



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

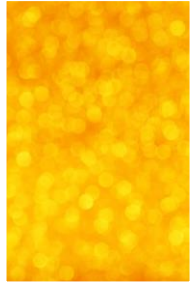
Samuel Adakole Augustine
National Bureau of Statistics, Nigeria

10/6/2019



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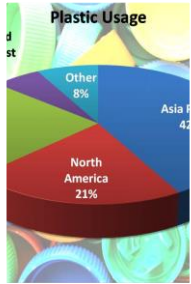
□ Outline of Presentation



Background



What is Quality



Why Quality Statistics



Statistical
Production
Process Flow

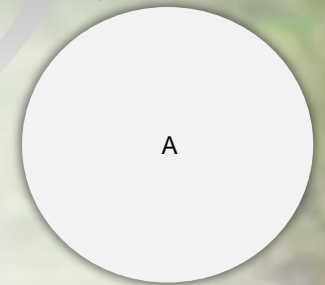
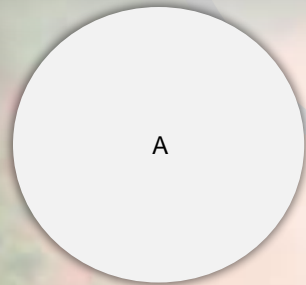
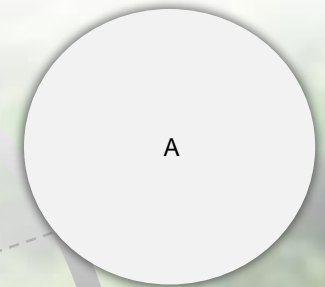
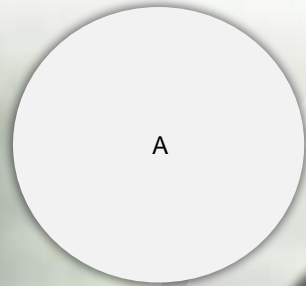


The Case of Nigeria
Living Standard
Survey (NLSS)





SECTION A



Background



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



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SECTION B

B

B

What is Quality
Statistics?

B

B



❑ 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

- Fundamental Principles of Official Statistics - 1994.
- 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.



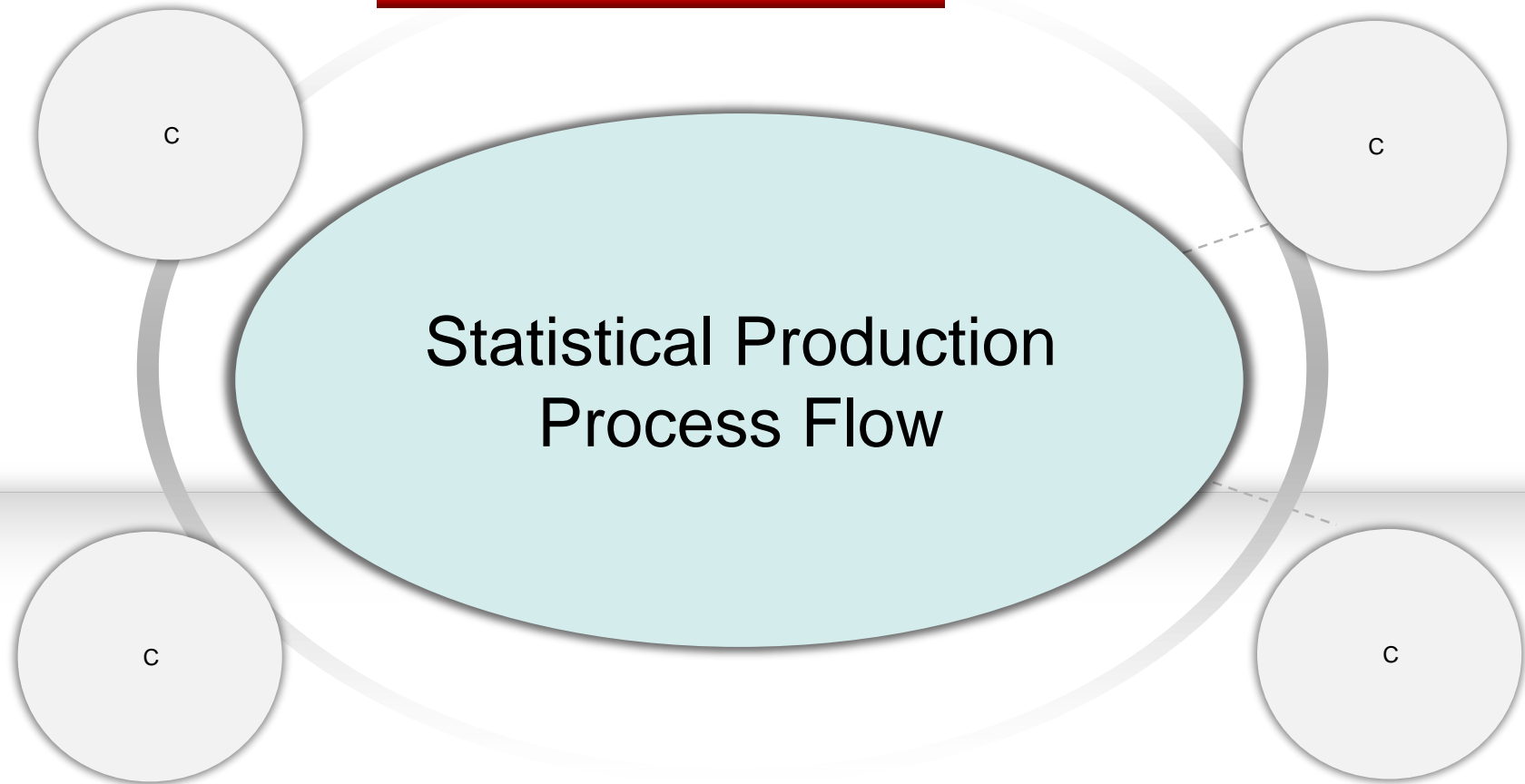
❑ Why Quality Statistics?

❖ 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;

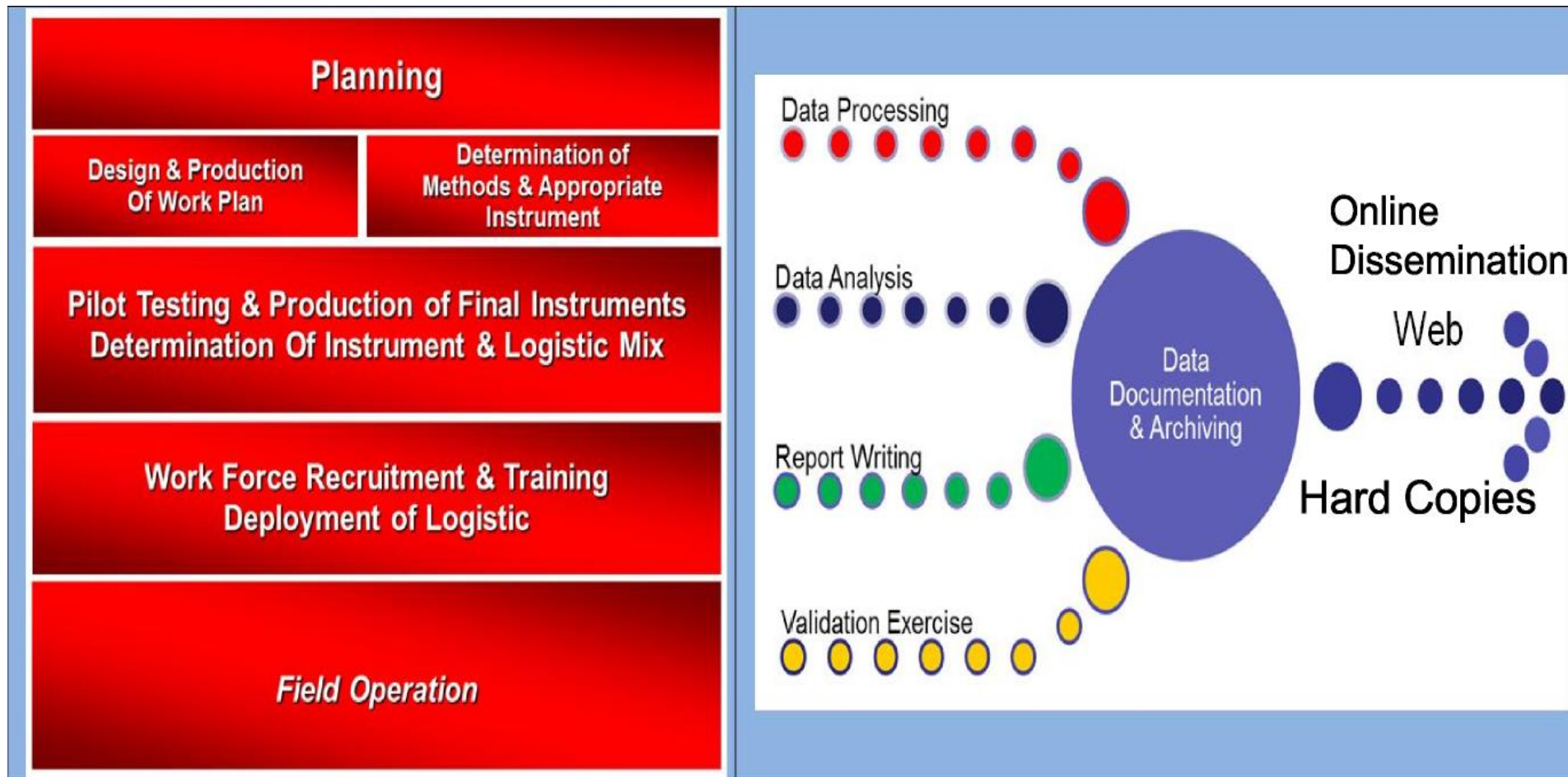


SECTION C



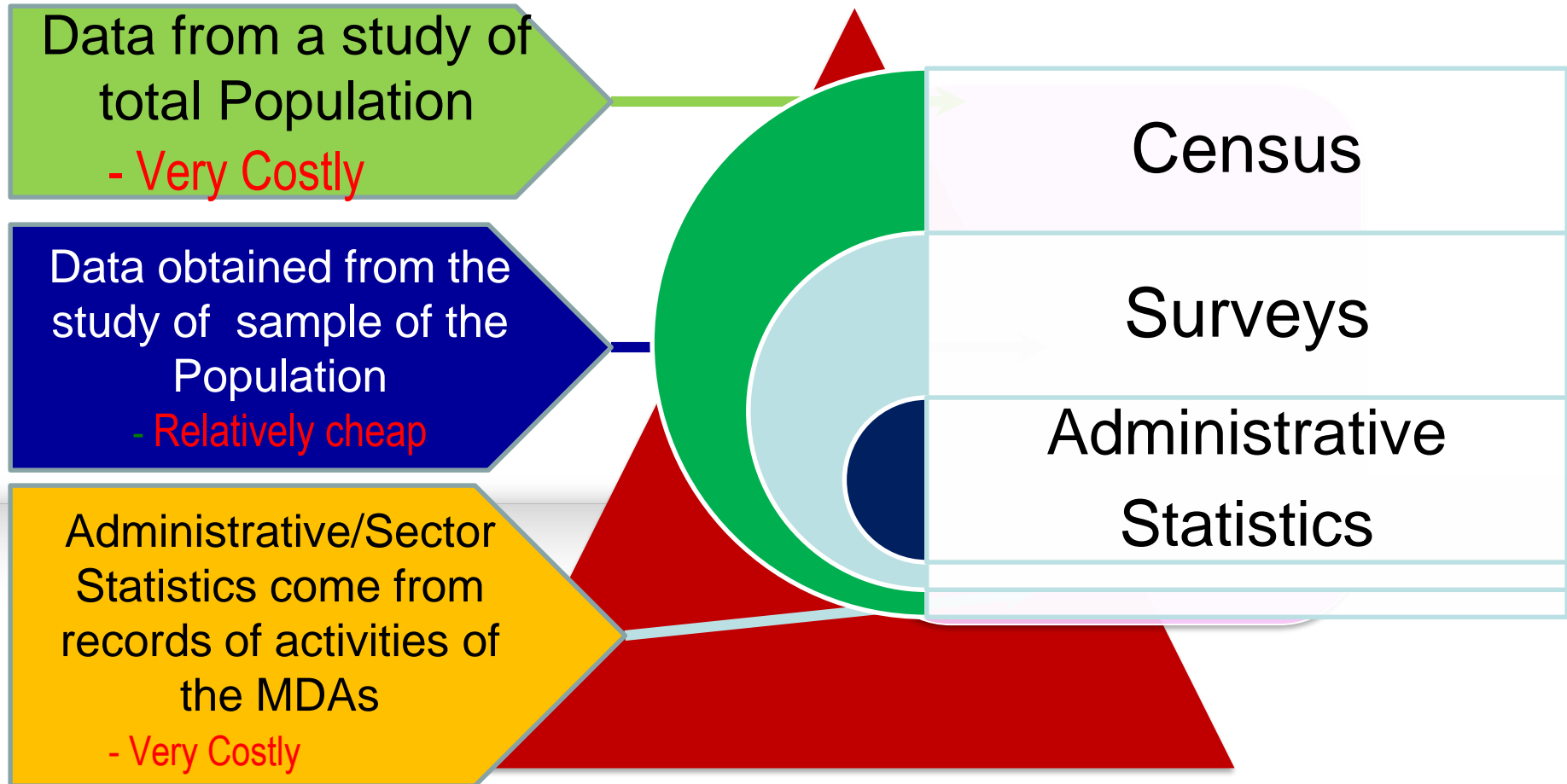
Statistical Production Process Flow

- ❖ Production of reliable Statistical information requires proper planning and effective management arrangement



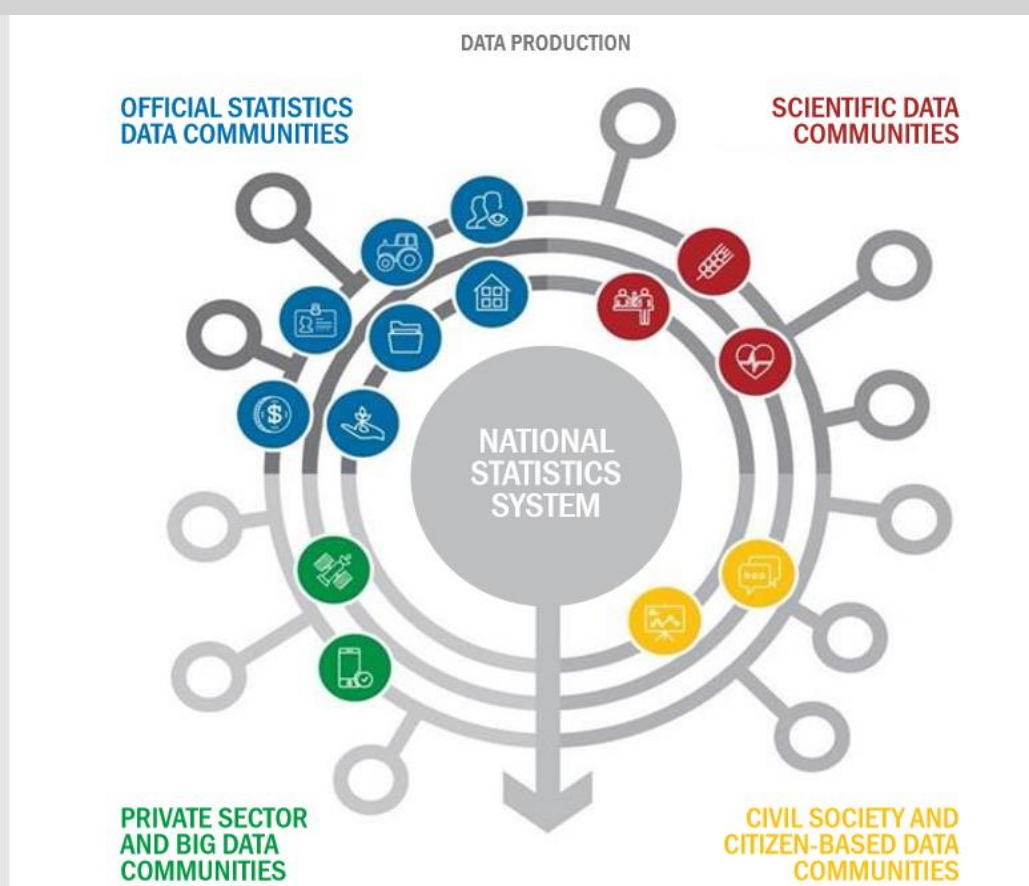
Statistical Production Process Flow...

❖ Sources of Official Statistics



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.



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SECTION D



□ 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 Nigeria Living Standard Survey (HNLSS)...

Objectives

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 enhanced 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



❑ The Nigeria Living Standard Survey (HNLSS)...

Field Operation Stage- field work arrangement

- ❖ 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



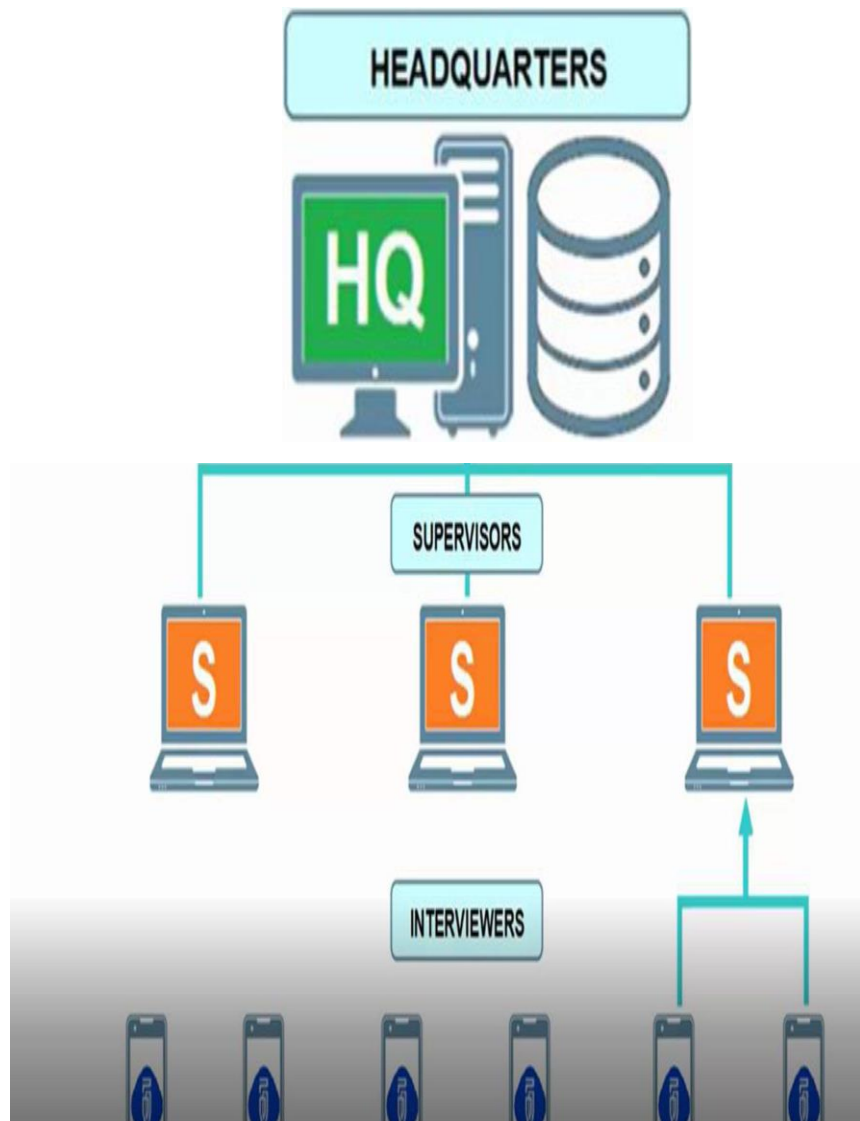
The Nigeria Living Standard Survey (HNLSS)...

Monitoring/Quality Check of the field operation

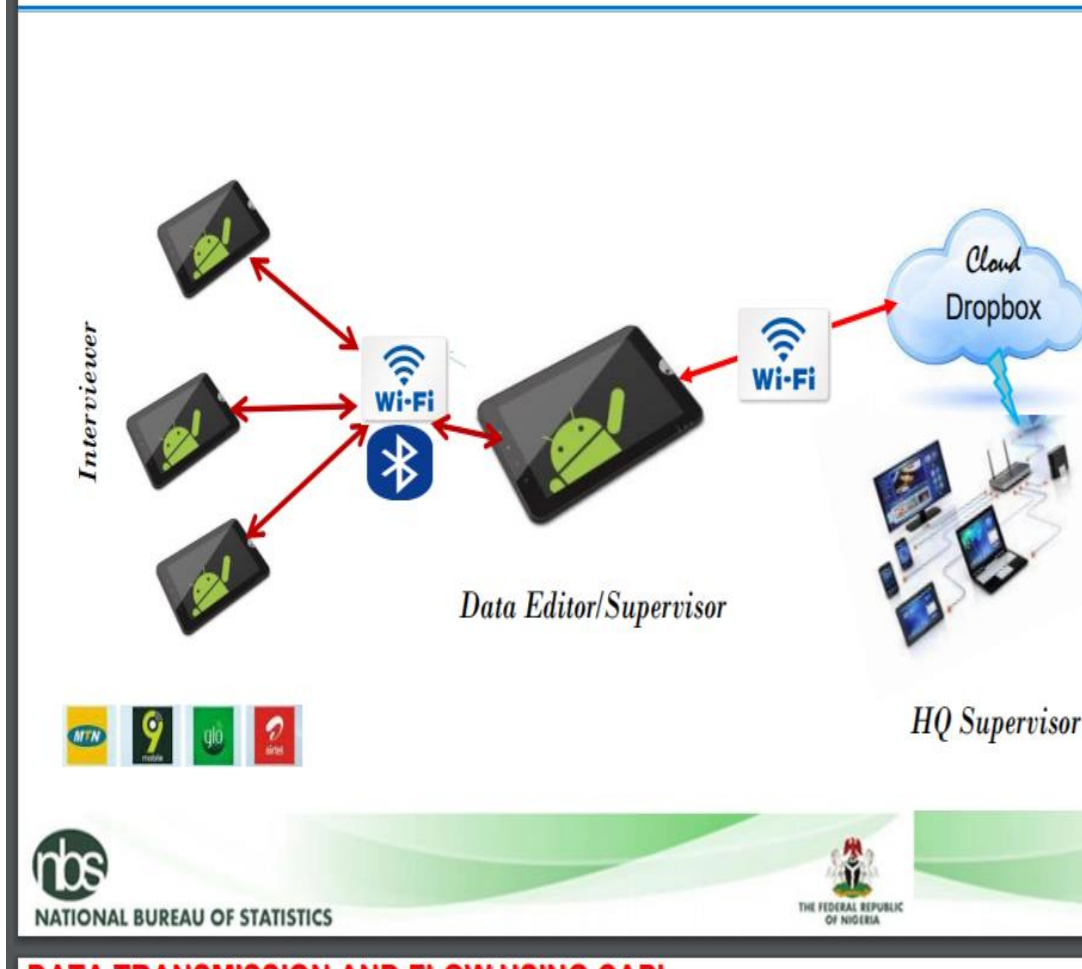
- There was a comprehensive monitoring and data quality assurance mechanism built into the exercise.
- NBS headquarter staff (Monitors and Coordinators) monitored the survey throughout the duration with periodic visits to the field.
- NBS State officers and Zonal Controllers stationed across the country also monitored throughout the survey period.
- Data quality checks and approvals
 - Interviewers
 - Data Editors
 - NBS HQ Data Editors
 - CAPI Managers



CAPI Survey Management

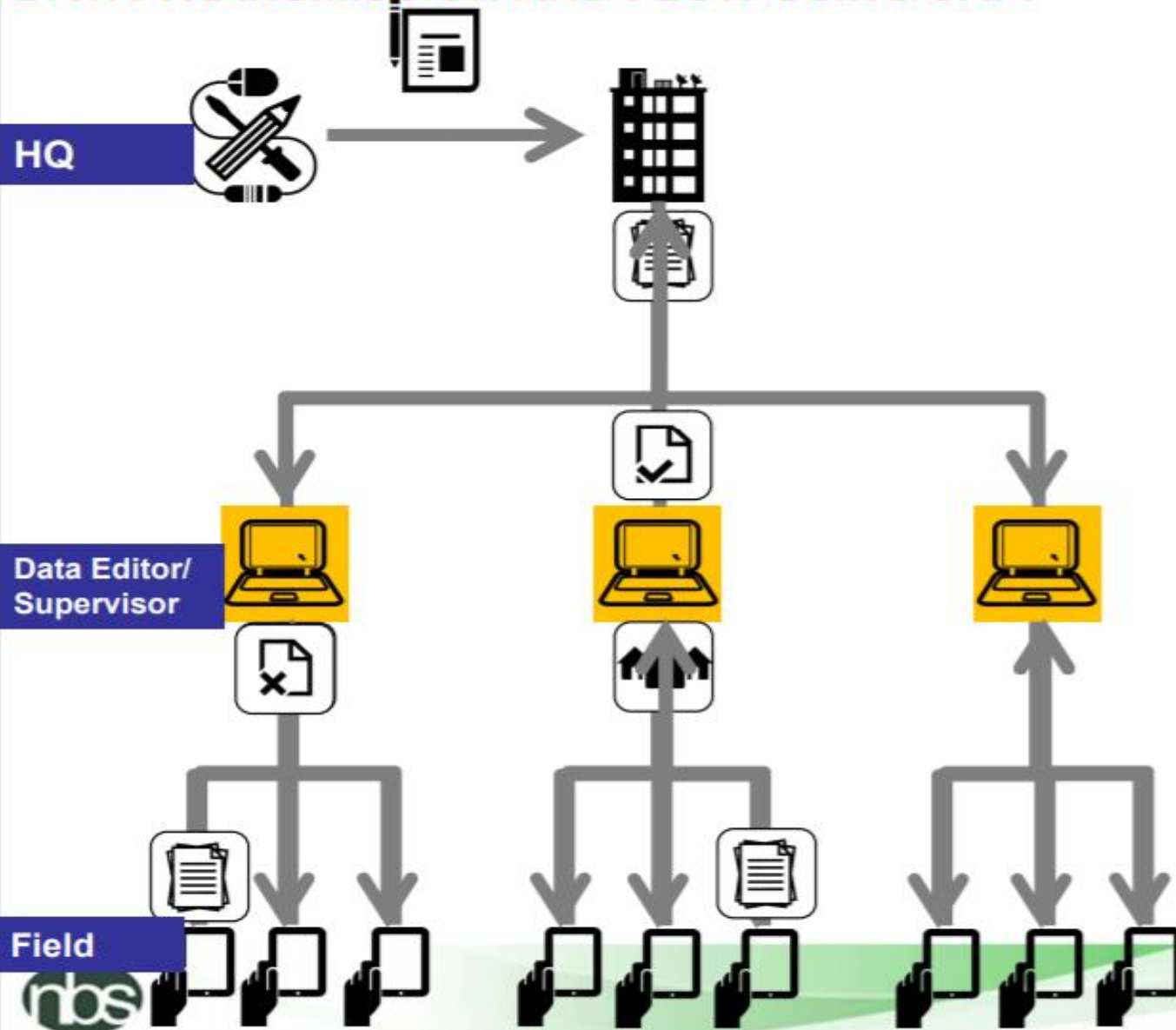




Data Transmission/Synchronisation Channel



DATA TRANSMISSION AND FLOW USING CAPI

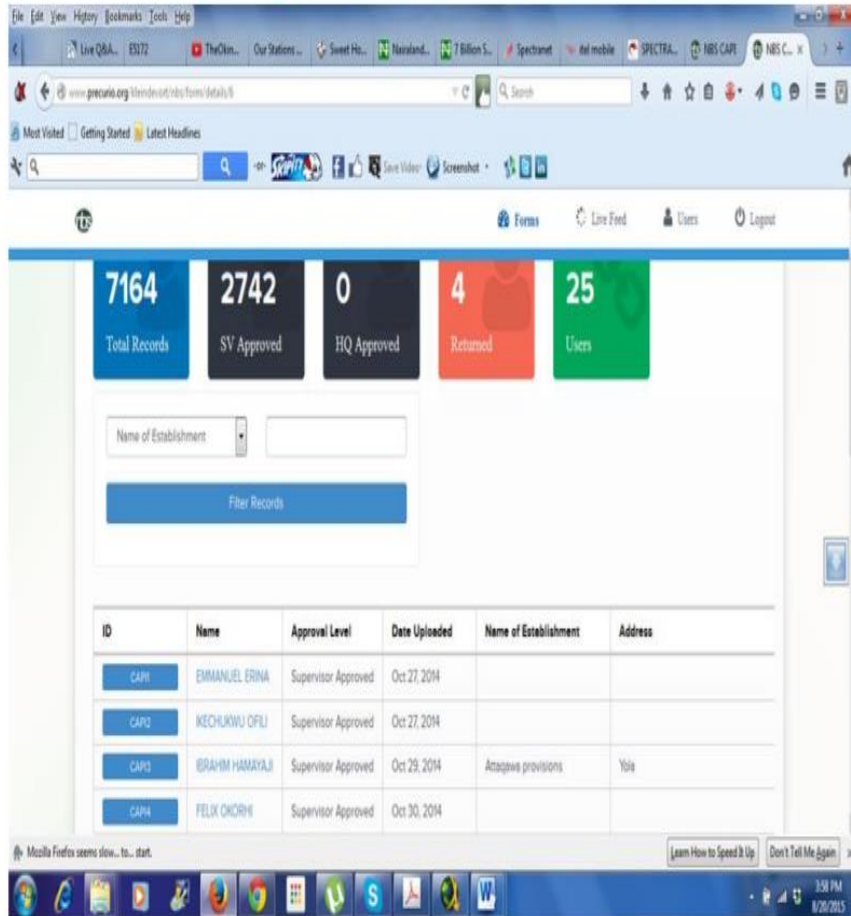
DATA TRANSMISSION AND FLOW USING CAPI



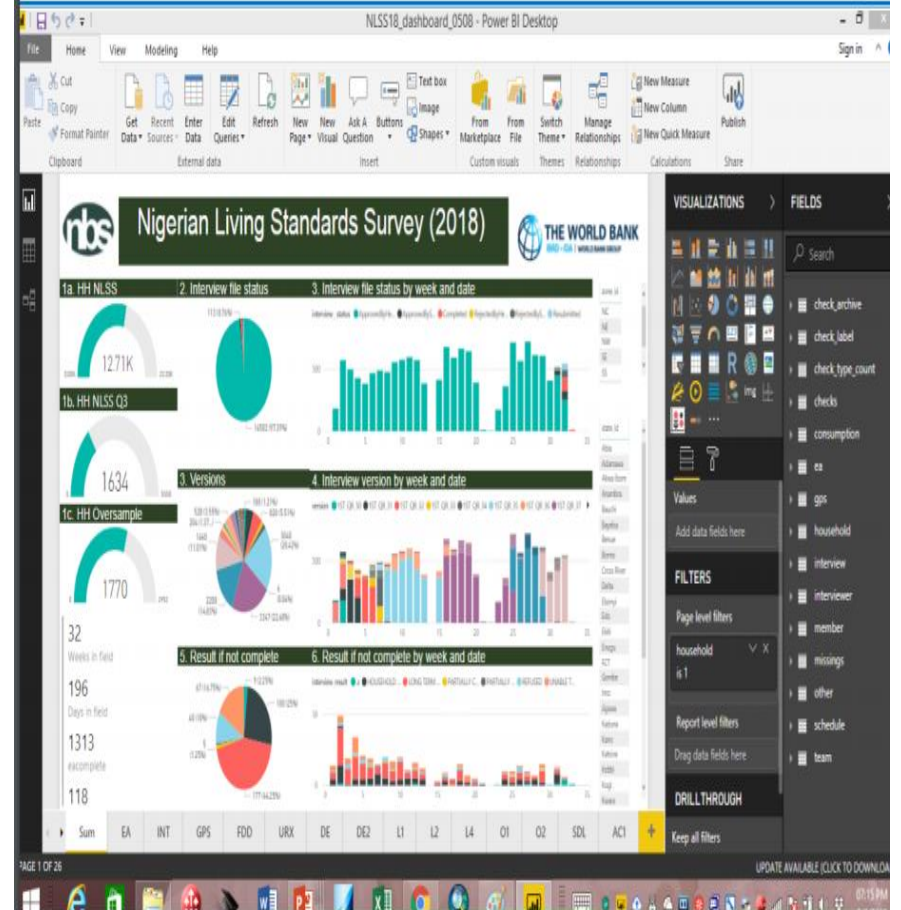
Programmers design questionnaires using visual tools and upload them to the central server & devices
Questionnaires with no
HQ distributes the sample
@ Internet
@ Internet
Supervisors monitor the submissions
Supervisors assign households to individual interviewers
WiFi 
WiFi 
Interviewers visit households and collect data



Monitoring Field Activities



Data Monitoring via Power BI Dashboard



Monitoring.....

Browser window showing the 'Surveys and Statuses' page. The address bar displays a URL from 'demo.mysurvey.solutions'. The navigation menu includes 'Supervisor', 'Reports', 'Interviews', and 'Team and Roles'. The page title is 'Surveys and Statuses'.

Team members: Any

Survey Name	Supervisor assigned	Interviewer assigned	Completed	Rejected by supervisor	Approved by supervisor	Rejected by HQ	Approved by HQ	Total
HQ 15 - Health Facility Questionnaire (see 1)	1	0	0	0	0	0	0	1
HQ 15 - Health Facility Questionnaire (see 2)	424	4	0	0	0	0	1	429

Browser window showing the 'Interviews' page. The address bar displays a URL with parameters for 'templateId', 'templateVersion', 'status', 'responsible', and 'searchBy'. The navigation menu includes 'Supervisor', 'Reports', 'Interviews', and 'Team and Roles'. The page title is 'Interviews'.

Template: Any

Responsible: Any

Status: Any

Interviewer name: [Search] [Approve] [Reject]

Pre-filled Questions	Responsible	Last Update	Has Errors	Status	Received by Interviewer	Created on Client
STATE:Adamawa, LGA 21, Ward 6, Facility Name NANA MATERNITY CENTRE, Facility Level Primary, Ownership Public	Dele	4/14/2017		InterviewerAssigned		
STATE:Adamawa, LGA 21, Ward 8, Facility Name BOLE II HEALTH CLINIC, Facility Level Primary, Ownership Public	Dele	4/14/2017		InterviewerAssigned		
STATE:Adamawa, LGA 21, Ward 9, Facility Name NAMTARI HEALTH CLINIC, Facility Level Primary, Ownership Public	Dele	4/14/2017		InterviewerAssigned		
STATE:Adamawa, LGA 21, Ward 5, Facility Name DAMARE POLO Clinic, Facility Level Primary, Ownership Public	Dele	4/14/2017		InterviewerAssigned		
STATE:Adamawa, LGA 21, Ward 12, Facility Name HEALTH CLINIC HOSERE BEMBE, Facility Level Primary, Ownership Public	Ogun	4/10/2017		SupervisorAssigned		
STATE:Adamawa, LGA 21, Ward 4, Facility Name SHAGARI HEALTH POST, Facility Level Primary, Ownership Public	Ogun	4/10/2017		SupervisorAssigned		
STATE:Adamawa, LGA 21, Ward 5, Facility Name LAMIDO HEALTH CLINIC, Facility Level Primary, Ownership Public	Ogun	4/10/2017		SupervisorAssigned		
STATE:Adamawa, LGA 21, Ward 11, Facility Name TOUNGO HEALTH CLINIC, Facility Level Primary, Ownership Public	Ogun	4/10/2017		SupervisorAssigned		
STATE:Adamawa, LGA 21, Ward 12, Facility Name WURC-ARDO HEALTH CLINIC	Ogun	4/10/2017		SupervisorAssigned		

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/ kindergarden?

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

HOUSEHOLD SURVEY /

☰ Questions about the youngest child ☰

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

← → ↻ <https://nlss.mysurvey.solutions/DataExport?template=36079414-e5ba-4272-abad-a30e5ea8f451&version=2&status=> 🔍 ☆ 🇳🇮 🌐 | N ☰

🏠 Reports ▾ Interviews Teams and Roles ▾ Survey Setup ▾ **Data Export** Help Shamsuddeen ▾

Export range:

(version) Survey questionnaire
(ver 2) NLSS_1819_MONITORING ▾




Status of exported interviews
All statuses ▾

(ver. 2) NLSS_1819_MONITORING

Pressing Generate button creates a data archive of interviews available on the server at that time. The time of archive creation and the archive size are shown in the table. The last generated data archive can be downloaded by pressing Download button. Press Generate button again to create a new archive.


Main Survey Data

Zip archive with main interview data

	GENERATED ON	FILE SIZE
 STATA format GENERATE DOWNLOAD	Mar 21, 2019 15:39	0.1 MB
 SPSS format GENERATE NOT GENERATED		
 Tabular Format GENERATE NOT GENERATED		

Binary Data

Archive with binary data (e.g., pictures, audio)

	GENERATED ON	FILE SIZE
 Binary format EXPORT NOT GENERATED		

DDI

Data Documentation Initiative XML data

Windows taskbar: 1:40 PM 5/9/2019



❑ The Nigeria Living Standard Survey (HNLSS)...

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 (save lots of good time).
- ❖ High data quality is guaranteed, if managed properly



□ The Nigeria Living Standard Survey (HNLSS)...

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!



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