

# Nigeria - National Agricultural Sample Census 2022

**National Bureau of Statistics (NBS)**

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## Identification

### SURVEY ID NUMBER

NGA\_2022\_NASC\_v01\_EN\_M\_v01\_A\_ESS

### TITLE

National Agricultural Sample Census 2022

### COUNTRY

Name	Country code
Nigeria	NGA

### STUDY TYPE

Agricultural Census [ag/census]

### ABSTRACT

NASC is an exercise designed to fill the existing data gap in the agricultural landscape in Nigeria. It is a comprehensive enumeration of all agricultural activities in the country, including crop production, fisheries, forestry, and livestock activities. The implementation of NASC was done in two phases, the first being the Listing Phase, and the second is the Sample Survey Phase. Under the first phase, enumerators visited all the selected Enumeration Areas (EAs) across the Local Government Areas (LGAs) and listed all the farming households in the selected enumeration areas and collected the required information. The scope of information collected under this phase includes demographic details of the holders, type of agricultural activity (crop production, fishery, poultry, or livestock), the type of produce or product (for example: rice, maize, sorghum, chicken, or cow), and the details of the contact persons. The listing exercise was conducted concurrently with the administration of a Community Questionnaire, to gather information about the general views of the communities on the agricultural and non-agricultural activities through focus group discussions.

The main objective of the listing exercise is to collect information on agricultural activities at household level in order to provide a comprehensive frame for agricultural surveys. The main objective of the community questionnaire is to obtain information about the perceptions of the community members on the agricultural and non-agricultural activities in the community.

Additional objectives of the overall NASC program include the following:

- To provide data to help the government at different levels in formulating policies on agriculture aimed at attaining food security and poverty alleviation
- To provide data for the proposed Gross Domestic Product (GDP) rebasing

### KIND OF DATA

Census/enumeration data [cen]

### UNIT OF ANALYSIS

Agricultural Households.

## Scope

### NOTES

The household listing component of National Agricultural Sample Census (NASC) covered the following subject areas:

- Administrative Identification
- Building Listing
- Listing of all households
- Identification of households engaged in agricultural activities
- Basic information on household agricultural activities

### TOPICS

Topic	Vocabulary
Agricultural Production	World Bank

## KEYWORDS

Keyword
Agricultural census
Agricultural household
Crops
Livestock
Fishery
Forestry
Farming
Plots
Poultry

## Coverage

## GEOGRAPHIC COVERAGE

Estimation domains are administrative areas from which reliable estimates are expected. The sample size planned for the extended listing operation allowed reporting key structural agricultural statistics at Local Government Area (LGA) level.

## UNIVERSE

Population units of this operation are households with members practicing agricultural activities on their own account (farming households). However, all households in selected EAs were observed as much as possible to ensure a complete coverage of farming households.

## Producers and sponsors

## PRIMARY INVESTIGATORS

Name	Affiliation
National Bureau of Statistics (NBS)	Federal Government of Nigeria (FGN)

## PRODUCERS

Name	Affiliation	Role
Federal Ministry of Agriculture and Food Security (formerly Federal Ministry of Agriculture and Rural Development)	Federal Government of Nigeria (FGN)	Technical support
World Bank	The World Bank Group (WBG)	Technical support
Food and Agriculture Organization of the United Nations	United Nations (UN)	Technical support
National Population Commission	Federal Government of Nigeria (FGN)	Technical support

## FUNDING AGENCY/SPONSOR

Name	Abbreviation	Role
The World Bank Group	WBG	Financial assistance
50x2030 Initiative (www.50x2030.org)	50x2030	Technical and Financial assistance

## OTHER IDENTIFICATIONS/ACKNOWLEDGMENTS

Name	Affiliation	Role
Federal Ministry of Finance	Federal Government of Nigeria	Supervision

## Sampling

### SAMPLING PROCEDURE

An advanced methodology was adopted in the conduct of the listing exercise. For the first time in Nigeria, the entire listing was conducted digitally. NBS secured newly demarcated digitized enumeration area (EA) maps from the National Population Commission (NPC) and utilized them for the listing exercise. This newly carved out maps served as a basis for the segmentation of the areas visited for listing exercise. With these maps, the process for identifying the boundaries of the enumeration areas by the enumerators was seamless.

The census was carried out in all the 36 States of the Federation and FCT. Forty (40) enumeration Areas (EAs) were selected to be canvassed in each LGA, the number of EAs covered varied by state, which is a function of the number of LGAs in the state. Both urban and rural EAs were canvassed. Out of 774 LGAs in the country, 767 LGAs were covered and the remaining 7 LGAs (4 in Imo and 3 in Borno States) were not covered due to insecurity (99% coverage). In all, thirty thousand, nine hundred and sixty (30,960) EAs were expected to be covered nationwide but 30,546 EAs were canvassed.

The Sampling method adopted involved three levels of stratification. The objective of this was to provide representative data on every Local Government Area (LGA) in Nigeria. Thus, the LGA became the primary reporting domain for the NASC and the first level of stratification. Within each LGA, eighty (80) EAs were systematically selected and stratified into urban and rural EAs, which then formed the second level of stratification, with the 80 EAs proportionally allocated to urban and rural according to the total share of urban/rural EAs within the LGA. These 80 EAs formed the master sample from which the main NASC sample was selected. From the 80 EAs selected across all the LGAs, 40 EAs were systematically selected per LGA to be canvassed. This additional level selection of EAs was again stratified across urban and rural areas with a target allocation of 30 rural and 10 urban EAs in each LGA. The remaining 40 EAs in each LGA from the master sample were set aside for replacement purposes in case there would be need for any inaccessible EA to be replaced.

Details of sampling procedure implemented in the NASC (LISTING COMPONENT).

A stratified two-phase cluster sampling method was used. The sampling frame was stratified by urban/rural criteria in each LGA (estimation domain/analytical stratum).

First phase: in each LGA, a total sample of 80 EAs were allocated in each strata (urban/rural) proportionally to their number of EAs with reallocations as need be. In each stratum, the sample was selected with a Pareto probability proportional to size considering the number of households as measure of size.

Second phase: systematic subsampling of 40 EAs was done (10 in Urban and 30 in Rural with reallocations as needed, if there were fewer than 10 Urban or 30 Rural EAs in an LGA). This phase was implicitly stratified through sorting the first phase sample by geography.

With a total of 773 LGAs covered in the frame, the total planned sample size was 30920 EAs. However, during fieldwork 2 LGAs were unable to be covered due to insecurity and additional 4 LGAs were suspended early due to insecurity. For the same reason, replacements of some sampled EAs were needed in many LGAs. The teams were advised to select replacement units where possible considering appurtenance to the same stratum and similarity including in terms of population size. However about 609 EAs replacement units were selected from a different stratum and were discarded from data processing and reporting.

### DEVIATIONS FROM THE SAMPLE DESIGN

Out of 774 LGAs in the country, 767 LGAs were covered and the remaining 7 LGAs (4 in Imo and 3 in Borno states) were not covered due to insecurity (99% coverage).

### WEIGHTING

The final probability of selection of each EA is the product of its probabilities of selection in the first and second phase sampling. The design weight is the inverse of the final selection probability. Design weights were adjusted for non-response and scaled to the updated frame population providing final weights for producing estimates (mean, totals, proportions...) with standard Horvitz-Thompson estimators.

It is important to note that the sampling weights were calibrated using preliminary estimates of numbers of households from the cartographic work by the National Population Commission of Nigeria.

The variable "nasc\_listing\_weight" in the microdata represents the household listing weight.

## Data Collection

### DATES OF DATA COLLECTION

Start	End
2022-07-06	2022-09-09

### DATA COLLECTION MODE

Computer Assisted Personal Interview [capi]

### SUPERVISION

Adequate physical monitoring and spot-checks were carried out by senior-level officers of the Bureau, Federal Ministry of Agriculture and Food Security (FMAFS), and National Population Commission (NPC).

The monitoring of fieldwork was done in three phases, the first round started concurrently with the commencement of data collection to ensure a smooth start to the data collection effort. The second round of monitoring was in the middle of the fieldwork stage, while the third occurred towards the end of the fieldwork.

The activities carried out included:

- Visitation of different teams in various LGAs with special attention to the EAs that were broken into segments.
- Resolving observable challenges that called for urgent attention.
- Collaborating with the state officers to compile all EAs that required replacement, reach out to enumerators, and discuss observations and comments from the World Bank and FAO, and proffer solutions where necessary.
- Identification of enumerators who did not properly classify agricultural and non-agricultural enterprises, for better understanding and proper classification.
- Spot-checking of EAs where the number of households listed by the enumerators was less than what the NPC listed.
- Randomly visited households where enumerators listed over 100 members of a household to confirm the true scenario of the household membership using the interviewer keys.
- Online real-time data monitoring and immediate feedback.

### DATA COLLECTION NOTES

#### THE TRAINING OF FIELD STAFF

The NASC training was conducted at two levels. The first level was a national level training-of-trainers (ToT), which took place at the Public Service Institute in Abuja. The training lasted for 5 days (the 20th-24th of June 2022). The last day of the training was utilized for field practice, where the trainees were taught on how to locate enumeration areas using the pointer in the Google Earth application to navigate and trace the boundaries of the EA, and collect information on the buildings and households in the EA.

Participants at the first level of training included the following:

- Trainers/Monitors (National Bureau of Statistics (NBS), Federal Ministry of Agriculture and Food Security (FMAFS) (formally Federal Ministry of Agriculture and Rural Development (FMARD)) and the National Population Commission (NPC)).
- State Officers (NBS)
- Coordinators (NBS, FMAFS AND NPC)
- Facilitators (NBS)

The second level training was the Training of Enumerators (ToE), which took place in all the 36 states and the Federal Capital Territory (FCT). There were eighty-two (82) training centers nationwide. The state-level trainings were held over a period of six days (29th of June-5th July, 2022) including five days of training, and one day of field tests.

Participants at the state training level include the following:

- Enumerators/Interviewers (NBS, FMAFS (formally FMARD), State Agriculture Development Programme (ADP), State Bureaus of Statistics/State Statistical Agencies (SBS/SSA)
- NBS State Officers
- NBS Zonal Controllers
- Trainers/Monitors
- Coordinators
- Statistician General of State Bureau of Statistics/Directors of State Statistical Agency
- Staff of State Ministry of Agriculture
- Independent Monitors

## DATA COLLECTION

Two teams were constituted in each LGA. A team comprised of one team lead and one teammate. Permanent field staff of National Bureau of Statistics (NBS) served mostly as team leads. Enumerators were also drawn from relevant stakeholders from Ministries, Departments and Agencies (MDAs), both at the federal and state level. The two enumerators had separate CAPI devices and they both served as listers and mappers. The two interviewers worked simultaneously in the same EA. They located together the boundaries of the EA and identified all of the buildings therein and numbered the building accordingly. Following this, they split the buildings into two, with one interviewer covering the buildings with odd numbers, while other covered the buildings with even numbers. This was to avoid omission or double counting within the EAs. Interviewers were expected to spend two and a half days for both the household listing and administration of community questionnaires in each EA. A team was mandated to cover twenty (20) EAs, with the total number of days allotted for fieldwork at fifty (50) days.

## ORGANIZATION OF FIELD WORK

On arrival at the EA, the enumerators visited the community head(s) to explain their mission to the community and made arrangement on how to go about the administration of the questionnaires. The two enumerators first did the numbering of all relevant structures within the EA, and thereafter, carried out the listing exercise accordingly. One enumerator listed the structures with odd numbers while the second enumerator listed all the structures with even numbers.

## Questionnaires

### QUESTIONNAIRES

The NASC household listing questionnaire served as a meticulously designed instrument administered within every household to gather comprehensive data. It encompassed various aspects such as household demographics, agricultural activities including crops, livestock (including poultry), fisheries, and ownership of agricultural/non-agricultural enterprises.

The questionnaire was structured into the following sections:

Section 0: ADMINISTRATIVE IDENTIFICATION

Section 1: BUILDING LISTING

Section 2: HOUSEHOLD LISTING (Administered to the Head of Household or any knowledgeable adult member aged 15 years and above).

## Data Processing

### DATA EDITING

Data processing of the NASC household listing survey included checking for inconsistencies, incompleteness, and outliers. Data editing and cleaning was carried out electronically using the Stata software package. In some cases where data inconsistencies were found a call back to the household was carried out. A pre-analysis tabulation plan was developed and the final tables for publication were created using the Stata software package.

## Data Appraisal

### ESTIMATES OF SAMPLING ERROR

Given the complexity of the sample design, sampling errors were estimated through re-sampling approaches (Bootstrap/Jackknife)

## Access policy

### CONTACTS

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**CONFIDENTIALITY**

The confidentiality of the individual respondent is protected by law (Statistical Act 2007). This is published in the Official Gazette of the Federal republic of Nigeria No. 60 vol. 94 of 11th June 2007. See section 26 para.2. Punitive measures for breeches of confidentiality are outlined in section 28 of the same Act.

**ACCESS CONDITIONS**

A comprehensive data access policy is been developed by NBS, however section 27 of the Statistical Act 2007 outlines the data access obligation of data producers which includes the release of properly anonymized micro data.

**CITATION REQUIREMENTS**

National Bureau of Statistics, Nigeria, National Agricultural Sample Census (NASC 2022S)-v1.0

**ACCESS AUTHORITY**

Name	Affiliation	Email	URL
National Bureau of Statistics (NBS)	Federal Government of Nigeria (FGN)	feedback@nigerianstat.gov.ng	www.nigerianstat.gov.ng

## Disclaimer and copyrights

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**DISCLAIMER**

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## Metadata production

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**DDI DOCUMENT ID**

DDI\_NGA\_2022\_NASC\_v01\_EN\_M\_v01\_A\_ESS\_FAO

**PRODUCERS**

Name	Abbreviation	Affiliation	Role
National Bureau of Statistics	NBS	Federal Government of Nigeria	Producer
Federal Ministry of Agriculture and Food Security (formerly Federal Ministry of Agriculture and Rural Development)	FMAFS(formerly FMARD)	Federal Government of Nigeria	Contributor
Dissemination and Outreach Team, Statistics Division		Food and Agriculture Organization	Metadata adapted for FAM

**DDI DOCUMENT VERSION**

NGA\_2022\_NASC\_v01\_EN\_M\_v01\_A\_ESS\_v01

## Data Dictionary

Data file	Cases	Variables
<b>Farming Households</b> This dataset contains the administrative identification data, demographic information as well as the agricultural activities data of the households.	1002380	137