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AND ECONOMIC PLANNING**



**NATIONAL FOOD
SYSTEMS TASK TEAM**



YOUTH MAPPING FOR FOOD SYSTEMS TRANSFORMATION IN NIGERIA

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Finally, I celebrate the remarkable efforts of all leaders, researchers, contributors, and partners who worked behind the scenes to bring this report to life. This document stands as both a record of our progress and a springboard for future action toward sustainable, inclusive food systems in Nigeria.

Azeez A. Salawu

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EXECUTIVE SUMMARY

This study examined how young people (aged 15–45) engage with Nigeria’s food systems, focusing on their roles along the agricultural value chain, the characteristics of their enterprises, and the structural challenges they face. Although national policies often promote youth entrepreneurship in agriculture, there is limited empirical evidence on how youth actually participate in the food system, what constraints shape their involvement, and how they seek or respond to support. To address this gap, a nationwide survey was conducted with 6,077 youth-led or youth-engaged agrifood enterprises across Nigeria’s 36 states and the Federal Capital Territory.

Using a cross-sectional design, the study combined digital survey tools with both closed- and open-ended questions. Data analysis involved descriptive statistics, cross-tabulations, McNemar’s tests to examine the relationship between reported constraints and support-seeking, and cluster analysis to identify distinct groups of youth enterprises based on their size, needs, and roles within the food system.

The findings revealed that most youth were involved in primary production, especially in staple crops, vegetables, and poultry. Participation in logistics, processing, or support services was limited, often reflecting barriers related to skills, capital, or access to infrastructure. Most youth enterprises were small and informal – nearly 60% employed fewer than five people and over half were not registered with the Corporate Affairs Commission. Larger or formally registered businesses were more often found in value chains like aquaculture, cash crops, and food retail, where capital and institutional access are more critical.

Access to finance was the most common constraint, reported by more than 90% of respondents. Challenges related to scaling, market access, inputs, infrastructure, and technical skills were also widespread but varied by location, gender, and business size. However, the study found that support-seeking behaviour was not always aligned with the challenges reported. Many young people requested training, mentorship, or market linkage support even when they did not report facing direct constraints. This pattern suggests that some youth are pursuing support as a forward-looking strategy for business growth and resilience. Conversely, many who faced serious challenges,

especially in finance did not seek assistance, indicating possible barriers related to awareness, trust, or access.

Geographic and gender-based disparities were also evident. In the North East, for instance, youth showed high demand for skills training despite not always identifying skills as a barrier. Meanwhile, respondents in the South East and South West were more likely to seek infrastructure and market linkage support, even without reporting immediate needs. Women-led enterprises were more concentrated in smaller-scale operations and were less likely to request support, despite facing similar or greater constraints. These variations point to the influence of local contexts and systemic inequities on both business performance and access to support.

To better understand the diversity of youth enterprises, the study used cluster analysis to group them into three broad categories. One group comprised more established agribusinesses with medium-scale operations and limited support needs. Another consisted of emerging enterprises that showed moderate constraints and proactive support-seeking behaviour. The third and largest group included high-need micro-enterprises facing multiple overlapping constraints but often disconnected from formal support systems. These clusters help explain not only where youth are in the food system, but also what kind of assistance may be most relevant to them.

The study shows that youth engagement in Nigeria's food systems is extensive even though uneven. Business size, value chain activity, registration status, and geographic location all influence how youth participate, the challenges they face, and the support they access or avoid. The findings suggest that policy and program responses must be targeted, not only to what youth do, but to how they operate and what conditions shape their choices. Support systems must be made more accessible, relevant, and responsive to the real diversity of youth enterprises if they are to enable meaningful participation and lasting inclusion in the food economy.

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ACRONYMS AND ABBREVIATIONS

AGRA	Alliance for a Green Revolution in Africa
APP	Agriculture Promotion Policy
CIRAD	French Agricultural Research Centre for International Development
EU	European Union
FAO	Food and Agriculture Organization
FMAFS	Federal Ministry of Agriculture and Food Security
GAIN	Global Alliance for Improved Nutrition
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
MSMEs	Micro Small and Medium Enterprises
NEWMAP	Nigeria Erosion and Watershed Management Project
NiMet	Nigerian Meteorological Agency
PwC	PricewaterhouseCoopers
REDD+	Reducing Emissions from Deforestation and forest Degradation plus the sustainable management of forests and the conservation and enhancement of forest carbon stocks.
UN	United nations
WFP	World Food Programme

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FOREWORD

The future of Nigeria's food systems rests squarely on the shoulders of its youth. In a country where over 60% of the population is under the age of 25, unlocking the potential of young people is not simply a development priority; it is a national imperative. As Nigeria's National Convenor for the United Nations Food Systems Summit (UNFSS) Process, I have had the distinct privilege of witnessing the energy, ingenuity, and resilience that Nigerian youth bring to the transformation of our food systems.

This Youth Mapping for Food Systems Transformation in Nigeria is a groundbreaking effort that shines a spotlight on over 6,000 young Nigerians across all 36 states and the Federal Capital Territory who are actively engaging in the food economy. From crop and livestock producers to processors, marketers, researchers, and innovators, these youth are not just participants—they are trailblazers. They are building businesses, launching digital platforms, driving climate-smart agriculture, and pioneering food solutions that serve their communities and beyond.

The findings of this report offer both inspiration and insight. They reveal the scale and diversity of youth participation, the structural constraints that continue to hold many back, and the adaptive strategies that youth are deploying to overcome them. Most importantly, the report provides actionable recommendations to policymakers, development partners, and private sector actors on how to invest in youth, not as a symbolic gesture, but as a strategy for lasting food systems change.

This mapping exercise is aligned with Nigeria's National Pathway for Food Systems Transformation, developed during and following the 2021 UN Food Systems Summit. It directly supports our national commitments to reduce hunger, improve livelihoods, empower women and youth, and advance environmental sustainability. Youth are central to these goals. They are not just the future; they are the present drivers of transformation. The data presented in this report has a national support by the National Bureau of Statistics as statutory national data Agency in Nigeria.

As we prepare for the UNFSS+4 Stocktaking Moment, this report provides timely evidence to inform implementation and accountability. It is a call to action for deeper collaboration, smarter investment, and inclusive policy that centres young people's

realities, innovations, and aspirations.

I commend the youth leaders, researchers, and partners who made this report possible. Your work is helping to redefine agriculture not as a fallback option, but as a frontier of opportunity.

Together, let us build a food system that works for youth, for Nigeria, and the planet.

Dr. Sanjo Faniran

National Convenor, UNFSS Nigeria

INTRODUCTION

Background

Across the development landscape, food systems are increasingly understood not just as mechanisms for producing and distributing food, but as complex arenas where questions of livelihood, equity, sustainability, and governance intersect. In Nigeria, this broader perspective is critical: the national food system spans informal markets and global commodity chains, shaped by climate extremes, land-use conflicts, rapid urbanization, and persistent poverty. At the centre of this evolving landscape are young people defined in Nigeria's 2019 National Youth Policy as those aged 15 to 29 (Federal Ministry of Youth and Sports Development, 2019). This age classification sets Nigeria apart from other countries on the continent that aligns with the age classification in the African Youth Charter of 18–35 years Blueprint, (2019). These young actors are increasingly viewed not as passive stakeholders but as key agents whose skills, innovation, and voices can determine the direction of food systems transformation.

Youth in Nigeria remain largely confined to low-reward, labour-intensive roles in agriculture—driven more by necessity than choice facing deep-rooted barriers such as insecure land tenure, limited access to credit, unreliable infrastructure, and weak market integration (Verivafrika, 2025). Despite these structural constraints, many young people are actively reshaping the food system through entrepreneurship and technology. They have launched mobile agritech platforms that connect farmers to buyers, finance, and agronomic advice, and have turned local produce into branded food products (The Nigerian Enquirer, 2025). At the same time, persistent challenges including climate shocks, poor nutrition, and widening inequalities underscore the need for inclusive food systems transformation that centres youth as both innovators and agents of change.

In many societies in Nigeria, women still face deeply rooted barriers across the food system. They often lack secure access to essential assets like land and water, and are constrained by cultural expectations that limit their mobility, workloads, and ability to make decisions. Even when involved in farming or food-related businesses, their contributions frequently go unrecognized in planning, financing, and resource

allocation. Such structural disadvantages especially in patriarchal settings perpetuate their low status and reduce equitable participation in agriculture and food systems. In spite of the barriers, young people have tapped into more sustainable approaches that challenge traditional barriers including cooperative models to pool land or share equipment. Others are experimenting with new crops, food products, or sales channels. Some youth have taken up roles in research, community data collection, and advocacy, generating knowledge that challenges top-down assumptions and offers insight into how food systems actually work at the local level (TechPoint, 2023; The Cable, 2025).

Problem Statement

Most youth who participate in the food sector do so in conditions shaped by informal arrangements, unstable incomes, and limited recognition. Whether in farming, food processing, or local trade, young people tend to be concentrated in low-margin roles with few opportunities to grow or transition into more rewarding positions. A central problem lies in how youth are framed in agricultural policies and programs: the focus is often on entrepreneurship, technology, and start-up culture, side lining how young people actually enter food systems through family work, informal labour, or community roles. This mismatch leads to initiatives that overlook critical barriers such as limited access to land, capital, technical skills, or decision-making spaces. As a result, youth-focused programs frequently fail to reach those they aim to support and remain short-lived or disconnected from real challenges (Ofosu-Appiah et al., 2025).

Meanwhile, young people themselves are adapting in creative ways using digital platforms, forming informal cooperatives, or experimenting with new food products. But these often remain invisible to institutions and are not captured in formal planning or investment frameworks. Without mechanisms to support, scale, or even document youth-led solutions, their impact remains limited, and their potential is underused.

In the Nigerian context, food systems are often structured in ways that position young people as peripheral beneficiaries rather than integral actors. From land governance and input distribution to vocational training and policy inclusion, current frameworks frequently fail to create meaningful entry points for youth agency. Advancing inclusive food systems transformation therefore necessitates a reconfiguration of existing

structures to recognise young people as legitimate partners in decision-making and system innovation (Azarpelah & Mekuria, 2024).

Research Objectives

This study is designed to investigate the nature and extent of youth engagement within Nigeria's food systems, with the ultimate goal of informing inclusive and transformative policy and programmatic responses. To achieve this, the study pursued the following specific objectives:

1. To map the landscape of youth participation in Nigeria's food systems by examining the specific roles that young people occupy across the agricultural value chain.
2. To analyse the structural constraints that limit effective youth engagement in the sector, focusing on key challenges such as limited access to finance, inputs, markets, infrastructure, and technical skills.
3. To document youth-centric innovations and adaptive strategies that are emerging in response to systemic challenges.
4. To propose targeted policy and programmatic recommendations on priority support areas based on empirical evidence and youth perspectives.

Conceptualizing Food Systems Transformation in Nigeria

Despite agriculture contributing approximately 24% of Nigeria's GDP and providing livelihoods across rural and urban communities, the country continues to bear one of the highest burdens of food insecurity and malnutrition globally (TechPoint, 2025). As of 2022, 73.9% of Nigerians faced moderate or severe food insecurity, 72% could not afford nutritionally adequate diets, and nearly 80% of children under five were malnourished; over 80% of households spend less than needed on key food groups (World Bank, n.d.). Agricultural productivity remains low average vegetable yields hover around 5–6 tonnes per hectare, lagging behind West African regional averages and global benchmarks due to limited irrigation, poor-quality seeds, and weak extension services. Post-harvest losses exacerbate this inequality: perishable crops lose up to 50% before reaching consumers, while grains can lose 5–20% due to

lacking processing and storage systems (Ogundele, 2022; Abachi et al., 2024; Abulude & Wahlen, 2024). Insufficient roads and storage facilities increase spoilage and distribution costs, undermining food safety and rural market access. Environmental decline driven by agricultural expansion that encroaches on forests has left only about 34 million of the country's 70.8 million hectares of arable land under cultivation, contributing to soil degradation and heightened climate vulnerability (FAO, 2025).

This chronic underperformance affects both production and trade, forcing the nation to import vast quantities of staple foods. Between 2016–2019, Nigeria's cumulative agricultural imports reached ₦3.35 trillion, four times the ₦803 billion it earned from exports (PwC, 2020). To address these structural issues, the government launched multiple initiatives such as the Agriculture Promotion Policy (APP), the Zero Reject Initiative, REDD+, NEWMAP, and the Economic Diversification Programme, aimed at boosting productivity, reversing land degradation, and securing domestic food supply. Yet despite producing 59 million tonnes of cassava in 2017 (20% of global output) and fish consumption exceeding 3.2 million tonnes per year, local production still cannot meet national demand. Rice output increased modestly from 3.7 to 4.0 million tonnes between 2017–2018 but still represents only 57% of consumption, hence the 2019 import ban (Russon, 2019; Payne, 2020; Statista, 2024). Livestock and poultry figures 76 million goats, 43 million sheep, 18 million cattle, and 180 million birds continue to fall short of growing domestic demand due to low technology uptake and disease prevalence. Coupled with annual deforestation rates of 0.72–2.38%, this paints a picture where rising population pressure projected to reach 400 million by 2050 demands urgent adoption of productivity-enhancing innovations and broader stakeholder support to achieve food and nutrition security.

Pathways for Transforming Food Systems in Nigeria

Nigeria's path toward food systems transformation rose from broad stakeholder dialogues including federal and state representatives, youth, civil society, and private sector partners held under the 2021 UN Food Systems Summit (United Nations Food Systems Hub, 2025).

Nigeria unveiled its implementation strategy for the pathway, outlining how the country will address the 78 priority actions. In this context, with support from the

Startup Funds for Food System Transformation Pathway Implementation (with support from the Nigerian Government and a network of partners including IFAD, GAIN, FAO, WFP and AGRA), facilitated through the UN Food Systems Coordination Hub, Nigeria is accelerating the implementation of its food systems pathway from household gardens to high-tech megafarms. At the core of its strategy, are three flagship initiatives designed to meet people where they are: Operation Feed Yourself, which empowers families to grow their own food; a campaign to establish farm estates that attract young people to agriculture through opportunity and modern tools; and a nationally coordinated effort to routinely collect and share weather and soil data to inform seasonal food production planning. Together, these programs reflect a broader national effort to turn policy into practice, one that's gaining traction in communities across the country.

The strategic plan at addressing these 78 priorities is guided by six key goals to be achieved by 2030: reducing poverty; reducing youth unemployment; reducing hunger, food insecurity, and malnutrition; reducing food imports while promoting sustainable food trade; increasing the Women's Empowerment in Agriculture Index score; and improving the Environmental Performance Index score. Since 2021, key milestones have included the development of a national action plan, a strategy for implementation, and extensive consultations with all 36 states and the Federal Capital Territory. By 2023, Nigeria had evaluated its progress, mapped food system initiatives across the country, and begun implementing practical projects on the ground.

Focusing on the 3 flagship initiatives; the "Operation Feed Yourself" encourages families to grow vegetables, fruits, poultry, and groundnuts around their homes, regardless of whether they live in rural villages or dense urban neighbourhoods. It offers tailored support depending on location and income, providing technical assistance, subsidized tools, and guidance via radio, phone apps and local community leaders. The initiative aims to improve household diets and reduce pressure on overstretched food supply chains by encouraging self-sufficiency at the community level. To support producers, the Federal Government through Nigerian Meteorological Agency (NiMet) and the Federal Ministry of Agriculture and Food Security (FMAFS) provides weather and soil data along with technical advice on best practices for crops, livestock, and aquaculture. These efforts are disseminated via radio and other platforms to help

small-scale producers make informed decisions throughout the growing seasons. Another central priority in Nigeria's food system transformation is the push to establish megafarms across the country. Far from traditional farming models, these large-scale operations are equipped with modern tools, machinery, and data-driven techniques, designed to make agriculture both productive and appealing to a new generation. Through widespread awareness campaigns and visits by the Steering Committee, local leaders are encouraged to set up megafarms and support them with infrastructure, training, and connectivity. Many of these farms are made up of groups of smallholder producers, including women and youth. The megafarm model aims to attract young people to agriculture by showcasing modern technologies and viable income opportunities in farming.

Theoretical and Analytical Frameworks

This section presents the main theoretical foundation that helps explain how food systems operate and how change happens. It introduces frameworks that describe the complexity of food systems, the importance of youth agency, and the value of community participation.

Understanding the Structure and Dynamics of Food Systems

Understanding how change occurs within food systems requires attention to the range of internal and external forces that shape system behaviour over time. These forces, referred to as "drivers," are not isolated events or one-time shocks, they are sustained trends, conditions, and interconnections that alter how food systems function, who participates, and what outcomes are produced. The literature highlights several categories of drivers, environmental, economic, demographic, socio-political, and technological, all of which interact with each other and influence change in ways that are often difficult to predict (as depicted in David-Benz et al., 2022 in Figure 1).

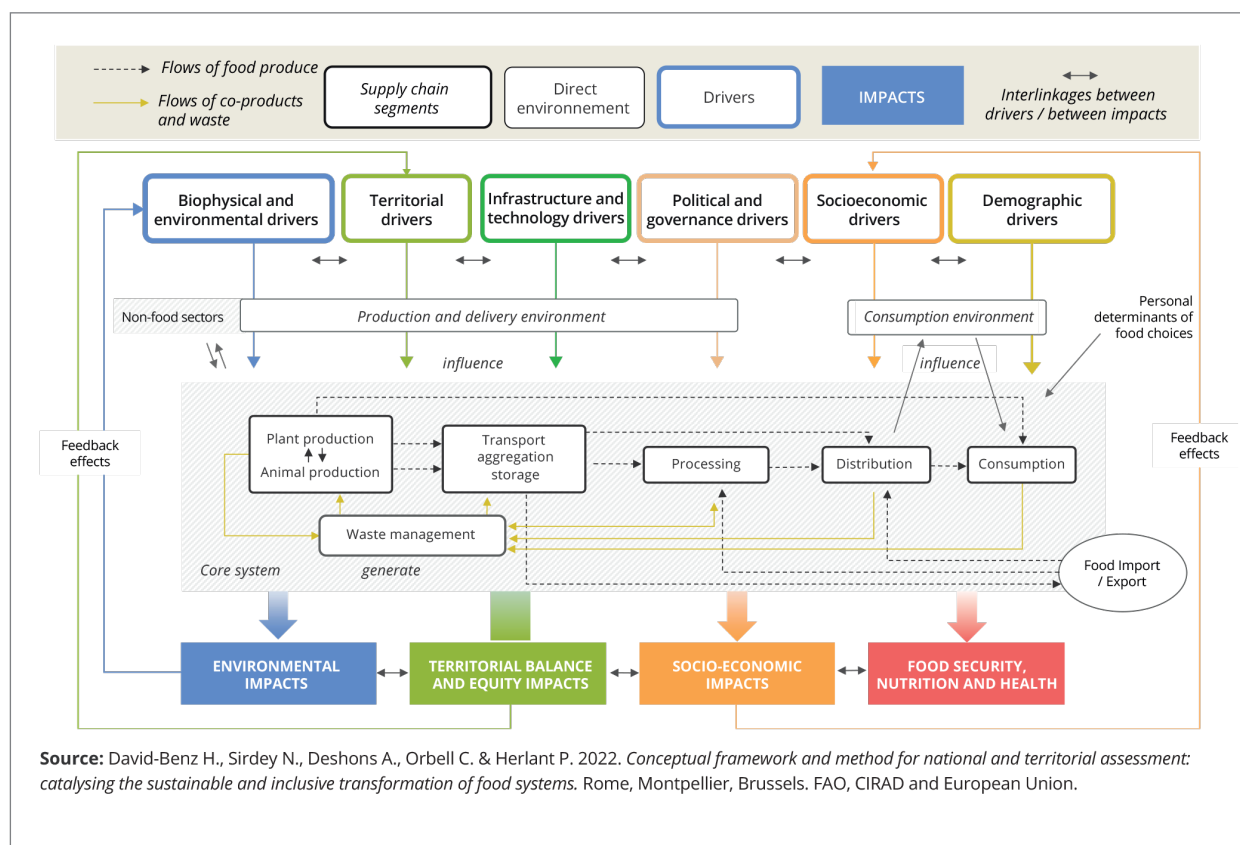


Figure 1: Analytical Representation of Food System (Source: David-Benz et al., 2022)

Nigeria's food system is shaped by a web of interconnected forces – demographic, environmental, economic, technological, and political that interact to influence who participates, what is produced, and how benefits are distributed. With over 63% of the population under age 25 (Intelpoint, 2025), the growing youth population is a central driver, reshaping labour markets and food preferences while presenting both risks and opportunities: exclusion from land, finance, and policy spaces deepens inequality, while meaningful inclusion enables innovation and resilience. Meanwhile, climate-related disruptions such as erratic rainfall, drought, and flooding are not one-off events but long-term pressures that alter farming calendars, crop choices, and livelihoods, often triggering negative cycles of income loss and undernutrition.

Economic policies like trade liberalisation and subsidies further shape market dynamics, sometimes disadvantaging youth-led enterprises operating informally and without protections. Technology holds promise, but gaps in access to infrastructure, training, and capital can reinforce inequality rather than reduce it. Political and governance structures, too, determine whether youth are heard or sidelined, with

mistrust in institutions often leading to disengagement. These drivers overlap and reinforce one another in feedback loops that either accelerate or stall change; for example, one youth success story in agribusiness can spark broader engagement, while repeated exclusion creates resistance. Understanding these loops is essential for designing flexible, grounded policies that work in real-world contexts and reflect the lived experiences of young Nigerians navigating a rapidly evolving food system. This systems-based understanding of drivers and feedback loops provides a crucial foundation for examining the forms and limits of youth agency in shaping more inclusive and resilient food systems. Contrarily, there are others barriers that have been well-documented to disrupt and weaken Nigeria's food systems as reflected in figure 2 and 3 below (FAO, EU & CIRAD, 2022).

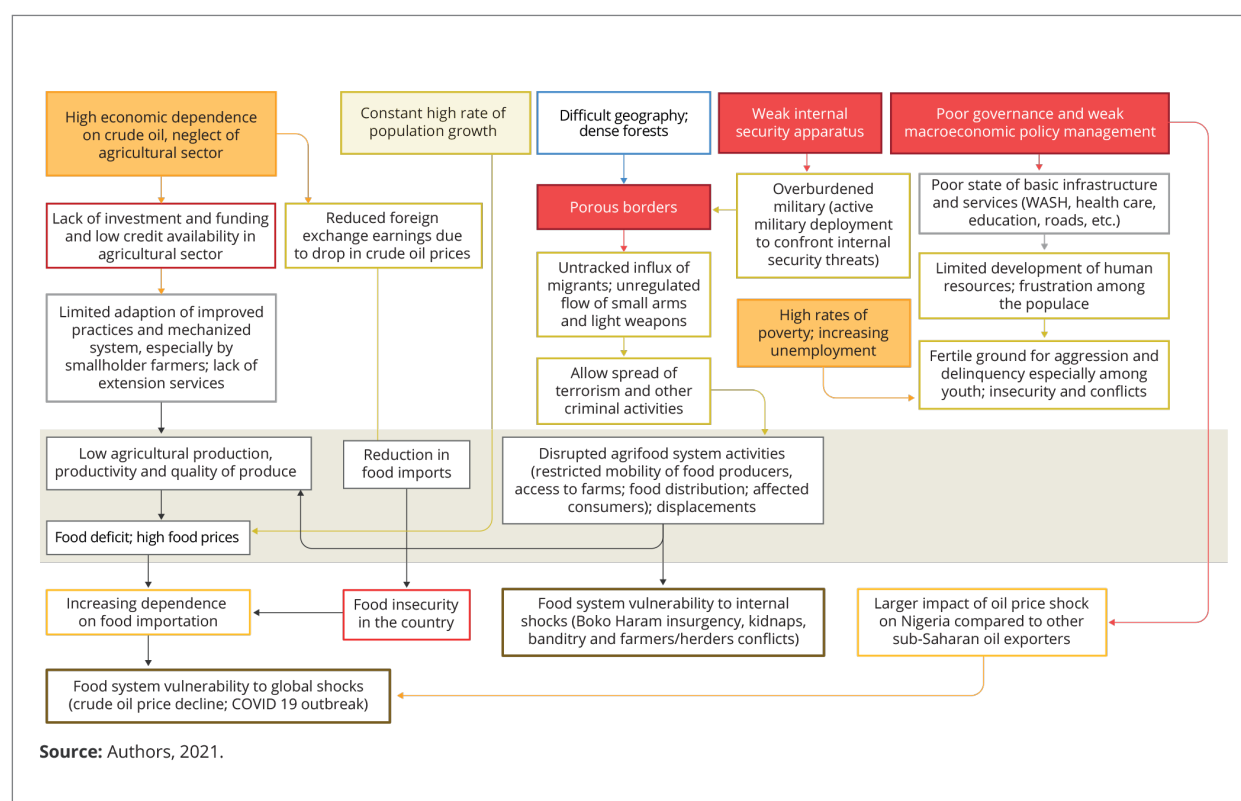


Figure 2: Diverse Drivers leading to Vulnerability of the Nigeria's Food System (Source: FAO, EU & CIRAD, 2022)

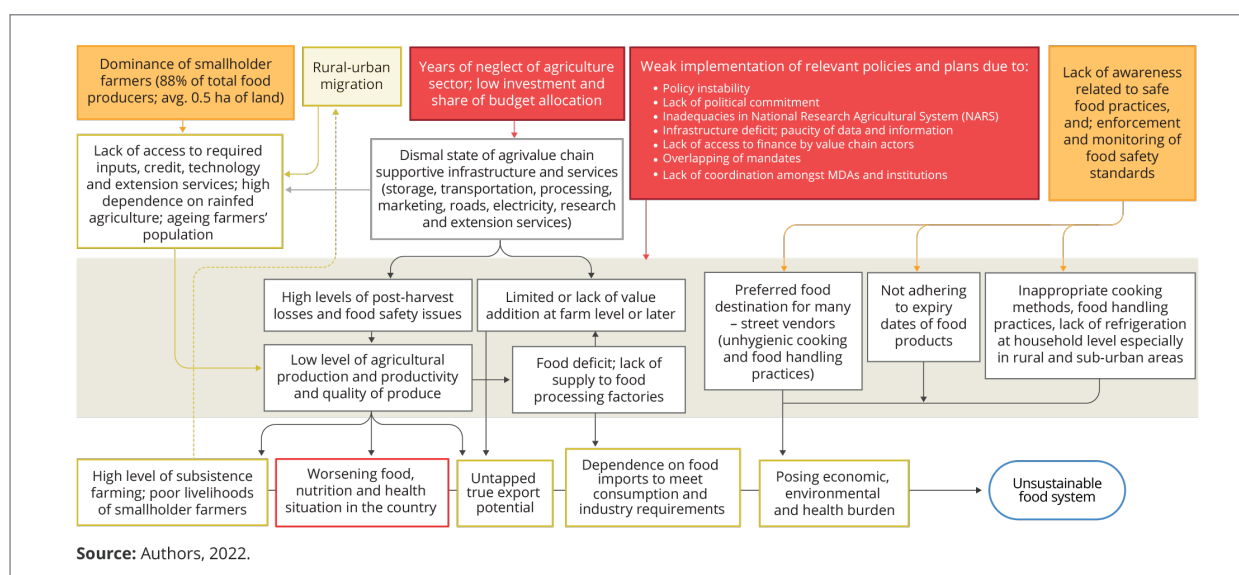


Figure 3: Drivers leading to the underdeveloped value chains in Nigeria and Impacts (Source: FAO, EU & CIRAD, 2022)

Youth Agency and the Role of Community Participation

The discourse on youth in food systems is gradually shifting from a narrow focus on productivity and demographic advantage to a more expansive understanding of youth agency, the capacity of young people to act independently, make informed decisions, and shape the institutions and processes that affect their lives. In the context of food systems, this agency may manifest in diverse ways: from managing land and inputs to creating agribusiness innovations, advocating for policy change, and navigating social norms that often marginalise youth voices (Leavy & Hossain, 2014; White, 2015).

However, youth agency is highly contextual. It is mediated by structural constraints such as unequal access to land, finance, and information; limited legal recognition; and entrenched intergenerational hierarchies that can render youth invisible in decision-making spaces (Anyidoho et al., 2012). Agency is not merely about action, it is about effective action in contested spaces, often shaped by relationships with more powerful actors like elders, local officials, and market intermediaries (Cornwall, 2007). Without both the capabilities (skills, assets, knowledge) and the recognition (legitimacy, voice, and space to organise), young people's contributions to food systems remain constrained or instrumentalised.

Recognising and strengthening youth agency is central to inclusive and sustainable food system reform. As IFAD (2019) noted, youth are not a homogenous group but bring diverse perspectives that straddle rural and urban contexts, blend traditional knowledge with digital fluency, and connect local realities with global transformations. When this agency is acknowledged and supported, youth can serve as institutional innovators, knowledge intermediaries, and community organisers; roles that are often overlooked in top-down policy frameworks.

Figure 4 below depicts a framework for achieving successful youth engagement in agriculture as reported in Babu et al. (2021) reflects the importance of enabling environments, social inclusion, and adaptive learning processes that embed youth priorities into institutional design. Such frameworks reaffirm that meaningful participation is not a by-product of reform but a precondition for legitimacy, equity, and resilience in food systems governance.

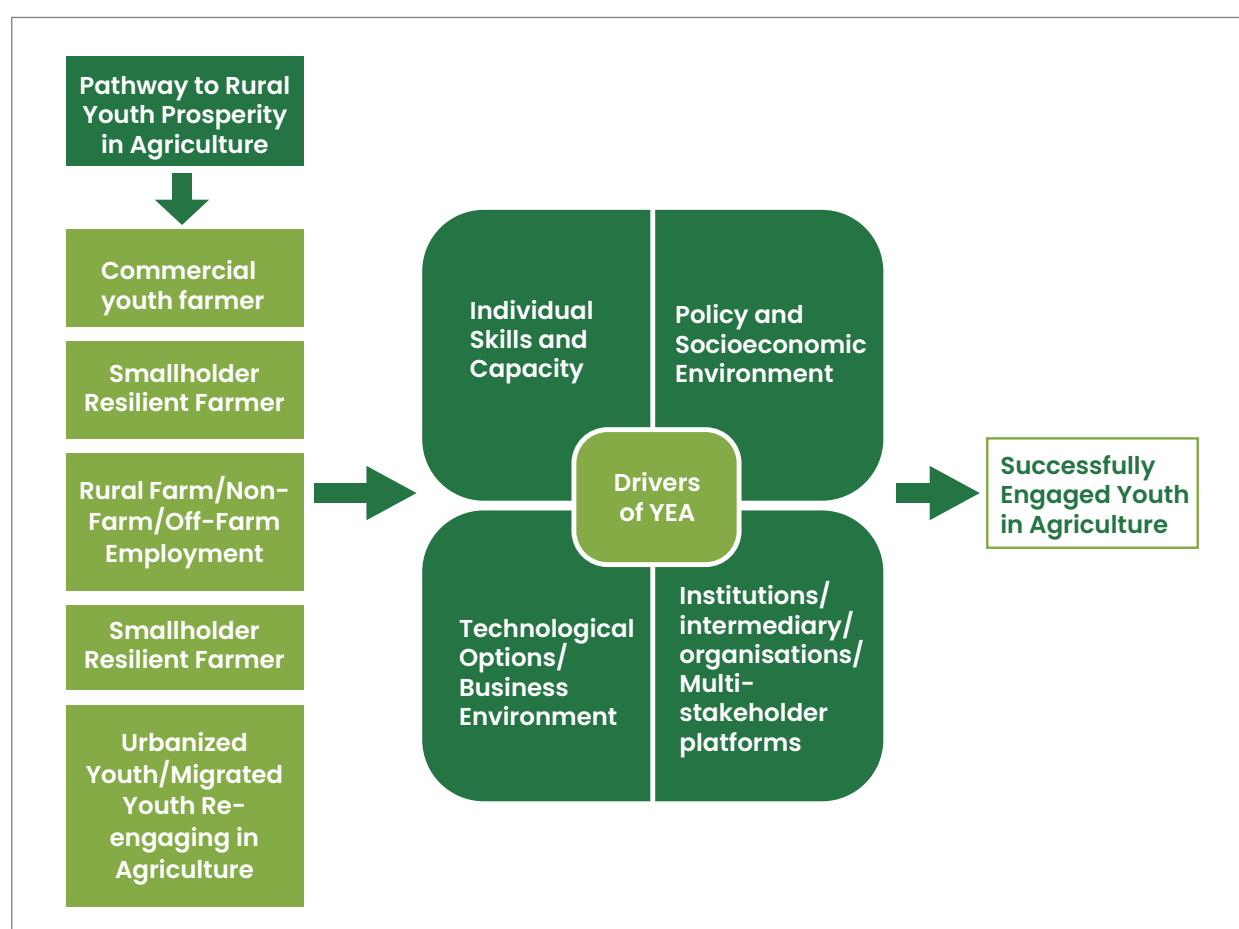


Figure 4: A framework for achieving successful youth engagement in agriculture (Source: Babu et al., 2021)

Youth Participation in Agriculture and Food Systems

The role of young people in agriculture and food systems has received renewed attention in recent years, particularly across sub-Saharan Africa where youth make up a majority of the population. In Nigeria, youth aged between 15 and 35 constitute over one-third of the population and represent the fastest-growing demographic group (Geza et al., 2021). This shift in population structure has major implications for agriculture, employment, and the future of food systems more broadly. With rural economies still heavily dependent on agriculture, and youth unemployment remaining persistently high, food systems have been positioned as a strategic sector for engaging this generation in meaningful livelihoods and national development (Babu et al., 2021).

Framing youth as key agents in food systems transformation stems from both necessity and potential. On one hand, there is a clear labour gap in many parts of Nigeria's agriculture sector, as older generations gradually withdraw from farming. On the other hand, young people are often seen as drivers of innovation and entrepreneurship, bringing digital tools, fresh ideas, and new business models into a sector often characterised as underperforming. Their capacity to engage in value addition, mobile-based marketing, and climate-smart farming practices positions young people as strategic actors in efforts to build more resilient and modern food systems.

The idea that young people are naturally more "entrepreneurial," adaptable, or innovative in agriculture, however, has been challenged by researchers who urge caution against simplistic assumptions. Sumberg and colleagues (2021) argue that dominant narratives around "agrifood youth employment" often treat young people as a homogeneous group, without fully addressing the structural constraints that shape their decisions. In many cases, young people do not see agriculture as a viable career path due to poor returns, lack of access to land or credit, and the low social status associated with farming. While policy often focuses on encouraging youth entry into farming, it tends to overlook the broader social and economic barriers that prevent sustainable engagement.

Nonetheless, the demographic urgency remains. With more than 10 million young people entering the labour market each year across Africa and an estimated 1.6 million annually in Nigeria alone, the question is not just whether agriculture can absorb this workforce, but under what conditions such engagement would be meaningful, equitable, and transformative (Babu et al., 2021). Food systems, understood in a broad sense to include production, processing, distribution, retail, and consumption, underpins a wider range of entry points than agriculture alone. This framing opens space to explore non-traditional roles for youth in logistics, ICT, processing, food service, nutrition awareness, and agro-finance.

Policy responses have increasingly acknowledged these possibilities. National and continental strategies, including Nigeria's youth development policies and the African Union's Continental Agribusiness Strategy, promote the inclusion of young people in agrifood systems as a way to reduce poverty, enhance food security, and improve livelihoods. Yet much of the programming remains aspirational. As Glover and Sumberg (2020) noted, youth-centred agricultural initiatives tend to overemphasize entrepreneurship without adequately considering the informal, unstable, and often risky nature of agribusiness environments in low-income settings. When young people are included in food systems discourse, it is often through the lens of what they can contribute rather than what they need in order to thrive.

Despite these limitations, the value of youth participation cannot be understated. Beyond their numerical strength, young people have the capacity to reshape the very structures of food systems through technology adoption, social media advocacy, peer-to-peer learning, and civic engagement in local food governance. Their involvement offers not only a pathway to employment but a potential catalyst for more inclusive, equitable, and climate-resilient food systems.

How Youth Engage in Agriculture and Food Systems?

Youth participation in food systems is shaped by a wide range of economic, social, and structural dynamics. While agriculture remains a major source of employment in Nigeria and across Africa, youth engagement is far more complex than simply working on farms. Many young people pursue food-related livelihoods out of economic

necessity, whether through subsistence production, wage labour, or entrepreneurial activities but their opportunities vary greatly depending on geography, access to land and finance, and broader livelihood transitions (IFAD, 2019; Yeboah et al., 2020). Rural youth, for instance, often work on family farms or seek seasonal jobs, while others engage in informal food markets, processing, or logistics roles (Mwaura, 2017; Glover Sumberg, 2025).

These patterns are not static: migration, education, and life-stage transitions influence whether, when, and how youth participate in agriculture or food markets. Many young people oscillate between urban and rural livelihoods, or combine farming with off-farm work, depending on access to resources and life circumstances (Nguyen et al., 2020; Rigg et al., 2020). Gender plays a critical role in shaping access to land, credit, and mobility, with young women often constrained by social norms and discriminatory practices (Allen et al., 2016; Doss et al., 2019).

Though policy discourse often highlights youth as central to agricultural transformation, structural barriers such as landlessness, limited credit, and poor access to markets continue to restrict real opportunities. Yet, where these constraints are overcome, some youth do find farming and agri-food ventures appealing (Temudo & Abrantes, 2015; Filloux et al., 2019). In fact, the agri-food sector beyond the farm especially in food processing, retail, and services offers growing opportunities, particularly in peri-urban and urban centres, though access remains uneven (Townsend et al., 2017; IFAD, 2019).

Youth food environments are also influenced by broader economic forces. Processed and convenience foods, often more affordable and accessible, dominate youth diets, especially in urban areas, raising public health concerns (Holdsworth & Landais, 2019; Herforth & Ahmed, 2015). In some sectors, youth may accept food as part of their wages, compromising autonomy over food choice or facing hidden forms of labour exploitation (Kurosaki, 2011).

Ultimately, youth participation in food systems reflects not only economic realities but also social positioning, aspirations, and structural inequalities. Their experiences vary across class, gender, and geography and policies must respond to this diversity. Contrary to the assumption that youth are uniformly disinterested in agriculture,

evidence shows that many are eager to engage if the conditions are right. Bridging the gap between youth potential and real opportunity remains one of the most pressing challenges for inclusive food systems transformation.

Nigeria: Youth Engagement in Agriculture

Youth engagement in Nigeria's food systems is shifting from informal subsistence farming toward more structured and innovation-driven participation across multiple points of the value chain. Studies have documented how many the typical youth initially enter agriculture through unstructured family farms or casual labour arrangements, often constrained by insecure land tenure, lack of finance, and poor institutional coordination (Babu et al., 2021; Geza et al. 2021). These constraints leave many young people confined to low-productivity, low-reward agricultural roles. On the other hand, agriculture research institutions like the International Institute of Tropical Agriculture (IITA) have taken deliberate steps to reverse this trajectory. Through the IITA Youth Agripreneurs (IYA) initiative, the organisation has developed a network of agribusiness incubation hubs, where young people primarily graduates are trained in seed multiplication, aquaculture, farm mechanisation, and agrifood processing (IITA n.d.). Such platforms provide young people with opportunities from structured mentorship, business incubation, and access to markets, transforming their roles from informal labourers to formal agribusiness actors.

Alongside institutional efforts, Nigeria's growing agritech ecosystem is expanding youth participation through digital innovation and cooperative models (TechPoint, 2025). Nigeria's agricultural sector contributes approximately 24.4% to the country's GDP and remains one of the largest employers of labour (TechPoint, 2025). Yet despite over 73 million hectares of arable land, less than half is cultivated, reflecting persistent systemic limitations including underinvestment, poor infrastructure, and inefficient value chains (Punch, 2024). In recent years, however, youth-led agritech innovation has begun to reshape the landscape, introducing scalable, technology-enabled solutions that improve productivity, reduce post-harvest losses, and enhance market access.

According to Statista, the number of agritech startups in Nigeria grew from just 23 in 2022 to over 230 by 2024, making it one of the fastest-growing innovation segments

on the continent (Statista, 2024). Yet, this growth contrasts sharply with investment flows: while agritech startups across Africa raised \$65 million in 2024, most of it went to marketplace and fintech-integrated models, with Nigeria's broader fintech ecosystem still attracting the lion's share such as Moniepoint's \$100 million raise (AgFunderNews (AFN), 2024). This mismatch between agriculture's socio-economic importance and actual investment highlights a critical undercapitalization of innovation in food systems.

Nonetheless, several youth-driven agritech ventures have made significant impact. Thrive Agric, founded in 2017, uses digital tools to provide smallholder farmers with access to credit, inputs, and off-take agreements. It has supported over 500,000 farmers and facilitated over 1.5 million metric tonnes in grain production. In 2022, it secured \$56.4 million in debt funding to expand across northern Nigeria, despite earlier challenges during the COVID-19 lockdowns (TechPoint, 2025).

ColdHubs, established in 2015, offers solar-powered cold storage units in food markets and production centres. These facilities extend the shelf life of perishable produce from two days to up to three weeks, directly reducing post-harvest losses. Nigeria reportedly loses up to \$9 billion annually due to poor storage, and ColdHubs' pay-as-you-use model is helping to reverse that trend (TechPoint, 2025; ColdHubs, 2024).

Another innovation-led startup, Releaf, developed the "Kraken" all de-shelling machine for oil palm nuts which allows processing closer to farm sites, reducing logistics costs and waste. Releaf raised \$4.2 million in 2021 from investors such as Samurai Incubate and the Challenge Fund for Youth Employment (TechCrunch, 2021). Also noteworthy is Crop2Cash, whose USD-based platform enables farmers to open bank accounts and access credit using basic feature phones. The platform has onboarded more than 500,000 farmers across 13 Nigerian states. Its "CashCard" solution and digitised supply chain service "SupplyBase" support both inclusion and transparency. The startup has received \$450,000 from Google for Startups and \$350,000 from Village Capital to scale its reach (Mozilla Africa, 2024).

Meanwhile, AgroMall offers yield prediction, digital input financing, and direct market access through its Digital Agriculture Platform (ADAP). The platform bridge gaps for cooperatives, extension agents, and agribusinesses while integrating insurance

and financial services for rural farmers. Its model reflects how technology and field-level support can be combined to enhance food system transparency and farmer resilience (TechPoint, 2025). These forms of engagement expand the definition of youth participation from land-based farming to include logistics, sustainability services, and smart retail solutions.

Similarly, subnational governments across Nigeria are increasingly becoming facilitators of youth-led agribusiness. Lagos State, for instance, launched a ₦150 million Agritech Hackathon (Agrithon) in 2022, specifically designed to incentivize youth-led innovation in traceability, food distribution, and urban farming. The platform has been inspiring solutions that improve yields, reduce waste, and leverage technology to revolutionize Lagos' food systems and is accessible to startups, students, and innovators to showcase transformative ideas, collaborate with industry leaders, and turn concepts into actionable ventures (Lagos State Ministry of Agriculture and Food Systems, n.d.)

In northern Nigeria, states such as Kaduna and Kano have collaborated with development partners to establish youth-centric agro-processing clusters that focus on tomato, rice, and poultry value chains. These clusters serve as one-stop centres where young people access mechanised services, cold rooms, and buyer contracts, thus eliminating key barriers like infrastructure and market asymmetry. Meanwhile, in Cross River State, the Ministry of Agriculture has supported youth cooperatives involved in cocoa processing, cassava value addition, and spice production. In Benue, efforts have been made to engage youth through agro-parks that combine horticulture, irrigation, and processing under a single platform.

These developments demonstrate a growing recognition that youth are central to agricultural transformation not only in terms of labour, but in shaping markets, narratives, and technologies. Public institutions, private firms, and local governments are converging around a shared awareness that engaging youth meaningfully requires more than skill-building or finance alone, it requires systemic redesign of how youth interact with land, knowledge, and opportunity. By weaving institutional support with market incentives, Nigeria's food system is beginning to accommodate diverse youth entry points from rooftop farming and vertical gardens to digital logistics and cooperative entrepreneurship. These shifts signal a transition from seeing youth as

beneficiaries of agricultural interventions to recognising them as drivers of structural transformation capable of navigating complexity, building resilience, and creating sustainable value across Nigeria's evolving food systems.

METHODOLOGY

Research Design and Approach

This study adopted a cross-sectional research design to examine the nature and extent of youth engagement in Nigeria's food systems.

Data collection was guided by the overarching goal to examine the extent of youth participation, their structural inclusion in food systems, and the institutional and systemic factors that shape their involvement. The approach allowed the study to spotlight not only broad trends, but also specific experiences of exclusion, innovation, and informal adaptation that would be missed by conventional agricultural surveys focused solely on production.

Data Collection Method and Tool Structure

Data for this study was collected using a structured digital questionnaire deployed on digital survey as the primary data collection tool, designed to reach a large and geographically dispersed sample of Nigerian youth involved in food systems – KoboToolbox. The choice of a digital platform allowed for broad dissemination, mobile accessibility, and real-time monitoring of responses. The tool was designed to be self-administered, ensuring ease of use across a wide demographic, including youth with varying levels of formal education and digital literacy.

The tool was structured into thematic sections that aligned with the study's core objectives. It began with demographic profiling to understand the age, gender, location, and educational background of respondents. The subsequent sections mapped participants' specific roles within the food system such as producers, processors, traders, researchers, and service providers and the value chains they operate in, ranging from aquaculture and poultry to horticulture, grains, and nutrition advocacy.

Another key component of the tool focused on enterprise characteristics, including business registration status, number of employees, market reach, and years of operation. These questions were included to assess the scale, formality, and economic contribution of youth-led ventures in the food system.

Additionally, the tool captured information on support services such as access to finance, extension, input supply, and equipment and the extent to which youth could access or provide these services within their ecosystems. A section was included to document respondents' lived experiences, especially the structural barriers they face. These include constraints related to land access, inadequate infrastructure, limited market opportunities, gender-based discrimination, and policy exclusion. To complement this, the survey also explored areas where youth need support such as training, mentorship, grants, equipment, or digital platforms to improve their impact in the food system.

Overall, the tool served as both a mapping instrument and a diagnostic tool. It offered insights into the diversity of youth participation in food systems and provided a basis for identifying leverage points for intervention, policy support, and programme design.

Sampling Strategy and Respondents' Profile

Given the broad scope of the study and the intention to map youth participation across Nigeria's food systems, the research employed a non-probability sampling approach, using voluntary response sampling as its primary method. The survey was distributed publicly through digital channels, youth networks, partner organizations, and food system platforms, enabling wide participation across all six geopolitical zones. Over 6,000 young people completed the questionnaire. Respondents included both male and female youth, persons with disabilities, and individuals from diverse educational and socio-economic backgrounds. Participants were self-identified actors in the food system, spanning roles in production, processing, aggregation, marketing, nutrition, logistics, research, and innovation. This diversity allowed for a comprehensive understanding of how youth are integrated or excluded across different points in the food value chain. The survey recorded responses from youth operating both formally registered agribusinesses and informal micro-enterprises.

A notable proportion of respondents were involved in multiple parts of the food system for example, combining crop production with food vending or logistics services. This overlap reflects the multi-dimensional nature of youth livelihoods and the informal resilience strategies common in Nigeria's food economy. Geographically, responses were received from all 36 states and the Federal Capital Territory, with notable concentrations in agribusiness hubs such as Lagos, Kaduna, Oyo, Benue, and Cross River. This spread enabled region-specific insights while also surfacing cross-cutting themes such as limited access to finance, gaps in infrastructure, and the lack of tailored policy support.

Although the open-access survey approach limited the ability to impose strict demographic quotas, the size and breadth of the respondent pool ensured strong representation of the key target group: young Nigerians actively engaged in food systems across diverse contexts.

Data Analysis

The data collected from 6,077 MSMEs operating within Nigeria's food system was subjected to both descriptive and inferential statistics. The analysis began with frequency distributions and cross-tabulations to establish baseline patterns of challenges, support needs, business scale, and value chain involvement. These were used to map out the prevalence of constraints such as limited access to finance, infrastructure, market access, technical skills, and scaling difficulties. Further descriptive analysis explored how these challenges intersected with business characteristics such as registration status with the Corporate Affairs Commission (CAC), value chain roles (e.g., producers, processors, distributors), and geographical distribution across Nigeria's six geopolitical zones. Additionally, proportions and percentages were used to reveal how widespread specific support needs (e.g., business development, mentorship, capacity building) were within the surveyed population.

To investigate the relationship between perceived challenges and actual demand for support services, McNemar's Test was employed extensively. This non-parametric statistical test is suited for paired binary data and was applied to assess significant discrepancies between discordant pairs particularly between respondents who

reported a challenge but did not request the corresponding support and those who did not report the challenge but still requested support. The test helped to identify proactive behavior or gaps in support uptake, depending on the direction of the imbalance. Odds Ratios and 95% Confidence Intervals were calculated to interpret the magnitude and direction of these gaps. Furthermore, Chi-square tests of independence were used to examine associations between business scale and categorical variables such as food system roles, CAC registration type, and value chain involvement. Finally, a cluster analysis using hierarchical clustering and Calinski-Harabasz pseudo F-statistic was conducted to segment MSMEs into distinct groups based on shared profiles of challenges, support needs, and structural characteristics enabling a more nuanced policy design tailored to specific enterprise types.

FINDINGS

Mapping the Landscape of Youth Participation in Nigeria's Food Systems

To understand how young people engage across Nigeria's food system, this section examined their distribution across value chain roles, enterprise types, and production segments. Drawing from variables that capture primary food system roles such as production, processing, logistics, service delivery, and innovation, the analysis explore the extent and pattern of youth participation. It further considered how these roles correlate with the scale of enterprises, showing how certain functions (e.g., distribution or processing) are more often linked with medium or large-scale operations, while others like nutrition or vegetable production remain more concentrated among micro-enterprises.

Additionally, a detailed profile of youth-led businesses is presented, covering formality (CAC registration), workforce size, and enterprise model, highlighting the predominance of informal structures among young entrepreneurs. The analysis also disaggregates participation by value chain segment including aquaculture, poultry, staple crops, vegetables, and ruminant production to identify where youth are most active and which sectors show higher concentration of growth-oriented

enterprises. Together, these subsections provide a comprehensive map of how youth are positioned within Nigeria's food economy, across both structure and function.

As presented in figure 5, the analysis of respondents' distribution by geopolitical zone and state of business provides some insights on youth participation with respect to Nigeria's food system. A total of 6,075 respondents provided information about the state in which their businesses are located. Most respondents came from the North East (41.5%), followed by the South West (18.8%) and North Central (17.1%).

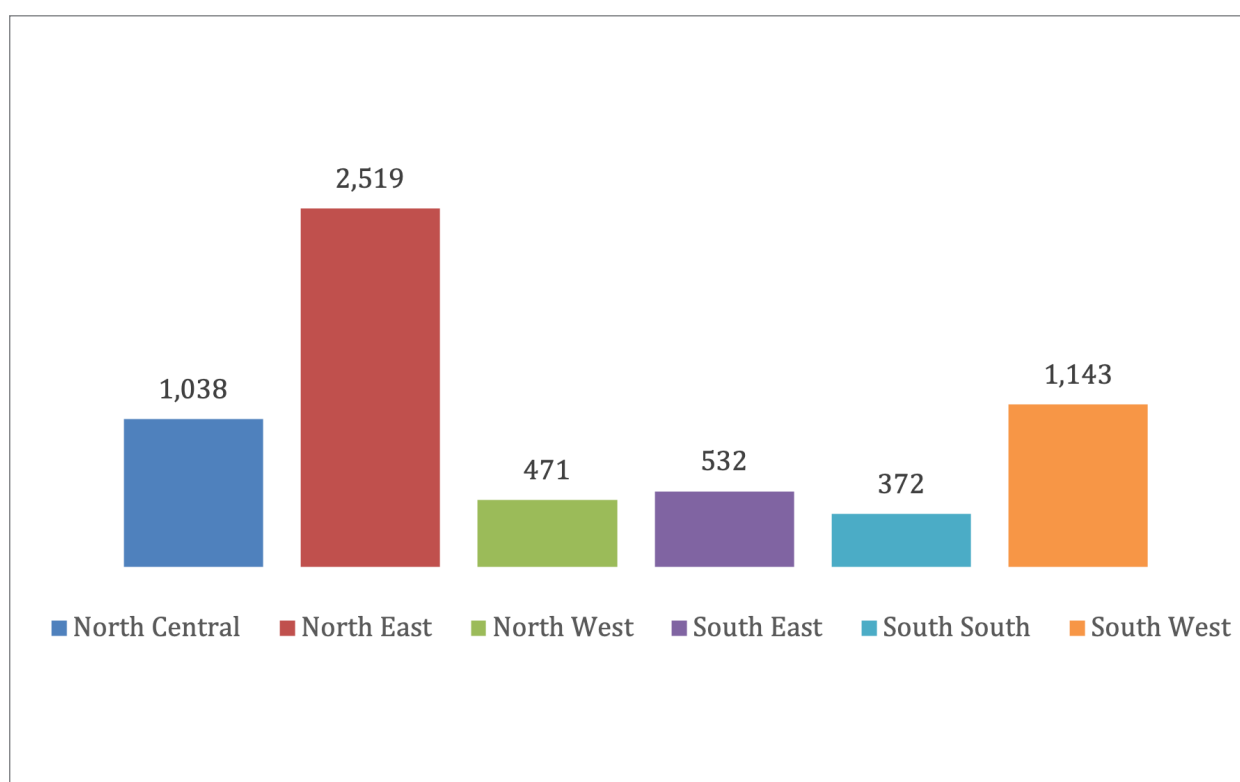


Figure 5: Analysis of respondents' distribution by geopolitical zone

As shown in Table 2, most youth are involved in primary production – about 80.9% identified as farmers or producers. Much fewer were engaged in processing (13.7%) or marketing (16%), even though these activities offer more chances for profit and business growth. Roles in distribution (10.1%), services (4.0%), and business consulting (4.2%) were less common, and very few young people tend to work in areas like agritech or nutrition (3.7% each). This may suggest that while young people were active across many parts of the food system, their participation was mostly in early-stage, low-margin roles.

Table 2: Distribution of Respondents by Role in the Food System

Role in Food System	Frequency	%
Farmer / Producer	4791	80.9
Processor	813	13.7
Distributor	596	10.1
Marketing / Retail	948	16.0
Innovator	221	3.7
Researcher / Academic	174	2.9
Policy Advocate	79	1.3
Nutrition Specialist	218	3.7
Public Health Worker	155	2.6
Civil Society Member	82	1.4
Service Provider	238	4.0
Business Development Consultant	251	4.2

Table 3 gave more details on the specific value chains. A large number of youth worked in cash crop farming (50.3%), showing a focus on commercial crops. Poultry (37.7%) and aquaculture (19.9%) also had high youth participation, likely because they are easier to manage, have quick returns, and need less land. Vegetable farming (13.7%) was another common area, especially for young people serving urban markets. However, only 5.5% were involved in staple crop production, which may reflect a lack of support or low interest due to limited profit.

Less than 6% of respondents were involved in livestock-related value chains such as ruminant farming, piggery, or rabbitry. Some were also exploring niche areas like snail or cane rat farming. These businesses may require more capital or space, which could limit youth participation.

Table 3: Distribution of Respondents by Value Chain Activity

Value Chain Activity	Frequency	%	Total
Arable Crop Production	0	0.0	3,537
Cash Crop Production	2,944	50.3	5,859
Livestock Production	2	0.1	3,537
Aquaculture	1,158	19.8	5,859
Poultry	2,207	37.7	5,859
Ruminant – Dairy	253	4.3	5,859
Ruminant – Beef	372	6.4	5,859
Piggery	225	3.8	5,859
Rabbitry	144	2.5	5,859
Snail Farming	67	1.1	5,859
Cane Rat Farming	14	0.2	5,859
Other	546	9.3	5,859
Vegetable Production	804	13.7	5,857
Staple Crop Production	323	5.5	5,857

Table 4 looked at the structure of youth-run businesses. Based on the survey, many young people tend to operate in agricultural input services, including livestock input sales (28.1%), crop input sales (22.7%), and feed processing (15.1%), rather than services like cold storage (0.7%), machine repair (1.3%), and extension services (5.7%). This finding may suggest a gap in critical support services that enable agribusinesses to grow and become more efficient—indicating that while youth are active in input-related services, there is limited engagement in infrastructure-driven roles like cold storage, machine repair, and extension, which are essential for reducing post-harvest losses, improving productivity, and scaling operations.

Furthermore, the data show that most youth-owned businesses were either medium-sized (51.3%) or small (38.2%), and only a few (10.5%) were large. However, 52.1% of these businesses were not registered, which can make it hard to access loans or work with formal buyers. Of those registered, most did so as regular businesses rather than limited liability companies or cooperatives. About 60% of youth-owned businesses had only 1 to 5 workers, with just 5.4% employing more than 20 people. This may reflect how many of these enterprises are still very small, often family-run. Only 28.6% of respondents said they were part of a cooperative, which may arguably explain barriers to accessing better prices, loans, or government support.

Table 4: Business Profile of Respondents: Services, Scale, Registration, Workforce Size, and Cooperative Membership

Value Chain Activity	Frequency	%
Service delivery types		
Artificial Insemination Technician	25	0.5
Cold Chain Services	38	0.7
Community Based Animal Health Worker	635	12.4
Crop Input Sales	1,164	22.7
Extension Services	292	5.7
Feed Producer/Processor	773	15.1
Haulage and Logistics Services	35	0.7
Livestock Input Sale	1,441	28.1
Machine Fabrication	65	1.3
Others	566	11.0
Veterinary Paraprofessional	93	1.8
Business scale		
Small	2,229	38.2

Medium	2,995	51.3
Large	611	10.5
Registration status		
Business	1,890	38.6
Incorporated Trustee (NGO)	101	2.1
Limited Liability Company	313	6.4
Limited by Guarantee	39	0.8
Not Yet Registered	2,548	52.1
Employee count		
1-5	3,212	59.4
6-10	1,252	23.1
11-20	658	12.2
21-50	290	5.4
Cooperative Membership		
No	3,929	71.5
Yes	1,570	28.6

As shown in Table 5 below, the analysis revealed that the type of role a youth-led enterprise plays within the food system may significantly influence its size. Youth engaged in production, processing, and distribution were more likely to operate medium- or large-scale businesses. On the other hand, those involved in service provision or nutrition-related roles tended to run smaller enterprises. Notably, although fewer in number, youth identified as innovators were mostly running large businesses, suggesting that engaging in innovation may still require substantial capital and resources.

Table 5: Association Between Food System Roles and Business Scale of Enterprises

Food System Roles	Business Performance (Business Scale)					
	Small %	Medium %	Large %	Total	Pearson Chi2(2)	Significance
Farm Producer	35.5	52.5	12.0	4,657	109.2462	p < 0.001
Processor	39.0	40.0	21.0	797	119.8205	p < 0.001
Distributor	33.0	40.3	26.7	585	182.7014	p < 0.001
Marketing (Retail)	41.5	44.7	13.8	926	24.0335	p < 0.001
Innovator	32.9	39.0	28.1	210	72.5388	p < 0.001
Researcher/ Academic	45.8	44.0	10.2	166	4.3208	p > 0.05
Policy Advocacy	40.3	46.8	13.0	77	0.8611	p > 0.05
Nutrition	48.0	47.0	5.0	202	12.0696	p < 0.005
Public Health	42.4	46.4	11.3	151	1.5131	p > 0.05
Civil Society	40.2	51.2	8.5	82	0.3866	p > 0.05
Service Provider	48.7	41.9	9.3	236	11.5536	p < 0.005
Business Development Consultant	43.9	45.9	10.2	244	3.5652	p > 0.05

Table XVIII (see in appendices section) highlights that the challenges youth face often varies significantly across different value chains. Staple crop producers reported the most severe difficulties, over half experienced limited access to inputs (54%) and infrastructure (52%), while 43% struggled with market access and 30% with scaling their businesses. Youth involved in vegetable production faced similar constraints across these areas. Those in livestock and aquaculture also reported major barriers, particularly in accessing quality inputs and adequate infrastructure, indicating that support needs are often value chain specific.

Overall, the findings show that most young people in Nigeria's food systems are concentrated in farming and input sales, while far fewer are engaged in value-added or support service roles. Their businesses are often informal, small in scale, and shaped by the value chains they operate in. These patterns may be indicative of the need for targeted support that goes beyond farming particularly to help youth expand into processing, distribution, service delivery, and innovation-driven enterprises.

Analysing Structural Constraints to Effective Youth Engagement in Nigeria's Food Systems

This section focused on the key systemic barriers limiting youth participation in the food system, focusing on both the nature and distribution of constraints. Using nationally reported challenges such as Limited Access to Finance, Inputs, Infrastructure, Markets, and Technical Skills, the analysis surfaces widespread bottlenecks that cut across youth enterprises. These are further examined through a regional lens, revealing how these constraints vary by geopolitical zone. For instance, while finance remains a universal constraint, infrastructure and input challenges are more acute in Northern states, while youth in the South more frequently report market access limitations.

The analysis also highlights gender-based disparities in youth participation and enterprise scale, showing how young women are overrepresented in smaller-scale enterprises with limited access to business development opportunities. Additionally, this section explores institutional inclusion, particularly the link between cooperative membership and market access barriers, demonstrating how lack of affiliation is associated with higher exclusion. Finally, the relationship between challenges and support-seeking behaviour is unpacked: for example, while many face skills and input challenges, a significant number do not request training or business development support highlighting an important gap between experienced barriers and institutional outreach. This disjuncture serves as an important insight into the effectiveness and targeting of current support mechanisms.

| National Patterns in Business Constraints

Figure 6 reveals that the most widely reported challenge among youth-led agribusinesses (90.3%) was limited access to finance. This widespread difficulty underscored the role of capital in enabling agricultural activity from acquiring inputs and equipment to managing production and scaling. The findings may also reflect systemic financial exclusion, especially among younger entrepreneurs navigating rigid collateral-based lending systems.

Other barriers were also evident: input shortages (19.5%), technical skills gaps (17.8%), market access limitations (17.7%), and infrastructure deficits (15.5%). These challenges appeared to compound one another, suggesting that addressing a single constraint in isolation may not be sufficient. For example, young producers without reliable access to quality seeds or feed also tended to face downstream problems such as low productivity, weak bargaining power, and spoilage from inadequate storage or transport.

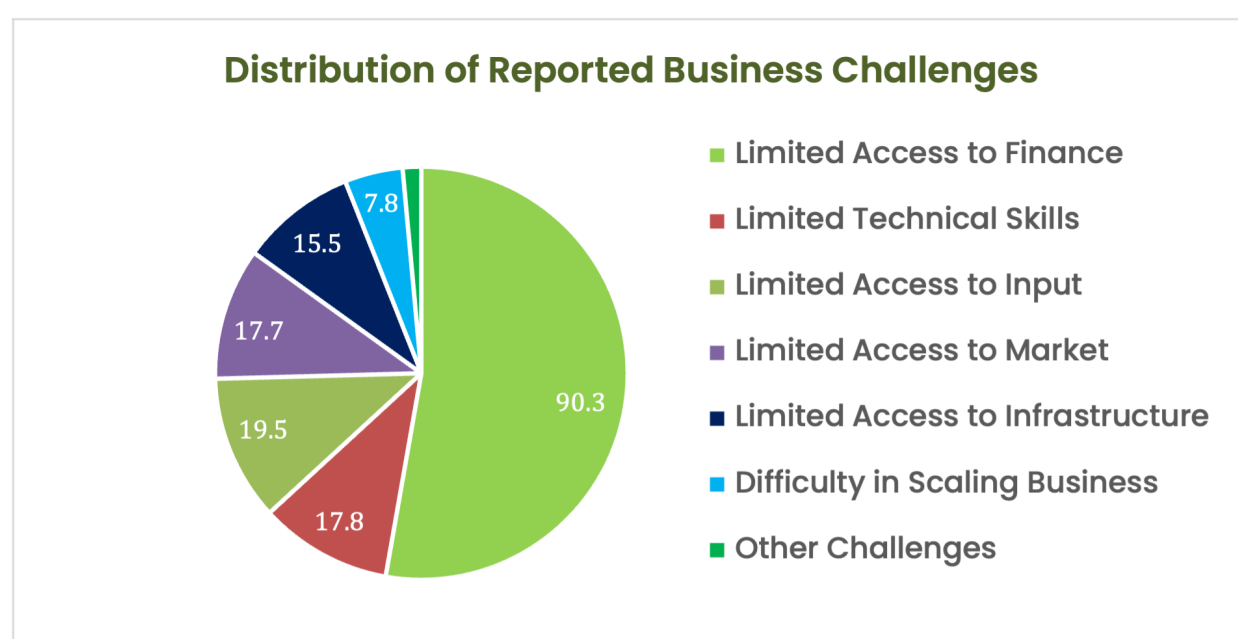


Figure 6: Distribution of Reported Business Challenges

| Geographic Variation in Structural Constraints

Table I (in appendices section) indicates that business challenges could also differ considerably across states. While limited access to finance was a common

issue everywhere, other constraints were more concentrated in specific locations. For example, youths in Ebonyi, Ogun, and Kwara reported especially high levels of technical skill gaps. Similarly, shortages of agricultural inputs were more frequently reported in Abuja (37.9%), Ogun (45.5%), and Kwara (36.2%), suggesting the need for more contextualized and localized interventions.

Youth respondents in Katsina, Rivers, and Ogun reported the highest levels of market access challenges, while infrastructure-related difficulties were most concentrated in Rivers, Abuja, and Kwara. In Ebonyi and Sokoto, many reported significant difficulty in scaling their businesses, a pattern that may reflect deeper structural barriers to enterprise growth in these areas.

Generally, while limited access to finance remains a widespread issue across all states, other challenges appear to be shaped by localized factors such as infrastructure conditions, market connectivity, and service availability. This emphasizes the necessity of state and local governments implementing focused interventions to address context-specific obstacles that young agribusinesses face in addition to national-level policies.

| Gendered Patterns in Business Scale

Analysis from Tables ii, iii, and iv (in appendices section) revealed notable gender disparities in the youth-led agribusinesses scale across Nigeria. Male respondents were generally more likely to run medium or large enterprises, with statistically significant differences found in states such as Akwa Ibom, Bayelsa, Anambra, Borno, and Gombe. However, in other states like Abuja, Lagos, Rivers, and Kano, there is no significant gender-based difference in business size, suggesting that the influence of social norms, institutional frameworks, and support systems on gender equity varies across the country.

Similarly in the North East, North West, South East, and South West, male youth were more likely to operate larger-scale businesses. These findings may suggest persistent structural inequalities in access to resources such as land, finance, and business networks – factors that may disproportionately favour young men and limit opportunities for women to grow their agribusinesses.

| Support Needs Vary by Business Size

Table 6 shows that the type of support youth-led agribusinesses seek is closely linked to the size of their operations. While nearly all businesses indicated the need for better access to finance, smaller enterprises expressed the strongest demand for additional support services particularly training (39.1%), mentorship and networking (22.6%), and improved market linkage. These priorities reflect their early growth stage and the need for external support to build competencies, develop products, networks, and visibility. Larger businesses, on the other hand, were more interested in training and business development support as core needs. This suggests a shift in priorities towards scaling, improving operations, and enhancing market competitive edge.

Medium-sized businesses reported comparatively lower demand across most support categories. This may indicate that many are in a relatively stable phase, having moved past early-stage hurdles but not yet pursuing major expansion. Notably, both small and large enterprises were more likely than medium ones to seek market linkage support. This could reflect either the push by small businesses to gain initial market entry or the ambition of large businesses to access new or premium markets.

Table 6: Support Needs by Business Scale: Cross-Tabulation and Chi-Square Analysis

Support Need	Business Scale		
	Small %	Medium %	Large %
Training and Capacity Building (Yes)	39.3	31.6	41.8
Access to Finance	80.2	77.1	79.5
Market Linkage	25.4	17.4	25.9
Infrastructure Support	23.8	17.5	23.6
Mentorship/ networking	22.6	12.2	14.6
Business Development Support	32.4	25.7	41.4

| Cooperative Membership and Market Access

The relationship between cooperative membership and market access was tested but found to be statistically insignificant. That is, being part of a cooperative did not consistently reduce the likelihood of reporting market access challenges. This outcome suggests that while cooperatives are often promoted as mechanisms for improving access to inputs and buyers, other factors such as network strength, cooperative capacity, and market saturation may play a larger role.

| Relationship Between Challenge and Support-Seeking Behavior

Table v (in appendices section) indicated a key insight about the disconnect between financial constraints and the willingness to seek support. Across all geopolitical zones, many agribusinesses that reported difficulties accessing finance did not go on to request financial assistance. This support gap was especially noticeable in the North East, where the difference between those facing challenges and those seeking help was most pronounced. Although businesses experiencing financial constraints were generally more likely to seek support than those who were not, a significant portion still did not pursue available assistance. This suggests that barriers such as low awareness, limited trust in support mechanisms, or complex application procedures may discourage even the most financially constrained youth from accessing the help they need.

| Skill Challenges and Training Requests

Table vi (in appendices section) compares reported technical skill gaps with requests for training support, revealing a notable trend: in all six geopolitical zones, significantly more youth requested capacity-building than those who identified skills as a challenge. This proactive pattern was particularly evident in the North East, North West, South East, and South West, suggesting that many young agripreneurs are seeking to improve their capabilities in anticipation of future needs, not just in response to current gaps.

Similarly, a smaller group of respondents who acknowledged skill-related challenges did not request training support. This highlights a need for more targeted outreach and confidence-building efforts to ensure that those most in need are aware of, and feel able to access, available training opportunities

| Input Challenges and Demand for Business Development Support

As shown in Table vii (in appendices section), a notable number of agribusinesses requested Business Development (BD) support even though they did not report experiencing input shortages. This pattern was most prominent in the North Central, North West, South East, South South, and South West zones. It suggests that many youth-led enterprises view BD support as a pathway to broader growth seeking assistance with areas like financial planning, logistics, or strategic expansion rather than addressing only immediate supply issues. In contrast, demand for BD services was relatively low in the North East, indicating a potential need for increased awareness, or for integrating BD offerings with more urgent support such as input provision, to improve relevance and uptake in that region.

| Market Access Challenges and Requests for Linkage Support

Table viii (in appendices section), reveals a similar pattern in the relationship between market challenges and demand for linkage support. In the South East, South South, and South West, many youth enterprises requested market linkage services despite not facing acute market access difficulties. This indicates a forward-looking orientation, where support is used to pursue expansion, new customer bases, or higher-value markets. However, in the North East and North West, the absence of a strong connection between reported market challenges and support-seeking behaviour may suggest that many youth may not perceive market linkage services as relevant or effective or they may lack awareness of how to access them.

| Documenting Youth-centric Innovations and Adaptive Strategies in Response to Systemic Challenges

The third objective focused on how youth are actively responding to systemic barriers through adaptive strategies and enterprise innovations. This section uses cluster analysis to identify how youth-led MSMEs fall into distinct profiles ranging from Established Agribusiness Leaders to High-Need Micro Enterprises. These clusters illustrate variation in operational maturity, constraint exposure, and innovation potential. High-Need segment faces severe multi-dimensional challenges, it also

shows signs of grassroots innovation such as informal logistics networks, hybrid service models, or digital diversification. Conversely, more mature enterprises in the Established Leader cluster exhibit readiness for advanced interventions such as export facilitation or technology upgrading. By interpreting enterprise behaviour within these clusters, the analysis spotlights how youth innovate from different positions of vulnerability and strength, and how their strategies are often shaped by the resources they can or cannot access. These insights lay the foundation for understanding youth as system actors who adapt dynamically within a constrained policy and market environment.

This section draws from cluster segmentation (Table ix in appendices section) and patterns of support-seeking behaviour (Tables 9a–9f) to explore how youth-led agribusinesses across Nigeria respond to structural constraints in the food system. The data reveals that many youth enterprises pursue support not only to address immediate challenges, but also as a forward-looking strategy indicating a growing interest in resilience, skill upgrading, and strategic growth.

Cluster 1: Established Agribusiness Leaders (18.9%)

This group consists of mostly medium-sized enterprises with 11–50 employees, engaged in capital-intensive, high-value chains such as cash crops, dairy, and rabbit farming. These businesses report few operational constraints, only 19.3% cited limited access to finance, and 12.9% mentioned skill gaps. Correspondingly, their demand for training (13.4%) and mentorship (9.3%) is relatively low. Yet, their actions point to innovation-readiness. Most are formally registered and maintain a sizeable workforce. While they do not rely heavily on basic support services, they are well-positioned to benefit from targeted investments in value addition, export facilitation, and advanced processing infrastructure.

Cluster 2: Vulnerable but Improving (37.2%)

These are micro and small enterprises (1–10 employees), mainly involved in poultry, aquaculture, and snail farming, sectors with growth potential but moderate barriers to entry. Though 35.5% report financing challenges and 28.9% note training gaps, their support-seeking behaviour suggests a proactive outlook. Many requests

mentorship, business development, and training support even when they do not report the corresponding constraint. This aligns with findings from Table x and Table xi (in appendices section), which show that requests for support often exceed reported challenges. These businesses appear to be investing in their future growth and would likely benefit from accelerator programs, tailored technical assistance, and improved access to finance.

Cluster 3: High-Need Micro Enterprises (43.9%)

The largest and most vulnerable cluster, these businesses are typically informal, very small (1–5 employees), and concentrated in high-risk, low-margin activities such as vegetable and staple crop farming, piggery, and small livestock operations. They face multiple overlapping constraints: technical skills (73.7%), market access (72.6%), input access (66.1%), and scaling difficulties (77.6%). Their reported support needs are equally high – over 75% requested help with market linkage, infrastructure, and mentorship (Table 10a).

However, an important gap emerges. Even among this high-need group, many do not seek assistance. As shown in Table xii (in appendices section), over 800 youth experiencing finance-related challenges did not request support. Likewise, Table xiii (in appendices section) shows more youth without reported technical skill deficits sought training than those who acknowledged the challenge. This suggests that support uptake may be influenced by other factors such as limited awareness, perceived inaccessibility of services, or institutional mistrust.

Overall, these findings illustrate that youth-led agribusinesses are not a homogenous group. While many are taking the initiative to build resilience and grow, others remain disconnected from the support systems that could help them. Understanding these differences is critical for designing inclusive, well-targeted programs that reflect the diverse realities and aspirations of young actors in Nigeria's food system. This trend holds across all categories: in Tables xiv to xviii (in appendices section), youth who do not report challenges are often more likely to seek help than those who do. This could be due to awareness gaps, limited program access, or lack of trust in formal systems, especially among the most marginalized.

These findings reinforce the importance of designing tailored support strategies that

reflect the diverse realities of youth-led enterprises. The three MSME clusters identified in this study illustrate that young people in Nigeria's food system are not a uniform group. While some particularly in Cluster 2 are already taking steps to grow despite moderate constraints, others in Cluster 1 operate with relative stability and limited dependence on external assistance. In contrast, enterprises in Cluster 3 face the greatest structural challenges but appear to be underrepresented in current support systems.

A key insight emerging from the data is that support-seeking does not always correspond directly with the presence of challenges. Many youth-led businesses are requesting mentorship, training, or business development services even when they do not report facing immediate constraints. This suggests a forward-looking orientation among some enterprises, where support is seen as a means to build long-term capacity and competitiveness. Conversely, others, especially those facing significant obstacles, do not request support, possibly due to barriers such as limited awareness, lack of access, or institutional distrust.

These patterns carry two important implications. First, program designers should recognize that support needs are not always reactive. Youth-led enterprises with fewer constraints may still require tools and opportunities to accelerate their growth and impact. Second, reaching the most vulnerable will require more than simply making services available. It will involve reducing access barriers through targeted outreach, simplified application processes, and efforts to build trust and visibility.

Incorporating these insights into the design and delivery of youth-focused interventions can help ensure that the benefits of innovation and enterprise development extend across the spectrum of Nigeria's food system supporting inclusion, resilience, and equitable transformation.

LESSONS LEARNED

The study has shown that young people are highly present in Nigeria's food systems, but the way they participate and the barriers they encounter are far from uniform. Their actions, needs, and aspirations do not always follow the logic of conventional support programs. The following lessons provide insight into how policy and development efforts can be better aligned with the realities on the ground.

Youth are actively planning for growth, not just reacting to problems: A strong finding from the data is that many young people seek training, mentorship, and business development support even when they don't report immediate challenges. This shows that for many, support is not only about fixing gaps, it's a tool for preparing for future growth. Youth are not waiting to be in crisis before they take action; many are already thinking ahead. Support programs should build on this behaviour, rather than assume that assistance is only needed when problems are already visible.

Some of the most vulnerable youth are the least connected to support: While many young agribusiness owners face real and overlapping challenges particularly around finance, inputs, and scaling, not all of them seek help. In many cases, those with the most constraints were also the least likely to request support. This suggests that the issue is not only the availability of support, but whether young people know it exists, believe it works, or are able to access it easily. The disconnect points to deeper structural exclusions that prevent youth, especially those running small or informal businesses, from engaging with available services.

Not all youth enterprises are starting from the same place: The analysis showed that youth-led agribusinesses fall into three broad groups. Some are already operating at a relatively stable level and may only need advanced support to reach new markets or expand operations. Others are just beginning or remain stuck at the micro level, often without formal registration, basic equipment, or business structure. The third group sits in the middle, with potential for growth but facing moderate barriers. These differences matter. An untargeted, undifferentiated approach that does not take into account the nuances such as gender, business environment etc., is unlikely to work when the needs and capacities are so varied.

Where a business is located affects what support is needed and how it is used: Regional differences are clear. In some areas, youth proactively request support even when they don't report a direct challenge often as a way to grow or gain new skills. In other areas, especially those with high levels of reported challenges, support requests are low. This means the problem may not be awareness alone, but also trust, access, or the relevance of existing services. Local environments such as how functional infrastructure is, or how active local institutions are play a big role in shaping what kind of support young people seek and how they use it.

The structure and formality of youth-run businesses influence support pathways: Many youth enterprises are small, informal, and focused on lower-margin activities like vegetable farming or basic crop sales. Others, especially those registered as limited liability companies or cooperatives, are more likely to be involved in value-adding roles such as processing, innovation, or logistics. Formal businesses tend to attract more support and operate at larger scales. However, formality should not be a barrier to entry. Instead, support should encourage formalization by linking it to real benefits, such as access to finance or market networks.

Gender inequality in business scale remains a persistent challenge: Male youth in Nigeria are generally more likely to run larger agribusinesses. This pattern holds across most regions and is especially visible in states where access to land, capital, or decision-making networks may favour young men. While programs often focus on increasing women's participation, the findings suggest that equal numbers are not enough, what also matters is whether women are supported to grow and lead businesses at the same scale as their male peers.

RECOMMENDATIONS

To strengthen youth engagement in Nigeria's food systems, interventions should respond to the way youth operate, plan, and navigate opportunities. Based on the findings of this study, the following recommendations are proposed:

Design Support Programs That Reflect Business Diversity

Youth agribusinesses vary widely in size, formality, and sector focus. Support should be structured along this spectrum.

- **For high-need micro-enterprises:** Bundle support services such as infrastructure, training, mentorship, and market access into integrated starter packages, especially in lower-margin value chains.
- **For emerging small and medium enterprises:** Invest in accelerator programs that combine access to capital, business development, and peer learning.
- **For established businesses:** Focus on advanced needs such as export readiness, processing technologies, and partnerships for scale.

Bridge the Gap Between Challenges and Support Uptake

Many youth face significant constraints but unable to access available support. Program implementers should:

- Simplify application processes and reduce entry barriers.
- Partner with youth cooperatives, extension officers, and digital platforms to raise awareness about available support.
- Prioritize trust-building by ensuring transparency, follow-through, and responsiveness to youth feedback.

Make Support Accessible Before Crisis Hits

Support-seeking is often proactive, not just reactive. Programs should:

- Provide flexible, ongoing support services rather than only crisis-response grants or interventions.
- Incentivize early uptake of training, mentorship, and strategic planning tools through recognition, competitions, or embedded rewards.

Tailor Interventions to Regional Realities

Different regions require different approaches.

- In regions with high proactive support-seeking, especially in the South East and South West, scale up innovation programs, market linkage platforms, and business development services.
- In regions with lower support uptake despite clear challenges, such as the North East and North West, invest in awareness campaigns, trusted intermediaries, and community-led delivery models.

Support Formalization Through Incentives, Not Requirements

Formal registration enables growth, but many youth enterprises remain informal.

- Link formalization to tangible benefits such as better access to finance, government contracts, or cooperative membership.
- Provide step-by-step guidance and mentorship for young entrepreneurs seeking to register or upgrade their business status.

Address Gender Disparities in Business Growth Opportunities

To reduce the gap in business scale and support access between male and female youth:

- Design location-specific interventions that reflect how gender roles affect land access, time use, mobility, and creditworthiness.
- Promote mentorship networks and financing models tailored to the needs of women-led agribusinesses.
- Track and evaluate gender outcomes to ensure equal access translates into equal growth.

Invest in Structures That Link Immediate Support to Long-Term Growth

Support programs should avoid fragmented delivery.

- Develop service hubs that provide access to multiple forms of support including training, inputs, finance, market information, and legal advice in one place.
- Encourage continuous engagement with youth enterprises through follow-up, check-ins, and referral systems.

Monitor and Adjust Based on Youth Feedback

Finally, program and policy design must be iterative.

- Build feedback loops into support platforms using SMS surveys, field agents, or digital dashboards to track what works and adapt to changing needs.
- Recognize youth not just as recipients but as co-creators of the food system. Their insights should inform program design, delivery, and evaluation.

CONCLUSION

This study set out to examine how young people participate in Nigeria's food systems: what roles they occupy, how their businesses are structured, the challenges they encounter, and the forms of support they seek or avoid. Drawing on responses from 6,077 youth-led or youth-engaged enterprises across all 36 states and the Federal Capital Territory, the study presents one of the most comprehensive datasets available on youth in agriculture and food-related services in Nigeria. The sample used reflects wide variation in gender, region, enterprise size, and value chain involvement, making the study really beneficial to a broad range of actors including government agencies, donor organizations, program implementers, and researchers interested in youth livelihoods, food security, and rural development.

The findings establish that youth participation in food systems is extensive but heavily concentrated in lower-margin roles such as primary production and input sales. A large share of these enterprises operate at micro scale, remain informal, and are underrepresented in areas such as processing, logistics, and innovation. Many young people especially women and those in the North East and North West face multiple overlapping constraints including limited access to finance, technical skills, inputs, and infrastructure. On the other hand, the data underscores the premise that support-seeking behaviour does not always align with these constraints. Many young people seek training or mentorship even in the absence of reported challenges, while others who face severe limitations particularly in finance may not necessarily be inclined to seek support perhaps in the more well-documented manner.

This gap highlights that support uptake among youth enterprises is influenced not only by their immediate needs but also by factors such as awareness of available programs, trust in institutions, ease of access, and perceptions of how effective the support will be. It is crucial to note that youth enterprises do not all begin from the same place; some have the resources and networks to pursue growth, while others face persistent structural disadvantages. Delivering support through a uniform approach risks reinforcing these disparities rather than addressing them.

The study further revealed that factors such as geographic location, gender, and

legal registration status significantly influence both the opportunities available to youth and the outcomes they experience. Enterprises that are formally registered especially as limited liability companies are more likely to receive external support and operate at a larger scale. Male-owned businesses are disproportionately represented among these larger enterprises, reflecting persistent gender-based barriers such as unequal access to land, mobility restrictions, and limited financing options for women. Additionally, variations across states in reported challenges and support-seeking behaviours indicate that youth engagement is shaped not only by individual motivation but also by broader contextual factors, including the availability of infrastructure, the responsiveness of local governance, and the presence of institutional support systems.

In conclusion, supporting young people in Nigeria's food systems goes beyond providing training or giving out loans. It requires a clear understanding of where young people are involved, the problems they face, and the ways they are already trying to improve their businesses. Not all youth are the same; some run small informal businesses, others are more established; some are located in areas with better infrastructure, while others face more challenges because of where they live. Women and men also have different experiences, especially when it comes to accessing land, money, and markets.

To be effective, support must match these differences. It should respond to urgent needs like lack of finance or poor infrastructure, while also helping young people plan and grow over time. Support should not only fix problems, it should also build confidence and open new opportunities. When programmes are designed with young people's real experiences in mind, they are more likely to be useful and lead to lasting change. Policymakers and development actors need to listen more carefully, design with youth input, and deliver support in ways that are fair, practical, and easy to access.

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Table ii: Gender-Based Differences in Business Scale Stratified by State of Origin

Business Location	Odds ratio	[95% conf. interval]		M–H weight
		Lower	Upper	
Abia	0.3333	0.0043	12.6887	0.7500
Abuja	1.1613	0.4587	2.9374	5.0101
Adamawa	0.3125	0.0785	1.2075	4.7660
Akwa Ibom	0.5040	0.2680	0.9442	15.7306
Anambra	0.4763	0.3236	0.7007	40.8379
Bauchi	0.7101	0.3988	1.2711	15.2320
Bayelsa	0.1436	0.0140	0.8464	4.4318
Benue	1.1005	0.3224	3.9738	3.0000
Borno	0.7226	0.5794	0.9014	97.0787
Cross River	1.5000	0.3071	7.5062	1.6364
Delta	0.0000	0.0000	1.1605	1.3636
Ebonyi	0.0000	0.0000	.	0.7500
Edo	0.7159	0.1026	3.8539	2.0465
Ekiti	0.7500	0.1566	3.5022	2.4444
Enugu	1.0476	0.2326	4.8725	2.1538
Gombe	0.1828	0.0289	0.8864	4.6500
Imo	1.5000	0.0987	27.0787	0.6154
Jigawa	0.5833	0.0356	9.9802	1.0435
Kaduna	0.4104	0.1589	1.0453	8.2500
Kano	0.4394	0.1769	1.0796	8.5556
Katsina	0.2000	0.0023	23.4895	0.7143
Kebbi	0.3542	0.1271	1.0069	6.9231
Kogi	1.0286	0.3182	3.3553	3.4426
Kwara	1.3122	0.8177	2.1133	16.6967
Lagos	0.7950	0.5818	1.0867	47.4525
Nasarawa	0.3056	0.0807	1.1611	4.8000
Niger	2.5758	0.9514	7.0432	2.9011
Ogun	0.7214	0.4175	1.2530	16.7097
Ondo	0.6047	0.2493	1.4566	7.6325
Osun	0.5833	0.0969	3.4569	2.1429
Oyo	0.3182	0.0614	1.4290	3.9111
Plateau	0.6429	0.3281	1.2619	12.1237
Rivers	7.3333	0.2519	470.7345	0.1765
Sokoto	1.0476	0.1586	7.9010	1.4737
Taraba	1.4286	0.2484	8.6601	1.4359
Yobe	0.3485	0.0912	1.2696	4.8293
Zamfara	1.0813	0.3246	3.9798	3.0750
Crude	0.7924	0.7108	0.8834	
M–H combined	0.6977	0.6230	0.7814	
Test of homogeneity (Tarone)	chi2(36) = 58.04, Pr>chi2 = 0.0114			
Test that combined odds ratio = 1:	Mantel–Haenszel chi2(1) = 39.17, Pr>chi2 = 0.0000			

Table iii: Gender-Based Differences in Business Scale Stratified by Geopolitical zone of Business

Zone	Odds ratio	[95% conf. interval]		M–H weight
		Lower	Upper	
North Central	0.8213	0.6170	1.0937	55.2746
North East	0.7674	0.6385	0.9222	134.8646
North West	0.5538	0.3543	0.8654	28.3631
South East	0.5416	0.3767	0.7786	43.0038
South South	0.6651	0.4257	1.0369	26.4946
South West	0.7418	0.5782	0.9522	75.7349
Crude	0.7924	0.7108	0.8834	
M–H combined	0.7194	0.6437	0.8041	
Test of homogeneity (Tarone)	chi2(5) = 5.59, Pr>chi2 = 0.3477			
Test that combined odds ratio = 1:	Mantel–Haenszel chi2(1) = 33.74, Pr>chi2 = 0.0000			

Table iv: Gender-Based Differences in Business Scale Stratified by State of Business

Business Location	Odds ratio	[95% conf. interval]		M–H weight
		Lower	Upper	
Abia	0.5357	0.0854	3.2641	2.1538
Abuja	0.7879	0.0566	8.3164	1.1379
Adamawa	0.4190	0.1107	1.5540	4.3750
Akwa Ibom	0.5775	0.3104	1.0720	15.1111
Anambra	0.4651	0.3194	0.6770	43.5200
Bauchi	0.6102	0.3436	1.0883	16.5059
Bayelsa	0.0897	0.0083	0.6195	4.5882
Benue	0.5000	0.1553	1.6246	4.8649
Borno	0.7231	0.5804	0.9012	97.8843
Cross River	1.0000	0.1793	5.5770	1.7500
Delta	1.6667	0.3103	9.0764	1.4000
Ebonyi	0.0000	0.0000	.	0.7000
Edo	0.4038	0.1068	1.4242	4.8000
Ekiti	1.2960	0.4382	3.9280	3.5211

Enugu	0.9630	0.2573	3.6280	2.8723
Gombe	0.1983	0.0411	0.8134	5.5000
Imo	1.4667	0.3090	7.1386	1.7143
Jigawa	1.0769	0.0475	72.4922	0.5652
Kaduna	0.5537	0.2044	1.4864	6.4286
Kano	0.4324	0.1718	1.0713	8.5094
Katsina	0.1250	0.0020	3.6272	1.3333
Kebbi	0.3925	0.1404	1.1294	6.4766
Kogi	1.0875	0.4459	2.6718	5.5446
Kwara	1.4043	0.9024	2.1937	18.3834
Lagos	1.2115	0.7285	2.0215	15.1081
Nasarawa	0.3704	0.0789	1.7788	3.3061
Niger	2.8788	0.9764	8.7174	2.3571
Ogun	0.6115	0.3821	0.9801	24.3844
Ondo	0.7111	0.3623	1.3950	11.5951
Osun	0.4203	0.1668	1.0421	8.6250
Oyo	0.4343	0.1926	0.9651	10.8527
Plateau	0.7490	0.3735	1.5096	10.5081
Rivers	.	0.0000	.	0.0000
Sokoto	0.9565	0.1155	7.9364	1.3529
Taraba	1.0000	0.1228	7.1942	1.3714
Yobe	0.4200	0.1227	1.3844	5.1546
Zamfara	1.1310	0.3441	4.1215	3.0732
Crude	0.7922	0.7106	0.8830	
M–H combined	0.7017	0.6267	0.7857	
Test of homogeneity (Tarone)	chi2(36) = 69.08, Pr>chi2 = 0.0007			
Test that combined odds ratio = 1:	Mantel–Haenszel chi2(1) = 38.18, Pr>chi2 = 0.0000			

Table v: Challenge–Support Gap Analysis: Access to Finance

Limited Access to Finance Challenge and Access to Finance Support	Exposed (Con- trols)	Unexposed (Con- trols)	Total
Cases (Exposed)	4011	818	4829
Cases (Unexposed)	151	382	533
Total	4162	1200	5362
McNemar's χ^2 (1)	459.12		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.9006		
Controls	0.7762		
Difference (95% CI)	0.1244 (0.1133 to 0.1355)		
Ratio (95% CI)	1.1603 (1.1446 to 1.1762)		
Relative Difference (95% CI)	0.5558 (0.5219 to 0.5897)		
Odds Ratio (Exact, 95% CI)	5.4172 (4.5487 to 6.4877)		

Table vi: Challenge–Support Gap Analysis: Technical Skills and Capacity Building

Limited Access to Technical Skills Challenge and Training and Capacity Building Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	793	201	994
Cases (Unexposed)	1067	3301	4368
Total	1860	3502	5362
McNemar's χ^2 (1)	591.45		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.1854		
Controls	0.3469		
Difference (95% CI)	-0.1615 (-0.1740 to -0.1490)		
Ratio (95% CI)	0.5344 (0.5077 to 0.5626)		
Relative Difference (95% CI)	-0.2473 (-0.2695 to -0.2250)		
Odds Ratio (Exact, 95% CI)	0.1884 (0.1612 to 0.2192)		

Table vii: Challenge–Support Gap Analysis: Input Access and Business Development

Limited Access to Input Challenges and Business Development Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	533	557	1090
Cases (Unexposed)	912	3360	4272
Total	1445	3917	5362
McNemar's χ^2 (1)	85.79		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.2033		
Controls	0.2695		
Difference (95% CI)	-0.0662 (-0.0803 to -0.0521)		
Ratio (95% CI)	0.7543 (0.7105 to 0.8009)		
Relative Difference (95% CI)	-0.0906 (-0.1107 to -0.0706)		
Odds Ratio (Exact, 95% CI)	0.6107 (0.5487 to 0.6794)		

Table viii: Challenge–Support Gap Analysis: Market Access and Linkage Support

Limited Access to Market Challenge and Market Linkage Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	661	327	988
Cases (Unexposed)	427	3947	4374
Total	1088	4274	5362
McNemar's χ^2 (1)	13.26		
Prob > χ^2	0.0003		
Exact p-value	0.0003		
Proportion with factor			
Cases	0.1843		
Controls	0.2029		
Difference (95% CI)	-0.0186 (-0.0289 to -0.0084)		
Ratio (95% CI)	0.9081 (0.8622 to 0.9565)		
Relative Difference (95% CI)	-0.0234 (-0.0361 to -0.0107)		
Odds Ratio (Exact, 95% CI)	0.7658 (0.6610 to 0.8865)		

Table ix: Distribution of MSMEs Across Identified Clusters Based on Challenges, Support Needs, and Business Characteristics

Cluster ID	Freq.	Percent
1	540	18.9
2	1,063	37.21
3	1,254	43.89
Total	2,857	100

Table x: Challenge–Support Gap Analysis: Input Access and Business Development

Limited Access to Input Challenges and Business Development Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	533	557	1090
Cases (Unexposed)	912	3360	4272
Total	1445	3917	5362
McNemar's χ^2 (1)	85.79		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.2033		
Controls	0.2695		
Difference (95% CI)	-0.0662 (-0.0803 to -0.0521)		
Ratio (95% CI)	0.7543 (0.7105 to 0.8009)		
Relative Difference (95% CI)	-0.0906 (-0.1107 to -0.0706)		
Odds Ratio (Exact, 95% CI)	0.6107 (0.5487 to 0.6794)		

Table xi: Challenge–Support Gap Analysis: Scaling and Mentorship/Networking

Scaling Difficulty Challenges and Mentorship/ Networking Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	283	151	434
Cases (Unexposed)	578	4348	4926
Total	861	4499	5360

McNemar's χ^2 (1)	250.11
Prob > χ^2	0.000
Exact p-value	0.000
Proportion with factor	
Cases	0.081
Controls	0.1606
Difference (95% CI)	-0.0797 (-0.0895 to -0.0698)
Ratio (95% CI)	0.5041 (0.4623 to 0.5496)
Relative Difference (95% CI)	-0.0949 (-0.1072 to -0.0826)
Odds Ratio (Exact, 95% CI)	0.2612 (0.2169 to 0.3130)

Table xii: Challenge–Support Gap Analysis: Access to Finance

Limited Access to Finance Challenge and Access to Finance Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	4011	818	4829
Cases (Unexposed)	151	382	533
Total	4162	1200	5362
McNemar's χ^2 (1)	459.12		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.9006		
Controls	0.7762		
Difference (95% CI)	0.1244 (0.1133 to 0.1355)		
Ratio (95% CI)	1.1603 (1.1446 to 1.1762)		
Relative Difference (95% CI)	0.5558 (0.5219 to 0.5897)		
Odds Ratio (Exact, 95% CI)	5.4172 (4.5487 to 6.4877)		

Table xiii: Challenge–Support Gap Analysis: Technical Skills and Capacity Building

Limited Access to Technical Skills Challenge and Training and Capacity Building Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	793	201	994
Cases (Unexposed)	1067	3301	4368
Total	1860	3502	5362
McNemar's χ^2 (1)	591.45		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.1854		
Controls	0.3469		
Difference (95% CI)	-0.1615 (-0.1740 to -0.1490)		
Ratio (95% CI)	0.5344 (0.5077 to 0.5626)		
Relative Difference (95% CI)	-0.2473 (-0.2695 to -0.2250)		
Odds Ratio (Exact, 95% CI)	0.1884 (0.1612 to 0.2192)		

Table xiv: Challenge–Support Gap Analysis: Input Access and Business Development

Limited Access to Input Challenges and Business Development Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	533	557	1090
Cases (Unexposed)	912	3360	4272
Total	1445	3917	5362
McNemar's χ^2 (1)	85.79		
Prob > χ^2	0.000		
Exact p-value	0.000		

Proportion with factor	
Cases	0.2033
Controls	0.2695
Difference (95% CI)	-0.0662 (-0.0803 to -0.0521)
Ratio (95% CI)	0.7543 (0.7105 to 0.8009)
Relative Difference (95% CI)	-0.0906 (-0.1107 to -0.0706)
Odds Ratio (Exact, 95% CI)	0.6107 (0.5487 to 0.6794)

Table xv: Challenge–Support Gap Analysis: Market Access and Linkage Support

Limited Access to Market Challenge and Market Linkage Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	661	327	988
Cases (Unexposed)	427	3947	4374
Total	1088	4274	5362
McNemar's χ^2 (1)	13.26		
Prob > χ^2	0.0003		
Exact p-value	0.0003		
Proportion with factor			
Cases	0.1843		
Controls	0.2029		
Difference (95% CI)	-0.0186 (-0.0289 to -0.0084)		
Ratio (95% CI)	0.9081 (0.8622 to 0.9565)		
Relative Difference (95% CI)	-0.0234 (-0.0361 to -0.0107)		
Odds Ratio (Exact, 95% CI)	0.7658 (0.6610 to 0.8865)		

Table xvi: Challenge–Support Gap Analysis: Infrastructure and Facility Support

Limited Access to Infrastructure Challenge and Infrastructure Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	663	205	868
Cases (Unexposed)	367	4127	4494
Total	1030	4332	5362
McNemar's χ^2 (1)	45.88		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.1619		
Controls	0.1921		
Difference (95% CI)	-0.0302 (-0.0391 to -0.0213)		
Ratio (95% CI)	0.8427 (0.8020 to 0.8855)		
Relative Difference (95% CI)	-0.0374 (-0.0484 to -0.0264)		
Odds Ratio (Exact, 95% CI)	0.5586 (0.4685 to 0.6645)		

Table xvii: Challenge–Support Gap Analysis: Scaling and Mentorship/Networking

Scaling Difficulty Challenges and Mentorship/ Networking Support	Exposed (Controls)	Unexposed (Controls)	Total
Cases (Exposed)	283	151	434
Cases (Unexposed)	578	4348	4926
Total	861	4499	5360
McNemar's χ^2 (1)	250.11		
Prob > χ^2	0.000		
Exact p-value	0.000		
Proportion with factor			
Cases	0.081		
Controls	0.1606		
Difference (95% CI)	-0.0797 (-0.0895 to -0.0698)		
Ratio (95% CI)	0.5041 (0.4623 to 0.5496)		
Relative Difference (95% CI)	-0.0949 (-0.1072 to -0.0826)		
Odds Ratio (Exact, 95% CI)	0.2612 (0.2169 to 0.3130)		

No	9.4	90.6	5,308	0.0072, p > 0.05	82.5	17.5	5,308	41.8669, p < 0.001	80.9	19.1	5,308	54.5637, p < 0.001	82.5	17.5	5,308	20.9394, p < 0.001	85.0	15.0	5,308	88.7777, p < 0.001	92.6	7.4	5,306	57.8267, p < 0.001
Yes	9.6	90.4	146		61.6	38.4	146		56.2	43.8	146		67.8	32.2	146		56.2	43.8	146		75.3	24.7	146	
Pig- gery																								
No	9.5	90.5	5,234	3.2610, p > 0.05	82.4	17.6	5,234	20.5165, p < 0.001	80.5	19.5	5,234	8.0568, p < 0.01	82.3	17.7	5,234	4.3947, p < 0.05	84.9	15.1	5,234	44.3189, p < 0.001	92.5	7.5	5,232	25.0142, p < 0.001
Yes	5.9	94.1	220		70.5	29.5	220		72.7	27.3	220		76.8	23.2	220		68.2	31.8	220		83.2	16.8	220	
Rab- bit																								
No	9.4	90.6	5,320	0.2244, p > 0.05	82.1	17.9	5,320	1.7550, p > 0.05	80.5	19.5	5,320	14.6954, p < 0.001	82.5	17.5	5,320	25.3261, p < 0.001	84.7	15.3	5,320	44.6226, p < 0.001	92.3	7.7	5,318	13.6734, p < 0.001
Yes	8.2	91.8	134		77.6	22.4	134		67.2	32.8	134		65.7	34.3	134		63.4	36.6	134		83.6	16.4	134	
Snail																								
No	9.4	90.6	5,389	1.7612, p > 0.05	82.1	17.9	5,389	9.0541, p < 0.005	80.4	19.6	5,389	12.1426, p < 0.001	82.3	17.7	5,389	13.7350, p < 0.001	84.7	15.3	5,389	65.9993, p < 0.001	92.2	7.8	5,387	10.0689, p < 0.005
Yes	4.6	95.4	65		67.7	32.3	65		63.1	36.9	65		64.6	35.4	65		47.7	52.3	65		81.5	18.5	65	
Cane Rat																								
No	9.4	90.6	5,441	0.0440, p > 0.05	82.0	18.0	5,441	3.6746, p > 0.05	80.2	19.8	5,441	0.0880, p > 0.05	82.1	17.9	5,441	0.0551, p > 0.05	84.2	15.8	5,441	2.2003, p > 0.05	92.1	7.9	5,439	4.1199, p < 0.05
Yes	7.7	92.3	13		61.5	38.5	13		76.9	23.1	13		84.6	15.4	13		69.2	30.8	13		76.9	23.1	13	
Vege- table																								
No	9.6	90.4	4,699	2.4850, p > 0.05	85.3	14.7	4,699	260.3738, p < 0.001	84.0	16.0	4,699	306.7641, p < 0.001	85.3	14.7	4,699	234.0014, p < 0.001	87.6	12.4	4,699	300.6482, p < 0.001	94.2	5.8	4,699	209.4147, p < 0.001
Yes	7.8	92.2	753		61.0	39.0	753		56.6	43.4	753		62.3	37.7	753		62.8	37.2	753		78.9	21.1	753	
Staple Crop																								
No	9.5	90.5	5,143	2.5922, p > 0.05	83.5	16.5	5,143	153.0457, p < 0.001	82.2	17.8	5,143	237.1503, p < 0.001	83.6	16.4	5,143	144.8427, p < 0.001	86.4	13.6	5,143	330.5880, p < 0.001	93.4	6.6	5,143	221.5769, p < 0.001
Yes	6.8	93.2	309		55.7	44.3	309		46.3	53.7	309		56.6	43.4	309		47.6	52.4	309		69.9	30.1	309	

MEMBERS OF THE YOUTH TASK TEAM

Adeoluwa Adegbemile

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Akinloye Oluwagbemisola Victoria

Akinwale Alabi

Aminat Adebayo

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