Enhancing the Quality of Statistical Output
- The Case of the Nigerian Living Standard Survey (NLSS), 2019

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Outline of Presentation

Background

What is Quality

Why Quality Statistics

Statistical Production Process Flow

The Case of Nigeria Living Standard Survey (NLSS)
SECTION A

Background
Background

- Data are the lifeblood of decision-making and the raw material for accountability. Without high-quality data providing the right information on the right things at the right time; designing, monitoring and evaluating effective policies becomes almost impossible.
Quality is central to Statistics production.

There is a growing awareness and appreciation of the value and need for good quality information, to support and inform public policy decisions.

As custodians of official Statistics it is our responsibility to ensure that we deliver statistics that are of high quality and integrity, are fit for purpose, and win the trust and confidence of the public.
What is Quality Statistics?
What is Quality Statistics

- For statistical outputs to be said to be of good quality - it must answer some questions
  - What is the source of the data?
  - What is the methodology or standard employed in producing it?
  - Is the data filled with errors and inconsistencies?
  - Does it meet the user’s needs?
  - Was it produced independently and transparently, without any external interference?
  - What Quality assurance measures were employed in the process?

- The answers to the above questions are entrenched in the International Quality Assurance Framework
What is Quality Statistics...

International Quality Assurance Framework


- Many countries around the world have adopted a national code of practice and/or a statistical quality assurance framework.

- All these mechanisms are aimed at producing statistics in an objective, professionally independent and transparent manner, to maintain public trust.
Character of Quality Statistics

- **Relevant** - Must be fit for purpose, addressing the need of the user.
- **Accurate** - Minimal errors, right methodology and standards.
- **Timely** - Produced and disseminated at the right and appropriate time for the users
- **Accessible** - Must be easily available to the user, open and convenient (Open Data Platforms, e-GDDS)
- **Interpretable** - Must be easy to interpret and understand, to draw logical conclusions.
- **Consistent/Coherent** - Must be presented in a manner that is logical and easy to comprehend.
Why Quality Statistics?

Quality statistics

➢ essential to paint an objective picture of a country’s economic and social conditions;

➢ allows comparisons with other countries and are the key to effective policy-making;

➢ essential in indicating those people and regions in greatest need, and best use of scarce resources in improving health, housing and education;

➢ helps governments plan a better life for all;
SECTION C

Statistical Production Process Flow
Production of reliable statistical information requires proper planning and effective management arrangement.
Sources of Official Statistics

- Census
  - Very Costly

- Surveys
  - Relatively cheap

- Administrative/Sector Statistics
  - Very Costly

Data from a study of total Population
- Very Costly

Data obtained from the study of sample of the Population
- Relatively cheap

Administrative/Sector Statistics come from records of activities of the MDAs
- Very Costly
Changing Data Ecosystem

• The data ecosystem is expanding to include new sources, producers, and users.

• Technology and big data are changing our economies and our data systems.

• All these changes are driving up the demand for data.

• Capacity is required to understand and use new data and technology, and to ensure that the essential principles of good statistics are maintained in the new environment.
The Case of Nigeria Living Standard Survey
The Nigeria Living Standard Survey (HNLSS)

Background/ Planning Stage

- National efforts at tracking poverty trends started with the analysis of a series of National Consumer Expenditure Surveys (NCS)
  - 5-year programme commenced in 1985 to provide information on the expenditure pattern of household consumption in Nigeria.
  - Analysis led to the publication of the report “Poverty Profile for Nigeria 1980-1996”, which was launched in 1999.

- The Nigerian Living Standard Survey (NLSS) 2003/04 was an enlarged scope of previous NCS
  - To be used for determine not only expenditure consumption patterns, but also living standards and income of households in the country.

- The HNLSS 2009/2010 was a follow-up to NLSS 2004
  - Combination of NLSS and World Bank Core Welfare Indicator Questionnaire (CWIQ)
  - Scope of HNLSS 2009/10 was enlarged to include Demographics; Health; Education and Skills/Training; Employment; Housing and Agriculture; Household Income & consumption, Expenditure, etc.
  - Serves as a good comparison with the NLSS 2003/04
The objectives of the HNLSS can be grouped into **four**: 

- generate detailed, multi-sector and policy relevant data using welfare and expenditure approaches

- provide information on the conditions and trends of poverty, households’ income and consumption expenditure, as well as unemployment at disaggregated level.

- To provide the **basis for identifying target groups** for government intervention at such disaggregated levels.

- provide valid and reliable **data for the development of effective intervention policies and Programmes**, as well as for the monitoring and evaluation of such policies and Programmes.
The Nigeria Living Standard Survey (HNLSS)...

**Design Stage:** In order to enhance quality processes in the Design

- The Survey was designed to last for a period of 12 Months
- First stage selection (Selection of EAs)
  - A total of sixty (60) EAs per state was covered
    - ✔️ 5 EAs was canvassed every month in each state
  - The selection cut across both urban and rural EAs
  - A total of 2,220 HHs was covered Nationally each Month

- Second stage selection (Selection of HHs)
  - Ten (10) households was systematically selected from each EA
  - 600 HHs was covered in each state for the period of the survey (12 months)
    - ✔️ 50 HHs was covered every month in each state
  - Subsequently, a total of 22,200 HHs was canvassed in the country
The Nigeria Living Standard Survey (HNLSS)…

Work force recruitment & Training stage

- There were two (2) levels of training:
  - 1st level was the training of trainers (TOT)
  - 2nd level was the training of enumerators (TOE)

- The 1st level training took place at NBS Headquarters in Abuja
  - Participants at this level were:
    - Resource Persons
    - Trainers/Monitors
    - CAPI Managers
    - Data Editors
    - Coordinators
    - Stakeholders
    - World Bank Team

- The training lasted for ten (10) days
The Nigeria Living Standard Survey (HNLSS)…

Work force recruitment & Training stage…

- The 2nd level training
- Participants at the training were:
  - 18 Trainers/Monitors
  - 3 CAPI Managers
  - 18 Data Editors
  - 111 Interviewers + 36 + 37 extra interviewers
  - 37 Supervisors
  - 37 State officers
  - 6 Zonal controllers
  - 7 Coordinators
  - 1 National Coordinator
  - Consultants
  - World Bank Team
- Training lasted for fifteen (15) days
A roving team of supervisors and enumerators was deployed to the field.

A team comprises of one (1) supervisor and three (3) interviewers

This brings a total of 37 supervisors and 111 Enumerators that carried out interview across the states

The team covered five (5) EAs every month

Each team was given 20 fieldwork days per month

The 20 days was spread across the month, with breaks at different times

Teams was assigned to either of 3 fieldwork schedules

Each Team spent 3 days per EA, plus one day for travel

There was various levels of monitoring
The Nigeria Living Standard Survey (HNLSS)...

Monitoring/Quality Check of the field operation

- There was a comprehensive monitoring and data quality assurance mechanism built into the exercise.

- NBS headquarter staff (Monitors and Coordinators) monitored the survey throughout the duration with periodic visits to the field.

- NBS State officers and Zonal Controllers stationed across the country also monitored throughout the survey period.

- Data quality checks and approvals
  - Interviewers
  - Data Editors
  - NBS HQ Data Editors
  - CAPI Managers
CAPI Survey Management

Data Transmission/Synchronisation Channel

- HEADQUARTERS
- SUPERVISORS
- INTERVIEWERS
- Data Editor/Supervisor
- HQ Supervisor
- Cloud Dropbox
DATA TRANSMISSION AND FLOW USING CAPI

HQ

Programmers design questionnaires using visual tools and upload them to the central server & devices

Questionnaires with no

HQ distributes the sample

@ Internet

@ Internet

Supervisors monitor the submissions

Supervisors assign households to individual interviewers

WiFi

WiFi

Interviewers visit households and collect data

NATIONAL BUREAU OF STATISTICS
Monitoring Field Activities

Data Monitoring via Power BI Dashboard
Monitoring.....

### Surveys and Statuses

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<th>Survey Name</th>
<th>Supervisor assigned</th>
<th>Interviewer assigned</th>
<th>Completed</th>
<th>Rejected by supervisor</th>
<th>Approved by supervisor</th>
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### Interviews

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<th>Status</th>
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CAPI Inbuilt Data consistency Check

HOUSEHOLD SURVEY /
Questions about the youngest child

What is Jane's age?
5

How many days a week does Jane go to school/kindergarten?
8

ANSWER IS INVALID
The week has seven days. The answer cannot exceed seven.

Education of Jane

Primary school
Secondary school
Technical/vocational training
Undergraduate degree
Graduate degree

ANSWER IS INVALID
Given the age of the respondent, it is highly unlikely that they have obtained a graduate degree. Please verify the age and education information.

What is the height of Jane (in cm)?
177

ANSWER IS INVALID
The height is highly unlikely for this age. Please check the measurements.
The Nigeria Living Standard Survey (HNLSS)...

Data Processing / Analysis - Data Export Survey Solutions

![Screenshot of data export process](https://nlss.mysurvey.solutions/DataExport?template=36079414-e5ba-4272-abad-a30e5ea8f418&version=2&status=)

### Export range:

- **(version) Survey questionnaire**
- **(ver. 2) NLSS_1819_MONITORING**

#### Status of exported interviews

**All statuses**

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### Main Survey Data

- **Zip archive with main interview data**
  - **File format**: STAIA format
  - **Generate** button
  - **Download** button
  - **Generated on**: Mar 27, 2019 10:49
  - **File size**: 0.1 MB

- **SPSS format**: Not generated
- **Tabular Format**: Not generated

### Binary Data

- **Archive with binary data (e.g., pictures, audio)**
  - **File format**: .zip
  - **Generate** button
  - **Export** button
  - **Not generated**

### DDI

- **Data Documentation Intensive XML data**
Advantages of this Method over the previous NLSS

- **Data validation and accuracy;**
  
  ✔ Data validation is built into the software, which does not allow invalid values to be entered.

  ✔ Back-checks can be performed to ensure data accuracy.

- Data collection and Data Entry happen at the same time, and no separate Data Entry staff is needed.

- Eliminates missing information

- Data can be scrutinized in real time as the data is getting uploaded to the server.

- Shortens interviews (safe lots of good time).

- High data quality is guaranteed, if managed properly
Challenges Encountered

- Expensive, both financially and human resource-wise, but very effective.

- Very meticulous and tedious process, requires patience and dedication.

- Requires rigorous planning and process management to be successful.
Conclusion

• Data is only useful when the quality of the data is assured, poor quality data will only result in poor decision outcomes.

• Data users are becoming more increasingly aware and weary of poor data - so the spotlight is on NSOs, to produce good quality data.

• Technology makes our work easier, so we must show our commitment by deploying the right resources and time to producing quality data.

• So, it is our responsibility as NSOs to ensure the statistical systems in our respective countries are prepared for the emerging realities in this new data age where quality is utmost.
Thank you for listening!