

**SOME OF THE ACTIVITIES OF
NATIONAL BUREAU OF STATISTICS**

(METHODOLOGY OF DATA COLLECTION AND DATA PROCESSING)

PAPER PRESENTED

AT THE

**ECA-ITU-UNCTAD REGIONAL WORKSHOP ON INFORMATION
SOCIETY MEASUREMENTS IN AFRICA**

7TH – 9TH MARCH, 2007

**MR. SALIHU S. I.
CMIS DEPARTMENT
NATIONAL BUREAU OF STATISTICS
ABUJA, NIGERIA.**

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INTRODUCTION

National Bureau of Statistics (NBS), has been mandated and is therefore, responsible for all the surveys, either by individually, household bases and nationally in Nigeria. It is the foremost National Information resource centre selected because of its competence and also for the purpose of uniformity in data result.

One of the main tasks of the NBS is to establish an integrated statistical system to monitor the economic and social performances of the Nigerian population. In the framework of this assignment, through its Field Services and Methodology Department, normally carrying out surveys either on quarterly and annually basis depending on the type of the survey. Although, we also work in collaboration/partnership with other sectors either private or public to carry out surveys based on the areas of their needs and specification and deliver the output such survey to the respective organization and also have the backup copy in our Database.

Though, NBS has not single handedly conducted any survey on ICT indicators alone. But, we normally slots ICT indicators along with other indicators on any of the survey as the case may be. Such examples are as follows:-

1. **Multiple Indicator Cluster Survey 3 (MICS3)** is designed to measure progress towards achievements of the Decade goals set following the 1990 World Summit for Children (WSC). With the support of UNICEF, National Bureau of Statistics (NBS) conducted MICS in 1995 to assess progress at Mid-decade goals. A second MICS was conducted in 1999 to provide data for assessment of progress at the end of the decade.

The results of 1999 MICS, which were released in August 1999, formed an important input for the Mid-term Review of the 1997-2001 FGN-UNICEF programme of cooperation. The MICS 1999 report has been widely circulated and distributed to programme partners at national and sub-national levels. The document has since been widely used for planning and advocacy purposes particularly for the preparation of the UNICEF Situation Assessment and Analysis (SAA) report. The two previous MICS conducted i.e. 1995 and 1999 were referred to as MICS 1 and MICS 2 respectively.

MICS 3 Nigeria conducted in 2007, will measure progress towards achievement of Millennium Development Goals (MDG).

Some of the ICT indicators are:

Does your household have:-

- i. Radio*
- ii. Television*
- iii. VCR/VCD*
- iv. DVD*
- v. Mobile Telephone*
- vi. Land Telephone*
- vii. Computer*

2. **The African Peer Review Mechanism (APRM)** is a programme of the New Partnership for Africa's Development (NEPAD) for fostering good governance in African countries. It is basically a mutually adopted instrument for self-monitoring by African countries, using agreed African and international standards.

ICT Indicators:

Does your household own or have access to the following?

- i. A telephone or mobile*
- ii. E-mail facilities*
- iii. Computer facilities*

3. **The National Integrated Survey of Household (NISH)** is designed to provide estimated at the national, regional and state levels thereby enhancing comparability across states and regions. Its aims is to Monitor changes in household welfare over time, provide information needed by government to actually determined the effectiveness of its policies and interventions, Assist government with information for improved and effective policy making and also to provide a database for social research.

Communication Sector Indicators under NISH

- i. Telephone lines in use (fixed) (000)*
- ii. Telephone lines in use cell phones (mobile) (000)*
- iii. Tele density*
- iv. Out-going Direct traffic (million) (in paid minutes)*
- v. Incoming Direct traffic (million)*
- vi. Telephone exchange (number)*
- vii. Telephone booths (number)*
- viii. Telephone Transits Centre*
- ix. Internal mail*
- x. Total Mails sent abroad (000)*
- xi. Total mail sent abroad by (air) (000)*
- xii. Mails received from abroad (000)*
- xiii. Mails received from abroad of which by air (000)*

4. **The General Household Survey (GHS)** is the core module of the NISH programme and is implemented annually to provide time-series data on the socio-demographic and economic conditions of the country.

ICT Indicators:

Does your household own or have access to the following?

- i. Radio*
- ii. Television*
- iii. Telephone (fixed)*
- iv. Telephone (Mobile)*
- v. Personal computer (PC)*
- vi. Internet Services*

5. **The Social Administrative Statistics Survey (SAS)** is collaboration with Central Bank of Nigeria (CBN) and Nigerian Communication Commission (NCC) on administrative establishments.

ICT Indicators:

- i. Does your establishment own Internet facilities?*
- ii. Does your establishment have a Website?*
- iii. Do you receive orders through the Internet?*
- iv. Do you place orders through the Internets?*
- v. Does your establishment have an Intranet?*
- vi. Does your establishment have a Local Area Network (LAN)?*
- vii. How many computers do you have in your organization?*
- viii. How many of your employees have access to internet facilities?*
- ix. How many employees use Personal Computer (PCs)?*
- x. Investment on ICT from domestic sources during the year (Naira)*
- xi. Investment on ICT from foreign sources during the year (US dollar)*
- xii. How much did you spend on ICT during the year (Naira)?*

6. **The Nigeria Living Standard Survey (NLSS)** institutionalised by the National Bureau of Statistics provided a major survey mechanism framework for regular production, management and tracking of poverty programmes and policies. The recent Profile of Poverty for Nigeria is a commendable effort in providing current, timely and highly relevant poverty statistics and indicators for monitoring and evaluation of anti-poverty programmes and policies. The findings of the report chronicled the magnitude, nature, character and dimensions of poverty in Nigeria.
7. **The Core Welfare Indicator Questionnaire (CWIQ)** is part of the effort of the National Bureau of Statistics in providing information for the management of the Nigerian economy and society. The CWIQ is designed to collect the minimum amount of information needed to identify and classify target groups and provide basic welfare indicators for monitoring poverty alleviation programs.

METHODOLOGY OF SURVEY

Survey Design

Scope and Coverage

The surveys are normally carried out in all the thirty six states of the Federation and Abuja. It always covers both the urban and rural areas. Detailed gender analysis will also be done with the data gathered.

Survey Instruments

We do use three relevant survey instruments, such as:

- The questionnaire (Scannable Questionnaire or Survey Questionnaire)
- The interviewers manual and
- The supervisors manual

The Questionnaire: The questionnaire can either be scannable or Survey type depending on the decision of the management. It is normally designed to collect the minimum amount of information needed to identify and classify target groups and provide

basic indicators for monitoring. It will also capture information which measures access, utilization and satisfaction with services, apart from household characteristics.

The interviewers and supervisor's manuals is always compiled in details on how to go about the questionnaire.

Sample Design

The survey is conducted as an integral and adaptation of the National Integrated Survey of Household (NISH) sample design run by the National Bureau of Statistics. A representative sample will be selected in each of the states to provide indicators for some social variables. The NISH has now become a very viable vehicle for running household surveys on regular basis and a number of infrastructures have been put in place to conduct the surveys efficiently.

Training for Main Fieldwork

The training programme will cover discussions on the roles of enumerators and supervisors, interview techniques, classroom sessions on the questionnaire and manual, Role playing; field practice; questionnaire editing and classroom demonstrations will also be used for effective training.

Techniques of Training: Training techniques are general to all surveys. They include the execution of reading exercises; demonstration interviews with the trainers; demonstration interviews with real respondents; simulation or mock interviews; practice exercise; scanning and data processing demonstrations and field practice exercises. Trainers will invite trainees to take notes and to report the answers in the questionnaire to help follow the interview.

DATA COLLECTION

NBS permanent field staff and some staff of state statistical agencies normally been used for the data gathering and the needed information will be collected from persons in the selected housing units. All the households within these Housing Units (HUs) will be canvassed.

The enumerators within each state will be constituted into teams with supervisors as leaders. They are expected to complete the assigned number of Enumeration Areas (EAs) within a limited time period. Ten EAs will be covered in each LGA and all Local Government Areas (LGAs) in the state will be surveyed. Five teams each comprising 4 enumerators and a supervisor will be used in every state to conduct the survey.

To encourage capacity building in the states, the enumerators to be used for the survey will be shared equally by state and National Bureau of Statistics. For each team 2 enumerators and 1 supervisor will come from National Bureau of Statistics.

DATA PROCESSING

The data processing is always organized to run concurrently with the fieldwork. That is, the programmers and their assistants participated in the training of the field staff and remained in the field for a number of days to further guide the enumerators on how to print the response and shade the bubbles according to the code of responses. Hence, the main data processing operation commenced two week after the commencement of the fieldwork.

The survey system consists of the following phase: Data entry, data validation and correction, and generation of survey results. Data entry consists of converting the information in the survey questions to a readable form for processing in the subsequent phases and the data processing system which used hand printing recognition was adapted.

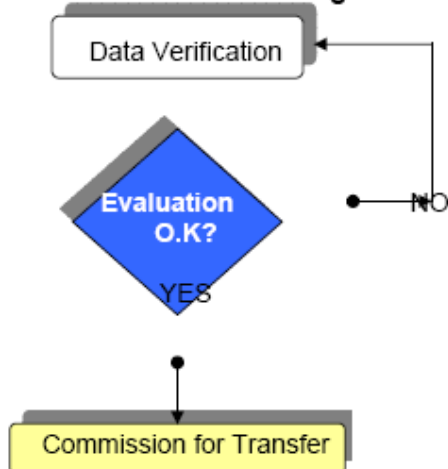
The data processing office was set up at the corporate Headquarter of the National Bureau of Statistics in Abuja. Two processing centres were used and, the staff consisted of twelve (12) programmers and thirty four (34) computer assistants.

Portable optical scanners each connected to a laptop computer and desktops were used for scanning the questionnaire on EA basis. The image evaluation and data verification were

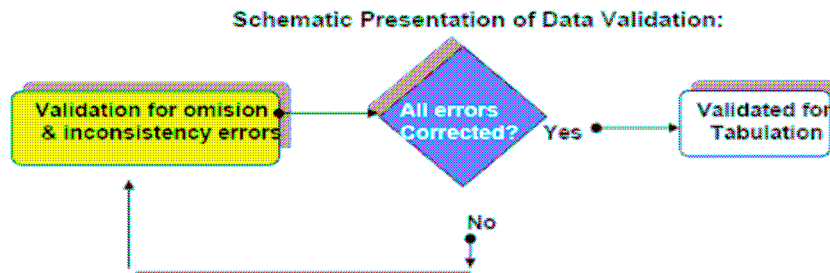
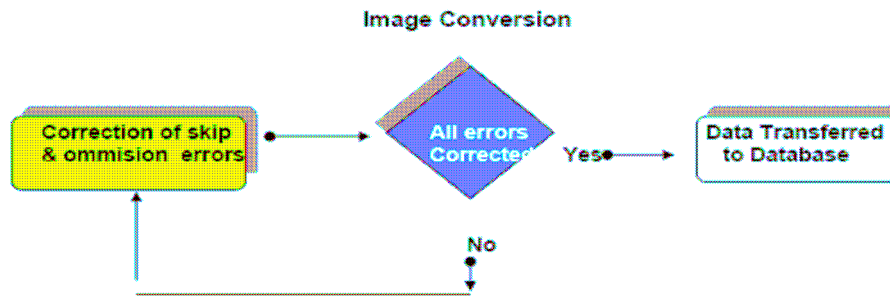
done simultaneously with the scanning of the questionnaire. Desktop computers were connected on a local area network (LAN) for error correction and data validation, and later converted to the database.

Questionnaires coming from the field weekly by EA underwent identification and name confirmation at the processing centre using a master list of sample enumeration areas. The number of questionnaires and households for an EA were then counted to confirm that all the expected households in the enumeration area had been interviewed. The questionnaires were then prepared for scanning by sorting the households therein in ascending household identifiers; the cover pages of the questionnaires were checked for completeness; staples were then removed from the questionnaires and the questionnaires for an EA were then scanned together as a batch.

Schematic Presentation of Image Verification:

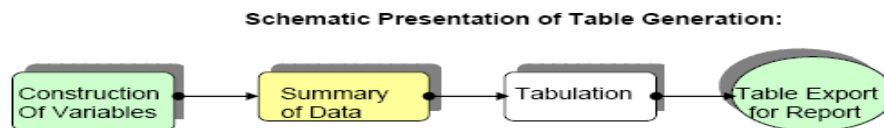


After all potential errors for an EA had been verified by the data entry operator; the data from the questionnaires was transferred to a shared folder in the desktop computer. The output of the scanner was then checked for consistency, omission, skips and other errors; the data was not transferred to the database until all such errors were corrected.



Due to the volume of the data set, there were a lot of errors to be corrected and validated. The validation and correction phase was divided into two stages: (1) validation and correction by programmers, (2) automatic correction and validation. The first stage is the normal validation whereby the errors were generated and printed on paper for subsequent correction. This stage would be processed iteratively until there was no more error to be corrected. The second stage was newly introduced to corrects the errors that were not checked by the first stage and it is done iteratively until the last run result was not different from the previous one.

Once, the data has been cleaned, analysis variables like type of residence (urban/rural), region of residence, characteristics of the head of household, welfare quintiles and the household weight used to aggregate results. Frequencies and cross tabulations for the three major database (Household, Individual and child) were generated. Sampling errors for the indicators were computed as the final step of the data processing system.



Sample Achieved

A total of 77,062 households were covered from a sample of 77,400 households giving the survey a coverage rate of 99.6 per cent. However, only 75,929 households were completely enumerated and this gave a response rate of 98.5 per cent, the remaining 1.5 per cent were recorded cases of respondents not at home, refusals, household not located, moved away and others. 59,567 households were covered in the rural areas with a response rate of 98.7 per cent while 17,495 households were covered in the urban areas with a response rate of 98.0 per cent.

IMPROVEMENT OF ICT MEASUREMENT

Training should be organized from time to time in the following Software listed below:

- 1. Teleform**
- 2. CSpro:-** Census and Survey Processing System (CSPro) is a software package for entering, editing, tabulating, and disseminating data from censuses and surveys. CSPro combines the features of the Integrated Microcomputer Processing System (IMPS) and the Integrated System for Survey Analysis (ISSA).
- 3. SPSS:-** Statistical Package for Social Science

More emphases should be place on sophisticated hardware such as:

1. Personal Computers
2. Printer
3. Scanner
4. Fax machine
5. DCC200

Technological Lessons on ICR Data Capture Experience
STAGES OF ICR-BASED DATA CAPTURE

