is relatively well measured. It increased by 7.7 percent, following a general pattern of growing as a share of GDP over several years.

12   Capital formation was the fastest growing component, accelerating to 35 percent growth in 2022. The greatest factor is the construction boom, but investment in equipment and machinery are also growing strongly. Since building materials and capital equipment are largely imported, this growth also meant that there was rapid growth in the related imports and the effect on GDP largely cancelled out.

13   While exports of goods and services grew to 17.5 percent of GDP, imports of goods and services are much larger at 79.5 percent of GDP. To an unusual degree—more than exports—remittances and aid are used to fund Somalia's imports. Because of the limited domestic production capacity, demand growth tends to be met to a large extent by import growth.

B. ASSESSMENT OF THE STATISTICAL SYSTEM OF SOMALIA

14   The December 2022 IMF Staff Report stated that:

- **Data provision has serious shortcomings that significantly hamper surveillance.**

   Macroeconomic and financial statistics are being developed but there are few data sources and information systems are not yet adequate. The authorities' Statistical Action Plan underpins further improvements in statistical capacity, including further work on GDP by expenditure, a production-based estimate of GDP, and a new national CPI. There is also scope to advance within the e-GDDS framework. To support economic management and governance, continued IMF CD support is needed to strengthen the compilation and dissemination of macroeconomic and financial statistics, including national accounts, consumer price index, government finance statistics, external sector statistics, and monetary and financial statistics.

- **National accounts:** Official estimates of annual GDP by expenditure began to be compiled and released in 2020 and were developed via tripartite technical assistance provided by the IMF, World Bank, and Statistics Sweden. New estimates are released each June. Estimates used a fixed base year of 2017. SNBS has received technical assistance to help develop a business register to support a business survey, which in turn will allow it to compile estimates of GDP by production. A business census is forthcoming (February 2023), and the SNBS expects to publish production-based GDP estimates later in 2023. A new population census is expected in 2024 or 2025, the first after 40 years.

15   The SIHBS was conducted during May–July 2022. It provides the strong foundation for improving the national accounts estimates of the level of household consumption and for updating the weights for the CPI (which was covered by a simultaneous IMF technical assistance mission).

16   The conduct of the survey was outsourced to a private company together with the SNBS. It is planned to conduct the SIHBS at five-yearly intervals. The mission learned that the published SIHBS report did not provide any results for HH expenditures or income, with the raw micro-level data having to be processed during the mission, which limited time available to conduct other key tasks'. During the mission, the raw micro-level data had some misreporting and incomplete responses which were identified and resolved while calculating and analyzing the aggregate results. It should be noted that the World Bank will be undertaking poverty analysis using the SIHBS, from which an independent set of consumption weights will be derived. These would form a welcome independent check on the weights derived during the mission and could imply the need for revisions to the rebased GDP estimates if differences are substantive and are not explicable for technical reasons.[3]

17   Household expenditure was previously estimated from the 2016 High Frequency Survey. The SIHBS had a bigger sample and higher degree of detail, so was considered by SNBS to be more reliable. The overall level of expenditure was increased over the extrapolated value of the old methods by about 20 percent, possibly reflecting better coverage and the limitations of assuming no per capita growth for food and housing.

18   The following table shows measured changes in consumption patterns over the past six years. Figures represent annualized total amounts reported to the survey. Food has fallen considerably as a share, consistent with a rise in living standards as the economy recovers. The substantial rise in communications is consistent with the growth in the use of mobile phones. Other categories had smaller changes, although the changes for restaurants and transport are larger than expected. The classification uses the 2018 edition of COICOP (Classification of Individual Consumption by Purpose).

TABLE 4. Comparison of Composition of Household Consumption Expenditure 2016–22

COICOP Division		Expenditures USD 2022 SIHBS	Share of total consumption 2022	Share of total consumption 2016
01	Food and Non-Alcoholic Beverages	18 749 601	51.49	61.3
02	Alcoholic Beverages, Tobacco & Narcotics	751 307	2.06	2.2
03	Clothing and Footwear	3 168 422	8.70	7.52

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[3] For example, for national accounts and CPI purposes, a judgmental adjustment was made to the SIHBS results for imputed rent to replace owners' reported estimates of market-equivalent rent when they were zero or trivial.

COICOP Division		Expenditures USD 2022 SIHBS	Share of total consumption 2022	Share of total consumption 2016
04	Housing, Water, Electricity, Gas and other Fuels	3 858 754	10.60	12.05
05	Furnishings, Household Equipment and Household Maintenance	1 843 200	5.06	3.32
06	Health	563 800	1.55	0.66
07	Transport	3 119 292	8.57	1.2
08	Information and communication	1 464 078	4.02	1.23
09	Recreation, sport and culture	198 401	0.54	0.35
10	Education services	536 415	1.47	1.08
11	Restaurants and accommodation services	342 531	0.94	6.85
12	Insurance and financial services	108 184	0.30	} Combined with COICOP 13
13	Personal care, social protection and miscellaneous goods and services	1 712474	4.70	}2.22
Total		36 416 459	100	100

Sources: SIHBS 2022; Weights used in the CPI are from the results of the High Frequency Survey 2016.

19   Some considerations to take into account in designing SIHBS work:

- Coordinate with other users of the 2022 SIHBS data to make sure adjustments, outliers, etc. are treated consistently, so differences do not give rise to confusion or undermine the credibility of the results.

- Take note of problems so they can be taken into account in the design of the next SIHBS. Issues identified so far include shilling/dollar and quantity unit inconsistencies. Data checking and follow-up of gaps and errors can be handled best very soon after the data collection period so that there can be follow-up with the collector and reporter if necessary. A desirable practice would be to

follow up a small sample of reporters with questions to probe for any under- and mis-reporting. For example, a follow-up question could be asked on whether meals outside the home had been omitted, as may have been the case for some reporters in 2022. Another example of items that could be followed up directly with reporters are dwelling rents that were reported as zero.

- Stratify the sample and calibrate it with the whole population. Good practice is to calibrate the results to represent the structure of the full population (in terms of location, household size, household type, etc.). This was impossible in the absence of a recent Population Census, so if the included households were not fully representative, results may be skewed. Stratification should be used for the next SIHBS, and retrospective adjustment for 2022 results could be considered once more current information is obtained on the population structure.

- The range of topics covered by the SIHBS beyond household income and expenditure is wide and could be made into a separate survey if there is concern about excessive burden and reporter cooperation. The integration in SIHBS refers to integration of different functions that are not usually combined. Nevertheless, despite the large number of questions, the 2022 SIHBS response rate was considered to be very high (96 percent).

20   SIHBS expenditure requires some adjustments to derive household consumption. These steps are shown in Appendix 1.

D.   REVIEW OF SOURCES AND POSSIBLE FUTURE DEVELOPMENTS

21   A rebase is the opportunity to introduce new sources and methods, as well as to update the base year used for constant price estimates. The SNBS is in line with good international practice by updating their base year at five-year intervals, from 2017 to 2022.

22   The major change in the 2022 rebase is the incorporation of the results of the 2022 SIHBS. This provided new data on consumption levels, but indicators of annual trends are still poor. The SIHBS collected more detail and a bigger sample than the predecessor High Frequency Survey used for the 2017 base year. The SIHBS level of consumption was higher than the previous estimates of consumption in the Somalia national accounts extrapolated from 2017.

23   The mission investigated the annual crop estimates for selected major crops compiled by the Food Security and Nutrition Analysis Unit - Somalia (FSNAU). These estimates are based on assessments by local officials and published as part of analysis on hunger, and food aid requirements. The mission considered these estimates to be a potential source to measure locally supplied food, especially as the current national account's method has a weak foundation, namely, extrapolation based on estimated population growth, i.e., per capita food consumption is fixed. This method does not take into account any changes due to drought or economic conditions. Unfortunately, the exploratory results based on FSNAU data were deemed not yet suitable for national accounts use, seemingly as time series consistency was not always maintained, so annual trends were not always plausible.

24   It may be feasible to develop a more specific deflator for compensation of employees in government final consumption. The current method is to use the headline CPI as a deflator, but this may not reflect employee compensation movements, for example, there were no increases in 2022, so the deflator overstated price changes and understated volume changes. It is recommended that SNBS investigate the possibility of identifying a representative set of government wage rates, preferably

enhanced by taking into account changes in any other employee benefits such as pension contributions, or housing. The selection of grades and occupations need not be complete but should cover a representative range.

25   The interpretation of imports data has become more difficult. Somalia national accounts calculations make extensive use of imports data as indicators of trends in related domestic transactions. For example, construction activity is estimated from imports of building materials. However, the relationship between the related imports and domestic expenditure seems to be changing. There are two sources of imports data – COMTRADE and CBS. COMTRADE data is compiled by the United Nations Statistics Division Trade Statistics Branch from data reported by partner countries. It provides details by product and partner country. These statistics are limited by the timeliness of reporting by partner countries and are typically incomplete for the most recent year, requiring estimates or extrapolation. In addition, the CBS compiles data from Somalia customs returns and other sources. The Somalia customs system is partly decentralized to state governments and collects quantities not values, so the availability of data is much more limited than most other customs systems. Both of these sources have tended to show large increases in imports in recent years. One likely reason identified is the growth of Somalia as a trans-shipment center for the region, so that imports include increasing proportions of goods not destined for the Somalia market. With low customs duties, goods may be imported into Somalia, and the re-exported through informal channels over the land borders to adjoining countries. The COMTRADE and CBS data both have this problem, and CBS imports estimates may also have grown due to the improved coverage of CBS data. To avoid distorted movements, the mission incorporated adjustments in the compilation system for the import indicators used to estimate domestic transactions. The adjustment factors varied by product group and achieved smoother series without excessive growth rates. In the interests of consistency, the overall expenditure aggregates continue to use CBS exports and imports estimates without adjustment. (As the balance of payments and national accounts publication cycles differ, revisions may cause temporary differences between the two data sources.) The SNBS plans to develop a trade statistics unit.

26   It could be useful for understanding the Somalia economy to publish measures of national expenditure and income. While for most countries GDP is similar to gross national expenditure and gross national disposable income (GNDI), they differ substantially for Somalia. The high values of official aid and remittances mean that GNDI (about USD 16 billion) is considerably higher than GDP (about USD 11 billion), Similarly, gross national expenditure is the sum of household and government consumption expenditure and capital formation and is about USD 17 million. Income sourced from abroad has made possible a level of expenditure considerably higher than production. The data on net income from abroad are already available as it is generated as part of balance of payments statistics.

GDP +

Net primary income (includes dividends, interest) +

Net current transfers (includes remittances and current international aid) =

GNDI

E. FUTURE BUSINESS CENSUS

27   A census by SNBS of formal businesses is planned in respect of 2023, with data becoming available in 2024. An Agriculture Census will be conducted, while other industries will be covered in Business Census. It is planned to conduct the Business Census on an annual basis. This census is intended to provide the foundation for deriving GDP by the production approach. A one-off survey would help adjust the level of GDP in the survey year, but annual data would be needed to measure annual trends, for which there is currently a severe shortage of indicators, so annual continuation of this census should be a high priority. However, it may be feasible after the initial census to cut back to a survey with a smaller sample in most years to cut costs. It would be desirable to conduct a pilot test in advance to check data availability, respondent cooperation, questionnaire design etc. With no track record of such surveys, it may take time for population frameworks, response rates, response quality, and staff experience to be developed.

28   The informal sector is very large, so macroeconomic measurement will be seriously incomplete unless there are also measures of the informal sector. The availability of data for informal enterprises is far lower than for the formal sector, so the information that could be collected by SNBS would be much more limited. If complementary data on the informal sector are not also obtained, the business survey results would be useful for national accounts only for industries dominated by formal businesses. As discussed below, the Population Census, if designed with the objective of supporting the measurement of informal activities, could provide the perspective on the relative importance of informal activities.

F. FUTURE POPULATION CENSUS

29   A Population Census collects a range of social and demographic data from all households. It is a standard statistical requirement all over the world but has not been conducted in Somalia since 1985. As well as data in their own right, is provides the framework for many other surveys, for example, household budget surveys use census results on the characteristics of the whole population to draw a representative sample. For national accounts, there are several components of the Somalia GDP estimates that are extrapolated on estimated population and population growth rates, but these assumptions currently lack the solid foundation of a recent Population Census.

30   The next Population Census is planned for Somalia in 2024. However, a date has not been set and the funding and logistical arrangements needed for such a complex project are substantial.

31   The Population Census is particularly important for the Somalia national accounts as they are a potential source of information on informal activities. Small, informal businesses will not be covered in the Business Census but are major proportions of many industries. Because the Population Census data collection reaches all households, it is possible to record some basic information on informal activity, even when, for instance, the business is small, without business registration, without a fixed address, and with reluctance to provide financial information for government officials for surveys.

32   To gain an understanding of the size and nature of the informal sector, the Population Census should collect data on household employment by industry. While collection of sales and financial data are not suited to the Population Census, data on employment and hours worked can be reported. If employment is measured on the same definitions and timing in the business survey, the

difference between the total persons in each industry and employment in formal businesses will represent informal employment. Some household surveys have collected information on the size and composition of informal sector earnings, but that could be too burdensome to include in the Population Census and is more appropriately done as a smaller sample-based survey.

33   To be useful for identifying the informal sector, some effort needs to be made to ensure the correct classification of industry of employment. Since classification requires technical expertise, it would need to be built into the training of staff and documentation.

34   The value added in the informal sector by type of activity can be derived by multiplying the number of informal employees by an estimate of value added per person employed. Since informal sector productivity is slower than formal sector, a ratio of value added per person employed for the smallest businesses in the formal sector survey should be used by after applying a downward adjustment. Various degrees of sophistication could be added to the measurement of employment – hours worked, rather than just numbers employed could be asked in both censuses However, this expands the length and difficulty of questionnaires, so would need to be discussed in terms of cost and respondent cooperation. To the extent that some persons have two or more jobs in the formal sector, jobs in both formal and informal sectors, or informal jobs in two or more different industries, there would be some reduced precision in the adjustments, but these adjustments are usually considered to be minor enough to be a lower priority at this stage. National Accounts staff need to be involved in designing the Population Census to emphasize the priority for collecting data on employment, and possibly hours worked, by industry.

G. FUTURE DEVELOPMENT OF GDP BY THE PRODUCTION APPROACH

35   SNBS has a long-term plan to extend their compilation system to GDP by the production approach, i.e., value added for each industry. Currently, Somalia GDP is compiled by the expenditure approach only, i.e., consumption + investment + exports – imports. This expansion would be desirable for analysis and would introduce some additional self-validation checks into compilation. However, the major constraints are the severe paucity of both measures of levels and indicators of annual trends.

36   A project to develop GDP by industry would start with a stock-take of existing indicators and identifying gaps that would need to be filled. The planned Business Census of the formal sector would provide a starting point across all industries, but as the informal sector is so large for many industries, it would need to be supplemented to give a comprehensive total, as discussed under Section F.

37   Agricultural production is the subject of a planned census. Agriculture is well measured in the case of livestock SNBS plans to become more engaged in measuring agricultural production with FSNAU in future.

38   Concentrated or highly regulated activities, such as government, large-scale manufacturers, utilities, ports, telecommunications, and finance are likely to be relatively easy to measure. Capital formation on construction is already measured in GDP by imports of building materials (with a mark-up for distribution and assembly margins). If domestic production of building materials increases, some measure of local supplies may be needed. Many industries have substantial informal

activities, including retail, construction, transport, and personal services, that would need to be taken into account.

40   **The Ministry of Finance has a system to collect income tax information. Tax systems produce useful indicators as a by-product of tax collection in many countries**. Business income and expense data reported by Somalia's formal enterprises are available from the Ministry of Finance and it has been agreed that they could be supplied to SNBS. This source would have the great advantage that no additional funding would be required to collect the data. Furthermore, the data would be available on an annual basis, which would help fill the need for annual trend indicators. To establish the usability of this potential data source for the production approach, there would need to be an assessment of whether there was suitable industry classification, whether activity is understated, whether multi-industry conglomerates could be split, how close the coverage coincides with the Business Census, and what proportion of each industry is included in the tax system.

41   **A regular labor force survey that collected data on employment by industry would provide more information on current economic developments**. SNBS previously conducted a one-off labor force survey, but the forthcoming Population Census will provide a framework to ensure that future surveys can be made representative of the population. A quarterly or annual survey with employment by industry, and preferably also hours of work, would greatly enhance monitoring of economic trends.

H. COMPILATION SYSTEM

42   **The mission reviewed the system of Excel spreadsheets**. The SNBS is monitoring standard packages, but the existing Excel sheets are customized to their data sources and are easily understood and amended. For future improvements, the mission made the following suggestions:

- Make more extensive use of comments and other text to explain the sources of data, reasons for adjustments made, etc.

- Add more tables with growth rates in current prices, constant prices, and deflators. Such tables will help identify errors or unusual movement that are not so evident in the levels.

- Convert monthly CPI data by the monthly exchange rate and then derive the annual average, rather than averaging the monthly CPI values and converting at an annual average exchange rate. This order is consistent with matching the exchange rate with the month concerned, Nevertheless, the mission found the distortion was trivial as the exchange rate between the Somalia shilling (and the Somaliland Shilling) and US dollar has been stable, so is only a concern if the exchange rate becomes more variable.

I. OFFICIALS MET DURING THE MISSION

Name	Institution	Department
Mr. Hashim Abdinoor	SNBS	National Accounts and Prices
Mr. Abdulkadir Dahir Ahmed	SNBS	Prices
Mr. Mohamed Noor Ahmed	SNBS	Prices
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Mr. Mohamed Abdinur Mohamed	SNBS	National Accounts
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Appendix I. Adjustments to Derive Household Final Consumption from SIHBS

1) Convert to annual basis

Data in the SIHBS were collected on a seven-day, monthly, six-monthly and annual basis, depending on the product. For example, food spending was collected for seven days, while durables spending was reported for the previous twelve months. These results were converted to an annual basis, according to the number of days, so that weekly data were multiplied by 365/7. Ideally, a true annual basis would take into account the rest of the year, such as seasonal patterns or fluctuations that occurred in other parts of the year, but there was no data source to make such adjustments. The annual conversion does not give an exact match for the calendar year, e.g., the products reported on a 52-week basis cover the year to May–July 2022. Again, there is no way to quantify this factor from existing data, and there may be more serious problems in any case. For future HBS planning, it would be preferable to cover a whole year, ideally a calendar year.

The total SIHBS results below refer to the total consumption for the 7,212 households / 47,599 persons included in the SIHBS.

2) Add goods consumed without payment

Quantities of goods consumed without payment are available from the SIHBS.

These were multiplied by the market-equivalent price per unit of quantity for the equivalent paid goods (available from SIHBS, but CPI average prices could be used for verification). The main categories are:

(i) Food and other aid or gifts from charities/NGOs/relatives abroad – the result derived from the SIHBS was USD 584,124, (USD192 per capita) for food and USD 21,887 (USD 7 per capita) for non-food; and

(ii) production for own use (mainly subsistence farming) – the result derived from the SIHBS was USD 488,388 (USD 160 per capita).

3) Add imputed rent on owner-occupied dwellings

Owner-occupied dwellings provide services to their owners that are treated as (unpaid) consumption in GDP. The SIHBS asked households to make estimates of the equivalent rent on rent-free and owner-occupied dwellings. A large number of owner-occupiers were unable to provide estimates or made estimates of zero and so the values were estimated from other households in the same category. The results were USD 2,962,434 in total (USD 972 per capita).

4) Exclude non-consumption items

Intermediate consumption, second-hand goods purchased from other households, capital formation, and transfers should be excluded from household consumption. These components were already excluded in the expenditure data provided to the national accounts team by the CPI team during the mission:

- Intermediate consumption includes expenses related to (formal or informal) businesses and ownership of dwellings (repairs).

- Second-hand goods purchased from other households – no new consumption. (However, include any retail margins, purchases of second-hand goods from businesses, or imported second-hand goods).

- Capital formation includes products used for future production, including owner-occupied dwelling services. For example, vehicles for personal use are included as consumption while vehicles and tools for business use are included in capital formation.

- Donations to mosques and other charities – in principle, should be included in estimates of consumption by nonprofit institutions serving households. In practice, the item is minor (USD 5 per capita according to the SIHBS), so was left in household consumption rather than be shown separately.

- Jewelry as an investment – should be included in capital formation (valuables).

- Taxes on income and wealth should be excluded (transfers, not consumption).

- **Adjust for under-reported items** Qat purchases recorded in the SIHBS were compared with imports, and as for the 2017 benchmark, consumption was increased by 80 percent to be compatible with the level of imports. (Imports exceeded estimated household consumption derived from the SIHBS.) The estimate of understatement was USD 159,820 in total (USD 52 per capita).

- Meals outside the home were very low relative to previous survey but there was no indicator to quantify the possible understatement, so no adjustment was made.

6) Add financial services charged as a margin

Explicit financial fees are included in the SIHBS, so their inclusion is straightforward. Buy-sell spread on remittances and other money transfers is an implicit fee. Interest on loans and deposits with banks have a notional component to cover the banks' margin that should be included in consumption. Based on staff assessment, an adjustment was estimated as one percent of inward and outward remittances – total USD 18,345 (USD 6 per capita).

Insurance premiums are not added to consumption. Notionally, premiums include the amounts to cover the insurance company's margin (a service charge) and the amount available to be paid out as claims (a transfer). The total value of insurance premiums was negligible, so no estimate was needed for insurance services for this rebase.

7) Convert from survey population to national population

The SIHBS covered 7,212 households, with an average household size 6.6 people, so covered 47,599 people. The total estimated 2022 population of Somalia was 15,614,061.

The adjustment factor to derive national totals from SIHBS totals is, therefore, 15,614,061 / 47,599 = 328.3.

(There has been no Population Census since 1985, so when new results become available, this population estimate may need to be reconsidered.)

Appendix II. Effects of Rebase (Preliminary Estimates)

TABLE 5. Effect of Rebase – Current Price Estimates US Dollars millions.

	2017	2018	2019	2020	2021
Previously Published					
Household final consumption	7,968	8,497	9,330	9,989	10,720
Government final consumption	486	495	529	595	677
Gross fixed capital formation	784	868	917	939	1,244
Exports of goods and services	994	1,119	1,131	1,178	1,532
of which: livestock	268	294	406	402	523
Minus: Imports of goods and services	4,624	5,122	5,423	5,818	6,544
GDP at purchasers' prices	5,609	5,856	6,485	6,883	7,628
GDP per capita, US Dollars	412	419	451	466	502
New Results					
Household final consumption	10,343	10,518	11,792	11,809	12,304
Government final consumption	486	495	529	595	676
Gross fixed capital formation	954	1,168	1,292	1,340	1,770
Exports of goods and services	994	1,119	1,131	1,178	1,532
of which: livestock	288	311	406	402	523
Minus: Imports of goods and services	4,624	5,122	5,423	5,818	6,544
GDP at purchasers' prices	8,152	8,178	9,320	9,104	9,739
GDP per capita, US Dollars	599	585	648	616	641
New/Previous (Ratio)					
Household final consumption	1.30	1.24	1.26	1.18	1.15
Government final consumption	1.00	1.00	1.00	1.00	1.00
Gross fixed capital formation	1.22	1.35	1.41	1.43	1.42
Exports of goods and services	1.00	1.00	1.00	1.00	1.00
of which: livestock	1.08	1.06	1.00	1.00	1.00
Minus: Imports of goods and services	1.00	1.00	1.00	1.00	1.00
GDP at purchasers' prices	1.45	1.40	1.44	1.32	1.28
GDP per capita, US Dollars	1.45	1.40	1.44	1.32	1.28

The current price estimates are affected by new sources and methods. Some components are unchanged, including government consumption, exports, and imports. Household consumption is higher, reflecting the results of the SIHBS, which identified higher levels of household consumption than the previous source. For the import growth extrapolator used for household consumption other than food and housing and for capital formation, CBS estimates have been used rather than COMTRADE, so trend growth rates have been changed.

TABLE 6. Effect of Rebase – Growth Constant Price Estimates - percent.

	2018	2019	2020	2021
Previously Published				
Household final consumption	4.6	5.1	2.3	3.9
Government final consumption	1.2	1.3	8.6	9.4
Gross fixed capital formation	8.9	3.3	2.7	15.8
Exports of goods and services	10.5	-3.2	-0.7	16.8
of which: livestock	4.3	28.7	-0.7	2.9
Minus: Imports of goods and services	7.2	5.7	5.2	9.9
GDP	3.8	2.4	-0.3	2.9
GDP per capita, US Dollars	1.0	-0.4	-3.0	0.1
New Results				
Household final consumption	3.2	3.4	-0.8	2.9
Government final consumption	0.6	0.0	9.8	9.3
Gross fixed capital formation	21.1	12.6	4.1	13.5
Exports of goods and services	10.0	-3.9	1.8	17.0
of which: livestock	4.4	26.9	-1.5	3.6
Minus: Imports of goods and services	8.8	3.1	5.0	8.3
GDP	3.1	3.7	-2.6	3.6
GDP per capita, US Dollars	0.3	0.8	-5.2	0.8
New - Previous (Difference in percentage points)				
Household final consumption	-1.3	-1.7	-3.1	-1.0
Government final consumption	-0.6	-1.3	1.1	-0.1
Gross fixed capital formation	12.2	9.3	1.4	-2.3
Exports of goods and services	-0.5	-0.7	2.5	0.2
of which: livestock	0.1	-1.8	-0.8	0.7
Minus: Imports of goods and services	1.6	-2.6	-0.2	-1.6
GDP	-0.7	1.2	-2.3	0.8
GDP per capita, US Dollars	-0.7	1.2	-2.2	0.7

The constant price estimates have been moved from a 2017 base year to 2022. The change in the structure of relative prices of components will affect the growth rates of aggregates. In addition, changes in the current price sources and methods also flow through to the constant price estimates.