INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI

SFS4YOUTH WORKING PAPER #8 OCTOBER 2025

The changing demographics in Nigeria's food systems and implications for future youth engagement

Fantu Bachewe, Kwaw S. Andam, Harriet Mawia, and Olufemi Popoola

CONTENTS

TABLES

FIGURES

EXECUTIVE SUMMARY

Food systems (FS) are critically important for youth employment in sub-Saharan Africa. FS must grow rapidly to guarantee food and nutrition security for growing populations, provide the quantity and quality of food demanded by increased urbanization and income, and to complement technological changes in other sectors. Expansion of nonfarm components of FS also reinforces efforts to transition out of agriculture. The impact of these factors, their inevitability and amenability to policy interventions, and the extent of FS transformation needed differ across countries. Future FS also face several emerging challenges. Employment and job creation are among the areas significantly affected by FS transformation. Demographic changes that accompany expanding FS employment are also critical for gender equity and youth inclusion. The extent, speed, and complementarity of the FS transformation and increased employment also vary across countries. However, few systems are currently in place to monitor the extent of FS transformation or its interactions with other aspects of the economy.

This study explores the evolution of employment in Nigeria's FS over the past two decades, focusing on youth and gender inclusion amid broader demographic, economic, and policy shifts. As Africa's most populous country, Nigeria is experiencing all the factors that typically shape FS and labor markets. With the working-age population growing by nearly 90 percent between 2000 and 2023 and youth unemployment remaining high, the agrifood system (AFS) presents both a challenge and an opportunity for inclusive economic transformation.

The paper begins by situating FS as critical to Nigeria's economy, highlighting their contributions to GDP and employment. Using national living standards survey data, it examines structural changes in employment, particularly the shift away from on-farm agricultural work toward nonfarm segments such as food processing, trade, and services. Between 2003 and 2022, agriculture's share in total employment fell from 58 percent to 35 percent, while nonfarm AFS employment grew from 12 percent to 33 percent. Women and youth have been central to this shift, with women's participation in nonfarm AFS increasing by 190 percent and youth participation growing by over 300 percent—growth was especially faster in trade and food manufacturing.

The analysis links these labor trends to key drivers such as economic growth, policy reforms, urbanization, and conflict. While Nigeria's economy nearly tripled between 2000 and 2023 and poverty declined, economic gains have been uneven and fragile, particularly in the northern regions affected by insecurity. Government efforts—including the Agricultural Promotion Policy (2016-2020), National Agricultural Technology and Innovation Policy (2022-2027), and the creation of the Presidential Food Systems Coordinating Unit (2023)—signal a growing shift toward an FS approach in policy thinking. However, gaps in institutional coordination, inadequate investment in enabling infrastructure, and limited inclusion of vulnerable groups constrain the impact of these reforms.

The study concludes that Nigeria's AFS holds potential for inclusive growth and employment generation. However, realizing this potential requires sustaining the policy focus from narrow agricultural productivity to a broader FS strategy that centers on employment quality, gender equity, youth entrepreneurship, and institutional alignment. Without such a transformation, Nigeria risks even more youth unemployment and discontent, thus missing the demographic dividend. But with targeted investments in skills, infrastructure, and policy coherence, the AFS can serve as a powerful lever for sustainable development and economic opportunity.

TAƘAITACCEN BAYANI

Tsarin abinci yana da muhimmaci matuka wajen cimma tsaron abinci da samun aikin yi a Afrika ta Kudu da Sahara. Tsarin abinci dole ne ya bunkasa matuka domin tabbatar da tsaron abinci da abinci mai gina jiki domin yawan jama'a da ke kara girma, ya kuma inganta yawa da ingancin abinci domin cimma bukatar da mazauna birane da garuruka ke bukata, hakazalika a kuma iya rungumar canje- chanje na fahasa. Ci gaba da bunkasa abubuwan da ba su da alaka da gona a bangaren tsaron abinci yakan tabbatar da himma wajen sauya sha'anin noma. Matukar tasiri da dacewar da chanje chanje na wadannan shiri da abubuwan da ake bukata domin sauyawar tsaron abinci sun sha bambam a kasashe dabam dabam. Tsaron abinci a nan gaba yana fuskantar kalubale. Aikin yi da kirkirar aiki suna daga cikin shashen da chanjuwar tsaron abinci ya shafa. Chanjin alkaluma da ke marawa sauyawar tsaron abinci baya, na da tasiri wajen tabbatar da hakkin mata da shigar da matasa cikin al'amura. Girma, gudu da goyon baya na sauyawar tsaron abinci da yawar aikin yi ya bambanta daga kasace zuwa kasace. Duk da haka, babu tsari wadda aka shimfida domin saka idanu a kan girman da sauyawa ko kuwa mu'amular da tsaron abinci ke yi da wassu sassa ko bangeren tattalin arziki kamar aikin yi.

Wannan bincike ya zakulo ci-gaban aikin yi a tsaron abincin Nigeria na karni biyu da suka gabata, da sa ido a fannin mata da shigar da matasa cikin al'amura tsakanin alkaluma, tattalin arziki, da sauyawar manufofi. A matsiyinta na kasa mafi yawan jama'a a Africa, Nigeria tana fuskantar bunkasar birane, jama'a da tasowan abinci masu gina jiki daban daban wanda duk ke tabbatar da sauya tsaron abincin da harkan aikin kwadagon ta. Duk da yawan girman masu aikin kwadagon Nigeria daga kashi 90 chikin dari tsajkanin shekara 2000 zuwa 2023 da kamarin da rashin aikin yin na matasa yayi, tsarin abincin gona ya zamana kalubale da kuma damar shigarwa domin chanjin tattalin arziki.

Wannan Kasisdi ya fara ne ta wurin mayar da tsarin abincin a bu mai mahiminci a tattalin arjikin Nigeria, ta wurin haskaka taimakon su ga tattalin arzikin cikin gida (GDP) da aikin yi. Ta yin anfani da bayanai na matsayin rayuwar kasa, wannan aiki ya binciki chanje-chanjen tsari, mussanman matsawa daga sha'anin noma na chikin-gona zuwa mua'malan da bana gona ba kamar su tsaraffa abinci, hada-hada ko ciniki da aikace-aikace. Tsakanin shekarun 2003 zuwa 2022, hannun jarin sha'anin noma a cikin aikin yi ya fadi daga kashi 58 zuwa kashi 35 a cikin dari, maimakon haka kuwa sha'anin aikin da ba na goma ba kuma ya zabura daga kashi 12 zuwa 33 a cikin dari. Mata da matasa ne ginshikin wannan chanji, da kassancewar mata, harkar ayyukan da ba na na gona ba sun bunkasa matuka har zuwa kashi 190 cikin dari, kasacewan matasa kuma ya bukasa harkan zuwa kashi 300 a cikin dari — wannan ci gaba mussanman ya samu ne a sha'anin hada-hada ko ciniki da kera abinci.

Binciken nan kuwa ya hada waddanan harkokin kwadagon da muhimman abubuwa kamar su ci gaban tattalin arziki, sake fasalin manufofi, karuwar birane, da rikice-rikice. Bayan da tattalin arzijin Nigeria ya rubanya kusan sau uku a tasakanin sherar 2000 zuwa 2023, da raguwar talauci, ci gaban tattalin arziki ya zama da rashin daidaituwa da muruci mussanman a arewacin Nigeria domin rashin zaman lafiya. Niyyar da gwannati ta dauka a kwanakinnan wadda ya hada da gabatar da manufofin noma, Kirkiran manufofi na noman fasaha, da kirkiro shashe na mussanman na shugaban kasa a kan tsarin abinci - na nuni da cewa motsi yafi labewa a harkan sake fasalin manufofi. Duk da haka gibi a shashin gudanarwa, rashin issashen saka jari a muhimman kayaki da kasa shigar da marasa galihu sun hana wannan manufofi yin tasiri ko amfani.

A kammalawa dai, wannan bincike na nuni da cewa tsarin abincin gona na Nigeria yana tattare da matukar karfi na shigarwa da samun ci gaba a aikin yi. Amma cimma wannan burin na bukatan tsarin matsawa zuwa tabbacin manufofi - daga samarda kalilan abinci zuwa tsari na bunkasa yalwan abinci wanda yake da nasaba da samar da aikin yi, inganci, daidaituwar mata, kirkiran sabbin aikin matasa, da daukan seti na mussanman a maikatu. I dan babu wadannan sauyi, Nigeria zata kassance cikin hatsari na kasa samun riban alkaluma da ci gaba da zurfafa rashin aikin yi ga matasa da kuma rashin gamsuwa. Amma da matsa kaimi a kan samar da aikin hannu, kayayyakin aiki, da daidaituwan manufofi, tsarin abincin gona zai zama mahadi ko kugiya mai karfi na cigaba mai dorewa da bunkasar tattalin arziki.

1. INTRODUCTION

The Food and Agriculture Organization of the United Nations defines food system(s) (FS) as "encompassing the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded" (FAO 2018).[1] FS are critically important in low- and middle-income countries (LMICs), particularly in sub-Saharan Africa (SSA), where food production, processing, services, and other food-related activities account for a significant share of the gross domestic product (GDP) and provide livelihoods for the majority of the population (Davis et al. 2023; Christiaensen et al. 2021; Dolislager et al. 2021; IFPRI 2020; Townsend et al. 2017). Furthermore, the nonfarm components of FS also provide the predominantly agrarian SSA economies with an opportunity to transition out of primary economic activities.

FS in SSA are expected to contribute significantly to labor employment (AGRA 2022; SWAC/OECD 2021; IFPRI 2020). Several factors are expected to contribute to this expected growth, including rapid population growth, which could lead to significant improvements in FS—particularly in the downstream segments of value chains, such as transportation, storage, processing, and marketing—in a subcontinent where such infrastructure is weak. This is critical to guaranteeing food and nutrition security for future populations in SSA (Marivoet 2024; AGRA 2022; Kalibata 2021; SWAC/OECD 2021; IFPRI 2020). Urbanization and per capita income increases in SSA, which are often accompanied by changes in dietary patterns, the composition of foods demanded, and the extent of processing, are also expected to contribute to FS growth. In addition to increases in food production, these changes require an increasingly well-developed marketing infrastructure, including storage systems and cold chains, transportation, and markets (Marivoet 2024; Mockshell 2023; de Bruin et al. 2021; Ambler, et al. 2019; World Bank 2017; Tefft et al. 2017; HLPE 2017; Seto and Ramankutty 2016; Tschirley 2015; Mergenthaler et al. 2009). Changes in FS may also follow broader economic transformations, including input use intensification, technological changes in food production, and improvements in human capital and associated increases in labor productivity and other factors. Shifts in how food is produced, processed, marketed, serviced, and consumed are among the key elements of FS transformation. Although the degree of the impact of these factors and the extent of FS transformation vary across countries depending on their stage of transition; overall, these factors have a transformative impact on FS (Jayne et al. 2014a).

Employment and job creation patterns are perhaps among the most important areas of the economy that may positively be affected by FS transformation, and vice versa. Historical evidence shows that in growing economies, FS transformation—particularly growth in the off-farm segments of food value chains—provides ample employment and livelihood opportunities, particularly for women and youth. However, the extent, speed, and complementarity of the FS transformation and employment and job creation vary across countries, depending on factors such as investments in FS transformation, workers' skill levels, and institutional capacity, all of which can be influenced by policies conducive to FS transformation (SWAC/OECD 2021; Fanzo et al. 2021; Dolislager et al. 2021; Allen et al. 2016; Tschirley et al. 2015).

This paper examines employment within Nigeria's FS and the demographic shifts that have shaped it over the past two decades. It addresses four key questions: First, how have the drivers of FS transfor-

[1] The analyses in this study also include agrifood systems employment, which in addition to activities within food systems, includes nonfood agricultural production, processing, trade, transportation, and other activities.

mation—economic, demographic, and policy related—evolved during 2000–2023? Second, what characterizes Nigeria's labor market, and how do employment outcomes vary by gender and age? Third, how important is FS and its segments in total employment in Nigeria? Finally, how do employment patterns within FS differ across gender and age groups?

To address these questions, the study provides a comprehensive overview of Nigeria's economy to contextualize the evolution of its FS. It examines demographic shifts, population growth, urbanization trends, and, importantly, the broader policy and socioeconomic environment—highlighting factors such as conflict—that collectively shape the trajectory of FS transformation. Using descriptive analyses, the study investigates labor market dynamics, profiles the employed population, and identifies key trends in AFS employment. Importantly, the study focuses on disaggregated employment trends across AFS components and analyzes patterns of employment within AFS across gender and age—comparing women and men, and youth and adults—using tests of statistical significance to assess the differences and relationships that exist across these population groups. The analyses have important implications for policy solutions that can foster dignified, fulfilling employment opportunities for youth and promote inclusiveness in FS employment.

By testing empirical predictions on patterns of employment growth and inclusiveness in Nigeria's AFS, the study adds to the growing literature on structural transformation and labor absorption in LMICs. It further identifies nodes within the value chain where gender- and age-related disparities persist, thereby informing targeted policy interventions. Furthermore, conducted as part of the Strengthening Food Systems to Promote Increased Value Chain Employment Opportunities for Youth (SFS4Youth) project, this research aims to generate strategic knowledge on current and future trends in FS transformation in Africa, highlight potential entry points for sustainable and equitable transformation, and answer critical macro-level questions on FS trends and recent developments and their impacts on the continent.

This paper is organized as follows. Section 2 discusses the methods and materials used in the study. Section 3 sets the context for AFS employment in Nigeria by reviewing the relevant literature on the AFS policy environment and other socioeconomic factors, as well as by examining other drivers of AFS employment, specifically, trends in Nigeria's economy, population, and urbanization. Section 4 provides a brief overview of the labor market and discusses in detail AFS employment trends in Nigeria. Section 5 concludes.

2. DATA AND METHODOLOGY

This section first describes the conceptual framework and methodology used in the study, followed by a brief description of the datasets in the second subsection.

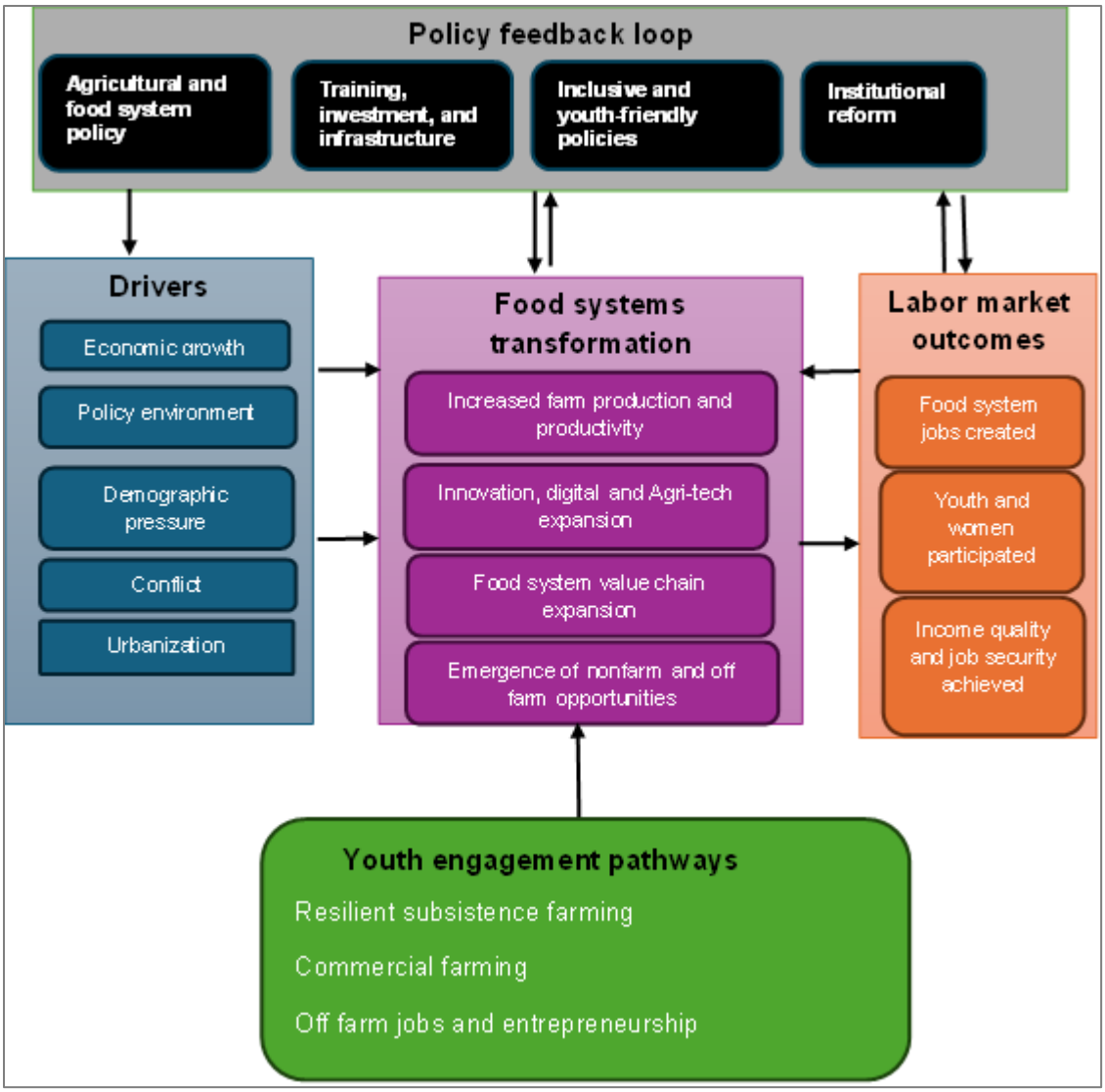
2.1 Methods

Conceptual framework

The policy feedback loop provides a useful lens for analyzing FS transformation and youth engagement in Nigeria. Policies not only shape outcomes but also are reshaped by them, making it possible to trace the dynamic relationship among state interventions, youth participation, employment, and food security (Osabohien et al. 2025, 2020). Figure 1 Illustrates the interplay among the policy feedback loop, drivers

of FS transformation, labor market dynamics, employment patterns, and pathways for youth engagement in agriculture and eventually FS (Meijerink and Roza 2007; Béné et al. 2019). Policies on agricultural finance, such as youth-targeted credit schemes and input subsidies, directly influence access to capital, a key driver of youth engagement in farming and agribusiness (Adenuga et al. 2025, 2022). Similarly, land tenure policies, though still constrained by customary practices, remain central in shaping whether young people can enter agriculture, as secure land access has been shown to significantly determine youth participation (Adenuga et al. 2025; 2022).

Figure 1. Framework for achieving successful youth engagement in food systems



Source: Authors' illustration.

The report's four guiding research questions map directly onto the elements of the framework, which situates economic growth, demographic shifts, urbanization, conflict, and policy as key drivers of FS change. Examining how these evolved between 2000 and 2023 helps establish the external conditions under which Nigeria's FS transformation is unfolding (FAO 2017; World Bank 2020). For instance, the youth bulge and rapid urbanization increase demand for food diversity while simultaneously straining labor markets. The framework also highlights the labor market as a transmission mechanism, shaping

how structural drivers translate into employment opportunities for young people. By disaggregating labor outcomes by gender and age, it becomes possible to assess whether the FS offers inclusive pathways or reproduces inequalities (Filmer and Fox 2014; Okunola and Akinbami 2021). This aligns with the framework's focus on how transformation processes affect young people's livelihoods and aspirations.

Furthermore, the framework stresses that FS transformation spans multiple segments beyond primary agriculture, including processing, distribution, and retail. Measuring the share of total employment generated by the FS and its segments indicates the system's importance in absorbing labor, particularly as economies diversify (Reardon et al. 2019; Dolislager et al. 2021). This directly maps the framework's pathways of transformation, whereby drivers reshape opportunities along the value chain.

Finally, the framework emphasizes youth engagement pathways and social differentiation. Identifying how employment within FS varies across gender and age groups reveals who benefits from transformation and who risks exclusion (Quisumbing et al. 2014; Yeboah and Jayne 2018). In Nigeria, these disparities are particularly pronounced. Men generally have greater access to land, credit, and education, resulting in higher incomes and stronger market participation (Adesugba and Mavrotas 2020; Ayinde et al. 2021). Youth experiences are also differentiated: While some young men can access off-farm income and finance, young women remain disproportionately constrained by limited land rights, lack of childcare support, and restricted access to capital (Osabohien et al. 2023; Ugwuoke and Oniore 2025).

These differentiated outcomes feed directly back into policy. Evidence that youth engagement in agriculture reduces poverty by about 17 percent has lent legitimacy to youth-focused FS strategies (Osabohien et al. 2021). Conversely, persistent inequalities undermine trust in state interventions and drive demands for reorientation. This dynamic is reflected in Nigeria's ongoing revision of the National Gender Policy in Agriculture, which seeks to expand women's access to resources and strengthen their role in agricultural decision-making (Guardian 2025). In this way, youth engagement pathways structure the impacts of FS transformation and act as a feedback mechanism shaping more inclusive policies.

Definitions

This section provides definitions of employment-related concepts. These definitions mostly derive from the International Labor Organization (ILO) (2025).

Working-age population: Includes people above the legal working age, which may vary from country to country based on national laws and practices. However, to promote international comparability, ILO (2025) defines the working-age population as "all persons aged 15 and older."

Labor force participation rate: The proportion of a country's working-age population that engages actively in the labor market, either by working or looking for work. It is calculated as "the number of persons in the labor force as a percentage of the working-age population" (ILO 2024). The sum of the number of persons employed and the number of persons unemployed constitutes the labor force.

Number of employed: Comprises all persons of working age who, during a specified brief period, were in paid employment (whether at work or with a job but not at work) or in self-employment (whether at work or with an enterprise but not at work).

Number of unemployed: Comprises all persons of working-age who were without work (not in paid employment or self-employment) during the reference period, are currently available for paid employment or self-employment, and are seeking work (had taken specific steps in a specified recent period to obtain paid employment or self-employment).

Unemployment rate: The number of unemployed people as a share of the labor force.

Youth: Young people within a given age bracket. Different countries use different age brackets to categorize youth (e.g., 15–24, 15–30, 15–35). For comparability, ILO defines youth as those in the 15–24 age range. However, the African Union (AU) uses the 15–35 age bracket. In this report, we use the ILO definition, as most of the available data identify youth as 15–24-year-olds.

Youth not in education, employment, or training (NEET): A percentage of the total youth population not in education, employment, or training. Thus, NEET serves as a broader measure of potential youth labor market entrants than youth unemployment, as it also includes young people outside the labor force who are not in education or training. The NEET data are obtained from ILO (2024).

Computation of FS and AFS employment

Computation of FS and AFS employment requires, among other things, identifying those engaged in producing, processing, transporting, and marketing agricultural/food items, as well as those engaged in supplying agricultural inputs and servicing foods for consumption (IFPRI 2024). Typically, employment data are unavailable at such a disaggregated level. Davis et al. (2023) recommend a methodology that uses ILO's International Standard Industry Classification (ISIC) two-digit aggregated employment data to estimate both FS and AFS employment. This study implements that methodology.

This approach categorizes crop and livestock production, as well as fishing and aquaculture, as food production. Furthermore, food product and beverage manufacturing; food and beverage service activities; and undifferentiated goods- and services-producing activities of households are categorized as food manufacturing and services (part of FS). In addition to these components of FS employment, AFS employment adds those working in forestry and logging (nonfood production) and the manufacture of nonfood agricultural items, such as tobacco products, textiles, leather and related products, wood and wood products, and paper and paper products.

As noted above, both FS and AFS employment are an underestimation because they exclude those engaged in the transportation, wholesaling, and retailing of agricultural goods; the supply of inputs for FS/AFS; and the disposal of food and agricultural wastes. In ILO (2024) or other databases that use two-digit ISIC classification, employment in trade and transportation is aggregated (including nonagricultural sectors). So, to isolate employment in FS/AFS transportation and trade, this method proposes applying the share of underestimated FS/AFS employment in total employment to calculate the FS/AFS share of transportation and trade employments, then adding those values to the underestimated sums above. We follow this procedure to derive the total shares of FS/AFS employment. However, these employment shares still miss other categories of workers (e.g., input suppliers) or underestimate FS/AFS employment; therefore, caution is needed when interpreting the results, given both the adjustments required and the underestimation. Table 2 presents trends in the share of those employed in the 14 detailed categories described above, while Table 3 summarizes the aggregated FS/AFS employment categories.

Descriptive statistics

This study relies on descriptive analyses to show trends in various labor-related variables and to characterize employed people. We also investigate patterns of employment across different population groups, such as women vs. men or youth vs. mature individuals. We conduct statistical significance test (t-tests) to investigate the significance of observed differences and relationships across these groups. Our results confirm that the observed trends are statistically significant and should be taken into account by policymakers. For instance, women's participation in the labor force is statistically significantly lower and their unemployment rates are considerably and statistically significantly higher than those of mature men.

2.2 Data sources and description

The study covers the years 2000–2023. However, data are unavailable for a number of years for most employment-related variables. Consequently, we use economywide and sector-level data series obtained from the World Bank (World Bank 2023) and ILO (ILO 2023), together with household-level data from the Nigeria Living Standards Survey (NLSS) for 2003 and 2009.

NLSS household survey data

The NLSS, a national survey conducted by the National Bureau of Statistics, assesses the living conditions of the population and provides critical information for generating a comprehensive and diverse set of socioeconomic and demographic data. These data capture households' basic needs and the conditions under which they live daily. The NLSS questionnaire includes a wide range of modules covering demographic indicators, education, health, labor and employment, household expenditures on food and nonfood items, nonfarm enterprises, household assets and durables, access to safety nets, housing conditions, economic shocks, exposure to crime, and farm production indicators. This study uses the NLSS 2003 and the Harmonized Living Standards Survey (HNLSS) 2009 particularly to calculate the shares of workers engaged in AFS/FS employment.

WDI and ILO datasets

ILO, the United Nations (UN) agency responsible for promoting decent work and setting labor standards, compiles aggregated data on a range of variables of labor force and unemployment variables. For Nigeria, however, the data cover only 2019 and 2022. To complement the ILO (2024) data, we draw on the NLSS data for 2003 and 2009. Note that, given differences in definition of concepts and methods used to collect and organize these datasets, some values may differ, as pointed out below.

The World Development Indicators database provides aggregate (economywide) measures for a wide range of variables, while the UN Department of Economic and Social Affairs, Population Division (UN Population 2024), provides trends in population and demographic characteristics. Section 3 of this study uses World Bank (2025) data to provide background relevant to the issues investigated in Section 4. It highlights the performance of the aggregate economy and the importance of major sectors in Nigerian economy, trends in population growth and demographic shifts, and patterns of urbanization, all of which are among the factors contributing to FS transformation.

Section 4 draws on World Bank (2025), ILO (2024), and NLSS (2003 and 2009) datasets to provide brief descriptions of the labor force, unemployment, and other variables. More importantly, Section 4 examines FS/AFS employment trends and their components across gender and age—a central objective of this study.

3. DRIVERS OF AFS EMPLOYMENT IN NIGERIA

This section reviews the literature and describes data relevant to AFS employment drivers in Nigeria with the objective of providing background information and contextualizing the observed changes in AFS employment over the past two decades. The first subsection surveys the literature on government policies and interventions relating to AFS employment, particularly those focusing on youth engagement in AFS work; how successful those efforts were; and their implications for future youth engagement in AFS. The second subsection studies trends in the other four drivers of AFS: economic growth, population, conflict, and urbanization. The descriptive analyses in this section use World Development Indicators data (World Bank 2025) and UN Population (2024).

3.1 FS and youth employment policies in Nigeria

The FS policy environment in Nigeria has undergone a significant evolution over the past decade and a half (2010–2025), marked by the introduction and implementation of various policies and programs aimed at enhancing food security, agricultural productivity, and nutrition. Nigeria developed a

National Agricultural Investment Plan (NAIP,2011–2014) to enhance total productivity in the agriculture sector through the application of knowledge and improvement in the technology base. The plan aimed to transform agriculture into a business-oriented sector, whereby agriculture's contribution to GDP would decline from 41.5 percent in 2009 to 28 percent by 2024, indicating a shift toward value-added processing (FMARD 2010).

Between 2011 and 2015, the Nigerian government introduced the Agricultural Transformation Agenda (ATA), which aimed to enhance agricultural value chains through the supply of improved inputs (seeds and fertilizer) for increased productivity, establish staple crop processing zones, improve backward integration, and expand farmers' access to financial services and markets (FMARD 2011). This was followed by the Agricultural Promotion Policy (APP) 2016–2020, also known as "The Green Alternative", which was introduced in 2016 to build on the successes of the ATA. It emphasized food security by reducing food imports, managing institutional reforms, and providing incentives for technological development at the local level. This policy aimed to shift Nigeria's agriculture sector from subsistence to agribusiness by emphasizing value chain development, improving productivity, and increasing private sector investment (FAO 2023a). It laid the foundation for Nigeria's broader efforts to achieve food self-sufficiency and economic diversification.

Since 2023 there has been a renewed focus on food security from the Government of Nigeria, and Nigeria's FS policy environment is responding to related challenges such as climate change, economic instability, and population growth. This focus arose from the background of repeated crises from 2020 to 2022, when Nigeria, like other developing countries, experienced shocks to its FS from the 2020 COVID pandemic and related policies; the Russia–Ukraine war from 2022, both resulting in spikes in global food, fertilizer, and fuel prices that exacerbated an already deteriorating situation. To curb this crisis, the Nigerian government introduced a 150-day duty-free import policy in 2024 for key food items, including maize, wheat, and brown rice. This policy aimed to replenish national reserves and support local processors, especially those affected by high input costs and supply chain disruptions (Veriva Africa 2024). Simultaneously, the government of Nigeria prepared the National Agricultural Technology and Innovation Policy (NATIP 2022–2028) as a successor to the APP. The NATIP highlighted the importance of the agriculture sector in fostering sustainable and inclusive economic growth, food security, rural incomes, and employment.

Since 2023, the Nigerian Government has made a significant shift in the agrifood policy environment, establishing food security as a top policy priority and key indicator of development. In 2023, the president declared a state of emergency on food security and proposed an eight-point development agenda with food security as its foremost objective. The development agenda was re-centered around agricultural productivity. However, the declaration of the food security emergency was not backed by a detailed plan for action, and therefore the NATIP continues to serve as the main guiding policy document in Nigeria. Beyond food security as the immediate goal, the ambition gradually shifted to an FS lens, with the establishment of the Presidential Food Systems Coordinating Unit (PFSCU). The PFSCU, located in the Office of the Vice-President, was staffed in 2024 and tasked with coordinating policies to ensure food security, boost agricultural exports, and provide jobs through agribusiness. The PFSCU will therefore be pivotal in determining the future direction of FS policies in Nigeria, as it is the most recent unit charged with influencing the country's FS and is empowered with high-level oversight and support from the Office of the Vice-President.

Youth unemployment is a critical issue in Nigeria, particularly in rural areas where agriculture remains the primary source of livelihood. However, limited modernization, infrastructure deficits, and low returns from agriculture have made AFS unattractive to young people. In response, Nigeria has initiated several policy efforts aimed at integrating youth into productive roles within the FS, in addition to the sector-specific agricultural policies described above.

Nigeria's agricultural policies have laid a strong foundation for increased youth engagement in AFS. The establishment of staple crops processing zones (SCPZs) expands opportunities beyond traditional farming, enabling young people to participate in diverse roles such as input suppliers, technology service providers, processing and value-addition entrepreneurs, financial service intermediaries, and market linkage facilitators. These opportunities along the AFS value chain can help curb rural–urban migration and address rising youth unemployment, particularly among young women. NATIP emphasize technology as a key driver of AFS transformation, creating a platform for a "youth-driven sector". Tech-savvy youth can leverage this to introduce and scale innovative technologies across various value chains, fostering entrepreneurship. Additionally, policies such as the NAIP and APP prioritize orientation and training to enhance skills development and boost youth participation, especially in peri-urban and rural areas.

The National Youth Employment Action Plan (NIYEAP) 2021–2024 in Nigeria, developed in collaboration with the ILO, specifically identifies agriculture and food value chains as key sectors for employment creation. It emphasizes technical training, entrepreneurship support, and private sector engagement to absorb young workers into AFS (ILO 2021). Complementing NIYEAP is the National Youth Policy (2019–2023), which calls for improved access to land, finance, and capacity-building programs to enable youth participation in agriculture and agribusiness (Federal Republic of Nigeria 2019). Programs such as the Food Africa initiative in Kaduna State, a collaboration between the SDG Sustainable Development Goals (SDG) Fund, UN agencies, and Nigerian stakeholders, have demonstrated success in empowering youth through agrifood value chain development, combining training, nutrition, and business incubation (SDG Fund 2021).

Among other positive results, the Nigeria Food Africa Project significantly strengthened the vegetable value chain in Kaduna State (FAO 2020). The project conducted feasibility, environmental, and social impact assessments for a new food processing facility in Jere, while also profiling 247 farmers—82 percent of whom were women and youth—and organizing them into 15 cooperatives. In total, 481 farmers and 23 extension officers received training on horticultural practices, business development, and cooperative management, and 62 business plans were developed under the "Start and Improve Your Busi-

ness" program to help farmers transition into agribusiness. To reduce drudgery, women-friendly implements and agro-inputs such as seeds, water pumps, and sprayers were distributed. The project connected 150 farmers to micro, small, and medium enterprises, enabling the sale of 139 tons of tomatoes and peppers through purchase agreements. A team of 73 trainers and facilitators were established to sustain knowledge transfer, while 316 youths were empowered with farming skills, with some returning to school to expand their expertise. Finally, construction of the Jere food processing facility was initiated. The project is expected to benefit 443 farmers directly while fostering strong partnerships among the state, communities, and private sector to promote gender equality, food security, and sustainable livelihoods.

These efforts are reshaping Nigeria's policy landscape by making AFS more inclusive, productive, and appealing to the country's growing youth population. Through targeted interventions such as agro-industrial processing zones, youth employment strategies, and gender-responsive programming, the Nigerian government and its development partners are increasingly recognizing and acting on the centrality of youth in driving sustainable agricultural transformation (ILO 2021; SDG Fund 2021; GEAPP 2024). However, despite these promising developments, significant policy challenges remain.

One major concern is the lack of effective policy coordination across different government tiers and agencies. Overlapping mandates, fragmented implementation strategies, and weak inter-agency collaboration have often undermined the coherence and impact of FS interventions (Adewumi et al. 2022). Additionally, limited institutional capacity to deliver services, monitor outcomes, and adapt to rapidly changing socioeconomic and environmental conditions poses ongoing constraints (FAO 2022). For example, climate change continues to exacerbate agricultural risks and uncertainty, yet adaptation and mitigation strategies remain underfunded and unevenly implemented across regions (Eze et al. 2021). Vulnerable groups, such as women, landless youth, and persons with disabilities have limited access to resources, decision-making, and tailored support mechanisms (Federal Republic of Nigeria 2019; GIZ 2023). Without addressing these structural inequalities, efforts to boost employment through AFS may inadvertently widen existing gaps. Therefore, while Nigeria's current policy direction demonstrates strong potential, it will require sustained political commitment, improved implementation capacity, and inclusive, climate-resilient strategies to achieve its intended transformation.

A third significant shortcoming is the lack of impact of the various policies on agricultural productivity and broader agrifood transformation. A recent assessment found that the AFS share of GDP, including off-farm activity, did not change significantly between 2009 and 2019 (Andam et al. 2023). Interestingly, however, the agricultural share of total employment fell significantly. Most of this employment shifted from rural agriculture to the urban service sector, but relatively little growth occurred in the more productive manufacturing sector, which could provide better employment opportunities for Nigeria's rural youth.

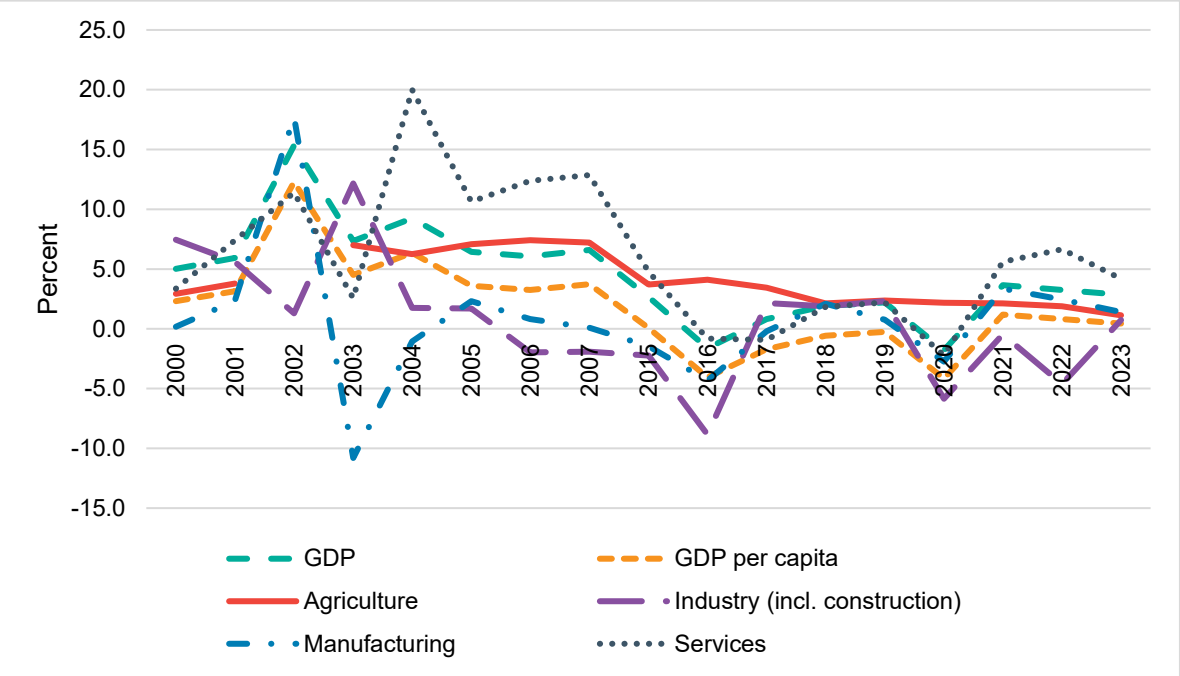
3.2 Socioeconomic drivers of AFS employment

Economy

Between 2000 and 2023, Nigeria's economy expanded nearly threefold, rising from $178 billion in 2000 to $550.6 billion in 2023 (constant 2015 USD). This corresponds to an average annual growth rate of 4.5 percent, though growth was significantly stronger in the first half of the period (2000–2007) at 7.7 percent, compared to just 1.5 percent during the second half (2015–2023) (Figure 2 and Annex Table

1). Nigeria outpaced the broader Africa SSA region, where GDP growth averaged 3.8 percent per year, but experienced a similar pattern of slowing expansion. Notably, Nigeria surpassed South Africa's economy in 2014 following a GDP rebasing, which contributed to the deceleration in later years alongside real economic contractions.

Figure 2. GDP and sectoral growth rate in Nigeria, 2000–2023



Source: Authors' depiction using World Bank (2024) data.
Note: Growth in agriculture in 2002, which was 55 percent, is not shown.

During the same period, Nigeria's per capita GDP increased by nearly 70 percent, from $1,462 in 2000 to $2,460 in 2023 (constant 2015 USD). This growth of 1.8 percent per year exceeded SSA's per capita GDP growth, which averaged 1 percent per year. However, both Nigeria and SSA experienced declines in per capita GDP in the second half of the period in which per capita income stagnated, indicating that population growth outpaced the slow economic growth in the latter years.

The trend in per capita income over the period is mirrored in Nigeria's poverty reduction. The share of Nigerians living below the $2.15 per day poverty line (2017 purchasing power parity) declined significantly in the first half of the period, falling from 42 percent in 2003 to 32 percent in 2015 — an annualized decline of 2.8 percent. However, progress slowed considerably afterward, with poverty decreasing to just 31 percent by 2018, at a reduced annual rate of 1 percent. In contrast, SSA experienced higher poverty rates (49 percent in 2005 and 38 percent in 2015) and a slower annual poverty reduction rate of 2.2 percent. This overall decline in poverty — an essential SDG indicator — was accompanied by improvements in working poverty (SDG 1.1.1), which fell steadily from 43.5 percent in 2004 to 27.4 percent in 2022 (ILO 2024).

Figure 2 illustrates Nigeria's economic growth trends, highlighting that the economy expanded most rapidly in 2002 (15 percent), driven primarily by agriculture, which surged at an impressive 12 percent annual growth rate in the first half of the period. Although agricultural growth slowed to 2.6 percent in the second half, it remained the fastest-growing sector overall, averaging 6 percent across the period.

The services sector followed closely, also averaging 6 percent growth—at 10 percent in the first half and 2.4 percent in the second half. However, Nigeria's economy contracted in 2020 (−1.8 percent), likely because of the COVID-19 pandemic, mirroring a similar decline in 2016 (−1.6 percent). Industry growth stagnated in Nigeria, mostly declining in the second half of the period, indicating the lack of diversification in Nigeria's economy.

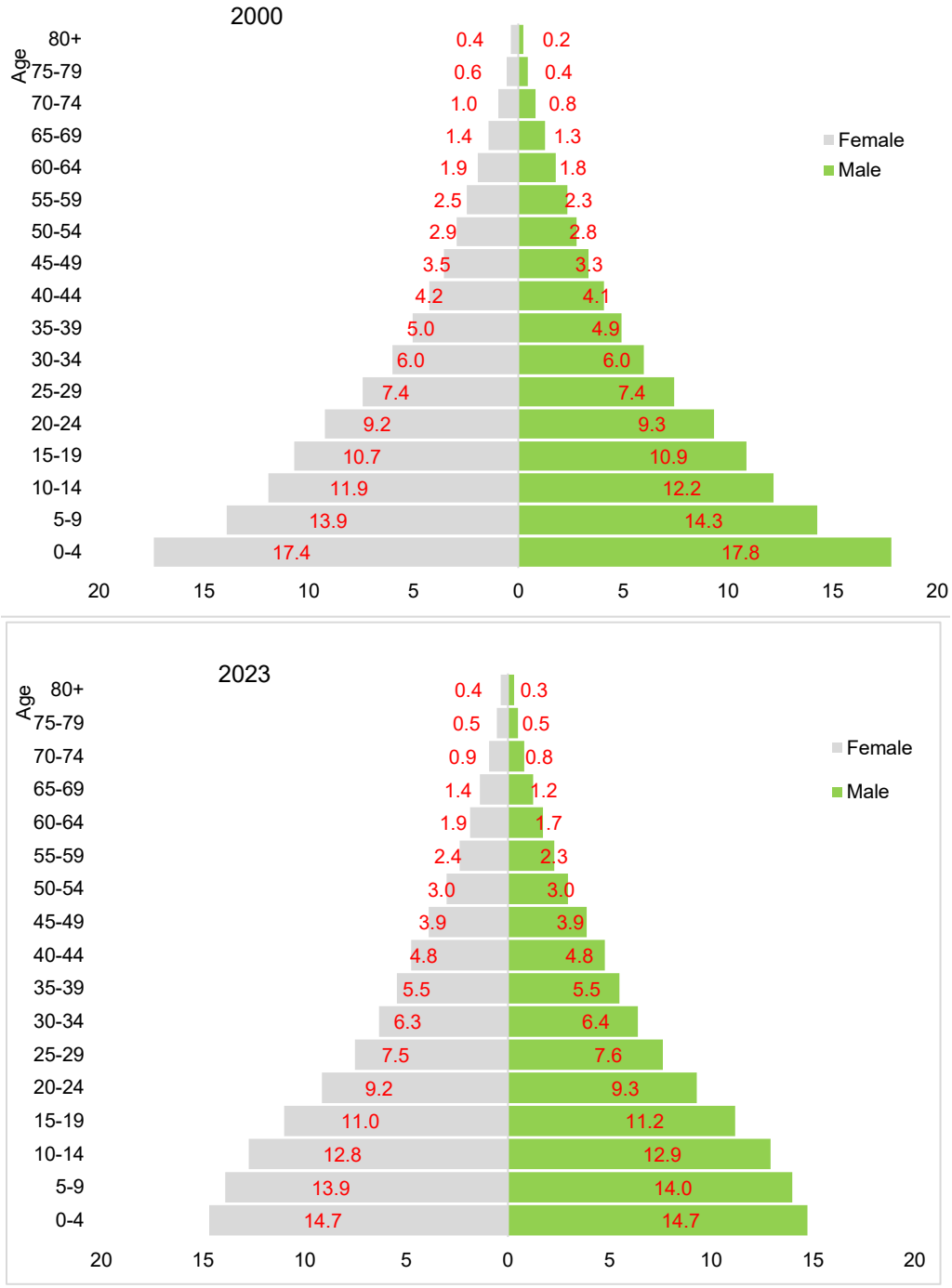
Sectoral growth in Nigeria outpaced SSA in agriculture (6 percent vs. 4 percent) and services (6 percent vs. 4.4 percent), while SSA's industrial sector growth (2.7 percent) was more than four times larger than Nigeria's. Despite these shifts, the overall sectoral composition of Nigeria's economy remained largely unchanged. Agriculture's share averaged 27 percent in the first half of the period but fell to 22 percent in the second half, primarily due to rapid early expansion. However, its share still increased from 21.4 percent in 2000 to 22.7 percent in 2023. Conversely, services accounted for a 6 percent larger share in the second half, yet its contribution in 2023 was 1 percent lower than in 2000 (Annex Table 1).

Generally, the rapid growth in income and the reduction in poverty in Nigeria have important implications for FS outputs, demand and supply dynamics, and employment. Food consumption increases following income growth, particularly among lower-income households, which exhibit higher income elasticity for food. Moreover, rising incomes lead to shifts in dietary preferences, driving greater demand for processed and high-value foods (Melo et al. 2025; Almås et al. 2023; Deaton and Subramanian 1996). Despite these overall income changes, Nigeria's sectoral composition remains relatively stagnant. Industrial value added per worker has declined, while the services sector has experienced a relatively modest increase (108 percent) in value added per worker. In contrast, agriculture saw a significant (193 percent) increase in value added per worker between 2000 and 2022, suggesting that it may remain a key sector for employment. This trend highlights agriculture's continued role in absorbing labor and driving economic opportunities within the country.

Population

Understanding the relationship among population growth, demographic transitions, and FS employment is essential for analyzing labor market evolution and shifts in quantity and types of food demand. Population expansion also reflects broader economic and agricultural trends, influencing food production and distribution systems. Nowhere is this more evident than in Nigeria, Africa's most populous nation, where the population increased by 82 percent, from 123 million in 2000 to 224 million in 2023, at an annual growth rate of 2.6 percent. This surge signifies both an expanding labor force and a heightened demand for food outputs and services. Although Nigeria's population growth rate closely mirrors the SSA average of 2.7 percent (World Bank 2024), its FS sector may face greater pressure relative to other SSA nations, where the average population stands at approximately 50 million.

Figure 3. Age structure of Nigeria's population, 2000 and 2023



Source: Authors' analyses using UNDP (2024) data.

Significant improvements in health conditions may have been observed in Nigeria, as evidenced by key health indicators (Annex Table 2). Notably, the crude death rate has decreased by 29 percent, from 17.5 to 12.4 deaths per 1,000 people. These advancements not only enhance labor productivity but also have implications for food utilization patterns. With longer life expectancy and better healthcare access, individuals may prioritize nutrition and dietary diversity, influencing both the volume and variety of

food demanded, as well as the structure of food-related employment, particularly in food retail (Wang et al., 2022; Zhao et al., 2022; Jayne et al., 2014b).

Figure 3 highlights subtle but important demographic shifts in Nigeria between 2000 and 2023. The proportion of women in the population declined slightly by 0.5 percent, with the male to female gap increasing from 0.2 million to 2.5 million. The share of young people under 15 years fell by 2.3 percent, while the working-age population (15–64) grew by the same percentage, and the elderly population (65+) remained stable. Within these broader trends, some age groups saw more notable shifts: The proportion of children under age 10 decreased, the share of those ages 10–54 increased, and the 55–74 age group declined slightly. Alongside these demographic changes, improvements in healthcare led to a 14 percent increase in life expectancy at birth, along with a slight decline in the dependency ratio (Annex Table 2).

During this period, Nigeria's working-age population (15–24 year olds) surged by nearly 90 percent, rising from 67.3 million in 2000 to 126.4 million in 2023. Growth was slightly higher among men (91 percent) than women (85 percent) (United Nations 2024). Nigeria's rapidly growing youth population presents both a powerful opportunity and a pressing risk for inclusive FS transformation. With nearly half the population under 25 and agricultural jobs declining, the expanding nonfarm agrifood sectors—such as processing, trade, and logistics—offer critical pathways for employment. Harnessing this demographic dividend requires targeted investments in skills, finance, and infrastructure to enable youth-led agribusinesses, which, if well supported, can employ other youth and drive local transformation. However, without inclusive policies and real job creation, the country risks deepening youth unemployment, social unrest, and a missed opportunity for structural transformation, underlining that the FS must be reimagined not just for food security, but as a central engine for dignified, equitable youth employment.

Urbanization

Urbanization, the share of total population residing in urban areas, is among the key drivers of changes in food environments, dietary patterns, and food demand composition (Mockshell 2023). As urban populations grow and lifestyles change, there is an increasing preference for processed and conveniently packaged foods, driving demand for on-site packaging. Simultaneously, shifts in consumer preferences and spatial food demand patterns significantly influence FS transformations (Tefft et al. 2017; Seto & Ramankutty 2016). Urban populations, particularly those with rising incomes, increasingly favor protein- and nutrient-rich, processed, and ready-to-eat foods.

The relatively higher population density in urban areas necessitates robust infrastructure, including efficient transportation systems and accessible markets. Consequently, FS transformations become complex, reshaping market linkages and relationships among FS actors (Mergenthaler et al. 2009; HLPE 2017; de Bruin et al. 2021). More generally, urbanization expands employment opportunities within the broader food sector, fostering job creation in food logistics, processing, marketing, and services. However, while agricultural jobs on farms become more competitive and remunerative, they continue to decline in importance (Christiaensen et al. 2021; IFPRI 2020).

Nigeria's urbanization rate averaged 4.4 percent per year between 2000 and 2023, though it slowed from 4.9 percent in the first half of the period to 4.1 percent in the second half (Annex Table 3). Nigeria urbanized at a faster rate than SSA, where the average was 4.1 percent over the same period (World Bank 2024). Moreover, Nigeria's urbanization level exceeds SSA's, with an average of 45 percent of its population living in urban areas between 2000 and 2023, rising from 35 percent to 54 percent. In comparison, SSA's urban population averaged only 37 percent during this time.

Unlike many SSA countries, where large cities dominate urbanization, Nigeria's urban population is more evenly distributed. Lagos, its largest city, accounted for an average of 15 percent of urban residents, declining from 17 percent in 2000 to 13 percent in 2023. In contrast, the largest city in an average SSA country houses 27 percent of the urban population. While Nigeria's urban population is more evenly distributed across multiple cities and towns—helping alleviate pressures on social services, housing, and infrastructure—its cities still accommodate significantly larger populations than the SSA average.

Annex Table 3 further highlights substantial improvements in urban access to essential services. Although Nigeria initially lagged behind SSA in access to basic sanitation, drinking water, and cooking fuel, it surpassed SSA by 2023. Electricity access among Nigeria's urban residents stood at 84 percent in 2000, increasing by only 5 percentage points by 2023. In contrast, SSA saw a 20-percentage-point increase in electricity access over the same period, reaching 81 percent in 2023.

Nigeria's distributed urbanization pattern presents significant opportunities for strengthening FS production and employment. It creates potential for better integrating food production with market systems while fostering job creation in urban and peri-urban areas.

Conflict

In Nigeria, conflict has been a key driver of AFS changes (and stagnation) since at least 2009 and possibly earlier. In 2009, a protracted armed conflict in northeast Nigeria started with the Boko Haram insurgency. The conflict has led to the internal displacement of more than two million people in the Borno, Adamawa, and Yobe states of northeast Nigeria. Many internally displaced persons (IDPs) live temporarily in camps and on the outskirts of local communities, hindering participation in labor markets. These conflict-affected IDPs continue to experience severe shocks that affect their livelihoods and well-being.

The conflict has spilled out into most of northern Nigeria, especially the farther areas of the northwest. Other conflicts such as banditry and kidnapping have resulted in movement restrictions, forced displacements, and intimidation. As such, northern Nigeria, once known as the "breadbasket" of Nigeria, is no longer providing the employment opportunities that youth are seeking. This has exacerbated rural–urban migration away from the AFS—particularly agricultural employment—into the urban service sector.

In conclusion, the FS is intricately linked to economic growth, demographic transitions, urbanization, and trends in peace and security. Nigeria's economic expansion has likely fueled shifts in food demand (FAO 2021), while population growth and health improvements have reshaped food consumption patterns (Nigerian Economic Summit Group 2023). Urbanization has further accelerated FS transformation by altering dietary preferences and market dynamics (Popkin 2021). As Nigeria continues to grow and urbanize, the FS will need to adapt by increasing food production efficiency, strengthening supply chains, and expanding employment opportunities in food-related industries to ensure sustainable economic development, food security, and employment—particularly given the growing youth labor force in Nigeria (National Planning Commission 2023). However, the ongoing conflict and internal displacement in northern Nigeria have destabilized agricultural production and employment in the region.

4. LABOR FORCE AND EMPLOYMENT

This section uses labor force and employment data from the World Bank (2025) and ILO (2024) that cover 2000–2023 period, as well as NLSS (2025) data for 2003 and 2009. It has two subsections. The first briefly describes labor-market-related variables that provide context for the analysis of AFS/FS employment, which is presented in the second subsection. In the discussions below, we focus only on statistically significant differences.

4.1 Labor force participation and unemployment in Nigeria

The labor force participation rate in Nigeria has averaged 60 percent of the working-age population, with little variation across the two halves of the period considered (2000–2007 and 2015–2023) (Figure 4). This rate is significantly lower than the labor force participation rate of neighboring Ghana (71 percent) and the SSA average (68 percent) over the same period and across all population categories (World Bank 2024).

Labor force participation in Nigeria exhibits notable gender disparities. The participation rate among men (64 percent) exceeds that of women (55 percent), with a similar pattern observed among younger cohorts, though the gender gap is narrower among youth. Moreover, the overall gender gap in labor force participation has widened over time. The persistently low labor force participation among women in low-income countries is attributed to several structural and sociocultural factors. These include social and cultural norms discouraging women from working outside the home (Jayachandran 2021), disproportionate household responsibilities limiting women's labor market engagement (Ferrant et al. 2014), legal and institutional barriers restricting the types of jobs available to women (World Bank 2022; ILO 2019a), and gender-based wage disparities and employment discrimination (ILO 2020b; Blau and Kahn 2017).

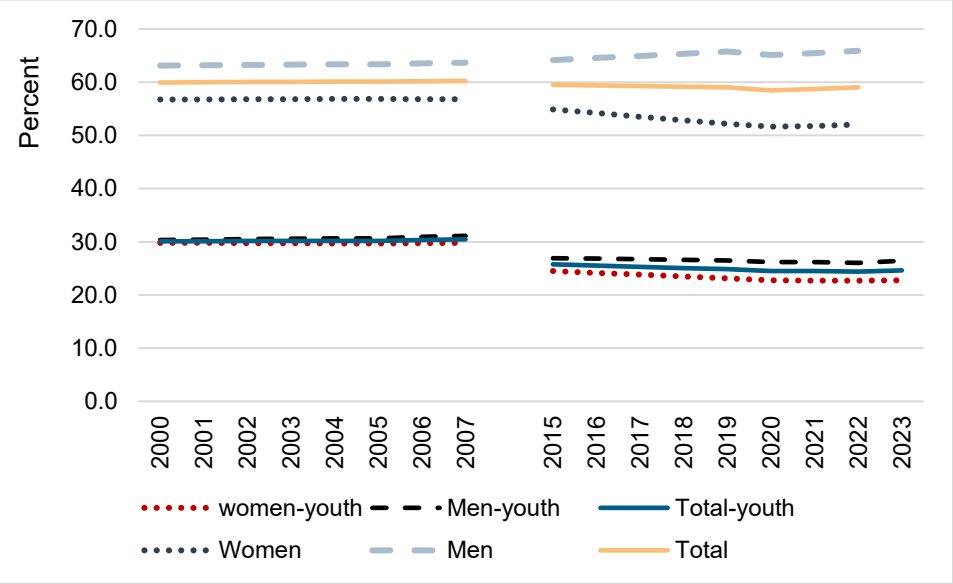
A significant gap exists between the labor force participation rate of youth and the average population. In any given year, the youth labor force participation rate was at least 30 percent lower than the national average, implying an even larger disparity between the labor force participation rates of youth and mature people. For instance, the mature-to-youth labor force participation gap averaged 41 percent between 2004 and 2022 in Nigeria (ILO 2024). Several factors contribute this low participation of youth, including prolonged education enrollment (ILO 2020; World Bank 2018), high youth unemployment and structural labor market constraints (National Bureau of Statistics 2023; ILO 2021), as well as macroeconomic instability, including currency depreciation, which has weakened job prospects in Nigeria (Apampa 2022). Additionally, weak labor policies and sociocultural barriers continue to restrict youth employment opportunities, particularly for young women (Jayachandran 2021; UNDP 2020c; ILO 2019a; ILO 2018).

Data from the ILO (2024) indicate that individuals with disabilities have substantially lower labor force participation rates compared to those without disabilities. However, the disability participation gap has narrowed, declining from 32 percent in 2011 to 21 percent in 2022. In contrast, regional disparities between rural and urban labor force participation remain minimal, suggesting a relatively uniform labor market engagement across geographical areas in Nigeria. The evidence highlights persistent gender, age, and disability-related inequalities in Nigeria's labor market, reinforcing the need for targeted policy interventions to enhance workforce inclusivity and economic participation.

The unemployment rate in Nigeria remained relatively low over the 2000–2023 period, averaging 4.2 percent across the total population. However, it increased from 3.7 percent in the first half of the period

to 4.6 percent in the second half. Comparatively, Nigeria exhibited a slightly lower unemployment rate than the SSA average of 6 percent, a pattern that persisted across all population categories presented in Figure 5. The observed differences were statistically significant, indicating a meaningful deviation from the regional trend.

Figure 4: Labor force participation rate in Nigeria (%), 2000–2007 and 2015–2023



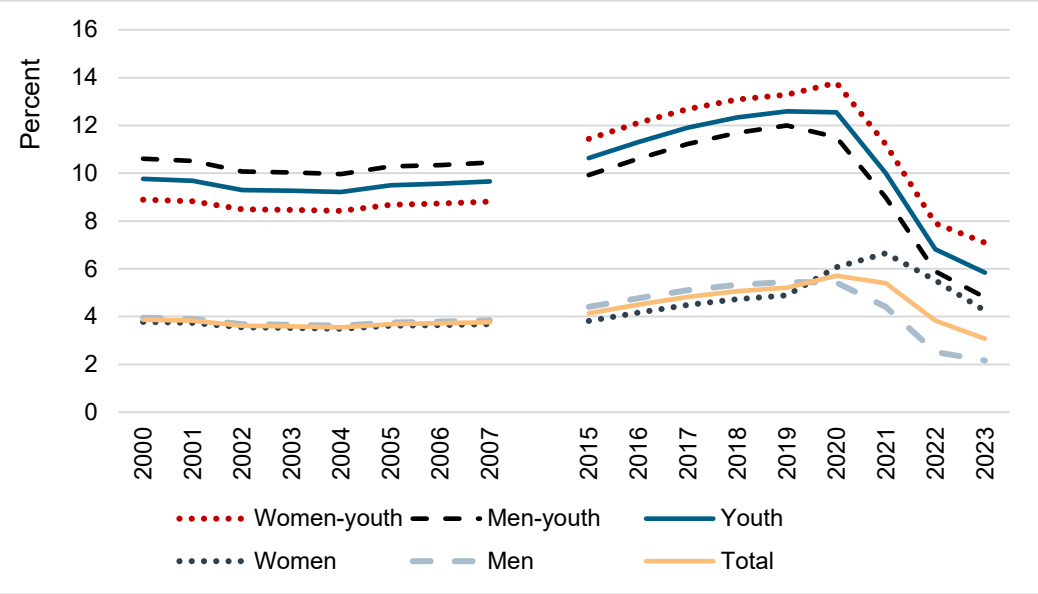
Source: Authors' analyses using World Bank (2024) data.

The unemployment rate among women in Nigeria (4.3 percent) was slightly higher than that of men (4.1 percent), although this difference was not statistically significant, and the unemployment rates for both genders remained below 7 percent throughout the period. Despite the relatively small gender gap, women's unemployment rates have consistently exceeded men's. Several factors may contribute to this persistent disparity. Anecdotal evidence suggests that women's lower labor force participation rate in Nigeria may partly explain the narrower gender gap in unemployment; however, further investigation is required to substantiate this relationship.[2]

Beyond unemployment rates, significant gender disparities exist in employment quality. The proportion of women in vulnerable employment (80 percent) is markedly higher than that of men (54 percent) (World Bank 2025),[3] and women are also more likely to be engaged in the informal sector (ILO 2024). Additionally, financial inclusion rates among Nigerian women are substantially lower than those of men and lag behind women in SSA countries and comparable regions. Women's participation in entrepreneurship is also limited, with a significantly lower proportion owning businesses. Moreover, women's political representation—measured as the share of women in parliamentary seats —is among the lowest in comparable regions (World Bank 2025). These observations imply that policies should focus on enhancing women's labor force participation through improved access to education, financial services, and entrepreneurship opportunities. Equally crucial are efforts to reduce informal and vulnerable employment by strengthening labor protections.

[2] Mind the gap: The gender divide in Nigeria's labour force.
[3] Workers in vulnerable employment are the least likely to have formal work arrangements, social protection, and safety nets to guard against economic shocks; thus, they are more likely to fall into poverty (World Bank 2025).

Figure 5. Unemployment rate in Nigeria (%), 2000–2007 and 2015–2023



Source: Authors' analyses using World Bank (2024) data.

The unemployment rate among youth, which averaged 10 percent, is significantly higher than that of the general population and, consequently, than that of mature individuals. These differences are statistically significant (Figure 5). Notably, youth unemployment rates averaged 9.5 percent in the first half of the period and 10.4 percent in the second half, indicating a slight upward trend, although rates were considerably lower at the end of the period. While the unemployment rate among young women was marginally higher than that of young men, this gender difference was not statistically significant. However, the gender gap in unemployment rate among youth widened over the study period, particularly because women's unemployment rate was lower than men's during the first half of the period and higher in the second.

Furthermore, ILO (2024) data indicate a substantial decline in the proportion of youth who are not in education, employment, or training (NEET rate, SDG 8.6.1)—from 29 percent in 2011 to 14 percent in 2022, representing a decline of more than 50 percent overall. However, this decline occurred at a faster rate among young men than young women, suggesting persistent gender disparities in access to education and employment opportunities.

The persistently low labor force participation, high unemployment rate, and widening gender gap among youth in Nigeria call for education-to-employment transition programs, including vocational training, apprenticeships, and job placement initiatives. The trend in the NEET rate underscores the need for gender-sensitive policies to ensure that young women benefit equally from economic opportunities. Addressing these disparities requires inclusive labor market policies, financial reforms, and gender-responsive economic strategies.

4.2 AFS employment

Table 1 presents the distribution of employment shares across 14 subsectors within Nigeria's AFS, alongside the share engaged in non-AFS ("All others") sectors. Table 2 aggregates these employment figures into four broader categories, providing a comprehensive overview of sectoral trends.

Agriculture and food production

The data highlight the critical role of agriculture within Nigeria's AFS and the overall economy. Between 2003 and 2022, agricultural production accounted for 44.7 percent of total employment. Food production dominated this sector, while nonfood agricultural production—such as forestry and logging—contributed a marginal 0.2 percent.

Employment patterns across demographic groups reveal notable variations in the significance of agriculture. Among men, agriculture accounted for 52.6 percent of total employment in an average year—the highest among population categories—followed by youth workers in agriculture at 51 percent. In contrast, agriculture was least significant for women, comprising only 35.5 percent of their total employment, while mature workers exhibited slightly higher levels of agricultural employment, averaging 43.4 percent. This contrasts with trends in other SSA countries, where the share of mature people engaged in agriculture is higher than that of youth.

Over the study period, agriculture's share in total employment declined by 40 percent, falling from 58 percent in 2003 to 34.7 percent in 2022. This decline was most pronounced among women (44.4 percent), followed by mature and youth workers (41 percent), while men recorded the smallest decline (36.5 percent). A comparison of agriculture with non-AFS sectors shows that a structural transformation is occurring in Nigeria's labor market. In 2003, agriculture employed twice as many workers as non-AFS sectors; however, by 2022, employment in both sectors had equalized. This shift was particularly significant for women, whose participation in non-AFS sectors surpassed their engagement in agriculture, whereas mature workers experienced a relatively balanced distribution between the two.[4]

Agrifood manufacturing and services

Food manufacturing and services on average accounted for 5.8 percent of total employment, experiencing substantial expansion, from less than 1 percent in 2003 to more than 9 percent in 2022, representing over a 10-fold increase over the period. This growth was most pronounced among women: their share of employment in this subsector rose from 1.4 percent to 15.5 percent, while men exhibited the slowest growth (Table 1).

Manufacturing of nonfood agricultural products—such as tobacco, leather, and wood—accounted on average for 2 percent of total employment. Although small, this sector exhibited notable growth, rising from 1 percent in 2003 to 4.3 percent in 2022. A comparison of food and nonfood manufacturing highlights a clear divergence: Food manufacturing and services expanded at more than twice the rate of nonfood agricultural manufacturing. In 2003, nonfood manufacturing employment was relatively uniform across demographic groups (at 0.9 percent). By 2022, the sector accounted for 6.4 percent of youth employment, 5.5 percent of women's employment, and less than 3.5 percent of employment among mature people and male workers, underscoring the growing significance of nonfarm agrifood employment for women and youth. These findings are consistent with those of Marivoet (2024) and Bachewe et al. (2024), who observed similar shifts in Senegal and Rwanda, where youth and women were increasingly attracted to the nonfarming components of the AFS.

[4] Including nonagricultural AFS, such as manufacturing and services in agricultural items, makes this comparison clearer. In 2003, there were six people working in nonagriculture sectors in Nigeria for every 10 workers in agriculture; by 2022, that number had risen to 19.

Table 1: Detailed agrifood system and all other employment, by gender and age (%)

		Food production		Nonfood production	Food manufacturing & servicing				Agricultural (nonfood) processing					Transport and trade		Non-AFS
	Year	Crop & livestock	Fishing and aquaculture	Forestry and logging	Manufacture of food products	Manufacture of beverages	Food and beverage service activities	Undifferentiated goods-for HH own use	Manufacture of tobacco products	Manufacture of textiles	Manufacture of leather and related products	Manufacture of wood and of products	Manufacture of paper and paper products	Trade	Transport	All others
Total	2003	56.18	1.65	0.11	0.64	0.00	0.20	0.00	0.04	0.61	0.01	0.35	0.02	8.85	1.34	29.99
	2009	46.17	1.17	0.19	2.07	0.28	2.12	1.40	0.01	0.44	0.19	0.26	0.12	14.51	2.16	28.90
	2019	37.03	0.99	0.57	3.71	0.35	3.16	0.21	0.02	1.21	0.17	0.82	0.03	11.33	2.16	38.22
	2022	34.34	0.29	0.12	4.24	0.35	4.47	0.00	0.00	3.12	0.25	0.89	0.00	16.49	2.82	32.61
Female	2003	44.50	1.26	0.04	1.07	0.00	0.33	0.00	0.08	0.90	0.03	0.00	0.00	13.23	0.11	38.45
	2009	39.82	0.86	0.05	3.88	0.28	3.96	2.49	0.01	0.48	0.17	0.16	0.15	20.88	0.30	26.50
	2019	28.87	0.75	0.34	5.66	0.49	5.94	0.27	0.00	1.77	0.07	0.19	0.00	18.06	0.05	37.54
	2022	25.22	0.12	0.12	6.45	0.57	8.45	0.00	0.00	4.83	0.35	0.30	0.00	24.70	0.00	28.87
Male	2003	65.79	1.97	0.17	0.30	0.00	0.10	0.00	0.01	0.36	0.00	0.63	0.04	5.25	2.36	23.02
	2009	52.14	1.45	0.32	0.37	0.28	0.38	0.38	0.01	0.40	0.21	0.35	0.10	8.52	3.92	31.16
	2019	43.39	1.18	0.75	2.20	0.24	1.00	0.16	0.03	0.78	0.25	1.31	0.04	6.09	3.77	38.82
	2022	42.60	0.44	0.12	2.24	0.16	0.86	0.00	0.00	1.56	0.16	1.43	0.00	9.05	5.28	36.10
Youth	2003	62.31	1.42	0.11	0.39	0.00	0.09	0.00	0.00	0.44	0.00	0.22	0.02	5.83	0.70	28.47
	2009	59.72	1.20	0.04	2.25	0.22	2.44	2.63	0.03	1.22	0.25	0.15	0.07	9.86	1.06	18.84
	2019	38.92	0.75	0.76	4.14	0.39	3.00	0.22	0.00	2.37	0.24	0.69	0.00	9.33	1.55	37.63
	2022	37.45	0.21	0.10	4.03	0.27	4.43	0.00	0.00	5.14	0.46	0.82	0.00	14.91	1.70	30.47
Mature	2003	55.12	1.69	0.11	0.69	0.00	0.22	0.00	0.04	0.64	0.01	0.37	0.02	9.37	1.45	30.25
	2009	43.24	1.16	0.23	2.03	0.29	2.05	1.14	0.01	0.27	0.18	0.28	0.13	15.52	2.40	31.07
	2019	36.84	1.02	0.55	3.67	0.34	3.18	0.21	0.02	1.09	0.16	0.84	0.03	11.54	2.22	38.29
	2022	33.25	0.31	0.13	4.31	0.38	4.48	0.00	0.00	2.41	0.18	0.92	0.00	17.04	3.15	33.43

Source: Authors' analyses using NISR (2023) and ILO (2024) data.
Note: AFS = agrifood system; HH = household.

Trade and transportation

Trade accounted for nearly 13 percent of total employment, with notable gender and age disparities. The sector was most significant for women, accounting for over 19 percent of their total employment in an average year, followed by mature people (13 percent) and youth (10 percent), while the share of men employed in trade was the lowest at 7.2 percent. Over the study period, women's employment in trade grew by 87 percent. Growth among the youth population was faster, while men and mature workers recorded lower rates. These trends underscore the increasing role of trade in integrating women and youth into Nigeria's agrifood economy.

Transportation, a relatively small sector, accounted on average for 2 percent of total employment and doubled in importance over the period. However, women's participation in agrifood transportation remained low. On average, transportation accounted for 4 percent of men's total employment and 2.3 percent of mature workers' employment. The rapid growth in youth participation may reflect a broader trend in Africa, where increasing access to affordable motorbikes has drawn more young men into the transportation subsector.

Nonfarm AFS employment

The nonfarm AFS subsector—comprising food manufacturing and services, nonfood agricultural manufacturing, trade, and transportation—is gaining increasing importance as Nigeria undergoes structural economic transformation. On average, nearly 23 percent of Nigerian workers were engaged in nonagricultural AFS activities. This share increased significantly, from 12 percent in 2003 to 32.6 percent in 2022, representing a total growth of 170 percent.

A significant proportion of women workers in Nigeria—nearly 32 percent on average—were employed in nonagricultural AFS during the period considered. The share of women engaged in nonfarm AFS showed the fastest growth, increasing by 190 percent between 2003 and 2022. On average, 21 percent of youth workers were engaged in nonfarm AFS during the same period. However, the proportion of youth employed in nonfarm AFS grew even faster, by more than 310 percent—from 7.7 percent in 2003 to nearly 32 percent in 2022. Although the share of mature workers employed in nonagricultural AFS grew at a slower rate (157 percent), their average participation (23 percent) was slightly higher than that of youth. In contrast, men had the lowest participation (15 percent on average) and the slowest growth (109 percent). These trends highlight the increasing role of nonfarm AFS employment in absorbing women and youth into Nigeria's evolving labor market.

Overall AFS employment

AFS accounted for an average of 67.6 percent of total employment in Nigeria over the study period. It declined by 2.6 percentage points (or 3.8 percent)—from 70 percent in 2003 to 67.4 percent in 2022. This trend in AFS employment is driven by two opposing dynamics: a declining share of agriculture in total employment and a concurrent increase in nonfarm AFS employment—a 23.2-percentage-point reduction in agricultural employment that exceeded the 20.6-percentage-point increase in nonfarm AFS employment over the same period. These shifts underscore the structural transformation of Nigeria's labor market, where employment opportunities are increasingly shifting from agriculture to nonfarm AFS sectors. Furthermore, this increase in nonfarm AFS employment in Nigeria was significantly higher than the rates observed in other SSA countries, such as Rwanda and Ghana. This suggests that in the com-

ing decades, the contraction in agriculture will likely be offset by a rapid expansion of employment opportunities in Nigeria's nonagricultural AFS sectors—consistent with trends expected in transforming economies (Davis et al. 2023; AGRA 2022; SWAC/OECD 2021; IFPRI 2020).

Table 2: Agrifood system and all other employment, by gender and age (%)

	NLFS (2024)		ILO (2024)		
	2003	2009	2019	2022	**t-test** (significance)
Agrifood system					
Total	70.0	71.1	61.8	67.4	
Female	61.5	73.5	62.5	71.1	NS
Male	77.0	68.8	61.2	63.9	
Youth	71.5	81.2	62.4	69.5	*
Mature	69.8	68.9	61.7	66.6	
Food system					
Total	68.9	69.9	59.0	63.0	
Female	59.4	72.5	60.1	65.5	NS
Male	75.8	67.5	58.0	60.6	
Youth	70.7	79.4	58.3	63.0	NS
Mature	68.6	67.8	59.0	62.9	
Nonfarm agrifood					
Total	12.1	23.6	23.2	32.6	
Women	14.7	32.8	32.5	45.7	**
Men	9.1	14.9	15.9	20.7	
Youth	7.7	20.2	21.9	31.8	**
Mature	12.8	24.3	23.3	32.9	
All others					
Total	30.0	28.9	38.2	32.6	
Female	38.5	26.5	37.5	28.9	NS
Male	23.0	31.2	38.8	36.1	
Youth	28.5	18.8	37.6	30.5	NS
Mature	30.2	31.1	38.3	33.4	

Source: Authors' analyses using NISR (2023) and ILO (2024) data.
Notes: NS = not significant. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Across demographic groups, AFS employment constituted over 67 percent of women's total employment, nearly 68 percent for men, 71 percent for youth, and 66.7 percent for mature workers. Further disaggregation reveals additional demographic trends. Among women, the share of AFS employment increased by 9.6 percentage points (15.6 percent growth), driven by a 30-percentage-point rise in nonfarm AFS employment and a 20.3-percentage-point decline in agricultural employment. Youth participation in AFS decreased at a modest rate of 2 percentage points (3 percent), reflecting a 24-percentage-point rise in nonfarm AFS employment and a 26-percentage-point decline in agricultural employment.

Similarly, AFS employment among mature people declined by 3 percentage points (4.6 percent). In contrast, men experienced a net decline in AFS employment of 13 percentage points (17 percent) as their increased engagement in nonfarm AFS failed to compensate for declining agricultural employment shares.

In conclusion, Nigeria's AFS is undergoing structural transformation, characterized by a declining agricultural workforce and a significant expansion of employment in nonfarm AFS sectors. Women and youth are increasingly engaged in trade, manufacturing, and food services, while men and mature workers remain more involved in agriculture. These trends align with broader economic transitions observed in other developing economies, underscoring the growing importance of nonfarm AFS employment in shaping Nigeria's labor market.

The findings of this study contrast with those of Davis et al. (2023), who estimated that while agriculture's share in total employment across Africa was comparable at 50 percent, AFS employment accounted for only 62 percent of total employment—lower than calculated for Nigeria in this study. This discrepancy is largely attributable to Nigeria's higher (23 percent) and more rapidly increasing share of nonfarm AFS employment relative to the African average of 5.3 percent reported by Davis et al. (2023). Similarly, this study's findings differ from those of Bachewe et al. (2024) for Rwanda, where AFS employment averaged 89 percent between 2006 and 2022. In Rwanda, however, agriculture's share in total employment was nearly 76 percent, which is considerably higher than the average in Nigeria, while nonfarm AFS employment was significantly lower at 11 percent and stagnated during the period.

5. CONCLUSIONS AND POLICY IMPLICATIONS

This study has analyzed the evolution of employment in Nigeria's AFS over the past two decades, focusing on demographic patterns, economic and policy shifts, and structural transformation in the labor market. Nigeria, like many SSA countries, is undergoing profound changes in its population structure, urbanization patterns, and food demand composition. These shifts have important implications for employment generation, particularly for women and youth, and for the overall trajectory of inclusive economic development.

The study finds that Nigeria's AFS is undergoing a significant transformation. Although agriculture still plays a central role in employment, especially for rural populations, its dominance has declined over the period. This decline has been more than offset by rising employment in nonfarm AFS sectors, which now serve as critical entry points for women and youth. These segments—particularly trade and food processing—have shown substantial growth and inclusivity, despite persistent barriers related to capital access, infrastructure, and gender norms. This transformation aligns with global trends in FS evolution, where value addition and services now represent the most dynamic and job-generating segments of AFS. It also reflects broader structural transitions within Nigeria's economy and underscores the increasing importance of FS in generating employment beyond traditional farming.

The FS offers a uniquely broad and adaptable set of employment opportunities across rural and urban contexts, and policy efforts in recent years have begun to acknowledge the potential of AFS to address youth unemployment and underemployment. However, the transition is uneven and accompanied by persistent structural challenges. Youth unemployment and labor force participation remain acute despite high demand for jobs. Additionally, geographic and conflict-related disparities—particularly in the north—limit access to stable employment and FS participation for millions. Institutional fragmentation, inconsistent policy execution, and limited investment in enabling infrastructure further constrain the FS's potential to serve as a major engine of inclusive growth. This study's findings have several policy

implications that address these gaps and fully leverage the AFS for sustainable development and employment generation.

First, facilitating the transition of youth into AFS employment is essential. While youth are increasingly participating in nonfarm segments such as processing and trade, they continue to face structural barriers, including limited access to finance and inadequate skills training. Addressing these challenges will require strategic investments in vocational education tailored to agrifood sectors—such as agro-processing, logistics, and digital agriculture—as well as the expansion of youth-targeted financing mechanisms, including grants, microcredit, and incubation programs. Public–private partnerships can also play a vital role in creating scalable youth enterprises and linking them with markets and technologies.

Second, women remain an underutilized segment of the agrifood labor force, particularly in higher-value and formal employment categories. Policy efforts should therefore aim to close gender gaps by promoting women's access to productive resources such as land, finance, and digital tools, and by implementing gender-responsive labor regulations, including safeguards in informal work environments, support for women's cooperatives and networks, thereby increasing both economic participation and equity.

A third critical area of intervention lies in infrastructure and market integration. Nigeria's rapid urbanization and resulting shifts in food demand patterns heighten the urgency for investments in cold storage, rural–urban transportation systems, and agro-industrial processing zones—all of which can reduce postharvest losses and generate new employment opportunities. In addition, scaling up digital platforms and e-commerce infrastructure would enable small producers and entrepreneurs to access market information, manage logistics, and expand their consumer reach.

Fourth, regional disparities—particularly in conflict-affected northern Nigeria—require targeted policy attention. Prolonged insecurity has not only disrupted agricultural production but also displaced large segments of the labor force, especially youth. To reverse these trends, it is vital to direct recovery-focused investments into these regions and implement job creation programs specifically for internally displaced persons and vulnerable youth. Food security strategies must also incorporate conflict-sensitive planning to ensure that development gains are equitably distributed.

Equally important is the need to strengthen institutional coordination and policy coherence across Nigeria's FS. While initiatives such as the Presidential Food Systems Coordinating Unit represent a positive step, their impact will depend on adequate resourcing and political support. Policy alignment among the ministries of agriculture, labor, youth, and trade is crucial to prevent duplication and fragmentation. Building real-time monitoring systems and enhancing policy evaluation capacity will also help ensure that FS reforms remain adaptive and evidence driven.

Finally, a broader conceptual shift is required—from a narrow focus on agricultural output to a holistic FS approach. This includes integrating food production, processing, consumption, sustainability, and social equity into a unified national strategy. Policies should align goals across food security, employment generation, and climate resilience, while actively involving youth and women in planning and decision-making processes. Such a systemic and inclusive approach is essential if Nigeria is to transform its AFS into a driver of dignified work, resilience, and shared prosperity.

ABOUT THE AUTHORS

Fantu Bachewe, Research Coordinator, Development Strategies and Governance Unit, International Food Policy Research Institute

Kwaw S. Andam, Country Program Leader and Senior Research Fellow, Development Strategies and Governance Unit, International Food Policy Research Institute

Harriet Mawia, Research Officer, Development Strategies and Governance Unit, International Food Policy Research Institute

Olufemi Popoola, Research Analyst, Development Strategies and Governance Unit, International Food Policy Research Institute

ACKNOWLEDGMENTS

The authors thank Samuel Benin for his valuable feedback and comments on this report and Josue Niyonsingiza for his consultive role during data analyses. Additionally, the authors would like to thank Pamela Stedman-Edwards and other members of IFPRI's Communications and Public Affairs Division for copyediting and related publication services.

REFERENCES

Adejo, P. E., Ibrahim, H. I., and Ibrahim, Y. 2019. Youth Participation in Agriculture and Its Influence on Nigeria's Economic Development. *Journal of Agricultural Extension*, 23(1), 15–26.

Adenuga, A. H., Jack, C., and McCarry, R. 2025. Behavioural drivers of long-term land leasing adoption: Application of an extended theory of planned behaviour. *Environment, Development and Sustainability, 27*(7), 16819-16839.

Adesugba, M., and Mavrotas, G. 2020. Agricultural finance constraints in the Nigerian agricultural sector. *African Finance Journal*, *22*(2), 1-21.

Adeyanju, D., Ogundeji, A. A., and Mavrotas, G. 2022. Climate-smart agriculture adoption among Nigerian youth: Drivers and policy implications. *Sustainability*, 14(2), 1–18. https://doi.org/10.3390/su14020621

AGRA. 2023. *Africa Agriculture Status Report: Empowering youth in agriculture*. Alliance for a Green Revolution in Africa. https://agra.org

AGRA. 2022. *Africa Agriculture Status Report. Accelerating African Food Systems Transformation* (Issue 10). Nairobi, Kenya: Alliance for a Green Revolution in Africa (AGRA).

Akinbamijo, Y., Yusuf, S. A., & Kolade, O. 2021. Youth engagement in agrifood systems in Nigeria: Policy and practice insights. *African Journal of Food, Agriculture, Nutrition and Development*, 21(4), 17543–17565.

Allen, A., Howard, J., Kondo, M., Jamison, A., Jayne, T., Snyder, J., Tschirley, D.L. and Yeboah, F.K. 2016. *Agrifood Youth Employment and Engagement Study*. East Lansin, Michigan State University. https://www.isp.msu.edu/files/4814/7249/7008/AgYees_Report_FINAL_web.pdf.

Ambler, K., Sylvan, H., Ricardo, L, Mywish, M., and Phoebe, S. 2019. *Measuring employment in the agri-food system: Existing data and directions for future research*. Project Note. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.133542

Andam, Kwaw S. and Diao, X., Ecker, O., and Pauw, K., Thurlow, J. and Ellis, M. 2023. *Nigeria's agrifood system structure and drivers of transformation*. Agrifood System Diagnostics Country Series. 14, International Food Policy Research Institute (IFPRI).

Aragie, E., Diao, X., Spielman, D. J., Thurlow, J., Mugabo, S., Rosenbach, G., & Benimana, G. 2022. *Public investment prioritization for Nigeria's inclusive agricultural transformation: Evidence from rural investment and policy analysis modeling.* Nigeria Strategy Support Program, Working paper 3. International Food Policy Research Institute.

Apampa, S. 2022. "Youth Unemployment in Nigeria: Economic Challenges and Policy Responses." *African Economic Review, 15*(2).

Ayinde, O. E. 2021. Adoption of Stress Tolerant Maize Varieties in Nigeria: Does Gender Matter?.https://www.academia.edu/download/108080403/f2628681-648e-41d7-bc78-8c3c292dea42.pdf

Babu, S. C., Franzel, S., Davis, K. E., & Srivastava, N. 2021. *Drivers of youth engagement in agriculture: insights from Guatemala, Niger, Nigeria, Nigeria, and Uganda* (Vol. 2010). International Food Policy Research Institute.

Bello. 2025. *Youth Demographics and Employment in Nigeria: Turning the Tide*. https://www.thisdaylive.com/2023/04/18/turning-the-tide-of-youth-unemployment/

Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., De Haan, S., Prager, S. D., ... and Khoury, C. K. 2019. When food systems meet sustainability–Current narratives and implications for actions. *World development*, *113*, 116-130.

Blau, F. D., and Kahn, L. M. 2017. The Gender Wage Gap: Extent, Trends, and Explanations. *Journal of Economic Literature, 55*(3), 789-865.

CBN. 2022. *Anchor Borrowers' Programme impact report*. Central Bank of Nigeria. https://www.cbn.gov.ng

Christiaensen, L., Rutledge, R, and Tylor, E. 2020. Viewpoint: The future of work in agri-food. *Food Policy* 99 (2021) 101963. https://doi.org/10.1016/j.foodpol.2020.101963.

Davis, B., Mane, E., Gurbuzer, L.Y., Caivano, G., Piedrahita, N., Schneider, K., Azhar, N., Benali, M., Chaudhary, N., Rivera, R., Ambikapathi, R. and Winters, P. 2023. *Estimating global and country-level employment in agrifood systems*. FAO Statistics Working Paper Series, No. 23-34. Rome, FAO. https://doi.org/10.4060/cc4337en.

de Bruin, S., Dengerink, J., & van Vliet, J. 2021. Urbanization as driver of food system transformation and opportunities for rural livelihoods. *Food Security*, *13*(4), 781-798.

Dolislager, M., Reardon, T., Arslan, A., Fox, L, Liverpool-Tasie, S., Sauer, C., and Tschirley, D.L. 2021. Youth and Adult Agrifood System Employment in Developing Regions: Rural (Peri-urban to Hinterland) vs. Urban, *The Journal of Development Studies*, 57:4, 571-593, DOI: 10.1080/00220388.2020.1808198.Fanzo, J., Haddad, L., Schneider, K., R., et al. 2021. Viewpoint: Rigorous monitoring is necessary to guide food system transformation in the countdown to the 2030 global goals. *Food Policy* 104, 102163. https://doi.org/10.1016/j.foodpol.2021.102163.

FAO. 2023. *The State of Food and Agriculture in Nigeria*. Rome: Food and Agriculture Organization. https://www.fao.org/documents/card/en/c/cc3017en

FAO. 2022. *Youth in agrifood systems: Drivers of change for sustainable development*. Food and Agriculture Organization of the United Nations. https://www.fao.org

FAO, IFAD, UNICEF, WFP, and WHO. 2022. *The State of Food Security and Nutrition in the World 2022: Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://doi.org/10.4060/cc0639en.

FAO, IFAD, UNICEF, WFP and WHO. 2021. *The State of Food Security and Nutrition in the World 2021: Transforming food systems for food security, improved nutrition, and affordable healthy diets for all*. Rome, FAO. https://doi.org/10.4060/cb4474en.

FAO. 2021. *Nigeria at a glance: Agricultural sector contribution to GDP.* Accessed from https://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en.

FAO. 2020. *Nigeria Food Africa Project: Adopting a Backward and Forward Integration for Vegetable Value Chain Model in Kaduna State*. TCP/NIR/3603. https://openknowledge.fao.org/server/api/core/bitstreams/1e10f98e-9d72-4166-bae49f9b0d9ab426/content

FAO. 2018. *Sustainable food systems: Concept and framework*. Rome, Italy.

Federal Ministry of Agriculture and Rural Development (FMARD). 2022. *National agricultural transformation plan 2021–2025*. Government of Nigeria.

Ferrant, G., Pesando, L. M., and Nowacka, K. 2014. Unpaid Care Work: The Missing Link in the Analysis of Gender Gaps in Labour Outcomes. OECD Development Centre.

Filmer, D., and Fox, L. 2014. *Youth employment in sub-Saharan Africa*. World Bank Publications.

Franzel, S., Kinyua, H., Rucibigango, M., Davis, K., and Makh, S. 2019. *Youth in Extension and Advisory Services: Nigeria*. Developing Local Extension Capacity Project. USAID, Washington D.C.

Gazel, H., Harre, D., and Moriconi-Ebrard, F. 2010. *L'urbanisation en Afrique centrale et orientale'*.Rapport général de l'étude Africapolis II.

Guardian Nigeria. (2025, January 26). Stakeholders urge gender policy review in agriculture. *The Guardian Nigeria*. https://guardian.ng/news/stakeholders-urge-gender-policy-review-in-agriculture/

GSMA. 2022. *The mobile economy: Sub-Saharan Africa*. https://www.gsma.com

GSMA. 2022b. AgriTech in Nigeria: Investment opportunities and ecosystem insights. GSM Association. AgriTech in Nigeria: Investment opportunities and challenges | Mobile for Development

HLPE. 2017. *Nutrition and food systems Rome: A report by the high-level panel of experts on food security and nutrition of the committee on world food security*.

International Crisis Group. 2023. Ending farmer-herder violence in Nigeria: A risk map of conflict hotspots. https://www.crisisgroup.org/africa/west-africa/nigeria/302-ending-nigerias-herder-farmer-crisis-livestock-reform-plan

International Food Policy Research Institute (IFPRI). 2024. *Food Systems*. Accessed on 13 Feb 24 from: https://www.ifpri.org/topic/food-systems.

IFAD. 2023. *Creating rural youth employment in Nigeria through agripreneurship*. International Fund for Agricultural Development. https://www.ifad.org

IFPRI. 2020. *2020 Global Food Policy Report: Building Inclusive Food Systems*. Washington, DC: International Food Policy Research Institute. https://doi.org/10.2499/9780896293670.

International Labor Organization (ILO). 2025. *ILOSTAT database description: Labor force statistics (LFS, STLFS, RURBAN databases)*. Accessed in June 2024; accessed from: https://ilostat.ilo.org/resources/concepts-and-definitions/description-labour-force-statistics/.

ILO. 2024. *ILOSTAT database*. Accessed from: https://ilostat.ilo.org/data/#. Accessed on 14 August 2024.

ILO. 2021. *Youth Employment Crisis: A Call for Action*.

ILO. 2020a. *Report on employment in Africa (Re-Africa): Tackling the youth employment challenge.* Accessed in May 2024, accessed from: https://www.ilo.org/publications/report-employment-africa-re-africa-tackling-youth-employment-challenge#:~:text=This percent20report percent20provides percent20vital percent20information,work percent20and percent20projecting percent20future percent20trends.

ILO. 2020b. *The Gender Pay Gap: A Review of International Evidence*. Geneva: International Labour Organization.

ILO. 2020c. *Global Employment Trends for Youth 2020: Technology and the Future of Jobs*.

ILO. 2019a. *Women in Business and Management: The Business Case for Change*. Geneva: International Labour Organization.

ILO. 2019b. *Decent Work for Youth: Policy Recommendations for Sustainable Employment*.

ILO. 2018. *The Youth Employment Challenge: Perspectives from the Global South*.

Jayachandran, S. 2021. Social Norms as a Barrier to Women's Employment in Developing Countries. *IMF Economic Review, 69*(3), 576-595.

Jayne, T.S., Ferdinand, M., and Traub, L. N. 2014a. *Africa's Evolving Food Systems: Drivers of change and the scope for influencing them*. IIED Working Paper. IIED, London.

Jayne, T. S., Chamberlin, J., and Headey, D. D. 2014b. Land pressures, the evolution of farming systems, and development strategies in Africa: A synthesis. *Food Policy*, 48, 1–17. https://doi.org/10.1016/j.foodpol.2014.05.014

Jonathan, J. 2023. *Rapidly urbanizing food environments in Africa: Policies for achieving food and nutrition security*. Accessed in May 2024; accessed from: https://www.welthungerhilfe.org/global-food-journal/rubrics/agricultural-food-policy/unhealthy-africas-cities-consume-an-unbalanced-diet.

Kangondo, A., Ndyetabula, D.W., Mdoe, N., and Mlay, G.I. 2023. Rural youths' choice of livelihood strategies and their effect on income poverty and food security in Nigeria. *African Journal of Economic and Management Studies*, Vol. 14 No. 4, 643-662. https://doi.org/10.1108/AJEMS-05-2022-0190.

Kilimo, T. 2024. *R-yes project deploy transparent and inclusive approach for youth on-boarding*. Accessed in May 2024; accessed from: https://kilimotrust.org/vocational-training-breeds-new-Nigeria-agripreneurs/.

Marivoet, W. 2024. *Implications of urbanization, consumer awareness, and income trends on future food supplies in Senegal*. SFS4YOUTH WORKING PAPER 1. International Food Policy research institute. Washington DC.

Meijerink, G., & Roza, P. 2007. *The role of agriculture in economic development* (Vol. 4). Wageningen UR.

Mergenthaler, M., Weinberger, K., and Qaim, M. 2009. The food system transformation in developing countries: A disaggregate demand analysis for fruits and vegetables in Vietnam. *Food Policy*, *34*(5), 426-436.

Mugo, V., and Kinyua, I. 2023. Youth engagement in agriculture and food systems transformation in Kenya. *Food Systems Transformation in Kenya*, 357.

National Bureau of Statistics. 2023. *Nigeria's Unemployment and Underemployment Report*.

National Planning Commission. 2023. *Pathway for food security: A call to action.* Accessed from https://nationalplanning.gov.ng/wp-content/uploads/2023/09/Pathway-for-Food-A-Call-to-Action.pdf.

NBS. 2023. *Labour force statistics: Unemployment and underemployment Q4 2022*. National Bureau of Statistics. https://www.nigerian-stat.gov.ng

Nigerian Economic Summit Group. 2023. *Status of food security in Nigeria: Policy brief.* Accessed from https://nesgroup.org/blog/NESG-Issues-a-Policy-Brief-on-the-Status-of-Food-Security-in-Nigeria.

Ojo, A., Otekunrin, O. A., and Ogundari, K. 2021. Digital agriculture in Nigeria: Opportunities, challenges and prospects. *Heliyon*, 7(5), e07014.

Olomola, A. S. 2020. Promoting youth engagement in Nigerian agriculture through inclusive value chains. *Nigerian Institute of Social and Economic Research (NISER)*.

Osabohien, R., and Al-Faryan, M. A. S. 2025. Youth in agriculture and food security in Nigeria. *International Journal of Social Economics*, *52*(4), 501-514.

Osabohien, R., Karakara, A. A. W., Ashraf, J., and Al-Faryan, M. A. S. 2023). Green environment-social protection interaction and food security in Africa. *Environmental Management*, *71*(4), 835-846.

Osabohien, R., Wiredu, A. N., Nguezet, P. M. D., Mignouna, D. B., Abdoulaye, T., Manyong, V., ... and Awotide, B. A. 2021. Youth participation in agriculture and poverty reduction in Nigeria. *Sustainability*, *13*(14), 7795.

Popkin, B. M. 2021. *Urbanization, diet transition, and the nutrition shift in Africa: Policy implications. International Journal of Environmental Research and Public Health, 18*(14), 7550. https://doi.org/10.3390/ijerph18147550.

Quisumbing, A. R., Meinzen-Dick, R., Raney, T. L., Croppenstedt, A., Behrman, J. A., and Peterman, A. 2014. Gender in agriculture. *Springer*, *102072*(444).

Saab, W. and Shakhovskoy, M. 2019. *Pathways to Prosperity-Understanding youth's rural transitions and service needs*. Washington, D.C.: ISF Advisors. https://pathways.raflearning.org/wpcontent/uploads/2019/11/2019_RAF-State-of-the-Sector_YouthDeepDive.pdf.

Seto, K. C., and Ramankutty, N. 2016. Hidden linkages between urbanization and food systems. *Science*, *352*(6288), 943-945.

Schmidt, E. and Kedir, M. 2009. *Urbanization and spatial connectivity in Ethiopia: Urban growth analysis using GIS*. ESSP DP 3, International Food Policy Research Institute (IFPRI), Addis Ababa.

SWAC/OECD 2021. Food system transformations in the Sahel and West Africa: implications for people and policies. *Maps & Facts*, no. 4. April 2021.

Tefft, J., Jonasova, M., Adjao, R., and Morgan, A. 2017. *Food Systems for an Urbanizing World*. World Bank Group and the Food and Agricultural Organization of the United Nations.

Tschirley, D.L., Snyder, J., Dolislager, M., Reardon, T., Haggblade, S., Goeb, J., Traub, L., Ejobi, F. and Meyer, F. 2015. Africa's unfolding diet transformation: implications for agrifood system employment. *Journal of Agribusiness in Developing and Emerging Economies*. 5, 102–136. https://doi.org/10.1108/JADEE-01-2015-0003.

Townsend, R., Benfica, R., Prasann, A., and Lee, M. 2017. *FUTURE of FOOD: Shaping the Food System to Deliver Jobs. International Bank for Reconstruction and Development*. The World Bank. Washington, D.C.

Townsend, R.F. 2015. *Ending Poverty and Hunger by 2030: An Agenda for the global food system*. The World Bank Group. Washington D.C. Accessed in May 2023, accessed from: http://documents.worldbank.org/curated/en/700061468334490682/Ending-poverty-and-hunger-by-2030-an-agenda-for-the-global-food-system.

Ugwuoke, C. C., and Oniore, J. (2025). Access to Financial Services and Manufacturing Sector Growth in Nigeria: 2012Q1-2023Q4. *FULafia International Journal of Business and Allied Studies*, *3*(2), 241-260.

UNDP. 2020. *Youth Employment in Developing Countries: A Policy Agenda for Growth and Inclusion*.

United Nations, Department of Economic and Social Affairs, Population Division (2024). *Data Portal*, custom data acquired via website. United Nations: New York. Available from https://population.un.org/DataPortal/ (accessed 23 September 2024).

Wang, Y., Li, M., and Wang, J. 2022. Dietary diversity and healthy aging: Evidence from a longitudinal study in China. *Frontiers in Nutrition*, 9, 947290. https://doi.org/10.3389/fnut.2022.947290

World Bank. 2025. *World Development Indicators*. Accessed from: https://databank.worldbank.org/source/world-development-indicators/. Accessed on 7 March 2025.

World Bank. 2025b. *Nigeria: gender data portal*. Accessed on 17 march 2025, accessed from: https://genderdata.worldbank.org/en/economies/nigeria

World Bank. 2024. *Food System Jobs: Development news, research, data*. Accessed in May 2023, accessed from: https://www.worldbank.org/en/topic/food-system-jobs#:~:text=off percent20the percent20farm.

World Bank. 2022. *Women, Business and the Law 2022*. Washington, DC: World Bank.

World Bank. 2020. *Transforming Nigeria's food system for improved productivity and resilience*. https://www.worldbank.org.

World Bank. 2018. *The Changing Nature of Work — World Development Report 2019*.

Yeboah K, F., and Jayne, T. S. 2018. From Theory to Practice: Exploring Sustainable Solutions to Africa's Developmental Challenges. *African Journal of Food, Agriculture, Nutrition and Development*, *18*(1), 1-11.

Zhao, W., Hasegawa, K., and Chen, J. 2022. The relationship between dietary diversity and mortality among older adults in China. *Journal of Nutrition, Health & Aging*, 26(3), 251–258. https://doi.org/10.1007/s12603-021-1695-9

ANNEXES

Annex Table 1. Performance of aggregate economy and importance of major sectors in Nigeria

Year	GDP (billion constant 2015 US$)	GDP per capita (constant 2015 US$)	Value added in sector (as % of GDP)				Annual % growth					
			Agriculture, forestry, and fishing	Industry (incl. construction)	Manufacturing	Services	GDP	GDP per capita	Agriculture, forestry, and fishing	Industry (incl. construction)	Manufacturing	Services
2000	179.7	1,462.5	21.4	33.8	13.9	43.8	5.0	2.3	2.9	7.5	0.2	3.4
2001	190.3	1,508.6	24.5	28.3	13.9	46.2	5.9	3.1	3.8	5.6	2.3	7.4
2002	219.5	1,693.7	37.0	23.0	11.8	39.0	15.3	12.3	55.6	1.3	17.7	11.4
2003	235.6	1,769.9	33.8	26.0	12.1	39.1	7.3	4.5	7.0	12.2	−10.8	2.6
2004	257.4	1,882.2	27.2	28.4	10.9	43.4	9.3	6.3	6.3	1.8	−1.1	20.0
2005	274.0	1,950.1	26.1	28.2	10.1	44.7	6.4	3.6	7.1	1.7	2.3	10.6
2006	290.6	2,013.3	24.7	25.8	8.9	48.5	6.1	3.2	7.4	−2.0	0.8	12.4
2007	309.7	2,088.6	24.7	24.3	8.4	50.0	6.6	3.7	7.2	−1.9	0.1	12.9
2015	493.0	2,679.6	20.6	20.2	9.4	58.1	2.7	0.1	3.7	−2.2	−1.5	4.8
2016	485.1	2,571.0	21.0	18.2	8.7	59.8	−1.6	−4.1	4.1	−8.9	−4.3	−0.8
2017	489.0	2,527.0	20.8	22.3	8.7	55.8	0.8	−1.7	3.4	2.1	−0.2	−0.9
2018	498.4	2,512.1	21.2	25.7	9.6	52.0	1.9	−0.6	2.1	1.9	2.1	1.8
2019	509.4	2,505.5	21.9	27.4	11.5	49.7	2.2	−0.3	2.4	2.3	0.8	2.2
2020	500.2	2,401.2	24.1	28.2	12.7	46.4	−1.8	−4.2	2.2	−5.8	−2.8	−2.2
2021	518.5	2,429.6	23.4	31.4	14.6	43.8	3.6	1.2	2.1	−0.5	3.3	5.6
2022	535.3	2,449.6	23.7	30.8	13.6	44.0	3.3	0.8	1.9	−4.6	2.4	6.7
2023	550.6	2,460.4	22.7	32.6	15.4	42.8	2.9	0.4	1.1	0.7	1.4	4.2

Source: Authors' analysis using World Bank (2023) data.
Note: GDP = gross domestic product; incl. = including.

Annex Table 2. Population and demographic structure trends in Nigeria, 2000–2023

Year	Population (millions)	Population growth (annual % rate)	Proportion of total population (%)								Death rate, crude (per 1,000 people)	Life expectancy at birth, total (years)	Dependency ratio (% of working-age pop.)	Dependency ratio, old (% of working-age pop.)	Dependency ratio, young (% of working-age pop.)
			Women	Men	Ages 0–14	Ages 15–24, women	Ages 15–24, men	Ages 25–64, women	Ages 25–64, men	Ages 65 and above					
2000	122.85	2.6	49.7	50.3	43.4	9.9	10.1	16.8	16.7	3.1	17.5	47.2	86.9	5.8	81.1
2001	126.15	2.7	49.7	50.3	43.4	9.9	10.1	16.8	16.8	3.1	17.2	47.6	86.9	5.8	81.1
2002	129.58	2.7	49.7	50.3	43.5	9.8	10.0	16.8	16.8	3.1	16.9	47.9	87.1	5.8	81.3
2003	133.12	2.7	49.7	50.3	43.5	9.7	9.9	16.9	16.8	3.1	16.5	48.4	87.4	5.8	81.6
2004	136.76	2.7	49.7	50.3	43.6	9.7	9.9	16.9	16.9	3.1	16.3	48.8	87.7	5.8	81.9
2005	140.49	2.7	49.7	50.3	43.7	9.6	9.8	16.9	16.9	3.1	15.9	49.3	88.1	5.8	82.3
2006	144.33	2.7	49.7	50.3	43.9	9.5	9.7	16.9	16.9	3.1	15.6	49.7	88.5	5.8	82.7
2007	148.29	2.7	49.7	50.3	44.0	9.4	9.6	17.0	16.9	3.1	15.3	50.0	88.9	5.8	83.1
2015	184.00	2.5	49.6	50.4	44.3	9.2	9.5	16.9	17.0	3.0	13.8	51.8	89.9	5.7	84.2
2016	188.67	2.5	49.5	50.5	44.2	9.3	9.6	16.9	17.0	3.0	13.6	52.0	89.5	5.7	83.8
2017	193.50	2.5	49.5	50.5	44.1	9.3	9.7	16.9	17.0	3.0	13.4	52.3	89.0	5.7	83.3
2018	198.39	2.5	49.5	50.5	43.9	9.4	9.7	16.9	17.1	3.0	13.2	52.6	88.3	5.7	82.7
2019	203.30	2.4	49.5	50.5	43.7	9.5	9.8	16.9	17.1	3.0	13.0	52.9	87.7	5.6	82.0
2020	208.33	2.4	49.5	50.5	43.5	9.5	9.9	17.0	17.1	3.0	13.0	52.9	86.9	5.6	81.3
2021	213.40	2.4	49.5	50.5	43.3	9.6	10.0	17.0	17.2	3.0	13.1	52.7	86.1	5.5	80.6
2022	218.54	2.4	49.5	50.5	43.0	9.7	10.0	17.0	17.2	3.0	12.4	53.6	85.3	5.5	79.7
2023	223.80	2.4	49.5	50.5	42.8	9.8	10.1	17.1	17.3	3.0	–	–	84.3	5.5	78.8

Source: Authors' analysis using World Bank (2023) data.

Annex Table 3. Urbanization and access to services

Year	Urban						
	Population in urban areas (% total)	Population in largest city (% of urban)	Urban population growth rate	Access to electricity (% of urban)	Access to basic drinking water (% of urban)	Access to clean cooking fuels and technologies (% of urban)	Access to basic sanitation services (% of urban)
2000	34.8	17.0	4.2	83.8	68.4	2.0	28.3
2001	35.7	16.8	5.0	83.8	69.0	2.0	28.5
2002	36.5	16.6	5.0	83.8	70.1	2.1	29.7
2003	37.4	16.5	5.0	84.9	71.2	2.1	31.0
2004	38.2	16.3	5.0	83.8	72.3	2.3	32.2
2005	39.1	16.1	4.9	83.8	73.4	2.4	33.5
2006	39.9	15.9	4.9	83.9	74.5	2.6	34.8
2007	40.8	15.7	4.9	86.2	75.7	2.8	36.1
2015	47.8	13.9	4.3	81.5	85.0	10.9	47.2
2016	48.7	13.8	4.3	86.0	86.2	14.6	48.6
2017	49.5	13.6	4.2	86.8	87.5	19.3	50.1
2018	50.3	13.5	4.1	81.7	88.7	24.9	51.5
2019	51.2	13.4	4.1	83.9	89.9	31.1	53.0
2020	52.0	13.3	4.0	83.9	91.2	36.8	54.5
2021	52.7	13.2	3.9	89.2	92.4	41.6	56.0
2022	53.5	13.2	3.8	89.0	93.7	45.4	57.6
2023	54.3	13.1	3.8	–	–	–	–

Source: Authors' analysis using World Bank (2023) data.

This publication has been prepared in the context of the Strengthening Food Systems to Promote Increased Value Chain Employment Opportunities for Youth partnership with the Mastercard Foundation. It is a five-year initiative running between 2022 and 2027 to gain insight into the latest trends and challenges in agrifood systems, and how addressing market inclusion and post-harvest losses can enable dignified and fulfilling livelihoods for young women and men. The views expressed do not necessarily represent those of the Foundation, its staff, or its Board of Directors. This publication has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

IFPRI is a CGIAR Research Center

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info