

# **National Income Accounting Revision in Liberia – the weakness of statistics infrastructure identified**

**By**

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## **Introduction**

Liberia was involved in long civil war between 1989 and 2003, claiming more than 250,000 lives and nearly one million of the population displaced. The country returned to democratic rule in January 2006, with Ellen Sirleaf Johnson as the president.

After fourteen years of war, Liberians are ready for development of basic services on peaceful terms, particularly electricity and primary infrastructure. Many businesses that fled the country, taking capital and expertise with them, have started returning after the installation of a democratically-elected government in 2006. Liberia has the distinction of having the highest ratio of direct foreign investment to GDP in the world. Richly endowed with water, mineral resources, forests, and a climate favorable to agriculture, Liberia had been a producer and exporter of basic products, primarily raw timber and rubber and is reviving those sectors. The economy is normal, with economic activities going on. An additional hurdle to economic recovery was achieved in December 2007 with the clearance of the country's very high level of debt arrears by multilateral organizations (World Bank, 2007a). The World Bank estimated Liberia's per capita GDP as US\$130 in 2005 according to data from the African Development Indicators database (World Bank, 2007b). There is the need for an up-dated database on all economic activities in the post conflict economy.

The Department of Statistics, now Liberia Institute of Statistics & Geo-Information Services (LISGIS) conducted the first National Accounts Survey (NAS) in 1986. The results were published in December 1987. These results included all National Accounts indicators, tables and graphs. The data was used to rebase the national accounts to 1987.

The second attempt was made in the year 2001, but the results were not finalized due to poor response rate. Therefore, GDP figures were derived from administrative and other related records. Additionally, where there are no data, guesstimates were made.

### **Evidence of underestimation of published GDP estimates**

Radelet (2007) noted that, with many low-income countries, informal sector activity is almost certainly under-reported, so total GDP is probably somewhat higher than these figures suggest. There is evidence of a high level of underestimation of the published GDP estimates of Liberia (Duncan, 2011).

The following facts are proofs of the underestimation of the GDP:

- a) Published GDP estimate for 2008 is USD 919.9 million. This translates to a per capita GDP of USD 262.83. This figure is well below the poverty lines set by the two approaches for both rural and urban in 2007 using the results of the CWIQ survey. The first approach set the poverty line at USD 344.60 and USD 376.55 for rural and urban respectively. This puts the population below the poverty line at 63.8 percent. The second approach set the poverty line at USD 402.30 and USD 567.16 for rural and urban respectively. It is obvious that the per capita GDP for 2008 calculated from the published GDP is underestimated

- b) Imports of goods and services for 2008 were 83.3 percent of GDP. This ratio is the highest in the ECOWAS sub-region. With the level of poverty and pace of development, the Import/GDP ratio looks overstated due to a lower GDP estimate. The question therefore is that, “are majority of Liberians living on food aid?” The import data disaggregated by SITC do not suggest so.
- c) Tax revenue to GDP ratio was as high as 28 percent in 2008. A country with large informal sector, and having the lowest tax rate in the ECOWAS sub-region, who were taxed to achieve that revenue? The average for low income sub-Saharan African countries is 17 percent.

### **General observations of the current statistical system<sup>1</sup>**

1. There is no institutionalized mechanism for routine data collection for national accounts. As such there is no data base to compare the quality of data from different sources.
2. There is no documented methodological procedure for compiling national accounts. Therefore, it is difficult to review the compilation procedures for published estimates and compare with newly generated estimates to ascertain reasons for disparities.
3. There is no coordination between different divisions within LISGIS as well as different government departments in data collection. Therefore, data gaps in available statistics make it difficult to compile good national accounts
4. LISGIS does not have the human capacity to build a strong national accounts unit as well as the production of other economic indicators.

### **Data needed to rebase the national accounts in 2010**

- 1) Data from routine surveys designed to collect economic data for the compilation of the national accounts.
- 2) Demographic data, showing the population in each socio-economic group, preferably more detailed information on sector (e.g. public, private formal, private informal etc.) and industry (e.g. agriculture, manufacturing, transport etc.) of activity.
- 3) A household budget survey, showing in particular consumption (purchased and own-produced).
- 4) Government fiscal data, which covers sources of public incomes (e.g. income tax, sales tax etc.) and incidence of public expenditures (e.g. wages and salaries, expenditure on education and health etc.)
- 5) Itemised balance of payments data from central bank statistics, covering i) import and export statistics; ii) factor payments like direct investment income (profit remittances); iii) current transfers including unrequited transfers; and iv) capital transfers
- 6) Other administrative data from the government ministries, departments, agencies and financial statements of public and private institutions.

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<sup>1</sup> The observations were made in 2010 when the author was rebasing the GDP for Liberia, and as such may fall short of some improvements made afterwards

## **Data available for the rebasing**

Two important data collection activities occurred in 2007, namely, the Core Welfare Indicator Questionnaire Survey (CWIQ) and Economic Survey which listed all identifiable economic units in major towns in Liberia. The latter served as a sampling frame for the national accounts annual survey (NAAS) which was conducted in 2009. The national population and housing census was conducted in 2008 as well as an agriculture survey which concentrated on the input-output structure of crop production in the different counties. In 2009, a full scale agriculture census took off.

Other data available were on balance of payments, education, public finance, exports, output of selected commodities and financial statements of some large companies.

## **Problems identified with the census and survey data**

Complete enumeration of some variables is always needed to obtain raising factors when totals of variables in a sample survey are required. In order to raise the survey value added to arrive at the national totals, value added per worker was to be raised using number of workers in that sector as recorded in the population census. Since value added per worker differs between employees in the formal and informal sectors for the same activity, workers classified by formal and informal should be used as the raising factors for the value added per worker. The 2008 population and housing census did not categorise employees as such, making it difficult to correctly raise the values to arrive at national aggregates.

The 2009 NAAS questionnaire followed the standard approach for surveys of this type. As informal enterprises do not typically keep business records, the survey depended totally on the ability of the operators to recall revenue and expenditure as well as field officers' ingenuity. The recall periods vary from one week to 12 months, depending on the expected frequency of the item in question. The questions also include the "number of months operational".

The use of short recall periods—although necessary—can create a problem. When two-week recall periods are used, it is quite possible that an accurate response could show that there were sales but little or no expenditure in the period—maybe purchases are typically made monthly—or even expenditure and no sales. Such extremes are possible, and if the sample size is adequate, such responses would cancel each other out. However, in this survey it is unlikely that the sample size for some activities is sufficient to cover these situations, so it is important that each response is closely checked for common sense at the time of enumeration. This, both enumerators and supervisors failed to do, leading to wide disparities between information provided by look-alike establishments.

Because of non-response by some large companies during the 2009 NAAS, a serious data gap existed. Though, for some of them, export data were available but information on their intermediate consumption were absent. Input-output ratios of Ghana were applied in such cases, but this may not necessarily reflect the true structure of industry in Liberia.

## **Using available data in estimating the GDP**

Data available were used by three independent compilers of GDP. A lot of indirect estimates of output were made from the CWIQ survey. Willem van den An del estimated a per capita GDP of

US\$578.6 from a supply and use table (SUT), Magnus Ebo Duncan estimated a per capita GDP of US\$591.5 using a direct method, while David Hughes estimated a per capita GDP of US\$565. Adequate understanding of basic assumptions underlying indirect estimates was crucial to resolve the methodological differences that led to the different GDP estimates. All these estimates were rejected by the World Bank, citing inadequate data sources as the reason for the high GDP estimates. Figures currently used by the Liberian authorities are based on projections of the IMF.

Because there is no internationally recognised GDP estimate, many estimates of Liberia's GDP per capita have been thrown out to the public. The following are examples of estimates from different documents and websites:

- a) A per capita GDP of US\$1,000.00 for 2012 was posted on [www.travel.nationalgeographic.com/travel/countries/Liberia-facts](http://www.travel.nationalgeographic.com/travel/countries/Liberia-facts)
- b) A per capita GDP of US\$500 for 2005 was posted on [www.factmonster.com/ipka](http://www.factmonster.com/ipka)
- c) Wikipedia posted on its website a per capita GDP of US\$297, making Liberia the country with the highest foreign direct investment/GDP ratio in the world
- d) [www.mapsofworld.com/liberia/facts.html](http://www.mapsofworld.com/liberia/facts.html) posted a GDP per capita of US\$226 for 2010
- e) A per capita GDP of US\$190 for 2008 was quoted by Goanne<sup>2</sup> in the Poverty Reduction Strategy paper for Liberia
- f) West Africa Monetary Zone (2012) quoted US\$339.41 as the per capita GDP for 2012

### **Implication of poor numbers on statistical harmonization in the ECOWAS sub-region**

Most macroeconomic indicators to measure the health of an economy use the GDP as a denominator. The convergence criteria for the implementation of a single currency for the countries in the West Africa Monetary Zone (WAMZ) have two of the benchmark indicators having GDP as the denominator. These are FISCAL DEFICIT/GDP ratio and TAX REVENUE/GDP ratio. This means, if the GDP estimate is far from reality, a wrong decision would be made with respect to a country meeting its convergence criteria.

### **Lessons learnt in Liberia and recommendations for African countries**

The problems identified with the national statistical system of Liberia may not be peculiar to that country only, but other countries in sub-Saharan Africa. Therefore, the following recommendations<sup>3</sup> are for all countries whose national statistical system is at the developing stage:

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<sup>2</sup> Augustus v. Goanne was the UNDP national consultant who put together a document titled "Assessing and Developing Policy Options for Addressing Climate Change Mitigation across the Energy Sector in Liberia".

<sup>3</sup> Most of the recommendations are supported by the findings of Philipp-Bastian Brutsher et.al. in their final report on "Data strategies for policymaking: Identifying international good practice"

1. Purpose of a data strategy must be clearly stated for stakeholders to buy into it
2. Create a decentralized, but coordinated organisational structure system building on the cores of good practice
3. Develop methods of systematically defined data needs
4. Develop data quality guidance, on how to assess and ensure quality
5. Strengthen external collaboration on data collection
6. Create decentralized support structures
7. Promote the use of national statistical systems in support of policy and decision making, as well as innovative methods for data use and dissemination, in particular related to Census data.
8. One of the important indirect uses of population census data in economic statistics is in raising survey figures to national estimates. So economic statisticians should make inputs in population censuses that can collect information that can be used as raising factors.
9. For countries where regular economic surveys are not possible because of lack of human capacity and adequate financial resources, some few questions to collect indicators on national accounts should be allowed to be incorporated on non-economic surveys, if possible.
10. Proper recruitment practices and adequate training and supervision are key to getting best results from fieldwork. Therefore, in estimating output of informal activities, field officers should be well trained in simple but detailed estimation procedures. Supervisors have to be comparing responses of look-alike businesses during field work for possible errors.

## **References**

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Radelet, S. (2007) *Reviving Economic Growth in Liberia*. Working Paper No.133, Centre for Global Development