Federal Republic of Nigeria   *National Bureau of Statistics*

Basic Information Document

Nigeria
General Household Survey –Panel

March 2012

ACRONYMS

BMGF	Bill and Melinda Gates Foundation
CAPI	Computer Assisted Personal Interviewing
EA	Enumeration Area
FCT, Abuja	Federal Capital Territory, Abuja
FMA&RD	Federal Ministry of Agriculture and Rural Development
FMWR	Federal Ministry of Water Resources
GHS	General Household Survey
GHS-Panel	General Household Survey-Panel (panel subcomponent of GHS)
GHS-Cross	General Household Survey-Cross (annual cross section of GHS)
LGA	Local Government Area
LSMS-ISA	Living Standards Measurement Study – Integrated Surveys on Agriculture
MDA	Ministries, Departments, Agencies
MSF	Master Sample Frame
NASS	National Agricultural Sample Survey
NBS	National Bureau of Statistics
NFRA	National Food Reserve Agency
NISH	National Integrated Survey of Households
NHIS	National Health Insurance Scheme
NPopC	National Population Commission
PSU	Primary Sampling Unit
SAE	Small Area Estimation
WB	World Bank

Table of Contents

1.0   Introduction

The purpose of the present document is to provide detailed information on the panel survey component of the revised General Household Survey (GHS-Panel) fielded by the National Bureau of Statistics in 2010-2011. This survey is the first round of a long-term project to collect panel data on households, their characteristics, welfare and their agricultural activities. The survey is the result of a partnership that NBS has established with the Federal Ministry of Agriculture and Rural Development (FMA&RD), the National Food Reserve Agency (NFRA), the Bill and Melinda Gates Foundation (BMGF) and the World Bank (WB). Under this partnership, a method to collect agricultural and household data in such a way as to allow the study of agriculture's role in household welfare over time was developed. This GHS-Panel Survey responds to the needs of the country, given the dependence of a high percentage of households on agriculture activities in the country, for information on household agricultural activities *along with* other information on the households like human capital, other economic activities, access to services and resources. The ability to follow the same households over time, makes the GHS-Panel a new and powerful tool for studying and understanding the role of agriculture in household welfare over time as it allows analyses to be made of how households add to their human and physical capital, how education affects earnings and the role of government policies and programs on poverty, inter alia. The GHS-Panel is the first panel survey to be carried out by NBS.

The GHS survey is a cross-sectional survey of 22,000 households carried out annually throughout the country. Under the work of the partnership, a full revision of the questionnaire was undertaken and, at the same time, a sub-sample of the GHS now forms a panel survey. The panel component (GHS-Panel) applies to 5,000 households of the GHS collecting additional data on multiple agricultural activities and household consumption. As the focus of this panel component is to improve data from the agriculture sector and link this to other facets of household behavior and characteristics the GHS-Panel drew heavily on the Harmonized National Living Standards Survey (HNLSS-a multi-topic household survey) and the National Agricultural Sample Survey (NASS-the key agricultural survey) to create a new survey instrument to shed light on the role of agriculture in households' economic wellbeing that can be monitored over time. The first wave of the revised GHS and GHS-Panel was carried out in two visits to the Panel households (post-planting visit in August-October 2010 and post-harvest visit in February-April 2011) and one visit to the full cross-section (in parallel with the post-harvest visit to the panel). The GHS-Panel will be carried out every two years while the GHS-Cross Section is usually carried out annually. A schematic of data collection is shown in Figure 1. Note that a separate document details the contents of the GHS (cross section). This document provides details on the GHS-Panel only.

Figure 1: Schematic of GHS			
2010	2011	2012	2013
GHS-Cross Sectional 22,000 (dashed box) — GHS-Panel Post Planting 5.000	GHS-Cross Section (17,000) / GHS-Panel Post Harvest 5,000	GHS-Cross Sectional 22,000 (dashed box) — GHS-Panel Post Planting 5.000	GHS-Cross Section (17,000) / GHS-Panel Post Harvest 5,000
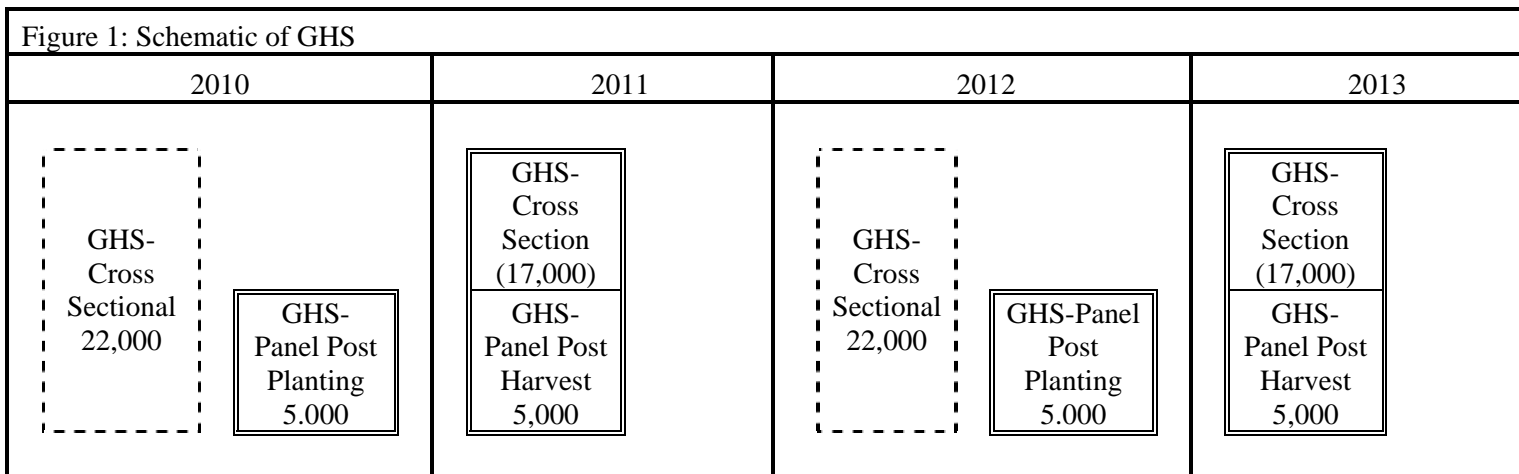
This revised and expanded GHS survey (Cross and Panel) forms part of a larger, regional project in Sub-Saharan Africa to improve agricultural statistics. Nigeria is one of seven countries being supported by the World Bank, through funding from the Bill and Melinda Gates Foundation (BMGF), to strengthen the production of household-level data on agriculture. The other countries are Ethiopia, Uganda, Tanzania, Malawi, Niger, and Mali. This regional project, the Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS_ISA) has the over-arching objective of improving our understanding of agriculture in Sub-Saharan Africa – specifically, its role in household welfare and poverty reduction. The data will also provide insights into how innovation and efficiency can be fostered in the agriculture sector.

The present document is designed to provide an overview of the first Wave of data collection under the revised GHS-Panel. The first wave consists of two visits to the household: the post-planting visit occurred directly after the planting season to collect information on preparation of plots, inputs used, labour used for planting and other issues related to the planting season. The post-harvest visit occurred after the harvest season and collected information on crops harvested, labour used for cultivating and harvest activities, and other issues related to the harvest cycle.

1.1 Expected Benefits

The specific outputs and outcomes of the revised GHS with panel component project are:

- ♦ Development of an innovative model for collecting agricultural data in conjunction with household data;
- ♦ Development of a model of inter-institutional collaboration between NBS and the FMA&RD and NFRA, *inter alia*, to ensure the relevance and use of the new GHS;
- ♦ Strengthening the capacity to generate a sustainable system for producing accurate and timely information on agricultural households in Nigeria.
- ♦ Comprehensive analysis of poverty indictors and socio-economic characteristics.

1.2   Innovations

The revised GHS with panel component contains several innovative features.

- ♦ Integration of agricultural data at the plot level with household welfare data;
- ♦ Creation of a panel data set that can be used to study poverty dynamics, the role of agriculture in development and the changes over time in health, education and other labor activities, *inter alia.*
- ♦ Use of small area estimation techniques (SAE) to generate state level poverty data by taking advantage of the integration of the panel households into the GHS cross-section.
- ♦ Collection of information on the network of buyers and sellers of goods with which household interact;
- ♦ Use of GPS units for measuring agricultural land areas;
- ♦ Involvement of multiple actors in government, academia and the donor community in the development of the survey and its contents as well as its implementation and analysis;
- ♦ Use of concurrent data entry in Wave 1. In later Waves the project will develop and implement a Computer Assisted Personal Interview (CAPI) application for the paperless collection of the GHS-Panel;
- ♦ Use of direct respondents for all sections of the questionnaires where individual level data or specific economic activity data are collected;
- ♦ Creation of publicly available micro data sets for researchers and policy makers;
- ♦ Active dissemination of agriculture statistics.

1.3   Coverage and Scope

The revised GHS with the panel component, while having an intensive focus on agriculture, is a national survey. The survey covered all the 36 states and the Federal Capital Territory (FCT), Abuja. Both urban and rural enumeration areas (EAs) were canvassed.

The survey covered a wide range of socio-economic topics which were collected via three different questionnaires administered to the household and the community. These are the Household Questionnaire, the Agricultural Questionnaire and the Community Questionnaire.

2.0   The Survey Instruments

The survey consisted of three questionnaires for each of the visits; The ***Household Questionnaire*** was administered to all households in the sample.   The ***Agriculture Questionnaire*** was administered to all households engaged in agriculture activities such as crop farming, livestock rearing and other agricultural and related activities.   The ***Community Questionnaire*** was administered to the community to collect information on the socio-economic indicators of the enumeration areas where the sample households reside.[1]

GHS-Panel Agriculture Questionnaire: The agriculture questionnaire solicits information on land ownership and use; farm labor; inputs use; GPS land area measurement and coordinates of household plots; agriculture capital; irrigation; crop harvest and utilization; animal holdings and costs; and household fishing activities. Some information is collected at the crop level to allow for detailed analysis for individual crops.

GHS-Panel Household Questionnaire: The household questionnaire provides information on demographics; education; health (including anthropometric measurement for children and child immunization); labor and time use; food and non-food expenditure; household nonfarm income-generating activities; food security and shocks; safety nets; housing conditions; assets; information and communication technology; and other sources of household income. Household location is geo-referenced in order to be able to later link the GHS-Panel data to other available geographic data sets.

GHS-Panel Community Questionnaire: The community questionnaire solicits information on access to infrastructure; community organizations; resource management; changes in the community; key events; community needs, actions and achievements; and local retail price information.

The Household Questionnaire is slightly different for the two visits.   Some information was collected only in the post-planting visit, some only in the post-harvest visit, and some in both visits. See Section 6.51 for more details.

The Agriculture Questionnaire collects different information during each visit, but for the same plots and crops. See Section 6.52 for more details.

The Community Questionnaire collected prices during both visits, and different community level information during the two visits. See Section 6.53 for more details.

The contents of each questionnaire for the GHS Panel post-planting and GHS Panel post-harvest are outlined below.

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[1] The Community Questionnaire does not collect information from communities in the sociological sense. The data cannot be used to represent communities in Nigeria.   The data collected at the community level represent information that is common to the households selected for inclusion in the selected sample EAs.

Table 2.1: GHS-Panel Household Questionnaire – Post planting visit

Section	Topic	Respondent	Description
Cover	Cover	Field staff	Household identifier variables, enumerator, supervisor, and data entry clerk identifiers, date and time of interview and data entry, and observation notes by enumerator regarding the interview
1	Roster	HOUSEHOLD head or spouse.	Roster of individuals living in the household, relationship to the household, gender, year of birth, age, marital status, spouse identification, parental status, and place of birth.
2	Education	Individuals 5 years and above	Educational attainment, school characteristics, and expenditures for the 2009-10 academic year
3	Labour	Individuals 5 years and above	Labor market participation during the last seven days, wage work, and domestic activities within the home
4	Credit and Savings	Individuals 15 years and above	Savings made, loans or credit received, insurance, and remittances by the household during the last six months, and conditions of the transaction
5	Household assets	HOUSEHOLD head	Ownership of assets and value
6	Non-farm Enterprises	Owner or manager of enterprise	Enterprise ownership, status, labor, value of stock, sales, and business costs.
7A	Meals Away From Home	Most knowledgeable person	Naira value of food consumed outside the home during the last seven days.
7B	Household Food Expenditure	Person responsible for food purchases	Quantity and value of food consumed within the household during the last seven days.
8	Household Non-food Expenditures	Person responsible for household purchases	Non-food expenditure during the last week/last month/last six months/last 12 months
9	Food Security	HOUSEHOLD head or eligible adult	Food security status of households in during the past 7 days/12 months
10	Other Income	HOUSEHOLD head or eligible adult	Others sources of household income since the new year
	Contact information	HOUSEHOLD head or eligible adult	Contact information

Table 2.2: GHS-Panel Agriculture Questionnaire – Post planting visit

Section	Topic	Respondent	Description
Cover	Cover	To be completed by field Staff. HOUSEHOLD ID must be copy from HOUSEHOLD to Agriculture Questionnaire.	This section contains household location and identification data as well as administrative data as regards administering and managing the questionnaire
11a	Plot Roster	Owner or manager of plot	Information on all plots owned and/or managed by the Household. This section includes data on estimated area, GPS measured area and the GPS measured location of the plot
11b	Land Inventory	Owner or manager of plot	Data on plot acquisition, tenure and use
11c	Input costs	Owner or manager of plot	Use and cost of pesticide, herbicide, animal labor and use of machinery
11d	Fertilizer acquisition	Owner or manager of plot	Access to, use and cost of fertilizer
11e	Seed acquisition	Owner or manager of plot	Data on source, quantity and cost of seeds used on the plot
11f	Planted field crops	Owner or manager of plot	Data on crops planted on the plot, amount of crops planted and expected harvest.
11g	Planted tree crops	Owner or manager of plot	This section collects details on tree crops
11h	Marketing of agricultural surplus	Owner or manager of plot	Marketing of agricultural surplus. Quantities sold, value and information on purchaser
11i	Animal holdings	Farmer or caretaker of animals	Data on farm animals owned by the household and commercial activity with these animals
11j	Animal costs	Farmer or caretaker of animals	Livestock farmer caretaker activities and costs
11k	Agriculture by-product	Farmer or caretaker of animals	Trading activity in agricultural by-products
11l	Extension	owner or manager of plot	Access to and utilization of technical support from various sources (government and non-government)
12	Network Roster	Farmer, owner or manager of plot	Roster of places or businesses where the household sells and purchases agricultural produce and/or supplies

Table 2.3: GHS-Panel Community Questionnaire – Post planting visit

Section	Topic	Respondent	Description
Cover	Cover	To be completed by the field staff	Cover
C1	Respondents Characteristics	Community Focus Group	Respondent Characteristics
C2	Food Prices	Market Food Sellers	Food Prices
C3	Labor	Community Focus Group	Labor
C4	Land prices and Credit	Community Focus Group	Land prices and credit

Table 2.4: GHS-Panel Household Questionnaire – Post harvest visit

Section	Topic	Respondent	Description
Cover	Cover	To be completed by the field staff	Household identifier variables, enumerator, supervisor, and data entry clerk identifiers, date and time of interview and data entry, and observation notes by enumerator regarding the interview
1	Roster	To be fill by the Head of HOUSEHOLD or spouse.	Roster of individuals living in the household, relationship to the household, gender, year of birth, age, marital status, polygamous marriages, spouse identification, parental status, place of birth, date joined household if new, migration.
2 (A and B)	Education	Individuals 5 years and above	Educational attainment, school characteristics, and expenditures. Section 2a collects information for new members of the household while Sect 2b collects follow-up and current information on original household members for the 2010-11 academic year
3 (A and B)	Labour	Individuals 5 years and older	Section 3a collects data on labour market activity of all household members 5 years and older. This includes employment and earnings information. Section 3b collects information on employment in one or more industries in the past 6 months
4(A and B)	Health	All individuals	Section 4a: general health status and utilization and cost of health services for those that need medical care. Data on effect of disabilities on activity and functioning; and anthropometrics. Section 4b: Child immunization.

Section	Topic	Respondent	Description
5	Information and communication technology	All individuals 10 years and above	Access to and use of communication technology, including computers and internet
6	Remittance	All individuals 10 years and above	Remittances received from abroad by household members 10 years and older
7	Household Assets sale and acquisition	Most knowledgeable person	Household assets sale and acquisition in the past 6 months
8	Housing	Head of household or any knowledgeable adult	Housing, facilities and cost. Access to utilities and costs
9	Non-farm Enterprises and income generating activities	Owner or manager of enterprise	Data on non-farm businesses owned and/or operated by the household. Follow-up data on the businesses from the previous visit and new businesses that were started since the previous visit
10 (A,B and C)	Meals Away From Home	Female in the household responsible for food preparation and/or food purchases	Section 10A: Meals away from home Section 10B: Food expenditures Section 10C: Aggregate food consumption
11	Non-food Expenditures	Most knowledgeable person or person who is responsible for household purchases	Consumption and expenditure on non-food items
12	Food Security	HOUSEHOLD head or eligible adult	Collects information on quantity of food, preferred foods and variety of foods available to household members based on economic reasons. Also collects data on intra-household food security dynamics .
13	Other household Income	HOUSEHOLD head or eligible adult	Miscellaneous income received by household
14	Safety Nets	HOUSEHOLD head or eligible adult	Household access to and utilization of safety nets
15(A and B)	Economic Shocks and death	HOUSEHOLD head or eligible adult	Section 15a: Data on economic shocks affecting the household Section 15b: Deaths of household members in the past 12 months, including age of deceased and cause of death.

Table 2.5: GHS-Panel Agriculture Questionnaire – Post harvest visit

Section	Topic	Respondent	Description
Cover	Cover	To be completed by field Staff. HOUSEHOLD ID must be copy from HOUSEHOLD to Agriculture Questionnaire.	This section contains household location and identification data as well as administrative data as regards administering and managing the questionnaire
A1	Land and Dry Season Planting	Farmer, owner or manager of plot	Follow-up on use of land for in post-planting visit and data on any subsequent planting or other use of the plot. Also information collected on new plots (i.e. added since post-planting visit)
A2	Harvest Labor	Farmer, owner or manager of plot	Data on labour that was used for crop harvesting, both from household and hired
A3	Agricultural production Harvest of Field and Tree Crops	Farmer, owner or manager of plot	Quantity and value of field crops produced
A4	Agricultural Capital	Farmer, owner or manager of plot	Ownership and value of agricultural machinery and tools owned by the household
A5 (A and B)	Extension Services	Farmer, owner or manager of plot	Access to and utilization of technical support from various sources (government and non-government)
A6	Animal Holdings	Owner or caretaker of animals	Data on farm animals owned by the household and commercial activity with these animals
A7	Animal Costs	Owner or caretaker of animals	Expenditure on livestock
A8	Other Agricultural Income	Farmer or caretaker of animals	Income from sale of agricultural products not capture previous section under crops and livestock
A9 (A and B)	Fishing, Capital and Revenue	Owner of fishing operations	SectionA9a: Data on fishing activities, includes capture, harvesting and processing Sectiona9b: Data on boat usage and the use of hired labour
A10	Network Roster	Farmer, owner or manager of plot	Roster of places or businesses where the household sells and purchases agricultural produce and/or supplies

Table 2.6 GHS-Panel Community Questionnaire – Post-Harvest Visit

Section	Topic	Respondent	Description
Cover	Cover	To be completed by the field staff	Cover
C1	Respondents Characteristics	Community Focus Group	Respondents Characteristics
C2	Community Infrastructure and Transport	Community Focus Group	Community Infrastructure and Transport
C3	Community Organizations	Community Focus Group	Community Organizations
C4	Community Resource Management	Community Focus Group	Community Resource Management
C5	Community Changes	Community Focus Group	Community Changes
C6	Community Key Events	Community Focus Group	Community Key Events
C7	Community Needs, Actions, and Achievements	Community Focus Group	Community Needs, Actions, and Achievements
C8	Food Prices	Market Food Sellers	Food Prices

3.0　Sample Design

The sample is designed to be representative at the national level as well as at the zonal (urban and rural) levels. The sample size of the GHS-Panel (unlike the full GHS) is not adequate for state-level estimates.

The sample is a two-stage probability sample:

First Stage:
The Primary Sampling Units (PSUs) were the Enumeration Areas (EAs). These were selected based on probability proportional to size (PPS) of the total EAs in each state and FCT, Abuja and the total households listed in those EAs. A total of 500 EAs were selected using this method.

Second Stage:
The second stage was the selection of households. Households were selected randomly using the systematic selection of ten (10) households per EA. This involved obtaining the total number of households listed in a particular EA, and then calculating a Sampling Interval (S.I) by dividing the total households listed by ten (10). The next step was to generate a random start 'r' from the table of random numbers which stands as the 1st selection. Consecutive selection of households was obtained by adding the sampling interval to the random start.

Determination of the sample size at the household level was based on the experience gained from previous rounds of the GHS, in which 10 households per EA are usually selected and give robust estimates.

In all, 500 clusters/EAs were canvassed and 5,000 households were interviewed. These samples were proportionally selected in the states such that different states had different samples sizes. The distribution of the samples are shown in Table 3.1 below which shows the size of the sample in each state, by geopolitical zone and urban/rural break-out.

Households were not selected using replacement. Thus the final number of household interviewed was slightly less than the 5,000 eligible for interviewing. The final number of households interviewed was 4,986 for a non-response rate of 0.3 percent. A total of 27,533 household members were interviewed. In the second, or Post Harvest Visit, some household had moved as had individuals, thus the final number of households with data in both points of time (post planting and post harvest) is 4,851, with 27,993 household members.

Table 3.1 Distribution of Final Sample of 500 EAs and 5,000 Households for Panel Survey by State, Urban and Rural Sectors, within Each Zone

Zone	State	Total		Urban		Rural	
		No. EAs	No. Hhs.	No. EAs	No. Hhs.	No. EAs	No. Hhs.
North-Central Zone	Benue	16	160	2	20	14	140
	Kogi	12	120	4	40	8	80
	Kwara	12	120	6	60	6	60
	Nasarawa	7	70	1	10	6	60
	Niger	18	180	4	40	14	140
	Plateau	11	110	2	20	9	90
	FCT Abuja	4	40	3	30	1	10
North-East Zone	Adamawa	12	120	1	10	11	110
	Bauchi	17	170	3	30	14	140
	Borno	21	210	5	50	16	160
	Gombe	8	80	1	10	7	70
	Taraba	9	90	0	0	9	90
	Yobe	13	130	3	30	10	100
North-West Zone	Jigawa	13	130	2	20	11	110
	Kaduna	12	120	4	40	8	80
	Kano	20	200	3	30	17	170
	Katsina	18	180	3	30	15	150
	Kebbi	10	100	1	10	9	90
	Sokoto	8	80	2	20	6	60
	Zamfara	9	90	2	20	7	70
South-East Zone	Abia	11	110	4	40	7	70
	Anambra	22	220	12	120	10	100
	Ebonyi	14	140	1	10	13	130
	Enugu	14	140	3	30	11	110
	Imo	19	190	2	20	17	170
South-South Zone	Akwa-Ibom	15	150	4	40	11	110
	Bayelsa	7	70	1	10	6	60
	Cross River	13	130	3	30	10	100
	Delta	14	140	4	40	10	100
	Edo	10	100	5	50	5	50
	Rivers	21	210	8	80	13	130
South-West Zone	Ekiti	8	80	6	60	2	20
	Lagos	17	170	16	160	1	10
	Ogun	11	110	7	70	4	40
	Ondo	13	130	6	60	7	70
	Osun	18	180	14	140	4	40
	Oyo	23	230	15	150	8	80

4.0 Training of Field Staff and Data Entry Operators for the Survey

Two (2) levels of training were mounted for the survey. The 1st level was organized at NBS Headquarters in Abuja and was called the Training of Trainers (TOT). The participants in the TOT became the resource persons for the next level of training. The top management team of the survey participated in the TOT which lasted for three (3) days. The persons trained in the TOT were then sent to carry out the second level training: three (3) resource persons were sent to each of the six training centers, Minna (Niger State) for North Central (NC), Gombe (Gombe State) for North East(NE), Kaduna (Kaduna State) for North West(NW), Enugu (Enugu State) for South East(SE), Calabar (Cross River State) for South-South (SS) and Ibadan (Oyo State) for South West to perform the training. Included in the team was one (1) additional resource person per training venue who served as an Information Technology (IT) trainer.

The second level training took 6 days with 4 days for theory and 2 days for field practice and review. The core training materials for the 2nd level training were harmonized and finalized during the TOT. Participants in the training were Zonal Controllers, State Officers, Field Supervisors, Field Interviewers and Data Entry Operators. Training instructions were given to the field staff by the resource persons from the management team (NBS, FMS&RD, and NFRA) with support from World Bank technical missions. The training consisted of (i) classroom instruction on the questionnaire, concepts and definitions, (ii) interview techniques, and (iii) methods and field practices in performing actual interviews to ensure that field interviewers fully understood the questionnaire. In addition, participants did actual interviews in the field with households that were not scheduled to be part of the actual survey sample. Most of the training instructions are detailed in the interviewer's and supervisor's manuals which are also available.

At the end of the training session, trainees were assessed according to a test that was administered on the material covered in the training process, and an evaluation by the resource persons. The data entry operators were trained along with the field staff, with supplementary IT training sessions. At the end of the training, field teams were formed of interviewers, supervisors and data entry operators.

5. 0 Field Work

5.1 Organization of Fieldwork

Data were collected by teams consisting of a supervisor, between 2 and 4 interviewers and a data entry operator.   The number of teams varied from state to state depending on the sample size or number of EAs selected. The teams moved in a roving manner and data collection lasted for between 20 – 30 days for each of the post-planting and post-harvest visits. Additional details on the structure of the visits is available in Section 6.

5.2 Fieldwork Monitoring and Evaluation

As an additional aid to ensuring the good quality data, extensive monitoring was done of the field work Monitoring and evaluation guidelines and formats for fieldwork were developed. One (1) monitor was assigned to 1 – 2 states and all the states and FCT, Abuja were covered. There were three levels of monitoring and evaluation, the first and the third levels were carried out by NBS state officers and zonal controllers while the second level was carried out by the technical team which included individuals from the National Bureau of Statistics (NBS), the Federal Ministry of Agriculture and Rural Development (FMA&RD), the National Food Reserve Agency (NFRA) headquarter staff, and World Bank officials and consultants.

The monitors made sure that proper compliance with the procedures as contained in the manual were followed, effected necessary corrections and tackled problems that arose. The monitoring exercise was arranged such that the first level took place at the commencement of the fieldwork, and the third level not later than a week before the end of the data collection exercise. In-between these two, the technical team visited all the states of the federation and FCT, Abuja. While NBS state officers monitored in their state, the zonal controllers monitored in at least two (2) states (the zonal headquarters state and one other state of the same zone). The 1st and 3rd rounds of the monitoring exercise lasted for eight (8) days while the 2nd round by the technical team lasted for seven (7) days. Monitoring instruments were developed and discussed during both training of trainers and zonal training.

6.0　Data Management and Description of Datasets

6.1 Data Management

6.11 Data Entry

This survey used a concurrent data entry approach. In this method, the fieldwork and data entry were handled by each team assigned to the state. Each team consisted of a field supervisor, 2-4 interviewers and a data entry operator. Immediately after the data were collected in the field by the interviewers, the questionnaires were handed over to the supervisor to be checked and documented. At the end of each day of fieldwork, the questionnaires were then passed to the data entry operator for entry. After the questionnaires were entered, the data entry operator generated an error report which reported issues including out of range values and inconsistencies in the data. The supervisor then checked the report, determined what should be corrected, and decided if the field team needed to revisit the household to obtain additional information. The benefits of this method are that it allows one to:

- ♦ Capture errors that might have been overlooked by a visual inspection only,
- ♦ Identify errors early during the field work so that if any correction required a revisit to the household, it could be done while the team was still in the EA

The CSPro software was used to design the specialized data entry program that was used for the data entry of the questionnaires.

6.12 Data Cleaning

The data cleaning process was done in a number of stages. The first step was to ensure proper quality control during the fieldwork. This was achieved in part by using the concurrent data entry system which was, as explained above, designed to highlight many of the errors that occurred during the fieldwork. Errors that are caught at the fieldwork stage are corrected based on re-visits to the household on the instruction of the supervisor. The data that had gone through this first stage of cleaning was then sent from the state to the head office of NBS where a second stage of data cleaning was undertaken.

During the second stage the data were examined for out of range values and outliers. The data were also examined for missing information for required variables, sections, questionnaires and EAs. Any problems found were then reported back to the state where the correction was then made. This was an ongoing process until all data were delivered to the head office.

After all the data were received by the head office, there was an overall review of the data to identify outliers and other errors on the complete set of data. Where problems were identified, this was reported to the state. There the questionnaires were checked and where necessary the relevant households were revisited and a report sent back to the head office with the corrections.

The final stage of the cleaning process was to ensure that the household- and individual-level data sets were correctly merged across all sections of the household questionnaire. Special care was taken to see that the households included in the data matched with the selected sample and where there were differences these were properly assessed and documented. The agriculture data were also checked to ensure that the plots identified in the main sections merged with the plot information identified in the other sections. This was also done for crop-by-plot information as well.

6.13 Data Cleaning Challenges

The cleaning process at the head office was impeded by the fact that the questionnaires were not immediately available for inspection when problems were identified in the data. The questionnaires were retained by the state in case there was the need for household revisits. So whenever problems were identified at the head office, the state office had to be contacted in order to determine if the suspect data were the same as the information on the questionnaire, and to ensure that changes were captured in both places. This was a very cumbersome and time consuming process since communication was difficult and in many instances the response was not timely. However, this is a necessary process to ensure that the households can be re-visited to provide the correct information to avoid having to make imputations. Also, this process allows the state officers to understand the key issues that arose during field work and will serve to enhance further rounds of data collection. It will be important, nonetheless, to find a mechanism to facilitate this process in the next round of data collection and cleaning.

A second challenge in data management and cleaning was the difficulty faced by state offices in sending the data from the state to the head office. There were difficulties in accessing internet facilities in many of the EAs and surrounding areas where the field teams were active. The consequence of this was that the data were not sent to the head office until the teams returned to state capitals where, due to the distance, it was difficult to return to the EAs for household revisits when requested by the head office. This issue will need to be addressed for future rounds of the survey.

6.14 Weighting of Data

When a sample of households is selected for a survey, these households represent the entire population of the country. To accurately use the data sets, the data must be weighted to reflect the distribution of the full population in the country. A population weight was calculated for the panel households. This weight variable (*wght*) has been included in the household dataset: Section A (*secta_plantingw1* for post-planting and *secta_harvestw1* for post-harvest). When applied, this weight will raise the sample households and individuals to national values adjusting for population concentrations in various areas.

6.2 Description of Datasets

The first wave of the GHS-Panel was administered in two visits: Post-planting (Aug-Oct 2010) and Post-harvest (Feb-Apr 2011). During each visit two questionnaires were administered to the household respondents (household questionnaire and agricultural questionnaire) and a third questionnaire was administered at the level of the Enumeration area (community questionnaire). The datasets are organized by visit and then by questionnaire. The household dataset corresponds to the Household Questionnaire, the agricultural dataset corresponds to the Agricultural Questionnaire, and the community dataset corresponds to the Community Questionnaire.

The data file naming scheme is a combination of the prefix '*sect*', followed by section number, and then followed by suffix '*plantingw1*' for post-planting data and '*harvestw1*' for post-harvest data. For example, the data set that corresponds with the section 1 of the household questionnaire in post-planting data folder is called '*sect1_plantingw1*'. The exception to this rule are sections where the files are broken down even further due to different reference period or different levels of recording the data. An example is section 8 of the household post-planting questionnaire on nonfood expenditure where the section is split into 5 files with each file corresponding with the reference period collected in the section. In this case, the name of the corresponding files will be '*sect81_plantingw1*', '*sect82_plantingw1*', etc.

6.21 Household Data

In the household questionnaire, some of the modules were administered in both the post planting and post-harvest visit and others were only administered during one of the two visits. This should be taken into account when using the datasets.

Group 1: These modules are administered in both visits but the module in the post-harvest version is a follow up to the post-planting module. For example, for the Roster and Education modules, additional information is gathered during the post-harvest only for individual who had joined the household since the first, or post-planting, visit. (These people are referred to as 'new household members'.) For assets and enterprises, the module attempts to update the information from the first visit.
- Roster
- Education
- Households assets
- Nonfarm enterprises

Group 2: These modules are administered in both visits as standalone modules. For these topics we have complete information at two points in time during the year of the survey.
- Labor
- Meals away from home
- Food consumption and expenditure
- Nonfood expenditure
- Food security

- Other household income

Group 3: These modules only appear in either the post-planting or the post-harvest visit
- Post-planting only
  - Credit and Savings
- Post-harvest only
  - Health and Child immunization
  - Information and communication technology
  - Remittances
  - Housing
  - Aggregate food consumption
  - Safety nets
  - Economic shocks and deaths

Tables 6.1a and 6.1b show the sections of the household questionnaire and the datasets that correspond to these. There are 21 data files in the post-planting household data folder which include all the modules in the questionnaire and 4 aggregate data files: household size, annual food expenditure, annual non-food expenditure and annual total expenditure.

Table 6.1a: Post-planting household datasets

Section	Section Name	Dataset Filename
Cover	Cover	secta_plantingw1
1	Roster	sect1_plantingw1
2	Education	sect2_plantingw1
3	Labour	sect3_plantingw1
4	Credit and Savings	sect4_plantingw1
5	Household assets	sect5_plantingw1
		sect5b_plantingw1
6	Non-farm Enterprises	sect6_plantingw1
7A	Meals Away From Home	sect7a_plantingw1
7B	Household Food Expenditure	sect7b_plantingw1
8	Household Non-food Expenditures	sect81_plantingw1
		sect82_plantingw1
		sect83_plantingw1
		sect84_plantingw1
		sect85_plantingw1
9	Food Security	sect9_plantingw1
10	Other Income	sect10_plantingw1
Aggregate	Annual total expenditure	annual_plantingw1

There are 31 data files in the post-harvest household data folder which include all the modules in the questionnaire and 4 aggregate data files: household size, annual food expenditure, annual non-food expenditure and annual total expenditure.

Table 6.1b: Post-harvest household datasets

Section	Section Name	Dataset Filename
Cover	Cover	secta_harvestw1
1	Roster	sect1_harvestw1
2A	Education- New Member	sect2a_harvestw1
2B	Education – Original Household Members	sect2b_harvestw1
3A	Labour	sect3a_harvestw1
3B	Labour Activity	sect3b_harvestw1
4A	Health	sect4a_harvestw1
4B	Child Immunization	sect4b_harvestw1
5	Information and Communication Technology	sect5_harvestw1
6	Remittances	sect6_harvestw1
7	Household Assets Sales and Acquisition	sect7_harvestw1
8	Housing	sect8_harvestw1
9	Non-farm Enterprises and Income Generating Activity	sect9_harvestw1
10A	Meals Away From Home	sect10a_harvestw1
10B	Food Consumption and Expenditures	sect10b_harvestw1
10C	Aggregate Food Consumption	sect10c_harvestw1
11	Non-food Expenditures	sect11a_harvestw1
		sect11b_harvestw1
		sect11c_harvestw1
		sect11d_harvestw1
		sect11e_harvestw1
12	Food Security	sect12_harvestw1
13	Other Household Income	sect13_harvestw1
14	Social Safety Nets	sect14_harvestw1
15A	Economic Shocks	sect15a_harvestw1
15B	Deaths	sect15b_harvestw1
		sect15b1_harvestw1
Aggregate	Annual total expenditure	annual_harvestw1

6.22 Agriculture Data

It should be noted that in the agriculture questionnaire, the plot roster and land inventory information collected during the post-planting visit is updated during the post-harvest visit in the Land and dry season planting section to include additional plots households may have acquired or old plots they have disposed of since the first, post-planting visit. Information on inputs to agricultural production was collected in the post-planting visit only. As with the household

questionnaire, some modules were administered in both visits. For these modules, during the post-harvest visit, information was gathered on the activities since the post-planting interview.

There are 15 data files in the post-planting agriculture data folder corresponding to the modules in the questionnaire.

Table 6.2a: Post-planting Agriculture datasets

Section	Section Name	Dataset Filename
11a	Plot Roster	sect11a_plantingw1
		sect11a1_plantingw1
11b	Land Inventory	sect11b_plantingw1
11c	Input costs	sect11c_plantingw1
11d	Fertilizer acquisition	sect11d_plantingw1
11e	Seed acquisition	sect11e_plantingw1
11f	Planted field crops	sect11f_plantingw1
11g	Planted tree crops	sect11g_plantingw1
11h	Marketing of agricultural surplus	sect11h_plantingw1
11i	Animal holdings	sect11i_plantingw1
11j	Animal costs	sect11j_plantingw1
11k	Agriculture by-product	sect11k_plantingw1
11l	Extension	sect11l1_plantingw1
		sect11l2_plantingw1
12	Network Roster	sect12_plantingw1

There are 15 data files in the post-harvest agriculture data folder corresponding to the modules in the questionnaire.

Table 6.2b: Post-harvest Agriculture datasets

Section	Section Name	Dataset Filename
A1	Land and Dry Season Planting	sectaa_harvestw1
		secta1_harvestw1
A2	Harvest Labour	secta2_harvestw1
A3	Agricultural Production – harvest of Field and Tree Crops	secta3_harvestw1
A4	Agricultural Capital 1	secta41_harvestw1
	Agricultural Capital 2	secta42_harvestw1
A5	Extension Services 1	secta5a_harvestw1
	Extension Services 2	secta5b_harvestw1
A6	Animal Holdings	secta6_harvestw1
A7	Animal Costs	secta7_harvestw1
A8	Other Agricultural Income	secta8_harvestw1

Section	Section Name	Dataset Filename
A9a	Fishing	secta9a1_harvestw1
		secta9a2_harvestw1
A9b	Fishing Capital and Revenue	secta9b1_harvestw1
		secta9b2_harvestw1
A10	Network Roster	secta10_harvestw1

6.23 Community datasets

Tables 6.3a and 6.3b show the sections of the community questionnaire and their corresponding data sets. There are 5 files in the post-planting data folder and 9 data files in the post-harvest community data folder corresponding to the modules in the questionnaire.

Table 6.3a: Post-planting Community datasets

Section	Section Name	Dataset Filename
Cover	Cover	sectc_plantingw1
C1	Respondent Characteristics	sectc1_plantingw1
C2	Food Prices	Sectc2_plantingw1
C3	Labor	Sectc3_plantingw1
C4	Land prices and credit	Sectc4_plantingw1

Table 6.3b: Post-harvest Community datasets

Section	Section Name	Dataset Filename
Cover	Community identification	sectc_harvestw1
C1	Respondent Characteristics	sectc1_harvestw1
C2	Community Infrastructure and Transportation	sectc2_harvestw1
C3	Community Organizations	sectc3_harvestw1
C4	Community Resource Managements	sectc4_harvestw1
C5	Community Changes	sectc5_harvestw1
C6	Community Key Events	sectc6_harvestw1
C7	Community Needs, Actions and Achievements	sectc7_harvestw1
C8	Food Prices	sectc8_harvestw1

Note that, for purposes of maintaining the confidentiality of the data all names and addresses have been removed from the datasets. Additionally, the GPS coordinates have also been removed as these could be used to locate households and plots with accuracy. Various approaches to use of the GPS data are available: the user who is interested in these data is requested to contact NBS directly to discuss how these can be used. (See Appendix 1 for information on how to contact NBS.)

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7.0   Using the Data

7.1   File Structure

The data should always be used in conjunction with the questionnaire and the interviewer's instruction manual.

Where there are no issues of confidentiality all the variables from the questionnaire have been included in the data sets. In some cases there is an additional variable which contains the "other specify" information that was written in the questionnaire. So, for example, if there is a variable with two parts question 5a and question 5b, a third variable, question 5c, might be added which would contain the other "specify information".

7.2 Merging Datasets

7.21 Household and Agriculture Datasets

All household and agriculture datasets in both the post-planting and post-harvest files, contain a variable (*hhid*) which is a unique identifier for the household. This variable is used as the unique key variable in the merging of all household type datasets. In some of the other types of datasets, additional key variables may be required in the merging process. In the case of individual type files, the variable that uniquely identifies the individual in the household is *indiv*. So in order to merge any two individual type files, both the variables *hhid* and *indiv* would be used. In the agriculture datasets, plot files are merged using *hhid* and *plotid* while crop files are merged using *hhid, plotid* and *cropid*.

7.22 Post-Planting and Post-Harvest Datasets

Post-planting and post-harvest files can be merged using the methodology explained above. That is, the *hhid* is the same for a specific household in the post-planting and post-harvest visit. It should be noted that there was some attrition of households between the post-planting and post-harvest visits so some households in the post-planting files will not have a match in the post-harvest data sets. Note also that people may have left the households or joined them in the time between the two visits. Thus the number of people will vary between visits.

7.23 Community Datasets

The community questionnaire is administered at the EA level so the location variables *lga* and *ea* are unique for each community questionnaire. Merging of community files within the round or with community files from the other round or with any of the household or agriculture files from either round should be done using the *lga* and *ea variables*, in that order.

Location variables: *zone*, *state*, *lga*, *sector*, *ea* and *ric* have not been included in all the datasets. Instead, these variables have been included in the questionnaire cover datasets, i.e. secta_harvestw1, secta_plantingw1, sectc_harvestw1 etc., and from there they can be merged into any of the other datasets using the key variables as explained above.

7.3 Network Roster

A network roster is included in both the post-planting and post-harvest agriculture questionnaires. The network roster keeps a record of the list of places (businesses, markets, persons etc) with which the household engages in agricultural trading activities. Each place is assigned the network code of the line in which it is in that section. Each place is recorded only once so we have for example, network codes N1, N2 etc. which is just a serialization of the places. This is similar to the household roster where an individual acquires the individual code of the line in which the person's name is written.

After the information has been entered in the network roster, the network code can be used in any section of the agriculture questionnaire where a place of trading is requested. The network roster contains information on the type of place and its location.

8.0   Calculation of consumption aggregate

The consumption aggregates are computed from the expenditure sections of the questionnaire for general food and non-food expenditures. In addition to this, educational expenditures are obtained from the education of the questionnaire for both post-planting and post-harvest. In the case of the post-harvest visit, a housing expense section was included in the questionnaire and these data were used in the computation of the consumption aggregate. A housing expense section was not included in the post-planting questionnaire.

Table 8.1: Datasets Providing Consumption Aggregate Data

Section	Post-planting Dataset	Post-harvest Dataset
Education expenses	sect2_plantingw1	sect2a_harvestw1 sect2b_harvestw1
Meals Away from Home expenditure	sect7a_plantingw1	sect10a_harvestw1
Housing Expenditure	Not collected	Sect8_harvestw1
Food Consumption	sect7b_plantingw1	Sect10b_harvestw1
Non-food Expenditure	sect81_plantingw1 sect82_plantingw1 sect83_plantingw1 sect84_plantingw1 sect85_plantingw1	Sect11a_harvestw1 Sect11b_harvestw1 Sect11c_harvestw1 Sect11d_harvestw1 Sect11e_harvestw1

8.1 Derivation of Food Gifts and Home Production Expenditure

The post-planting and post-harvest surveys did not collect information on the value (estimated) of food gifts and food home production. Gift and home production data were collected in terms of quantity consumed only.

In order to obtain a value for gifts received and home produced food consumed, the unit value of the item was obtained from the price of purchase of the item by the household and this unit valued applied to the quantity of gift and home production consumed. In cases where the household did not purchase the item received as gift or consumed from home production, the enumeration area median unit price for that item was used. If the purchase of this item did not occur in the enumeration area, progressively larger geographic areas were examined i.e. local government area (lga), state and national, until the purchase of the item occurred and the median unit price could be obtained.

8.2 Consumption Aggregate Datasets

Expenditure data was annualized for both the post-planting visit and the post-harvest visit. The file has the same name (annual) in the both sets of data and is differentiated by the round suffix.

8.21 Annual Dataset

The annual dataset contains all the annualized consumption expenditure variables. Table 8.3 below list the variables with a description of each.

Table 8.3: Description of Variables in the 'Annual' Dataset

Variable	Description
pfood	Purchased food
giftfood	Value of foods received as gifts
hpfood	Value of food consumed from own production
daily	Daily expenditure on meals away from home
totfood	pfood+giftfood+hpfood+daily
hsexp	Household and housing expenses
personal	Person expenditure
clothing	Annual expenditure on clothing and footwear
health	Value of expenditure on health
transp	Annual expenditure on transportation public and private
hhdurable	Value of household durable goods purchase
noncons	Non-consumption expenditure
misc	Miscellaneous expenditure
educ	Value of expenditure on education, computed from the education section
rent	Annual value of rent expenditure. (There was not a housing section in the post-planting questionnaire so in post-planting this was taken from the expenditure section 8 and in post harvest from housing, Section 8)
electricity	Annual expenditure on electricity (There was not a housing section in the post-planting questionnaire so in post-planting this was taken from the expenditure section 8 and in post harvest from housing, Section 8)
lphone	Annual expenditure on landline phones (There was not a housing section in the post-planting questionnaire so in post-planting this was taken from the expenditure, section 8 and in post harvest from housing, Section 8)
cphone	Annual expenditure on mobile phone credit. (There was not a housing section in the post-planting questionnaire so in post-planting this was taken from the expenditure section 8 and in post harvest from housing, Section 8)
water	Annual expenditure on water. (There was not a housing section in the post-planting questionnaire so in post-planting this was taken from the expenditure section 8 and in post harvest from housing, Section 8)

Variable	Description
garbdisp	Annual expenditure on garbage disposal, housing section [This data is available in post-harvest only]
nonfood	**POST-PLANTING:** hsexp+personal+clothing+health+transp+hhdurable+misc+educ+rent+electricity+lphone+cphone+water **POST-HARVEST:** hsexp+personal+clothing+health+transp+hhdurable+misc+educ+rent+electricity+lphone+cphone+water+garbdisp
cons	totfood+nonfood
totexp	cons+noncons
hhsize	Number of household members
percap	cons/hhsize
quintile	Population quintile
decile	Population decile

8.22 Commodity Grouping of Items

The table below shows the commodity groups and items that have been included in these groups. The major commodity groups have been shown in the annual datasets. The other commodity groups have been placed in the variable miscellaneous.

Table 8.4: Item Codes in Commodity Groupings

Category	item_cd	Group Code
Meals away from home	1-5	1
Non-Food Expenditure		
Tobacco and matches	101, 102	2
Clothing and footwear	401-417, 423	3
Rent	329	4
Mortgage	326	5
Water	312	6
Electricity	305	7
Gas and cooking fuel	301,303,304,307,308	8
Other fuel energy	309, 310	9
Furnishing and household equip maintenance	327, 328	10
Household expenses	306, 311, 313, 314, 317, 325, 419, 420, 421, 422, 424, 427, 501, 502, 503, 505, 508, 518, 519	11
Health: health costs, vitamins supplies, mosquito nets	316, 430, 504	12
Transport: public transportation, vehicle maintenance, bicycle servicing	104, 323, 324	13
Landline phone	320	14

Category	item_cd	Group Code
Mobile phone credit	319,	15
Other communication	318,321	16
Recreation and personal care	322, 428, 425*, 426*, 103, 507, 506, 315, 418	17
Education	From education sections	19
Food and non-alcoholic beverages		
Grains and flours	10-20	20
Starchy roots, tubers & plantain	30-38	21
Pulses, nuts and seeds	40-44	22
Oil and fats	50-53, 302	23
Fruits	60-66	24
Vegetables	70-78,7	25
Poultry, poultry products, meat, fish	80-85, 90-96, 100-107	26
Milk and milk products	110-114,6	27
Coffee, tea, cocoa and the like beverages	120-122	28
Sugar, sweets and confectionary	130-133	29
Other miscellaneous foods	140	30
Non-alcoholic drinks	150-155, 8	31
Alcoholic drinks (bottle and can)	160-164, 9	32
Non-consumption expenditure	509-517, 429	45

9.0 Overall Problems and Challenges Faced During the First Wave of the Survey and Recommendations for Wave 2 of the Survey

Designing and implementing a complex survey such as the GHS-Panel presents various challenges. In this section we outline some key issues that arose, lessons learned and make recommendations for the next Wave of the survey.

9.1 Sampling

During the post-planting round, each interviewer was provided a list of addresses of the households in the sample that they were responsible to interview. There were some problems of EA replacement, in cases of inaccessibility to the EA, that were not done according to plan. One cause of this may have been the fact that the EAs listing had been done with a substantial gap between it and the actual field work.

♦ A re-listing exercise was done at the end of the post-harvest round and weights from this relisting has been included in the post-planting and post-harvest data.

There were also issues on the agreement of geographical codes between. The statistical system of the country is decentralized to some extent, with the central office of the NBS working with six zonal offices and 36 state (plus FCT) offices. It was discovered during the field work that there are different codes in use in the states and headquarters for LGAs and EAs.

It is recommended that for wave 2, work be done to harmonize all geographic codes before another round of field work is done. This will benefit all surveys, not just the GHS

9.2 Field work

9.21 Pre-filling of Questionnaires

Prior to the fielding of the post-harvest survey, interviewers were required to pre-fill questionnaires with select data from the post-planting questionnaires. The pre-filled information was used to ask follow-up questions to those asked in the post-planting survey.

The pre-filling proved problematic in many instances. The main problem was that there were many cases where data was prefilled into the wrong column of the post-harvest questionnaire and in some cases in the wrong row. This resulted in data being assigned into the wrong variable or in a mismatch of cases between the post-planting and post-harvest data

9.22 Availability of Electricity

This was required by the data entry operator to operate the laptop computer and printer when in the field. This problem was anticipated so inverters were purchased and made available to each data entry operator. The intention was that these inverters would be connected to the cigarette lighter socket or battery of the vehicle that was providing transportation for the team. By so doing' electrical power would be generated to run the laptop and printer. Unfortunately, in most cases, no vehicle was available since the team was simply transported and left at the location. In addition some of the locations could only be accessed by motorcycles which did not have the facility to operate the inverters.

In order to alleviate this problem, special provision had to be made for the purchase or renting of portable generators. This proved to be a satisfactory solution to the problem.

9.23 Flooding

During the post-planting visit many roads leading to the rural EAs were in very poor condition and were flooded during the rainy season. In rural areas, movement was difficult as only motorcycles were able to access some of the rural EAs. Using these motorcycles turned out to be more expensive than the taxis or vans that normally travelled those routes. In addition, in the flooded areas it was not possible to collect any information about the farms since these farms were under water.

Special provision should be made for transportation for the post-planting round of the next wave of the survey and it should be expected that there will be challenges in accessing some farm land in flood prone areas.

9.24 GPS Units

In some states, a number of the allocated GPS units malfunctioned and consequently reduced the number of farms that it was anticipated would have been covered in a given period of time. These GPS units were eventually replaced but unfortunately not before some delays were incurred.

In addition, only one GPS unit was allocated to each field team. Given the number of plots of land and the needs of 2-4 interviewers to measure all of this, it was determined that one GPS unit per team is not sufficient to collect the amount of data required.

9.25 Data entry

Overall the data entry in the field served as a useful quality control mechanism and improved the quality of the data. There were, however, a number of problems that were encountered during the post-planting round that were addressed before the fielding of the post-harvest visit. This

was done by providing two extra days of training and practice for the data entry persons and supervisors only. The problems addressed included:

♦ Some of the data entry operators found the new system challenging. Specifically managing the laptop computers and managing issues with the data entry program.

♦ There were challenges in sending data via internet to NBS headquarters, in part due to poor connections but also due to inexperience of data entry operators with the use of the internet.

♦ The concurrent data entry system requires that the data from each questionnaire be entered electronically and a list of errors, inconsistencies and missing data produced. This list is then used by the supervisor to determine if a household needs to be re-visited and the interviewer is responsible for correcting any errors on the list. There were some problems in effective managing of data problems while the teams were in the field such as printing and the correct reading of error messages

9.26 Delay in States Responding to Data Queries

In both the post-planting and post-harvest rounds, the questionnaires were entered in the state where the survey was conducted and the questionnaires remained in that state. When data problem were identified the state was requested to check the questionnaire and/or revisit the household and correct errors or obtain additional data where the need arose.

The response from most states took an excessively long time and in some cases when the information was returned the query was not properly addressed and had to be resent. This introduced excessive delays in the data cleaning process.

Appendix 1 : How to Obtain Copies of the Data

The data are available through the NBS web site:

http://www.nigerianstat.gov.ng/

or through the LSMS-ISA website:

http://www.worldbank.org/lsms-isa

Users do not need to obtain the permission of the NBS to receive a copy of the data, but will be asked to fill in a data access agreement. In this agreement, users agree to: (a) cite the National Bureau of Statistics as the collector of the data in all reports, publications and presentations; (b) provide copies of all reports publications and presentation to the National Bureau of Statistics (see address below) and the Poverty and Inequality Division of the World Bank (see address below); and (c) not pass the data to any third parties for any reasons.

Leo Sanni	LSMS Database Manager
Statistical Information Officer	Poverty and Inequality Division
Plot 762, Independence Avenue,	The World Bank
Central Business District,	1818 H Street, NW
FCT, Abuja	MSN MC3-306
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Appendix 2: Agriculture land Conversion Factors

The table below shows the conversion factors used to convert self-reported land areas (for agricultural land area of crops planted and harvested) into hectares.

General Conversion Factors to Hectares

Zone	Unit	Conversion Factor
All	Plots	0.0667
All	Acres	0.4
All	Hectares	1
All	Sq Meters	0.0001

Zone Specific Conversion Factors to Hectares

Zone	Conversion Factor		
	Heaps	Ridges	Stands
1	0.00012	0.0027	0.00006
2	0.00016	0.004	0.00016
3	0.00011	0.00494	0.00004
4	0.00019	0.0023	0.00004
5	0.00021	0.0023	0.00013
6	0.00012	0.00001	0.00041

Note: All conversion is to Hectares

Appendix 3: How the Consumption Aggregate was Calculated.

The calculation of the consumption aggregates were done using the method presented in the table below[2]. Items were grouped as shown in Table 8.4 above.

Description	Section		Post-planting Computation Formula	Post-harvest Computation Formula
	Post Planting	Post Harvest		
Meals away from home	7a	10a	multiply by 365/7	
Daily Purchased food items	7b	10b	multiply by 365/30	
Weekly purchased non-food items	8 (weekly purchases)	11 (weekly purchases)	multiply by 52	
Monthly Purchases of non-food items	8 (monthly purchases)	11 (monthly purchases)	multiply by 12	
Bi-annual Purchases of non-food items	8 (Bi-annual purchases)	11 (biannual purchases)	multiply by 2	
Annual purchases of non-food items	8 (Annual purchases)	11 (Annual Purchases)	take value	
Educational Expenses for new members only, post-harvest visit	n/a	2a (question 23)		if q23i>0 value=q23i otherwise value=q23a+q23b+q23c+q23d+ q23e+q23f+q23g+q23h
Educational Expense for original household members, post-harvest visit	n/a	2b (question 14)		if q14i>0 value=q14i otherwise value=q14a+q14b+q14c+q14d+ q14e+q14f+q14g+q14h
Education Expenses, post-planting visit	2 (question 18)	n/a	if q18i>0 value=q18i otherwise value=q18a+q18b+q18c+q18d+ q18e+q18f+q18g+q18h	
Housing	n/a	8		if sp8q4b=1 rent=sp8q4*12. if sp8q4b=2 rent=sp8q4. if sp8q25b=1 electricity=sp8q25*365. if sp8q25b=2 electricity=sp8q25*365/7. if sp8q25b=3 electricity=sp8q25*12. if sp8q25b=4 electricity=sp8q25*1. if sp8q30b=1 lphone=sp8q30*365. if sp8q30b=2 lphone=sp8q30*365/7. if sp8q30b=3 lphone=sp8q30*12. if sp8q30b=4 lphone=sp8q30*1.

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[2]These consumption aggregates were constructed to be similar to previous work done in Nigeria but new aggregates will be available (check back on the website) that reflect international practice

Description	Section			
				cphone=sp8q32*365/30 water=sp8q35*365/30. garbdisp=sp8q39*365/30.