



# UGANDA

## TECHNICAL ASSISTANCE REPORT—REPORT ON THE QUARTERLY NATIONAL ACCOUNTS STATISTICS MISSION

September 2017

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Statistics Department



**UGANDA**

**REPORT ON THE QUARTERLY NATIONAL ACCOUNTS STATISTICS MISSION**

May 5–23, 2014

**Prepared by Zia Abbasi  
Macroeconomic Statistics Advisor  
East AFRITAC**

**June 19, 2014**

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**ABBREVIATIONS**

AFE	East Africa Technical Assistance Center of the IMF
AFR	African Department, IMF
AGDP	Annual GDP
ANA	Annual national accounts
BOP	Balance of payments
BOU	Bank of Uganda
CAA	Civil Aviation Authority
CDA	Coffee Development Authority
CDO	Cotton Development Organization
CIF	Cost including insurance and freight
COBE	Census of Business Establishments
COE	Compensation of employees
CPI	Consumer price index
CPV	Current price values
CSI	Construction services industry price indices
DFID	Department for International Development, United Kingdom
EDDI	Enhanced Data Dissemination Initiative
FCE	Final consumption expenditure
FISIM	Financial intermediation services indirectly measured
GCF	Gross capital formation
GDP	Gross domestic product
GFCF	Gross fixed capital formation
GFS	Government finance statistics
GO	Gross output
GVA	Gross value added
HFCE	Household final consumption expenditure
IC	Intermediate consumption
IIP	Index of Industrial Production, UBOS
IMF	International Monetary Fund
ISIC	<i>International Standard Industrial Classification of All Economic Activities</i>
ITSS	International Trade in Services Survey
KG	Kilograms
KPV	Constant price values
LBU <sub>s</sub>	Large business units
MES	Macroeconomic Statistics Division of UBOS
MFPE <sub>D</sub>	Ministry of Finance, Planning and Economic Development
MOA	Ministry of Agriculture
MSA	Macroeconomic Statistics Advisor
MWTC	Ministry of Works, Transport and Communication
NAADS	National Agriculture Advisory and Development Services

NARO	National Agricultural Research Organization
NAS	National accounts statistics
NPIS	Non-Profit Institutions Survey
NWSC	National Water and Sewerage Corporation
PFS	Project Framework Summary
PPI	Producer price index
QGDP	Quarterly GDP
QNA	Quarterly national accounts
STA	Statistics Department, IMF
SUT	Supply and use tables
TA	Technical Assistance
TDA	Tea Development Authority
TTMs	Trade and Transport Margins
UBI	Uganda Business Inquiry
UBOS	Uganda Bureau of Statistics
UCA	Uganda Census of Agriculture
UCC	Uganda Communications Corporation
UETCL	Ugandan Electricity Transmission Company Limited
UGA	Uganda
UGS	Ugandan Shillings
UNHS	Uganda National Household Survey
UNPS	Uganda National Panel Survey
URA	Uganda Revenue Authority
VAT	Value added tax
WIP	Work-in-progress

## EXECUTIVE SUMMARY

- In response to a request from the authorities and in consultation with the African Department (AFR), the Macroeconomic Statistics Advisor (MSA)<sup>1</sup> at the East Africa Technical Assistance Center (AFE)<sup>2</sup> undertook a technical assistance (TA) mission to Kampala during May 5–23, 2014 to provide further advice in finalizing the 2009/10 supply and use tables (SUT) and compiling the rebased annual (ANA) and quarterly national accounts (QNA) statistics for Uganda. This activity (14STG38:06) is being undertaken within the context of the following project: National Accounts Statistics STA\_UGA\_2011\_07.
- The Ugandan Bureau of Statistics (UBOS) is responsible for producing national accounts statistics (NAS). Estimates of gross domestic product (GDP) by economic activity and expenditure share are compiled on an annual basis and disseminated via the quarterly *Key Economic Indicators* and annual *Statistical Abstract* publications. Summary estimates are released in the government budget papers and via the UBOS website. UBOS commenced disseminating improved quarterly constant price GDP estimates through its website in October 2011. The GDP estimates are broadly consistent with the *System of National Accounts 1993* standards.
- The UBOS is participating in the IMF–DFID: Enhanced Data Dissemination Initiative (EDDI) QNA Statistics Module. It is also in the process of improving and rebasing the annual GDP estimates. The next phase of the QNA project is to produce current price quarterly GDP estimates, as part of the rebase exercise, with an expected release in late September 2014.
- The MSA completed a review of the 2002 SUT and data requirements in August 2010, including identifying data gaps, and developed draft SUT templates. Follow-up missions by AFE experts during June 2011, December 2012, and April and June 2013 provided assistance with source data use and quality assurance; training on the SUT methodology and data entry; and ensuring correct recording in the product balance worksheets. TA on compiling the preliminary SUT was provided by an external consultant—funded by a project being undertaken in the Ministry of Finance, Planning and Economic Development (MFPED). The MSA reviewed the preliminary SUT during the November 2013 mission and identified a number of areas for improving the input data and methodology.

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<sup>1</sup> Zia Abbasi is the Macroeconomic Statistics Advisor based at the East Africa Financial Technical Assistance Center of the IMF in Dar es Salaam, Tanzania.

<sup>2</sup> AFE is a part of a network of IMF Regional Technical Assistance Centers and is supported by several donors. The external donors include African Development Bank, Australia, Canada, European Investment Bank, European Union, Germany, IMF, Switzerland, The Netherlands and United Kingdom (DFID). TA is provided to Eritrea, Ethiopia, Kenya, Malawi, Rwanda, Tanzania and Uganda.

- This follow-up mission was requested by the authorities to finalize the 2009/10 SUT and benchmark estimates; and to provide further advice on the compilation of the rebased annual and quarterly GDP estimates. The mission worked closely with the NAS Unit staff and provided training on SUT compilation and source data issues. The cooperation and support of the authorities and counterparts is very much appreciated.
- The final 2009/10 SUT for Uganda include benchmark commodity flow and industry estimates, as well as an improved input/output (I/O) matrix for 161 activities by 161 products or commodity groups. These activities are aligned with the *International Standard Industrial Classification of All Economic Activities, Revision 4*.
- The revised GDP estimate of Ugandan shillings (UGS) 40.9 trillion in the SUT is around UGS 6.0 trillion or 17.3 percent higher than the published estimate for 2009/10 of UGS 34.9 trillion. The significant increase in the GDP level is not unexpected, given that the source data for the 2009/10 SUT are more comprehensive in coverage than the data that was available to compile the previous 2002 SUT benchmark estimates. The data quality of the source data for the current SUT is also better.

### Comparison between the SUT and Published GDP Estimates

UGS billions	Revised GDP	Published GDP	New contribution to GDP	Previous contribution to GDP
Agriculture, Forestry and Fishing	10,732	8,245	26.2%	23.6%
Mining, Manufacturing, Utilities and Construction	7,424	8,675	18.1%	24.9%
Services Industries	19,861	15,888	48.5%	45.5%
Adjustments (FISIM and Taxes of Products)	2,930	2,100	7.2%	6.0%
GDP	40,946	34,908	100.0%	100.0%

- The finalization of the SUTs has involved incorporation of significantly revised source data for a number of industries since November 2013, as well as changes in the input data resulting from the implementation of methodological improvements. The UBOS has made a significant effort to finalize the source data and improve coverage of the economy over the last six months resulting in revised data for a number of industries, the net impact of which has been to increase the GDP level by economic activity by around UGS 2.5 trillion or 7.1 percent. Improvements in the compilation methods also contributed to increased industry gross value added (GVA) and GDP levels. For example, an improved methodology for calculating trade and transport margins (TTMs) contributed a 2.2 percent increase in the GDP level, while replacing estimates based on imputed bank service charges with estimates of FISIM (allocated across industries and expenditure components) has contributed to a further increase of 1.2 percent to the new GDP level.



- A number of additional worksheets were developed during the mission to facilitate better analysis across products and industries than was possible with the individual industry and product balancing worksheets. Separate worksheets for each supply and use component, allowed for more detail comparisons across industries. The gross output (GO) and intermediate consumption (IC) sheets include separate estimates of the contributions of General Government, Non-profit institutions serving households (NPISH), other formal sector units, and informal sector units (both monetary and non-monetary/subsistence). The final consumption expenditure (FCE) sheet includes separate estimates of FCE for households (split by purchases, own produced and gifts/in-kind), General Government and NPISH. Adjustments to the source data are explicitly identified, with explanation provided for the changes.
- In terms of improving the data sources and methodology for the new rebased annual and quarterly GDP series, the MSA undertook an initial mission during November 2010 to review the data sources and methods and to make recommendations for improvements. Follow-up missions were undertaken during 2011, 2012, and 2013 to provide:  
(i) assistance with developing the methodology and worksheets to compile agriculture and construction work-in-progress and gross capital formation estimates; (ii) advice on improving quarterly constant price GDP estimates and producing constant price GO and IC estimates; (iii) advice on compiling quarterly current price GDP estimates; and (iv) training on the compilation methodology and use of source data. The UBOS has commenced development of current price quarterly GDP estimates, as part of the rebase exercise, with an expected release in September 2014.
- The new benchmark estimates were included in the compilation worksheets and further advice was provided on improving the indicators and input data to be used to compile the quarterly and annual current and constant 2009/10 price GDP estimates.
- A follow-up mission to assist with reviewing and finalizing the 2009/10 base year annual and quarterly GDP estimates for dissemination is planned for mid-September 2014.
- Prior to this mission, the national accounts counterparts are expected to: complete data collection for all periods to Quarter 2 of 2014 by end-August 2014; and compile the GDP estimates at current and constant 2009/10 prices for calendar year 2013, financial years 2012/13 and 2013/14, and Quarters 1 and 2 of 2014 by the first week of September 2014.
- Appendix I includes statistical tables of the SUT and current NAS estimates. The updated GDP rebase action plan is provided in Appendix II.

## PROJECT FRAMEWORK SUMMARY FOR QUARTERLY NATIONAL ACCOUNTS

### PROJECT DESCRIPTION

Technical assistance on the improvement of Quarterly National Accounts for Uganda.

### PROJECT OBJECTIVES 1.0

Description	Verifiable Indicators	Assumptions/Risk
Improvement of Uganda's QNA System	QNA figures meet stakeholders' expectations in terms of quality and timeliness and abilities of the staff.	Assumptions are that the staffing shall be appropriate in terms of numbers and qualification in addition to the availability of TA and appropriate source data.

### PROJECT OUTCOMES

DQAF	Priority	Outcomes Description	Verifiable Indicators	Completion Date	Implementation Status
0.2.1	H	<b>Statistics prerequisites:</b> Increase the current staffing level of NAS Unit by two statisticians in order to implement improvements to QGDP.	Current staffing level of NAS Unit increased from 8 to 10 statisticians.	11/21/2011	Completed. There are currently ten staff members in the NAS Unit, including eight statisticians and two data editors.
0.2.1	H	Train NAS staff on the use of improved source data and compilation techniques for producing ANA and QNA.	NAS staff has the appropriate capacity and skills to compile high quality ANA and QNA.	12/31/2014	Training is being provided during missions and workshops. Need to nominate staff for IMF and other NAS courses.
3.1.1	H	<b>Data sources:</b> Improvement of data sources and indicators used to compile ANA and QNA in current and constant prices.	The indicators are representative and provide adequate coverage for each economic activity, expenditure component and other aggregates.	12/31/2014	A number of new surveys are being implemented to address data gaps, and coordination with other data providers is being improved.

<b>DQAF</b>	<b>Priority</b>	<b>Outcomes Description</b>	<b>Verifiable Indicators</b>	<b>Completion Date</b>	<b>Implementation Status</b>
3.3.1	M	<b>Statistical techniques:</b> Rebasing of QGDP	New base year 2009/10 QGDP series.	09/30/2014	SUT finalized and benchmark estimates compiled. QGDP series being finalized and updated.
3.3.1	H	Improve the methodology for compiling QGDP at constant prices.	Methodology for compiling QGDP at constant prices revised.	05/31/2014	Completed. Improvements have been implemented and the QGDP estimates have been publicly released, with further improvements incorporated in 2013 and 2014.
3.3.1	H	Develop the methodology for compiling QGDP at current prices.	Methodology for compiling QGDP at current prices implemented.	05/31/2014	Completed. Methodology developed.
3.3.1	H	Develop the methodology for compiling quarterly output and intermediate consumption estimates.	Output and intermediate consumption estimates compiled.	05/31/2014	Completed. Methodology and GO and IC estimates developed.
3.3.1	H	Produce QGDP estimates by expenditure share in current and constant prices.	QGDP by expenditure estimates compiled.	12/31/2015	Methodology developed. To be implemented by NAS staff with AFE TA.
3.3.1	H	Produce quarterly estimates of other key NAS aggregates in current prices.	Quarterly estimates of GNI, GNDI, saving, net lending/borrowing in current prices compiled.	12/31/2015	Methodology developed. To be implemented by NAS staff with AFE TA.
5.1.1	H	<b>Dissemination:</b> Release QNA within three months after the reference quarter.	QNA released to the public within three months after the reference quarter.	12/31/2011	Completed. QGDP estimates in constant prices were released to the public in early October 2011. UBOS plan to improve timeliness to two months.

<b>DQAF</b>	<b>Priority</b>	<b>Outcomes Description</b>	<b>Verifiable Indicators</b>	<b>Completion Date</b>	<b>Implementation Status</b>
5.1.1	H	Release QGDP by economic activity based on one digit on ISIC revision 4. - press release/media - publications/websites	QGDP by activity based on one digit on ISIC revision 4 released.	09/30/2014	Deadline revised to allow more time to improve key input data (e.g., VAT turnover) and assess changes in growth rates etc.
5.2.1	H	Update and release revised concepts, sources and methods manual for QGDP.	Updated QGDP manual disseminated.	09/30/2014	Initial release took place in October 2011, with a revised version expected in September 2014.

**Priority Scale:** H - High M - Medium O - Other

#### **TA ACTIVITIES - COMPLETED AND PLANNED UNDER THIS PROJECT**

<b>Date</b>	<b>ID</b>	<b>TA Activity Description</b>
11/15/2010 - 11/26/2010	11STW5215	AFE LTE: National Accounts Statistics Mission
05/05/2011 – 05/18/2011	11STZ2714	AFE LTE: Quarterly National Accounts Statistics Mission
11/08/2011 – 11/17/2011	11STZ2718	AFE LTE: Quarterly National Accounts Statistics Mission
05/08/2012 – 05/17/2012	12ST46309	AFE LTE: Quarterly National Accounts Statistics Mission
11/05/2012 – 11/16/2012	12ST46310	AFE LTE: Quarterly National Accounts Statistics Mission
05/20/2013 – 05/31/2013	13ST80910	AFE LTE: Quarterly National Accounts Statistics Mission
11/04/2013-11/15/2013	13ST80911	AFE LTE: Quarterly National Accounts Statistics Mission
05/05/2014-05/23/2014	14STG3806	AFE LTE: Quarterly National Accounts Statistics Mission
09/15/2014-09/26/2014	14STG3816	AFE LTE: Quarterly National Accounts Statistics Mission

## I. INTRODUCTION

1. In response to a request from the authorities and in consultation with AFR, the MSA undertook a TA mission to Kampala during the period May 5–23, 2014 to provide further advice in finalizing the 2009/10 supply and use tables (SUT) and compiling the rebased annual and quarterly national accounts (QNA) statistics for Uganda. This activity (14STG38:06) was undertaken within the context of the following project: National Accounts Statistics STA\_UGA\_2011\_07.
2. The Ugandan Bureau of Statistics (UBOS) is responsible for producing national accounts statistics (NAS). Estimates of gross domestic product (GDP) by economic activity and expenditure share are compiled on an annual basis and disseminated via the quarterly *Key Economic Indicators* and annual *Statistical Abstract* publications. Summary estimates are released in the government budget papers and via the UBOS website. UBOS has now commenced disseminating improved quarterly constant price GDP estimates through its website in October 2011. The GDP estimates are broadly consistent with the *System of National Accounts 1993* standards.
3. The UBOS is participating in the IMF–DFID: Enhanced Data Dissemination Initiative (EDDI) QNA Statistics Module. It is also in the process of improving and rebasing the annual GDP estimates. The next phase of the QNA project is to produce current price quarterly GDP estimates, as part of the rebase exercise with an expected release by late September 2014. This follow-up mission was requested by the authorities to finalize the SUT and 2009/10 benchmark estimates; and to provide further advice on the compilation of the rebased annual and quarterly GDP estimates. The mission worked closely with the NAS Unit staff and provided training on SUT compilation and source data issues. The cooperation and support of the authorities and counterparts is very much appreciated.
4. To assist the reader, this report includes an executive summary on the main findings and an updated QNA PFS. Following this introduction, Chapter II provides a brief update in relation to the statistics prerequisites for NAS activities. Chapter III summarizes the main aggregates of the SUT and provides an overview of the methodology and adjustments. Chapter IV includes methodological advice for the ongoing compilation of the GDP estimates. Chapter V includes the timetable for completion of the GDP rebase and release of the revised estimates.
5. Appendix I includes statistical tables including the SUT and the current NAS estimates. The updated GDP rebase action plan is provided in Appendix II.

## II. STATISTICS PREREQUISITES

6. Budget funding for UBOS has been significantly constrained in recent years. However, most of the data needed for compilation of the SUT was eventually collected. The main data gaps remaining relate to detailed international trade in services and the detailed product breakdown of IC components by economic activity.

Resource constraints have also meant that it has taken longer than desirable to complete the quality assurance work on the output from the 2009/10 Uganda Business Inquiry (UBI) and Uganda National Household Survey (UNHS), other surveys and administrative data. This extra work had to be done by the NAS Unit.

7. Securing funding to hire external consultants to assist with the GDP rebasing and SUT compilation has been a major challenge for UBOS. Eventually, the MFPED authorities recruited a consultancy firm in May 2012 to assist with the SUT. The consultants assisted the NAS Unit in compiling and balancing the preliminary SUT estimates in October 2013. However, the end result was a less than ideal mix of AFE and other experts providing advice. As the next GDP rebase will be for 2015, it is strongly recommended that UBOS secure budget funding to recruit a suitable expert to provide the 40 weeks of TA that will be required. Both Kenya and Rwanda provide good examples of how this should be done using a single external consultant with support from the AFE MSA, as needed.

8. The MSA completed a review of the 2002 SUT methodology and data requirements in August 2010, including identifying data gaps, and developed draft templates to compile the 2009/10 SUT. Follow-up missions by AFE experts during June 2011, December 2012, and April and June 2013 provided assistance with source data use and quality assurance; training on SUT methodology and data entry; and ensuring correct recording in the product balance worksheets. At-desk and seminar-based training on quality assurance of source data and compilation of the SUT was provided during these missions.

9. The current staffing level for the NAS Unit is now ten staff, comprising eight statisticians and two data editors. There is a need to increase staff skills development through attendance at regional/international NAS courses, as well as training during TA missions. The MSA has provided training to NAS compilers during missions on good compilation practices and use of indicators that are more representative and other source data for compiling annual and quarterly NAS. In addition, some staff members have been participated in the two-week AFE NAS training course conducted in Tanzania during February 2012; and the AFE QNA training courses in Uganda during September 2012 and February 2014.

10. *As recommended previously, consideration needs to be given to reviewing and improving survey and data processing timetables. There is also a need to improve data coordination and understanding of NAS requirements within UBOS and with other data providers. The recommended NAS Technical Committee is yet to be established.*

### III. SUPPLY AND USE TABLES

#### A. Key Results

11. The final 2009/10 SUT for Uganda include benchmark commodity flow and industry estimates, as well as an improved input/output (I/O) matrix for 161 activities by 161 products or commodity groups. These activities are aligned consistently with the *International Standard Industrial Classification of All Economic Activities, Revision 4*.

12. The revised GDP estimate of UGS 40.9 trillion in the SUTs is around UGS 6.0 trillion or 17.3 percent higher than the published estimate for 2009/10 of UGS 34.9 trillion.

**Table 1: Comparison between New Benchmark and Published Estimates**

UGS billions	Revised GDP	Published GDP	New contribution to GDP	Previous contribution to GDP
Agriculture	10,732	8,245	26.2%	23.6%
Industry	7,424	8,675	18.1%	24.9%
Services	19,861	15,888	48.5%	45.5%
Adjustments	2,930	2,100	7.2%	6.0%
GDP	40,946	34,908	100.0%	100.0%

13. The new Agriculture sector gross value added (GVA) estimate is UGS 2.5 trillion or 30.2 percent higher than the published GVA estimate, with the sector's share increasing by 2.6 percent of GDP, due to the increased GVA for Cash crops, Food crops, Animal production and Forestry (while the share for Fishing declined slightly).

**Table 2: Comparison of Agriculture Sector Estimates**

UGS billions	Revised GVA	Published GVA	New contribution to GDP	Previous contribution to GDP
Cash Crops	784	530	1.9%	1.5%
Food Crops	5,917	4,987	14.5%	14.3%
Animal Production	1,857	585	4.5%	1.7%
Agriculture Support				
Services	12	-	0.0%	0.0%
Forestry	1,574	1,270	3.8%	3.6%
Fishing	587	873	1.4%	2.5%
Total Agriculture	10,732	8,245	26.2%	23.6%

14. Overall, the new Industry sector GVA estimate is UGS 1.3 trillion or 14.4 percent lower than the published GVA estimate, with the sector's share decreasing by 6.7 percent of GDP, due mainly to the decreased GVA for the Electricity supply, Water supply and Construction industries (reflecting structural

changes in these industries since 2002). Partly offsetting this decline was the increased contribution to GDP for the Mining and Manufacturing industries.

**Table 3: Comparison of Industry Sector Estimates**

UGS billions	Revised GVA	Published GVA	New contribution to GDP	Previous contribution to GDP
Mining and Quarrying	464	106	1.1%	0.3%
Manufacturing	3,481	2,675	8.5%	7.7%
Electricity Supply	349	486	0.9%	1.4%
Water Supply & Sewerage	769	82	1.9%	2.8%
Construction	2,360	4,427	5.8%	12.7%
Total Industry	7,424	8,675	18.1%	24.9%

15. The revised GVA estimate for the Services sector is UGS 4.0 trillion or 25.0 percent higher than the published GVA estimate, with the share of GDP increasing by 3.0 percent. Most services industries increased their share of GDP, especially Telecommunications, Trade, Human health and social work activities, and Business services industries. However, the share of GDP declined for some industries, especially Accommodation and Food services (largely reflecting changes in cost structures and data improvements).

**Table 4: Comparison of Services Sector Estimates**

UGS billions	Revised GVA	Published GVA	New contribution to GDP	Previous contribution to GDP
Trade and Repairs	5,298	4,229	12.9%	12.1%
Transportation and Storage	1,069	1,124	2.6%	3.2%
Accommodation and Food Service Activities	934	1,614	2.3%	4.6%
Information and Communication	2,265	1,116	5.5%	3.2%
Financial and Insurance Activities	940	1,064	2.3%	3.0%
Real Estate Activities	2,194	2,108	5.4%	6.0%
Professional, Scientific and Technical Activities	1,323	464	3.2%	1.3%
Administrative and Support Service Activities	630	116	1.5%	0.3%
Public Administration	1,201	1,145	2.9%	3.3%
Education	2,031	1,801	5.0%	5.2%
Human Health and Social Work Activities	1,231	317	3.0%	0.9%
Arts, Entertainment and Recreation	124	44	0.3%	0.1%
Other Service Activities	401	463	1.0%	1.3%
Activities of Households as Employers	221	282	0.5%	0.8%
Total Services	19,861	15,888	48.5%	45.5%

16. The revised adjustments to GVA are UGS 0.8 trillion or 39.5 percent higher than the published estimate due to the allocation of financial intermediation services indirectly measured (FISIM) across industries and expenditure components instead of total FISIM being deducted from total GVA for industries.



## B. Data Sources and Methodology

17. A key objective for the current mission was to finalize the 2009/10 SUT, following the comprehensive review of the preliminary SUT and inputs files during the November 2013 mission.

18. The finalization of the SUT has involved incorporation of significantly revised source data for a number of industries, as well as changes in the input data resulting from the implementation of methodological improvements. The significant increase in the GDP level is not unexpected, given that the source data for the 2009/10 SUT are more comprehensive in coverage than the data that was available to compile the previous 2002 SUT benchmark estimates (e.g., there was no data for non-profit institutions or informal sector cross-border trade, and limited agriculture and informal sector data). The data quality of the source data for the current SUT is also better.

19. The GDP level based on the preliminary SUTs was 7.6 percent higher than the published 2009/10 GDP estimate. Since the November 2013, UBOS has made a significant effort to finalize the source data and improve coverage of the economy. This has resulted in revised data for a number of industries, including for Cash crops (GVA up UGS 96 billion); Electricity supply (GVA up UGS 167 billion); Water supply and sewerage (GVA up UGS 141 billion); Real estate activities (GVA up UGS 596 billion); Professional and administrative services (GVA up UGS 584 billion); and Public administration, education and health services (GVA up UGS 892 billion). The net impact of the revised data has been to increase the GDP level by economic activity by around UGS 2.5 trillion or 7.1 percent.

20. The improved coverage of General Government activities, including donor funded projects, has accounted for an increase in the GDP by expenditure measure of around 4.6 percent compared to the preliminary SUT.

21. A number of additional worksheets were developed during the mission to facilitate better analysis across products and industries than was possible with the individual industry and product balancing worksheets. Separate worksheets for each supply and use component, allowed for more detail comparisons across industries. The gross output (GO) and intermediate consumption (IC) sheets include separate estimates of the contributions of General Government, Non-profit institutions serving households (NPISH), other formal sector units, and informal sector units (both monetary and non-monetary/subsistence). The final consumption expenditure (FCE) sheet includes separate estimates of FCE for households (split by purchases, own produced and gifts/in-kind), Government and NPISH. Adjustments to the source data are explicitly identified, with explanation provided for the changes.

22. The approach taken has been to recompile the industry and product balances using the revised input files. This resulted in an initial discrepancy between intermediate demand for products using the commodity flow approach and the higher

IC from the industry files of around UGS 2.1 trillion. To reconcile the two estimates, the I/O matrix was used to allocate the intermediate demand for products to IC by industry.

23. In balancing the preliminary SUT, the approach taken to reconcile the two measures was to proportionally allocate intermediate demand for products across all industries and then adjust the IC/GO ratios for all industries. This resulted in improbable estimates, such as food catering, architecture, and accounting services appearing as major inputs to growing of maize.

24. For the final SUT, input data from various sources were used, as far as was possible, to allocate product intermediate demand to IC by industry. It should be noted that these input data are of limited coverage and the data quality is weak, but it has resulted in a better allocation and fewer IC/GO ratios being adjusted. However, data users should take care in using the IC product breakdown as these estimates are particularly weak compared to the other more robust estimates in the final SUT.

25. Improvements in the compilation methods have also contributed to increased GVA and GDP levels. For example, an improved methodology for calculating gross trade and transport margins (TTMs) contributed a 2.2 percent increase in the GDP level, while replacing estimates based on imputed bank service charges with estimates of FISIM (allocated across industries and expenditure components) has contributed to a further increase of 1.2 percent to the new GDP level.

### ***Gross Output***

26. In finalizing the SUT, net adjustments reduced total GO by UGS198 billion. The main adjustments are as follows:

- a) Animal production industry GO was increased by UGS 94 billion to include the value of meat from animals slaughtered on farm for own consumption at basic prices (i.e., excluding trade margins);
- b) Meat processing GO was increased by UGS 295 billion;
- c) Grain mill flour GO was increased by UGS 560 billion, reflecting the value of domestically produced paddy (un-milled) rice and other cereal inputs;
- d) Informal sector beer manufacturing GO was reduced UGS 135 billion, with a corresponding reduction in the adjustment made to beer consumption;
- e) Other manufacturing GO was reduced by UGS 100 billion as there was no corresponding use for this additional production;
- f) Gross margins for wholesale and retail trade were reduced UGS 74 billion as the sum of product margins was lower;

- g) GO was increased for various Business services by (UGS 64 billion), Secondary, technical and vocational education (UGS 179 billion), Human health (UGS 59 billion) and Other services (UGS 105 billion); and
- h) GO was reduced for other education categories (UGS 379 billion) and Social work activities (UGS 428 billion) to align with the use side estimates.

### ***Imports***

27. No adjustments were made to the imports estimates in finalizing the SUT other than the c.i.f./f.o.b. adjustment made for international freight transport and insurance, already included in the value of the goods imported (i.e., adjustment to avoid double counting) of – UGS 2,333 billion.

28. However, it should be noted that the input data used in the final SUT was updated for a number of imports of services (e.g., consultancy and technical services, broadcasting, education and human health services) of around UGS 746 billion. In several instances, estimates derived from the detailed balance of payments data on exports and imports of services were not included in the preliminary SUT.

### ***Trade and Transport Margins***

29. The TTMs allocated in the final SUT are UGS 1,253 billion higher than in the preliminary SUT. The TTMs by product in the preliminary SUT were too low, as average margins for wholesale and retail trade were used, whereas the two margins are cumulative and should have been added (where both types of traders were involved). This deficiency was addressed in finalizing the SUT.

30. The estimates were also improved by ensuring the margins were only applied to traded goods (and not total output and imports).

### ***Product Taxes less Subsidies***

31. There were no subsidies on products reported for 2009/10. No adjustments were made to the input data on the non-refundable taxes on products in finalizing the SUT. However, the input estimates are UGS 297 billion lower than the product taxes used in the preliminary SUT (due to taxes refunded).

### ***Final Consumption Expenditure***

32. Total adjustments to the household FCE (HFCE) component amounted to around UGS 1,996 billion. The main source for the HFCE is the 2009/10 UNHS. However, there are traditional areas of under-reporting by households that require adjustments, including beer, tobacco products, expenditure by school children (on confectionery, soft drinks, other food etc.), and gambling activities. These adjustments accounted for UGS 612 billion.

33. Under-reporting for various food products, social work activities, participation in membership organizations accounted for a further UGS 438 billion.
34. Adjustments of UGS 375 billion were made for FISIM and financial services not included in the UNHS results.
35. Under coverage adjustments of UGS 244 billion were also made for consumption of imported services (i.e., higher education, health and travel) using balance of payments data.
36. In addition, adjustments were required to compensate for non-response of around 7 percent for the UNHS, mainly from high income households (with security guards). The non-response estimates are based on the expenditure of responding households (i.e., mainly middle and low income). As a result, adjustments were made for under coverage of edible oils, flour, dairy products, coffee, other food products, transport, other manufactured goods and various services amounting to UGS 434 billion.
37. The main change for other FCE was the expanded coverage of General Government expenditure mentioned above. However, the expenditure was reduced by UGS 98 billion for sales of goods and services by Government (i.e., already included in HFCE and IC). No adjustments were made to total NPISH FCE.

### ***Gross Capital Formation***

38. No adjustments were made to the input data for gross fixed capital expenditure (GFCF) and changes in inventories. However, UBOS has revised the input data for the SUT since November 2013, amounting to UGS 975 billion for GFCF and UGS 108 billion for changes in inventories.

### ***Exports***

39. Net adjustments of UGS 363 billion were made to the exports estimates in finalizing the SUT, mainly for unrecorded exports to the Democratic Republic of Congo, Kenya and South Sudan of cattle, pigs, edible oil, flour, and other food products and allocated FISIM.

### ***Intermediate Demand***

40. Intermediate demand by product has been derived as a residual after finalizing the supply and other uses components for all products, and balancing the intermediate demand with the IC by industry in the I/O matrix.
41. As a result of the I/O matrix balancing process, the total IC by industry has been increased by UGS 360 billion. The main adjustments are as follows:

- a) Animal production industry IC was increased by UGS 389 billion to align with the revised GO and HFCE estimates;
- b) Meat processing IC was also increased by UGS 389 billion;
- c) Grain mill flour IC was increased by UGS 519 billion, to align with the revised GO and HFCE estimates;
- d) Quarrying was reduced by UGS 34 billion;
- e) Other manufacturing industries IC was reduced by UGS 566 billion (net);
- f) Trade and Transport IC was reduced by UGS 169 billion;
- g) Accommodation and food services IC was increased by UGS 656 billion to align with the high intermediate demand estimates (i.e., inputs);
- h) Communication and information services IC was reduced by UGS 607 billion to align with the low intermediate inputs;
- i) Financial services IC was reduced by UGS 137 billion; and
- j) IC for other services industries was reduced by UGS 82 billion (net).

#### **IV. REVISING THE ANNUAL AND QUARTERLY ESTIMATES**

42. With regards to improving the annual and quarterly GDP estimates, an initial mission during November 2010 reviewed the data sources and compilation methodology used to compile QNA estimates and made recommendations for improvements. Follow-up missions were undertaken during May and November 2011, May and November 2012, and May 2013 to provide (i) assistance with developing the methodology and worksheets to compile agriculture and construction work-in-progress (WIP) estimates; (ii) advice on improving quarterly constant price GDP estimates and producing constant price GO and IC estimates; (iii) advice on compiling quarterly current price GDP estimates; and (iv) training on methodology and use of source data.

43. During the current mission, the new benchmark estimates were included in the compilation worksheets and further advice was provided on improving the indicators and input data to be used to compile the quarterly and annual current and constant 2009/10 price GDP estimates. This section of the report summarizes the advice provided to the NAS compilers on the production estimates for each economic activity; and what additional work is required to finalize the estimates for release.

44. All the compilation files are to include summary worksheets (green tab color) at the front of the file that will include annual (calendar and fiscal) and quarterly aggregates for total, monetary (with formal and informal sector splits) and non-

monetary GO, IC and GVA at current and constant prices. These worksheets would be followed by the compilation worksheets (yellow tab), source data worksheets (blue tab) and benchmark data worksheet (maroon tab).

45. Compilers need to ensure they are using annual and quarterly average population and household numbers in the compilation process. *Where VAT turnover or other variables are used, it is important that the matched pair approach is used, rather than using the increase/decrease in the total industry level value data directly.* That is, summing only the values of reporting units within each industry for the current quarter where the previous quarter data are also reported, with the resulting growth rate between quarters then being added to the quarterly value index and used. This will ensure that the growth rates used are not affected by improved VAT compliance or additional units entering the VAT net as inflation results in their revenue increasing above the VAT threshold.

46. Fixed IC/GO ratios will not be used for current price estimates, and composite price indices for each economic activity have been developed to reflate the constant price IC to current prices. The weights for component price indices are derived by adding up the value of the various IC components in the SUT into the 3-5 main inputs (e.g., raw materials, electricity, fuel and transport, repairs and maintenance) and a residual category (other services). The values of these 4-6 components are then divided by the total IC value to derive the weights for the component price indices and then compile the weighted composite IC price index. *It will be important to ensure that the IC/GO ratio in current prices is relatively well-behaved (i.e., does not decrease or increase too much over the quarters/years).*

### A. Agriculture, Forestry and Fishing

#### *Agriculture*

47. In order to improve the quality of agriculture data, UBOS conducted the 2008 Livestock Census and the 2008/09 Uganda Census of Agriculture (UCA). Agriculture data were also collected through the 2009/10 UNHS and 2009/10 Uganda National Panel Survey (UNPS). These benchmark surveys have provided reasonably good volume data on the output for 17 major crops and stocks for 15 types of livestock for the GDP rebase exercise.

48. New compilation worksheets for various *cash and food crops* have been produced, including detailed GO, IC and GVA estimates for the major crop types in current prices based on the UCA data on area cultivated, harvest, yield rates and crop prices, UNHS consumption expenditure, Development Authorities data and the input costs data collected in the 2012 Agriculture Study. The *Crops Production Summary.xls* file includes the benchmark 2009/10 crops' production estimates for all 32 crop-types.

49. The 2009/10 estimates for GO, IC, and GVA for *animal production* are based on updated intake and off-take ratios and benchmark prices data from the 2009/10 UNPS, as well as output price indexes for various livestock products and various input price indexes.
50. The *ISIC AA – Cash Crops.xls* file has been expanded to incorporate the various cash crop source files and additional production data for sugar cane, tobacco, cotton, flowers and palm oil. For ongoing estimation purposes, all cash crop production will be treated as monetary and as formal sector activity. *The NAS compiler needs to ensure that the distribution of total inputs across each season is used to allocate the GO for cash crops.*
51. The compilation file, *ISIC AB – Food Crops.xls* includes detailed estimates of GO, IC and GVA estimates in current and constant 2009/10 prices for the 22 main food crops for Quarter 1 of 2008 onwards. Post harvest quantities and area cultivated data from the Ministry of Agriculture (MOA) are available for 17 of these crops. The yield rate and change in area cultivated for maize is used to extrapolate the area cultivated and output quantities for minor cereals; sweet potatoes data has been used for yams; and beans and peas data for other legumes and pulses. For the other fruits and other vegetables crop groups, a composite volume index based on growth in the total area cultivated and population has been used. The 2009/10 farm-gate prices for outputs and IC are extrapolated using price indexes based on the consumer price indices (CPI) and construction services indices (CSI).
52. The worksheets have been expanded to include monetary and non-monetary breakdowns by crop type using UNHS data on production for own consumption. The non-monetary subsistence component is extrapolated using the rural population growth rate as a proxy for subsistence farming. The monetary component is derived as a residual by deducting the non-monetary from the total. All production of food crops is being treated as informal sector activity, until UBOS can identify any large commercial farms and collect production data. *A summary sheet for the financial year estimates needs to be added to the ISIC AB – Food Crops.xls file.*
53. *The monetary and non-monetary breakdown needs to be added to the ISIC AC – Animal Production.xls file, using the same methodology as for food crops.* All production is being treated as informal sector activity, until UBOS can identify any large commercial dairy farmers or ranches and collect production data.
54. For ongoing compilation, the NAS Unit has to continue to rely on the poor-quality MOA data to extrapolate the benchmark estimates for food crops. Given the contribution of agricultural crops and livestock to GDP, it was recommended during the November 2010 mission that UBOS develop and conduct annual agriculture surveys. *A proper annual agriculture survey similar to the survey conducted in Rwanda, with a sample of around 8,000 reporting units and two rounds of visits per season, is strongly recommended.*

55. In the interim, the NAS Unit has been conducting a small quarterly agriculture survey with an annual sample of around 500 farmers. This survey has been valuable in validating the MOA production estimates, as it has enabled NAS compilers to check areas of reported drought/high yields. In addition, it has enabled collection of quarterly indicator data on output yield rates, inputs and farmgate output prices and purchaser prices for inputs. Unfortunately, this survey was not conducted during the last few quarters due to budget constraints. The NAS Unit also collected data on live animals sold to abattoirs. The data includes (by type of livestock) prices received by farmers per live animal, carcass weight, and meat and offal weight per animal. *It is vital that this quarterly agriculture survey recommence as soon as possible and that the NAS Unit continued to be involved in the data collection and quality assurance.*

### ***Agriculture Support Services***

56. Estimates for Agriculture Support Services have been included in the SUT based on data sourced from the Non-Profit Institutions Survey (NPIS). This activity was not previously measured and is an improvement in the coverage of the GDP estimates. The production estimates from the SUT have been used as benchmarks in the *ISIC AD - Agriculture Support Services.xls* file. All production is treated as monetary and formal sector. The constant price benchmark estimates are extrapolated using movement in the monetary GO for agriculture crops and animal production. Composite price indices are used to reflate the constant price GO and IC estimates to current prices, with GVA derived as a residual. *The dummy quarterly data for cash crops in the volume indices sheet need to be replaced with the actual data now that the cash crops estimates are finalized.*

### ***Forestry***

57. The *ISIC AE – Forestry.xls* file has been updated to include the revised benchmark estimates and can now be updated for the latest quarters and years. The benchmark estimates for logging are extrapolated using constant price inputs of wood for construction and furniture manufacturing. The estimates for firewood and charcoal are extrapolated using trend estimates of household use of these fuels in cooking, as the constant price trend in UNHS consumption data between 2005/06 and 2009/10 did not provide realistic growth rates. The estimates for other forestry products are extrapolated using the current and constant price movement for all other forestry activities' production. The CSI timber price index is used for logging output and CPI for charcoal is used for solid fuel GO. The file includes a monetary/non-monetary split of production. All monetary production will be treated as informal sector production. *A composite IC price index needs to be developed for deriving current price IC. GVA should be derived as a residual.*



### ***Fishing***

58. The *ISIC AF – Fishing.xls* file has been updated to include the revised benchmark estimates and can now be updated for the latest quarters and years. The GO estimates are extrapolated using the commodity flow approach. The CPI for fresh fish is used for the GO price index. The benchmark IC/GO ratio is used to estimate constant price IC. The file includes a monetary/non-monetary split of production. All monetary production will be treated as informal sector production. *A composite IC price index needs to be developed for deriving current price IC. GVA should be derived as a residual.*

### **B. Mining and Quarrying**

59. The final benchmark estimates have been included in the *ISIC B – Mining and Quarrying.xls* file, with separate estimates for petroleum, mining and quarrying activities, and can now be updated for the latest periods. Current price GO and constant price GO and IC estimates are compiled by extrapolating the benchmark estimates using volume indices based on production quantities and value indices based on value (prices multiplied by quantities) of mining and quarrying products from the Construction industry file and Mines Department. *The compiler still needs to collect additional data, especially for petroleum and natural gas.*

60. The benchmark IC/GO ratios are used to derive the constant price IC and composite IC price indices are used to reflate these estimates to produce current price IC. GVA estimates are derived as residuals. All production is treated as monetary. The formal sector benchmark estimates are based on UBI data, with informal sector derived as a residual.

### **C. Manufacturing**

61. The final SUT benchmark estimates have been incorporated into the *ISIC C – Manufacturing.xls* worksheets and can now be updated for the latest quarters and years. The benchmark estimates for 43 manufacturing activities are extrapolated using quarterly volume indicators based on the Index of Production (IOP) and exports data for tobacco to derive constant price GO and IC estimates (using the benchmark IC/GO ratio), with GVA derived as a residual. *The NAS compiler needs to discuss and resolve the unrealistic movement for meat processing with the Industry Statistics Directorate staff.*

62. The current price GO estimates are estimated by extrapolating the GO benchmarks using value indicators that have been derived by reflating the volume indicators using the detailed manufacturing producer price indices (PPI). For IC estimates, composite price indices, based on the CPI, PPI and implicit price deflators (IPD) for animal production GO and logging GO, are used to reflate the volume indicators to produce an IC value indicator for each industry and used to extrapolate the benchmark IC estimate. GVA is derived as a residual.

63. Separate GO, IC and GVA estimates at current and constant 2009/10 prices are compiled for each of the 43 activities, including at the total level; monetary formal and informal sectors; and for non-monetary production for own final use (where appropriate).

#### **D. Electricity, Gas, Steam and Air Conditioning Supply**

64. The SUT benchmark estimates have been added to the *ISIC D – Electricity Supply.xls* file and the file can now be updated for the latest periods. The IC/GO ratio has been revised down in the balancing process. The GVA for the industry is estimated as the sum of the GVA of the distributor and the domestic generating companies selling electricity to the distributor. The benchmark GO and IC estimates are extrapolated using the volume of electricity distributed and the benchmark IC/GO ratio, with GVA derived as a residual.

65. For current prices, the benchmark GO estimate is extrapolated using a value index (based on inflating the volume index using the CPI for electricity and adjusted to 2009/10 = 100). *A composite price index needs to be developed to produce a similar value index to extrapolate the IC benchmark to derive current price IC, with GVA derived as a residual. Annual survey (or income tax system) data should be used to update the current price estimates.* All production should be treated as monetary formal sector.

#### **E. Water Supply, Sewerage and Waste Management Activities**

66. The *ISIC E – Water Supply, Sewerage and Waste Management.xls* file now includes the final SUT benchmark estimates and should be updated for the latest quarters and years. For constant price estimates, the benchmark GO and IC estimates for the formal sector are extrapolated using the volume of water distributed by the National Water Supply Company (NWSC) and the benchmark IC/GO ratio, with GVA derived as a residual. The NWSC provides water supply and sewerage collection services. The same indicator is used to extrapolate the informal sector monetary GO, and the informal sector IC/GO ratio will be applied to derive the IC, with GVA derived as a residual.

67. For the non-monetary component, the trend growth rate of households collecting their own water (e.g., from communal wells, rivers, lakes) between the UNHS 2005/06 and the UNHS 2009/10 will be used to extrapolate the benchmark GO and GVA estimates. There is no IC for non-monetary water collection by households, only GVA (labor).

68. For current price estimates, the CPI water charges index will be used to reflate the volume indices to produce value indices where 2009/10 = 100. These indices will be used to extrapolate all three benchmark GO estimates. *A composite price index needs to be developed to produce a similar value index to extrapolate the IC benchmark to derive current price IC, with GVA derived as a residual for the*

*monetary formal and informal sectors. Annual survey (or income tax system) data for NWSC should be used to update the current price estimates for the formal sector.*

## **F. Construction**

69. The final 2009/10 benchmark estimates have been included in the *ISIC F – Construction.xls* file and it should now be updated for the latest periods. The benchmark GO estimates by type of construction activity are extrapolated using volume and value indices for a range of construction materials. The commodity flow approach is used to develop these indices of use of various materials in construction. The source data for the volume indicators comes from the IOP and the Mines Department for domestic production, and deflated imports and exports data from the Uganda Revenue Authority (URA) and the Informal Cross Border Trade Survey (ICBTS).

70. The current price external trade data for construction materials are deflated, and domestic production volumes are adjusted to current values, using various CSI prices. Benchmark ratios are applied to the constant price material inputs to derive the other IC components (e.g., electricity, fuel, and other services) and GVA. Relevant price indices are used to reflate these IC components and GVA to produce the current price estimates. Separate estimates at current and constant 2009/10 prices are produced for total construction activity, formal and informal sectors, and for the non-monetary production (i.e., traditional dwelling construction).

## **G. Motor Vehicle Sales and Repairs, and Other Wholesale and Retail Trade**

71. The *ISIC G – Trade and Repairs.xls* file now includes the final benchmark estimates and can be updated for the latest quarters and years. For ***sales and repairs of motor vehicles and motorcycles*** the benchmark estimates for sales margins are extrapolated using value and volume indices compiled using imports data to derive current and constant price estimates. A weighted composite volume indicator based on motor registration data is used to extrapolate the benchmark GO estimate for repairs to derive the constant price GO estimate. This is reflated using a price index based on the CPI for vehicle maintenance to derive the current price GO. The benchmark IC/GO ratio is used to derive constant price IC, with GVA derived as a residual. A composite IC price index is used to reflate the constant price IC to current prices and then derive the GVA as a residual. Separate estimates for the formal and informal sectors are compiled.

72. For ***wholesale and retail trade*** the final SUT gross margins data and UBI IC/GO ratios have been used for the total, formal and informal GO and IC benchmarks respectively. The benchmark gross margin estimates are extrapolated using 16 value and volume indices, derived from the monetary GO for agriculture, forestry, fishing, mining and quarrying and manufacturing, and imports data. The benchmark IC/GO ratio is used to derive constant price IC, with GVA derived as a residual. A composite IC price index is used to reflate the constant price IC to

current prices and then derive the GVA as a residual. Separate estimates for the formal and informal sectors are compiled. *The NAS compiler needs to replace the dummy indicator data for cash crops and mining once the final monetary GO estimates for cash crops and mining have been compiled.*

## H. Transport and Storage

73. The final benchmarks estimates have been added to the *ISIC H – Transport and Storage.xls* file and it can now be updated for the latest periods. Separate formal and informal sector estimates are compiled for each transport and storage activity, as appropriate. For ***rail transport***, quarterly financial data are used to compile the current price estimates. A volume indicator based on net ton-kilometers is used to extrapolate the benchmark estimates to derive the constant price estimates.

74. Constant price GO and IC estimates for ***road passenger transport*** are compiled by extrapolating the benchmark GO using a weighted composite passenger volume index (based on vehicle registration and tourist arrivals data) and the benchmark IC/GO ratio. Current price GO and IC are estimated by extrapolating the benchmarks using value indices, which are derived from reflating the constant price series using appropriate composite price indexes (CPI bus and taxi fares for GO and CPI petrol, maintenance and other services for IC). GVA estimates are derived as residuals.

75. Constant price GO and IC estimates for ***road freight transport*** are compiled by extrapolating the benchmark GO using a weighted composite freight volume index (based on vehicle registration, diesel and constant price trade margins) and the benchmark IC/GO ratio. Current price GO and IC are estimated by extrapolating the benchmarks using value indices, which are derived from reflating the constant price series using appropriate composite price indexes (CPI transport for GO and CPI diesel, maintenance and other services for IC). GVA estimates are derived as residuals.

76. For ***water transport***, constant price GO and IC estimates are compiled by extrapolating the benchmark GO estimate using the rural population growth rate, as the closest proxy available for water transport mainly in rural areas, and the benchmark IC/GO ratio. CPI transport fares and a composite IC price index are used to produce value indices that are then used to compile the current price GO and IC. GVA estimates are derived as residuals.

77. Constant price GO and IC estimates for ***air transport*** are compiled by extrapolating the benchmark GO using a weighted composite volume index (based on freight, passenger and mail volumes through Entebbe) and the benchmark IC/GO ratio. *The compiler needs to arrange with the Civil Aviation Authority to provide data specific to Air Uganda.* Current price GO and IC are estimated by extrapolating the benchmarks using value indices, which are derived from reflating the constant price series using appropriate composite price indexes (CPI airfares for GO and CPI

for transport maintenance and petrol for IC). GVA estimates are derived as residuals. *Annual survey (or income tax system) for Air Uganda should be used to update the current price estimates.*

78. For ***warehousing and support activities***, constant price GO and IC estimates are compiled by extrapolating the benchmark GO using a weighted composite volume index (based on freight, passenger and mail volumes) and the benchmark IC/GO ratio. A composite GO price index (based on CPI rents and other services) and a composite IC price index will be used to produce value indices that will then be used to compile the current price GO and IC. GVA estimates are derived as residuals.

79. Constant price GO and IC estimates for ***postal and courier services*** are compiled by extrapolating the benchmark GO using a composite volume index (using mail cargo and postal volume indicators) and the benchmark IC/GO ratio. A GO price index (based on CPI transport) and a composite IC price index are used to produce value indices that are then used to compile the current price GO and IC. GVA estimates are to be derived as residuals.

### I. Accommodation and Food Service Activities

80. The *ISIC I – Accommodation and Food Service Activities.xls* file has been updated for the final benchmark estimates and should now be updated for the latest quarters and years. The constant price GO and IC estimates for ***accommodation services*** are compiled by extrapolating the benchmark GO using a composite volume index (based on the trend constant price growth rate between UNHS 2005/06 and 2009/10 household FCE, tourists and constant price IC for client industries) and the benchmark IC/GO ratio. A GO price index (based on CPI accommodation/rents) and a composite IC price index are used to produce value indices that are then used to compile the current price GO and IC. *The price change for PPI for accommodation services should be used for the GO price index once it becomes available.* GVA estimates are derived as residuals.

81. For ***food and beverage service activities***, constant price GO and IC estimates are compiled by extrapolating the benchmark GO using a composite volume index (based on the trend constant price growth rate between UNHS 2005/06 and 2009/10 household expenditure, tourists and constant price IC for client industries) and the benchmark IC/GO ratio. A GO price index (based on CPI meals away/restaurants) and a composite IC price index are used to produce value indices that are then used to compile the current price GO and IC. *The price change for PPI for catering services should be used for the GO price index once it becomes available.* GVA estimates are derived as residuals.

## **J. Information and Communication**

82. The final SUT benchmarks have been incorporated into the *ISIC J – Information and Communication.xls* file and it can now be updated for the most recent quarters and years.

83. For *telecommunications*, quarterly financial statements should be used to compile the current price estimates. Constant price GO and IC estimates are compiled by extrapolating the benchmark estimates using a composite weighted volume index based on talk time within network, across networks, international, fixed line; internet usage and connections. GVA is derived as a residual. Where financial statements are not available, the current price GO estimates will be compiled by reflating the volume index using a composite weighted price index base on the CPI for various telecommunication charges to derive a value index that will be used to extrapolate the benchmark GO.

84. As household consumption expenditure on books and magazines accounts for more than 90 percent of the benchmark GO estimate, the benchmark estimate for *publishing* is extrapolated using the trend constant price growth rate between UNHS 2005/06 and 2009/10 household FCE to derive constant price GO. Constant price IC is compiled by applying the benchmark IC/GO ratio, with GVA derived as a residual. A value index has been developed using the CPI for books and magazines to reflate the volume index and is used to derive the current price GO estimate.

85. For *audio-visual production and distribution activities, broadcasting and programming, computer and information services*, there are no comprehensive source data available for ongoing estimation. Value indices based on VAT turnover data are used to extrapolate the benchmark GO estimates to derive current price GO estimates. The value indices are converted to volume indices using the services CPI in order to derive the constant price GO estimates. The benchmark IC/GO ratios are applied to compile the constant price IC estimates, with the GVA estimates derived as residuals. *Annual survey (or income tax system) data should be used to update the current price estimates.*

86. Composite IC price indices are used to construct IC value indices to extrapolate the IC benchmark for each activity, with current price GVA estimates derived as residuals.

## **K. Financial and Insurance Activities**

87. The final benchmarks estimates have been added to the *ISIC K – Financial and Insurance.xls* file and it should now be updated for the latest periods. The main annual and quarterly input data used for the compilation is sourced from the BOU and commercial banks.

88. For other financial services and auxiliaries (e.g., microfinance, foreign exchange dealers, stock exchange and brokers) and for insurance activities (including

providers, agents and brokers) and pension funds, separate worksheets with benchmarks and indicators based on URA income/VAT turnover data for each activity is used to compile the estimates.

89. FISIM is derived by extrapolating the benchmark estimates using volume indices for deposits and loans deflated using the general CPI. Other revenue is deflated using the services CPI. The benchmark IC/GO ratios are then be applied to compile the constant price IC estimates, with the GVA estimates derived as residuals. Composite IC price indices are used to develop the IC value indices to compile the current price IC estimates. The GVA estimates will be derived as residuals.

#### **L. Real Estate Activities**

90. The *ISIC L – Real Estate Activities.xls* file now includes the final SUT benchmark estimates and can be updated for the latest quarters and years. The benchmark GO estimates for ***actual and imputed rents*** are extrapolated using volume indices based on the trend constant price growth rate between UNHS 2005/06 and 2009/10 household FCE to derive constant price GO estimates. Constant price IC estimates are compiled by applying the benchmark IC/GO ratio, with GVA estimates derived as residuals. A GO value index has been developed using the CPI rents to reflate the volume index, and is used to derive the current price GO estimates. An IC value index has been developed using the CPI repairs and maintenance to reflate the volume index, and is used to derive the current price IC estimates. The GVA estimates are derived as residuals.

91. For other ***real estate activities***, a value index based on VAT turnover data are used to extrapolate the benchmark GO estimate to derive current price GO. The value index is converted to volume indices using the CPI rents in order to derive the constant price GO estimate. The benchmark IC/GO ratio is applied to compile the constant price IC estimates, with the GVA estimates derived as a residual. A composite IC price index is used to develop the IC value index to compile the current price IC estimate. The GVA estimate is derived as residual. *Annual survey (or income tax system) data should be used to update the current price estimates.*

#### **M. Professional, Scientific and Technical Activities**

92. The final benchmark estimates have been added to the *ISIC M - Professional, Scientific and Technical Activities.xls* file and it should now be updated for the latest periods. As almost all of the activities are in the formal sector, value indices based on VAT turnover data are used to extrapolate the benchmark GO estimates to derive current price GO. The value indices are converted to volume indices using the services CPI in order to derive the constant price GO estimates. The benchmark IC/GO ratios are applied to compile the constant price IC estimates. Composite IC price indices are used to develop the IC value indices to compile the current price IC

estimates. The GVA estimates are derived as residuals. *Annual survey (or income tax system) data should be used to update the current price estimates.*

#### **N. Administrative and Support Service Activities**

93. The final benchmark estimates have been added to the *ISIC N - Administrative and Support Service Activities.xls* file and it should now be updated for the latest periods. Most of these activities are in the formal sector, so value indices based on VAT turnover data are used to extrapolate the benchmark GO estimates to derive current price GO. The value indices are converted to volume indices using the services CPI in order to derive the constant price GO estimates. The benchmark IC/GO ratios is applied to compile the constant price IC estimates. Composite IC price indices are used to develop the IC value indices to compile the current price IC estimates. The GVA estimates are derived as residuals. *Annual survey (or income tax system) data should be used to update the current price estimates.*

#### **O. Public Administration; Compulsory Social Security Activities**

94. The revised benchmark estimates for 2009/10 have been added to the *ISIC O – Public Administration.xls* file and it should now be updated for the latest periods. The current price estimates should be based on more complete government finance data being provided quarterly. In the interim, the annual benchmarks should be extrapolated using the quarterly salaries and wages data that are currently provided as a value indicator and XLPBM to compile quarterly GVA estimates.

95. The use of the general CPI and underlying CPI for deflation has been discontinued as these do not reflect actual salary increases for public servants at all. *The NAS compiler should develop a labor costs index for Government for deflation purposes.* In the meantime, the more plausible CPI for services is being used as a proxy price deflator for GVA. The benchmark GVA/GO ratio is applied to derive the constant price GO estimate, with the IC estimate derived as a residual. A composite IC price index is used to reflate the constant price IC to derive the current price IC estimate. The current price GVA and IC estimates are summed to derive the current price GO estimate.

#### **P. Education**

96. The *ISIC P – Education.xls* file now includes the final benchmark estimates and should be updated for the latest periods. The methodology discussed above for public administration is used for estimating **public education** GO, IC and GVA by level of education (i.e., pre-primary and primary education, secondary and technical education, higher education and other education).

97. Estimates for **private education** are also produced by level of education. The quarterly constant price trend growth rate of around 1.83 percent in household FCE on education fees between UNHS 2005/06 and 2009/10 is used to derive the constant



price GO estimates, given the data gaps in the private sector enrolments and teaching staff data. The benchmark IC/GO ratio is used to derive the constant price IC estimates. The constant price GO estimates is reflated using CPI education fees by level of education to develop value indices to extrapolate the benchmark GO estimates to compile current price GO estimates. A composite IC price index is used to reflate the constant price IC estimates to develop a value index to extrapolate the benchmark IC estimates to compile current price IC estimates. The GVA estimates are derived as residuals.

### **Q. Human Health and Social Work Activities**

98. The *ISIC Q – Human Health and Social Work Activities.xls* file now includes the final benchmark estimates and should be updated for the latest periods. The methodology discussed above for public administration is used for estimating **public health** GO, IC and GVA in the new file.

99. For **private health**, quarterly constant price trend growth rate of around 2.23 percent in household FCE on doctor consultation and hospital services fees between UNHS 2005/06 and 2009/10 is used to derive the constant price GO estimates, given the data gaps in the private sector health data. The benchmark IC/GO ratio is used to derive the constant price IC estimate. The constant price GO estimates are reflated using CPI for medical charges to develop value indices to extrapolate the benchmark GO estimates to compile current price GO estimates. A composite IC price index is used to reflate the constant price IC estimates to develop a value index to extrapolate the benchmark IC estimates to compile current price IC estimates. The GVA estimates are derived as residuals.

100. For **social work activities**, the benchmark GO estimates are extrapolated to compile constant price GO estimates using a composite volume index based on the various groups of client populations receiving these services (e.g., disabled persons, orphans, elderly) based on data from the Demographic Health Surveys for 2006 and 2011. The benchmark IC/GO ratio is used to derive the constant price IC estimate. The constant price GO estimates are reflated using the services CPI to develop value indices to extrapolate the benchmark GO estimates to compile current price GO estimates. Similarly, a composite IC price index is used to reflate the constant price IC estimates to develop a value index to extrapolate the benchmark IC estimates to compile current price IC estimates. GVA estimates are derived as residuals.

### **R. Arts, Entertainment and Recreation**

101. The *ISIC R - Arts, Entertainment and Recreation.xls* file now includes the final benchmark estimates and should be updated for the latest periods. As most of these activities are undertaken by the formal sector, value indices based on VAT turnover data are used to extrapolate the benchmark GO estimates to derive current price GO. The value indices are converted to volume indices using the CPI for other services (and recreation services) in order to derive the constant price GO estimates.

The benchmark IC/GO ratios is then applied to compile the constant price IC estimates, with the GVA estimates derived as residuals. Composite IC price indices are used to develop the IC value indices to compile the current price IC estimates. The GVA estimates are derived as residuals. *Annual survey (or income tax system) data should be used to update the current price estimates.*

### **S. Other Service Activities**

102. The new *ISIC S – Other Service Activities.xls* file now includes the final benchmark estimates and should be updated for the latest periods. The benchmark GO estimate is extrapolated using the quarterly constant price trend growth rate of around 2.52 percent in household expenditure on other services between UNHS 2005/06 and 2009/10 to derive the constant price GO estimates, given the lack of data or indicators for these activities. The benchmark IC/GO ratio is used to derive the constant price IC estimate.

103. The constant price GO estimates are reflatd using CPI for other services to develop value indices to extrapolate the benchmark GO estimates to compile current price GO estimates. A composite IC price index is used to reflate the constant price IC estimates to develop a value index to extrapolate the benchmark IC estimates to compile current price IC estimates. GVA estimates are derived as residuals.

### **T. Activities of Households as Employers**

104. The *ISIC T – Activities of Households as Employers.xls* file now includes the final benchmark estimates and should be updated for the latest periods. The benchmark GO and GVA estimates for domestic staff in urban and rural households are extrapolated using the quarterly trend growth rates in urban and rural household formation between UNHS 2005/06 and 2009/10 to derive the constant price GO estimate, given the lack of data or indicators for these activities. This activity does not have IC, only GVA (i.e., labor). The constant price GO and GVA estimates are reflatd using CPI for other services to develop value indices to extrapolate the benchmark estimates to compile current price estimates.

### **U. Taxes less Subsidies on Products**

105. Current price estimates are compiled from monthly URA data provided to the compiler for taxes on products. The annual methodology has been improved and adapted for use in quarterly estimation.

106. For example, by using deflated import values (or quantity revaluation of imports at the detailed 8-digit level using 2009/10 average prices) as a volume indicator to extrapolate the benchmark estimate for import duties and VAT at a disaggregated level.

107. For excise taxes on selected imports (e.g., alcohol, fuel, and tobacco), where the imports are homogeneous use the quantities imported as volume indicators otherwise use the method above.

108. For taxes on domestic products, the constant price monetary GO estimate for the relevant goods and services subject to excise or VAT is used. There are currently no subsidies on products.

#### **V. COMPLETION OF THE GDP REBASE**

109. The following timetable has been prepared to complete the GDP rebasing exercise and to disseminate the new 2009/10 base year series. The updated GDP rebase action plan is provided in Appendix II.

##### **TIMETABLE FOR COMPLETION OF THE GDP REBASE EXERCISE**

<b>Task</b>	<b>Responsibility</b>	<b>Completion Date</b>
1. Finalize the new compilation worksheets in Excel for all economic activities, and expenditure components.	All NAS compilers Head of NAS Unit	08/01/2014
2. Finalize development of the output and publication worksheets in Excel.	Head of NAS Unit	08/01/2014
3. Collect all prices, value and volume data and indicators required for compiling the revised estimates.	All NAS compilers Head of NAS Unit	08/29/2014
4. Update the worksheets to Quarter 2 of 2014, CY2013 and FY2013/14.	All NAS compilers Head of NAS Unit	09/05/2014
5. Cross-check other compilers worksheets for any formulae errors or unexpected results.	All NAS compilers Head of NAS Unit	09/09/2014
6. Prepare publication tables and analysis, including explanations for the differences between previous and new levels and growth rates.	All NAS compilers Head of NAS Unit	09/16/2014
7. Clear publication through UBOS management.	Head of NAS Unit	09/23/2014
8. Release the rebased annual and quarterly estimates.	UBOS authorities	09/30/2014

110. The structure of the integrated annual and quarterly compilation system was discussed with NAS Unit staff, covering source data files, compilation files, and the various output and publication files.

**APPENDIX I: SUT COMPARISON TABLES**

**Table 1: Economic Activity Summary – Gross Output (Millions UGS)**

ISIC Code	Description	Total GO	GG & BOU GO	NGO GO	Other Formal GO	Informal Mon GO	Informal Own GO
AA	Cash Crops	944,235	-	-	925,336	16,637	2,262
AB	Food Crops	7,246,254	-	-	-	3,797,001	3,449,253
AC	Animal Production	3,037,932	-	-	-	2,344,365	693,567
AD	Agriculture Support Services	60,849	-	60,849	-	-	-
AE	Forestry	1,703,336	-	-	49,350	1,114,643	539,343
AF	Fishing	638,573	-	-	-	593,128	45,445
B	Mining and Quarrying	800,216	-	-	243,379	556,838	-
CA	Manufacturing of Food, Beverage and Tobacco Products	6,399,567	-	-	3,168,003	2,690,152	541,412
CB	Manufacturing of Other Products	4,375,615	-	-	3,164,188	1,205,525	5,901
D	Electricity Supply	442,219	-	-	442,219	-	-
E	Water Supply, Sewerage and Waste Management Activities	850,949	-	-	107,931	116,901	626,117
F	Construction	7,076,026	-	-	5,548,226	1,411,140	116,660
G	Trade and Repairs	7,717,714	-	-	4,433,314	3,284,400	-
H	Transportation and Storage	2,029,518	-	-	846,201	1,183,317	-
I	Accommodation and Food Service Activities	2,068,966	-	-	833,017	1,235,948	-
J	Information and Communication	3,498,986	-	-	3,449,484	49,502	-
K	Financial and Insurance Activities	1,758,777	244,079	-	1,489,155	25,542	-
L	Real Estate Activities	2,411,886	-	-	212,648	713,964	1,485,274
M	Professional, Scientific and Technical Activities	1,906,560	-	-	1,887,337	19,223	-
N	Administrative and Support Service Activities	936,204	-	-	877,614	58,590	-
O	Public Administration	2,847,926	2,847,926	-	-	-	-
P	Education	2,761,758	596,558	47,975	1,669,229	447,997	-
Q	Human Health and Social Work Activities	2,070,091	587,863	642,553	737,478	102,197	-
R	Arts, Entertainment and Recreation	189,739	-	5,160	168,801	15,778	-
S	Other Service Activities	628,553	-	36,181	389,591	202,780	-
T	Activities of Households as Employers	220,606	-	-	-	220,606	-
	Taxes less Subsidies on Products	2,929,581					
	<b>Total</b>	<b>67,552,636</b>	<b>4,276,425</b>	<b>792,718</b>	<b>30,642,504</b>	<b>21,406,175</b>	<b>7,505,234</b>

**Table 2: Economic Activity Summary – Intermediate Consumption (Millions UGS)**

ISIC Code	Description	Total IC	GG & BOU IC	NGO IC	Other Formal IC	Informal Mon IC	Informal Own IC	Of which allocated FISIM
AA	Cash Crops	159,943	-	-	150,633	8,833	477	5,667
AB	Food Crops	1,329,201	-	-	-	684,669	644,532	2,975
AC	Animal Production	1,180,684	-	-	-	1,038,392	142,291	1,165
AD	Agriculture Support Services	48,641	-	48,641	-	-	-	-
AE	Forestry	129,454	-	-	3,751	84,713	40,990	10
AF	Fishing	51,724	-	-	-	48,043	3,681	201
B	Mining and Quarrying	336,446	-	-	104,817	231,629	-	593
CA	Manufacturing of Food, Beverage and Tobacco Products	4,972,608	-	-	2,291,894	2,203,401	477,313	15,803
CB	Manufacturing of Other Products	2,321,082	-	-	1,650,676	667,258	3,148	7,376
D	Electricity Supply	92,866	-	-	92,866	-	-	841
E	Water Supply, Sewerage and Waste Management Activities	81,926	-	-	49,148	32,778	-	464
F	Construction	4,715,562	-	-	3,719,588	946,042	49,931	4,978
G	Trade and Repairs	2,419,977	-	-	1,653,457	766,520	-	57,744
H	Transportation and Storage	960,647	-	-	329,410	631,237	-	6,120
I	Accommodation and Food Service Activities	1,134,941	-	-	378,524	756,417	-	2,934
J	Information and Communication	1,233,751	-	-	1,217,630	16,121	-	6,147
K	Financial and Insurance Activities	818,804	166,448	-	642,007	10,349	-	22,958
L	Real Estate Activities	217,395	-	-	85,712	22,863	108,820	24,714
M	Professional, Scientific and Technical Activities	583,117	-	-	577,903	5,214	-	3,911
N	Administrative and Support Service Activities	306,186	-	-	287,571	18,615	-	2,474
O	Public Administration	1,647,379	1,647,379	-	-	-	-	98,421
P	Education	731,239	97,578	36,658	500,769	96,234	-	15,385
Q	Human Health and Social Work Activities	839,431	429,411	213,622	169,634	26,763	-	855
R	Arts, Entertainment and Recreation	66,071	-	622	60,966	4,483	-	74
S	Other Service Activities	227,094	-	12,062	151,505	63,527	-	11,770
T	Activities of Households as Employers	-	-	-	-	-	-	-
	Taxes less Subsidies on Products	-	-	-	-	-	-	-
	<b>Total</b>	<b>26,606,168</b>	<b>2,340,816</b>	<b>311,605</b>	<b>14,118,460</b>	<b>8,364,102</b>	<b>1,471,184</b>	<b>293,579</b>

**Table 3: Economic Activity Summary – Gross Value Added and GDP by Economic Activity (Millions UGS)**

ISIC Code	Description	GG & BOU GVA	NGO GVA	Other Formal GVA	Informal Mon GVA	Informal Own GVA	Total GVA	GVA/G O ratio	IC/GO ratio	Current NA I/O ratio	New contribution to GDP	Old contribution to GDP	Current NA GVA	% change NA
AA	Cash Crops	-	-	774,703	7,804	1,785	784,292	83%	17%	32%	1.9%	1.5%	530,179	48%
AB	Food Crops	-	-	-	3,112,332	2,804,721	5,917,053	82%	18%	22%	14.5%	14.3%	4,986,908	19%
AC	Animal Production	-	-	-	1,305,973	551,276	1,857,249	61%	39%	15%	4.5%	1.7%	585,117	217%
AD	Agriculture Support Services	-	12,208	-	-	-	12,208	20%	80%	0%	0.0%	0.0%	-	0%
AE	Forestry	-	-	45,599	1,029,930	498,353	1,573,882	92%	8%	1%	3.8%	3.6%	1,269,763	24%
AF	Fishing	-	-	-	545,085	41,764	586,849	92%	8%	8%	1.4%	2.5%	872,935	-33%
B	Mining and Quarrying	-	-	138,562	325,208	-	463,770	58%	42%	24%	1.1%	0.3%	106,146	337%
CA	Manufacturing of Food, Beverage and Tobacco Products	-	-	876,109	486,752	64,099	1,426,959	22%	78%	82%	3.5%	4.6%	1,598,090	-11%
CB	Manufacturing of Other Products	-	-	1,513,512	538,268	2,753	2,054,533	47%	53%	72%	5.0%	3.1%	1,076,596	91%
D	Electricity Supply	-	-	349,353	-	-	349,353	79%	21%	17%	0.9%	1.4%	485,503	-28%
E	Water Supply, Sewerage and Waste Management Activities	-	-	58,784	84,122	626,117	769,023	90%	10%	7%	1.9%	2.8%	982,357	-22%
F	Construction	-	-	1,828,639	465,097	66,728	2,360,464	33%	67%	37%	5.8%	12.7%	4,426,690	-47%
G	Trade and Repairs	-	-	2,779,857	2,517,880	-	5,297,737	69%	31%	35%	12.9%	12.1%	4,229,087	25%
H	Transportation and Storage	-	-	516,791	552,080	-	1,068,871	53%	47%	36%	2.6%	3.2%	1,123,625	-5%
I	Accommodation and Food Service Activities	-	-	454,493	479,531	-	934,025	45%	55%	21%	2.3%	4.6%	1,613,551	-42%
J	Information and Communication	-	-	2,231,853	33,381	-	2,265,235	65%	35%	49%	5.5%	3.2%	1,116,328	103%
K	Financial and Insurance Activities	77,631	-	847,149	15,194	-	939,973	53%	47%	30%	2.3%	3.0%	1,064,234	-12%
L	Real Estate Activities	-	-	126,936	691,101	1,376,454	2,194,491	91%	9%	8%	5.4%	6.0%	2,107,746	4%
M	Professional, Scientific and Technical Activities	-	-	1,309,434	14,009	-	1,323,443	69%	31%	38%	3.2%	1.3%	464,196	185%
N	Administrative and Support Service Activities	-	-	590,043	39,975	-	630,018	67%	33%	38%	1.5%	0.3%	116,049	443%
O	Public Administration	1,200,547	-	-	-	-	1,200,547	42%	58%	55%	2.9%	3.3%	1,144,933	5%
P	Education	498,980	11,317	1,168,460	351,763	-	2,030,520	74%	26%	20%	5.0%	5.2%	1,801,294	13%
Q	Human Health and Social Work Activities	158,451	428,931	567,844	75,434	-	1,230,660	59%	41%	52%	3.0%	0.9%	317,348	288%
R	Arts, Entertainment and Recreation	-	4,538	107,835	11,295	-	123,668	65%	35%	43%	0.3%	0.1%	44,387	179%
S	Other Service Activities	-	24,120	238,086	139,253	-	401,459	64%	36%	43%	1.0%	1.3%	463,489	-13%
T	Activities of Households as Employers	-	-	-	220,606	-	220,606	100%	0%	43%	0.5%	0.8%	281,586	-22%
	Taxes less Subsidies on Products						2,929,581				7.2%	8.0%	2,798,905	5%
												-2.0%	698,627	
	<b>Total</b>	<b>1,935,609</b>	<b>481,114</b>	<b>16,524,043</b>	<b>13,042,072</b>	<b>6,034,050</b>	<b>40,946,469</b>	<b>61%</b>	<b>39%</b>	<b>41%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>34,908,416</b>	<b>17%</b>

## APPENDIX II: ACTION PLAN FOR THE SUTs/GDP REBASE

This section sets out in tabular form the revised action plan to compile the SUTs and benchmark estimates for 2009/10 and to rebase the NAS for Uganda.

### OBJECTIVES

Objectives	Verifiable Indicators	Completion Date	Assumptions
Compile SUTs and rebase GDP estimates to 2009/10.	SUTs compiled and GDP estimates rebased to 2009/10.	09/30/2014	The authorities ensure that appropriate staff and other resources, including TA, are available to implement this action plan.

### ACTIVITIES/OUTPUTS

DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
<b>0.1 and 0.2</b>	<b>H</b>	<b>Improve institutional infrastructure and operational capacity to compile NAS.</b>	<b>Institutional infrastructure and operational capacity to compile NAS improved.</b>	<b>06/30/2014</b>	
0.1.4	M	Improve data reporting enforcement procedures for business surveys.	Improved business survey response rates, including improved quality of reported data.	06/30/2014	Revised Statistics Law has been drafted.
0.2.1	H	Build technical capacity of NAS compilers.	Technical knowledge and skills improved through on-the-job learning and training.	06/30/2014	Training provided during MSA missions.
0.2.2	H	Secure additional TA to assist with source data extraction, quality assurance and mapping to SUTs activities/products.	Additional TA secured for the project.	12/31/2011	Funding through FINMAP secured and consultants have been selected.
0.2.3	H	Ensure adequate staff and other resources are redeployed to collect the additional data needed for the SUTs and rebase.	An additional three statisticians recruited to NAS Unit.	12/31/2013	Completed.

DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
0.2.4	H	Strengthen project management for the SUTs/rebase exercise.	Direct management of the project by the MES Director.	12/31/2010	Implemented.
0.2.5	H	Establishment of the NAS Technical Committee to improve data coordination and project implementation.	Committee established and meeting on a monthly basis.	09/30/2014	Delayed. To be established by MES Director.
<b>3.1</b>	<b>H</b>	<b>Ensure appropriate source data are available to compile the SUT and revised estimates.</b>	<b>The required source data are available and fit for use.</b>	<b>11/30/2012</b>	
3.1.1	H	Complete initial data assessment and stock take of available source data.	Initial assessment of data sources completed.	08/31/2010	Completed by NAS counterparts and MSA.
3.1.2	H	Data extraction, quality assurance and mapping to SUTs activities and products from the Agriculture Census 2008/09.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	05/31/2013	Completed.
3.1.3	H	Data extraction, quality assurance and mapping to SUTs activities and products from the Livestock Census 2008.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	05/31/2013	Completed.
3.1.4	H	Data extraction, quality assurance and mapping to SUTs activities and products from the 2009/10 UNHS.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	06/30/2013	Completed.
3.1.5	H	Data extraction, quality assurance and mapping to SUTs activities and products from the 2009/10 UNPS.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	06/30/2013	Not Done.
3.1.6	H	Conduct the 2009/10 NPIS and complete data extraction, quality assurance and mapping to SUTs.	NPIS conducted and data extraction, quality assurance and mapping to SUTs activities and products completed.	11/16/2012	Completed.
3.1.7	H	Conduct the 2009/10 ITSS and complete data extraction, quality assurance and mapping to SUTs.	ITSS conducted and data extraction, quality assurance and mapping to SUTs activities and products completed.	11/02/2012	Not conducted due to funding constraints. Major data gap in SUTs



DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
					not addressed.
3.1.8	H	Data extraction, quality assurance and mapping to SUTs activities and products from the 2009/10 business register data.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	06/30/2013	Completed.
3.1.9	H	Ensure that the questionnaire and sample design for the 2009/10 Business Inquiry meet NAS data requirements.	Questionnaires and survey sample address NAS data needs.	05/31/2013	Completed.
3.1.10	H	International Merchandise Trade Statistics for 2009/10 extracted and mapped to SUTs activities and products.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	05/31/2013	Completed.
3.1.11	H	VAT and income tax data for 2009/10 extracted, validated and mapped to SUTs activities and products.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	06/30/2013	Completed but not used directly in SUT.
3.1.12	H	Collect 2009/10 data from Ministry of Agriculture, National Forestry Authority and development authorities.	Data on output, IC, GFCF, inventories and farm gate prices for livestock, tea, coffee and forestry collected.	05/31/2013	Completed.
3.1.13	M	Collect 2009/10 data from the Department of Geology on mining and quarrying activities.	Output volume and other available data on mining and quarrying collected.	05/31/2013	Completed.
3.1.14	H	Collect 2008/09 and 2009/10 annual reports for state-owned enterprises.	Data extraction, quality assurance and mapping to SUTs completed.	05/31/2013	Completed.
3.2.15	M	Collect 2008/09 and 2009/10 annual reports for publicly listed enterprises.	Data extraction, quality assurance and mapping to SUTs completed.	06/30/2013	Partially completed.
3.1.16	H	Collect data from BOU on the activities of the Central Bank and other financial intermediaries for 2009/10.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	06/30/2013	Completed.
3.1.17	H	Collect detailed BOP data from BOU for 2009/10.	Data extraction, quality assurance and mapping to SUTs activities completed.	05/31/2013	Completed.
3.1.18	H	Collect data from MFPED and local governments for the General Government for 2008/09 and 2009/10.	Data extraction, quality assurance and mapping to SUTs activities and products completed.	05/31/2013	Completed.

<b>DQAF</b>	<b>Priority</b>	<b>Outputs</b>	<b>Verifiable Indicators</b>	<b>Completion Date</b>	<b>Assumptions/Implementation Status</b>
3.1.19	H	Collect other administrative data and conduct small-scale surveys to produce adjustment factors and indicators.	Adjustment factors and indicators available for transport and trade margins (TTM), c.i.f./f.o.b., etc.	05/31/2013	Completed.
3.1.20	H	Collect any other value, prices and volume data and indicators required for the compilation of revised annual and quarterly estimates.	Relevant data collected.	10/31/2013	Completed.
<b>3.3.2</b>	<b>H</b>	<b>Compile the SUTs, produce benchmark estimates and rebase the NAS.</b>	<b>SUTs and benchmark estimates compiled, and NAS rebased.</b>	<b>09/30/2014</b>	Revised completion date
3.3.2.1	H	An initial assessment of the level of detail for economic activities and products to be included in the SUTs.	Assessment completed.	08/31/2010	Completed by NAS counterparts and MSA.
3.3.2.2	H	Amend the SUTs templates, as appropriate, based on feedback from data users and providers.	SUTs activities and products modified, as appropriate.	06/30/2011	Completed during June 2011 mission.
3.3.2.3	H	Fill in the I-O and SUTs sector and total tables with the initial estimates.	Tables compiled using initial estimates.	05/31/2014	Completed. Final SUT compiled.
3.3.2.4	H	Adjust initial estimates to overall size of the different activities using the UNHS employment and other control data.	The initial estimates adjusted to the overall size of the different activities.	05/31/2014	Completed. Final SUT compiled.
3.3.2.5	H	Balancing of the SUTs estimates.	SUTs estimates balanced.	05/31/2014	Completed. Final SUT compiled.
3.3.2.6	H	Compilation of symmetric tables and coefficient matrices.	Symmetric tables and coefficient matrices compiled.	05/31/2014	Completed. Final SUT compiled.
3.3.2.7	H	Redevelop the NAS compilation system.	NAS compilation system redeveloped.	09/30/2014	Mostly completed.
3.3.2.8	H	Compilation of rebased and expanded estimates for 2009/10 onwards.	Rebased estimates compiled.	09/30/2014	Mostly completed.
3.3.2.9	H	Linking of the 1997/98, 2002 and 2009/10 series.	Linked series compiled.	09/30/2014	Revised completion date
<b>4.0/5.0</b>	<b>H</b>	<b>Improve dissemination of NAS.</b>	<b>Dissemination of NAS improved.</b>	<b>09/30/2014</b>	Revised completion date

<b>DQAF</b>	<b>Priority</b>	<b>Outputs</b>	<b>Verifiable Indicators</b>	<b>Completion Date</b>	<b>Assumptions/Implementation Status</b>
4.1.1	H	Public release of QNA within three months after the reference quarter.	Public dissemination and improved timeliness of QNA.	09/30/2014	UBOS plan to improve timeliness to two months.
5.1.1	H	Expand the range of NA aggregates and accounts disseminated.	Expanded dissemination of quarterly and annual NAS.	09/30/2014	
5.2.1	H	Update Concepts, Sources and Methods Manual.	Revised Manual disseminated.	09/30/2014	Initial release in early-October 2011.

Priority Scale: H - High M - Medium O - Other