High Frequency Crowdsourced Prices (HFCP) of Staple Food Commodities at National Scale 2024 - 2025

Julius Adewopo, Samuel Lolo, Godstime Osekhebhen Eigbiremolen, Bo Pieter Johannes Andree, Utz Pape, Sering Touray

report_generated_on: May 11, 2026

visit_data_catalog_at: https://catalog.ihsn.org/

Identification

SURVEY ID NUMBER
NGA_2025_HFCP_v01_M

TITLE
High Frequency Crowdsourced Prices (HFCP) of Staple Food Commodities at National Scale 2024 - 2025

SUBTITLE
High frequency crowdsourced commodity prices in Nigeria

COUNTRY

Name	Country code
Nigeria	NGA

STUDY TYPE
Price Survey [hh/prc]

ABSTRACT
The datasets represent a crowdsourced, high-frequency collection of retail, wholesale, and farmgate food prices across Nigeria, curated by the National Bureau of Statistics (NBS) in the Country. This dataset provides granular, real-time insights into the cost of essential food commodities, enabling robust analysis of market dynamics, food security, and economic resilience. The dataset spans multiple dimensions. Prices are tracked for a core basket of staple foods including imported rice, local rice, white maize, yellow maize, garri, white beans, brown beans, soybeans, sorghum, and yam. These items represent a significant portion of household food consumption and are critical for monitoring inflation and affordability.

Price data were collected and submitted by volunteers and enumerators from hundreds of markets across Nigeria’s 36 states and the Federal Capital Territory. Each market entry includes location metadata, allowing for spatial analysis of price variation and regional trends. The dataset was updated daily, offering a high-resolution view of price fluctuations over time. This frequency supports the detection of short-term shocks, seasonal patterns, and long-term trends. Prices are submitted by volunteers and contributors, mainly through mobile data submission platforms. Submissions undergo automated validation and technical review to ensure data quality and integrity.

The high frequency commodity prices are valuable resource for policy and planning. For instance, government agencies can use the data to inform food subsidy programs, inflation targeting, and emergency response planning.

Research and Analysis. Also, economists, data scientists, and academics can explore price elasticity, market integration, and food system resilience, while NGOs and international organizations can monitor food affordability and target interventions in vulnerable regions. Finally, citizens can access localized price information to make informed purchasing decisions. By democratizing access to food price data, the Nigeria Food Price Tracking initiative fosters transparency, accountability, and evidence-based decision-making in Nigeria’s food system and this dataset demonstrates the richness and the opportunity.

KIND OF DATA
Sample survey data [ssd]

UNIT OF ANALYSIS
Individuals

Version

VERSION DESCRIPTION
Version 2: Edited data, anonymized and packaged for public distribution

VERSION DATE
2025-12-10T05:00:00.000Z

VERSION NOTES
This version compiles real-time crowdsourced price submissions from volunteers and trained enumerators. Outlier detection

and removal are applied in order of submission receival, ensuring that for any given date, the dataset represents the exact state of data that is most reliable for that day.

Scope

NOTES

The survey includes the following food products: yellow maize, white maize, garri, yam, imported rice, sorghum, white beans, brown beans, soybeans, and local rice. These items represent a range of staple crops and legumes commonly consumed in the region.

TOPICS

Topic
Food Prices

KEYWORDS

Keyword
Price
Crowdsource
High Frequency
Food Security
Commodity Prices
Georeferenced Market Locations
Nigerian markets
Real-time Prices
Sub-national Prices
Agricultural Prices
Agri-food System Prices
Maize
Rice
Sorghum
Garri
Yam
Soybeans
Beans
Citizen Science
Nigerian Bureau of Statistics
Nigerian Food Price Tracking
NBS
NFPT
CPI
Inflation
Consumer price index
Fragility

Food Insecurity
Food Affordability
Staple Prices
High Frequency Prices
Daily Prices
Crowdsourcing Data
Crowd Volunteer Data
Market Intelligence
Price Analytics
Price Dynamics
Spatial Price
Price Transfer
Daily Prices
Intraday Prices
Staple Commodity Prices
Grain Prices
Retail
Wholesale
Farmgate
Open Market
City Market
Admin1
Admin2

Coverage

GEOGRAPHIC COVERAGE
National coverage

GEOGRAPHIC COVERAGE NOTES
The data encompass all 36 States and the Federal Capital Territory (FCT) of Nigeria, providing comprehensive coverage at the sub-national (Admin 1) level.

GEOGRAPHIC UNIT
The dataset includes data at multiple sub-national levels: Geopolitical Regions, States (Admin 1), and Local Government Areas (LGAs) (Admin 2).

UNIVERSE
Retail, Wholesale, and Farmgate Markets

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation

Julius Adewopo	World Bank Group
Samuel Lolo	National Bureau of Statistics
Godstime Osekhebhen Eigbiremolen	World Bank Group
Bo Pieter Johannes Andree	World Bank Group
Utz Pape	World Bank Group
Sering Touray	World Bank Group

PRODUCERS

Name	Affiliation	Role
National Bureau of Statistics	National Agency	Implementation

FUNDING AGENCY/SPONSOR

Name	Abbreviation	Role
Food Systems 2030	FS2030	Technical support for system set-up, data curation, and analytics in support of food and nutrition security monitoring
Food Systems 2030	FS2030	Technical support for system setup, data curation, and analytics to strengthen national food security preparedness

Sampling

SAMPLING PROCEDURE

Data was collected based on citizen-science crowdsourcing approach, which allowed for self-selection by volunteers who visited nearest market to them and submitted data multiple times during the week. The cohort of crowdsourcing volunteers was formed by inviting interested citizens through social media groups, a website, and direct referrals from local stakeholders. The self-nomination of prospective volunteers involved an initial submission of basic profile information that include age, gender, educational level, and geographic information (mainly State and local government area – LGA), previous experience with data collection, and consent to participate. Although the initial expression of interest from the public represents convenience sampling (a type of non-probabilistic sampling approach), the final selection of the cohort followed a stratified random sampling that mainly focused on spatial representativeness across States. A total of 770 volunteers were enlisted to collect intraday prices at various markets across the country. An additional layer of 18 trained enumerators was added to the pool of data collectors to assess quality of the data submitted by the crowd.

DEVIATIONS FROM THE SAMPLE DESIGN

Crowdsourcing modality for data collection is typically flexible, especially considering that the volunteers submitted data through mobile smartphone from their various locations in the country. It was recognized that self-selection and digital-competency bias is inherent in the modality of enlisting volunteers, as noted in previous studies. However, this is inconsequential for the purpose of price data collection, because it was imperative to focus on the data collectors' ability to understand the questions, engage with the market vendors to obtain most accurate, and utilize mobile-based technology to successfully report the data on time.

RESPONSE RATE

100% of those who were enlisted to participate stayed active during the data collection period.

Data collection

DATES OF DATA COLLECTION

Start	End	Cycle
2024-12-01	2025-06-27	Daily (with intraday submissions)

FREQUENCY OF DATA COLLECTION

Daily

DATA COLLECTION MODE
Face-to-face computer-assisted interviews [capi]

questionnaires

QUESTIONNAIRES
The survey form was designed by NBS Team, based on a previous questionnaire that was co-designed with European Commission Joint Research Center (EC-JRC) for prior price data collection in 3 States in Nigeria.

data_processing

DATA EDITING
No data editing was conducted, so the price data are represented as submitted. Rather, we focused on applying proper statistical rule to finalize the processing of valid price data records per commodity, and confirmed through independent price observations by trained enumerators. Due to the broad geographical coverage of the crowdsourcing, price ranges varied, with periodic volatility, therefore, we applied rule-based logic that has been proposed in literatures. Commodity prices that are approximately above or below 2.5 standard deviations (i.e. ≈mean±2.5 S.D) were flagged as major outliers, on a rolling daily basis. The dataset includes a columns for the calculated standard deviation measure for each commodity on each day.

Access policy

CONTACTS

Name	Affiliation	Email
Julius Adewopo	World Bank Group	jadewopo@worldbank.org
Bo Pieter Johannes Andree	World Bank Group	bandree@worldbank.org

LOCATION OF DATA COLLECTION
Data is stored in World Bank microdata library

Disclaimer and copyrights

DISCLAIMER
Prices were collected across markets by volunteers and trained enumerators. Although the submissions have been thoroughly validated, the dataset do not replace official market prices and statistics from the focal country.

Metadata production

DDI DOCUMENT ID
DDI_NGA_2025_HFCP_v01_M

PRODUCERS

Name	Abbreviation	Affiliation	Role
Julius Adewopo	J.A.	World Bank Group	Data Innovation Specialist
Bo Pieter Andree	B.P.J	World Bank Group	Data Scientist
Development Data Group	DECDG	World Bank Group	Documentation of the study

DATE OF METADATA PRODUCTION
2025-12-10T05:00:00.000Z

DDI DOCUMENT VERSION

Version 01 (January 2026)

data_dictionary

Data file	Cases	variables

study_resources