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**Challenges and Opportunities in Nigeria's  
Home-Grown School Feeding Program**

**Toward a More Efficient and Sustainable Model**

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## INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

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## Abstract

This paper examines Nigeria's Home-Grown School Feeding Program (HGSFP), an initiative that enhances traditional school feeding by supporting local agriculture. Operating across federal, state, and school levels, the HGSFP sources meals from local smallholder farmers, aiming to stimulate rural economies and improve food security. The program creates demand for locally grown food, encouraging farmers to increase productivity and adopt sustainable practices while providing them with stable income.

The HGSFP has successfully expanded its impact beyond students to benefit farmers, communities, and local businesses; despite these achievements, the program still faces challenges including funding constraints, logistical issues, and monitoring difficulties. By analyzing successful implementations in other countries that are characterized by strong government support, well-developed supply chains, and active community participation, the paper offers insights for improvement. The discussion concludes with evidence-based recommendations for policymakers and program administrators. These suggestions aim to enhance the HGSFP's effectiveness, efficiency, and long-term sustainability, ultimately contributing to Nigeria's broader agricultural and economic development goals.

**Keywords:** Home-grown school feeding program, agricultural development, sustainability, Nigeria

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## 1. Introduction

School feeding programs (SFPs) are extensively implemented worldwide and are one of the most prevalent forms of social protection programs. Estimates suggest approximately 418 million children globally benefit from school meals, with between 41 percent and 61 percent of children enrolled in primary school benefiting from at least one free, nutritious meal each school day through these programs (WFP, 2022). Rigorous studies have shown that SFPs can improve children's health, nutrition, and education (Aurino, Gelli, Adamba, Osei-Akoto & Alderman, 2023; Lundborg, Rooth & Alex-Petersen, 2022; Abay et al., 2021). In addition, these programs have the potential to support smallholder farmers who supply produce to schools, though there is a gap in the evidence on these effects (Shrestha et al., 2020; WFP, 2019; World Bank, 2018; Bundy et al., 2018; Gokah, 2008).

Recently, Home-Grown School Feeding Programs (HGSFPs) have gained prominence as a strategy to address various development challenges. These programs aim to link school feeding programs with local agricultural production to support local farmers through access to a stable market and thus promote rural economic growth (Sitali, 2021). HGSFPs simultaneously enhance school attendance, promote local agricultural development, and improve child nutrition by obtaining meals from nearby smallholder farmers and producers (Fernandes et al., 2016; WFP, 2013; Gelli et al., 2010). Governments worldwide are increasingly recognizing the potential of HGSFPs to serve as a link between the education and agriculture sectors (Barnabas, Agyemang, Zhllima & Bavorova, 2023; Action Health Inc., 2018). This approach aligns with more general objectives such as the Sustainable Development Goals (SDGs)<sup>1</sup> that address the eradication of hunger, high-quality education, and sustainable economic growth (Aurino, Gelli, Adamba, Osei-Akoto & Alderman, 2023). In Nigeria, the implementation of SFPs began in 2004 in 12 states, covering all six geopolitical zones of the federation. The initiative was relaunched in 2016 as the National Home-Grown School Feeding Program (NHGSFP), expanding to 22 states. The program provides nutritious, balanced meals to 5.5 million primary school children in grades 1 to 3, engaging smallholder farmers and utilizing local procurement, and thereby boosting the local economy (Alabede et al., 2020; Federal Ministry of Education Nigeria, 2006). Currently, the

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<sup>1</sup> [Sustainable Development \(un.org\)](https://un.org)

NHGSFP reaches approximately 9.9 million pupils across more than 56,000 schools, involving 80,000 farmers, 127,000 food vendors, and 100 aggregators across the 36 states in Nigeria (AUDA-NEPAD, 2020). Despite recent restructuring and progress, a comprehensive understanding of the successes and challenges faced by the NHGSFP remains limited. Although some studies highlight its positive impacts, including improved nutrition, increased school attendance, and better educational outcomes (Dennis, Abu, Umar, & Joel, 2021), there are still significant gaps in the literature. These include an incomplete exploration of different aspects of the program and the challenges that may hinder their long-term sustainability and broader impact on local economies and agricultural systems. These critical areas require an in-depth investigation to fully evaluate the overall effectiveness of HGSFPs to inform future models and ensure effective implementation.

This study evaluated Nigeria's HGSFP, examining its impact on agricultural development and rural livelihoods and offering insights into its broader economic implications. The study also analyzed the implementation of the HGSFP, focusing on its successes, challenges, and areas needing improvement. Additionally, the study included a cross-country comparative analysis that evaluated Nigeria's HGSFP alongside similar initiatives in other countries. This approach aimed to identify valuable lessons and best practices that could enhance the program's efficiency, implementation, and sustainability.

By addressing these objectives, this discussion paper aims to contribute to the ongoing discourse on HGSFPs and their roles in promoting food security and local and sustainable agricultural development, while also providing policy solutions and evidence-based recommendations to enhance the program's effectiveness, efficiency, and sustainability.

## **2. Overview of the impact of home-grown school feeding programs on agricultural development and rural livelihoods.**

HGSFPs are innovative interventions designed to improve food security, nutrition, education, and agricultural and local economic growth (Karisa and Ordho, 2014). These interventions involve the provision of school meals using locally sourced food from smallholder farmers within the community (Gelli & Espejo, 2013). FAO (2018) considers HGSFP a way to enhance smallholder farmers' livelihoods and strengthen connections between nutrition, agriculture, and social

protection. HGSFPs have gained significant attention for their potential to improve nutrition and agriculture outcomes in local communities. In 2014, about 47 countries in sub-Saharan Africa were implementing SFPs, with at least 20 of them adopting HGSFPs or similar models (Singh and Fernandes, 2018).

While smallholder farmers are highly likely to engage in the production and marketing of both staple and non-staple foods, they continue to face several integration and market challenges, including low output prices, high transaction costs, and the perishability of non-staple foods (Singh & Fernandes, 2018). Moreover, HGSFPs are aimed at promoting sustainable farming practices and stimulating agricultural production. According to FAO (2018), these programs incentivize smallholder farmers to increase their productivity and adopt more sustainable agricultural methods by boosting demand for locally grown food. This not only improves food security but also boosts local economies by providing farmers with a stable source of income.

Additionally, HGSFPs have been linked to the development of small enterprises within local communities. The demand for food aggregators and catering services for school feeding programs creates opportunities for local entrepreneurs to establish or expand their businesses, leading to job creation, better livelihoods, and economic growth (Gelli et al., 2010). A careful analysis of the literature on HGSFPs suggests that these initiatives have the potential for a positive spillover effect that can strengthen local communities.

By sourcing food items from smallholder farmers and producers, HGSFPs can provide economic benefits and improve food security at the community level. This corroborates Masset and Gelli (2013), who designed a randomized trial in Mali to evaluate the impact of HGSFPs integrating nutrition, agriculture, and education on community development. Their analysis highlighted the potential role of HGSFPs in generating increased demand for goods and services, benefiting stakeholders such as women's groups and smallholder farmers in the community. The analysis of the programs' theory suggests that HGSFPs could improve smallholder farmers' income and enhance community engagement through the supply of goods and services for school feeding.

Gelli et al. (2021) conducted a three-year cluster randomized trial involving a panel of 1,688 households to examine the impact of school meals on agricultural marketing among smallholder farmers in Ghana. They found that HGSFPs increased the share of goods and services, by value,

purchased by school caterers directly from smallholder farmers. This suggests that by promoting the consumption of locally produced food, HGSFPs can contribute to the development of local food systems and reduce reliance on imported food products. However, the study did not find significant evidence of the role of HGSFPs in influencing market structure, non-farm income, farm income, and household incomes.

## **2.1 The potential role of linking cooks with smallholder farmers**

Smallholder farmers play a crucial role in household food security, income generation, nutrition, and rural development, especially in developing countries (Drake et al., 2016, Amare et al., 2021; Amare et al., 2024). Despite their importance in global and regional food production, smallholder farmers constitute a majority of the world's undernourished population and those living in absolute poverty (WFP, 2013; UN Millennium Project, 2005). The HGSFPs are increasingly recognized, especially in countries funding their own SFPs, due to their role in contributing to nutrition and education outcomes while also having the potential to support smallholder farmers (Fernandes et al., 2016; WFP, 2013; Gelli et al., 2010).

The idea of using school feeding programs as a vehicle for agricultural development has also gained momentum due to recent policy reform. The rationale behind utilizing locally produced foods in these programs is that they can provide stable market opportunity and reliable income source for smallholder farmers, thereby promoting local economic development and agricultural transformation (Okolo-Obasi & Uduji, 2022; Wineman et al., 2022; Sumberg & Sabates-Wheeler, 2011; Takeshima et al., 2018; Benson et al., 2020). Until recently, food for these programs often came from donations from developed countries in the form of food aid (Lawson, 2012) and delivered through organizations such as the World Food Program (WFP).

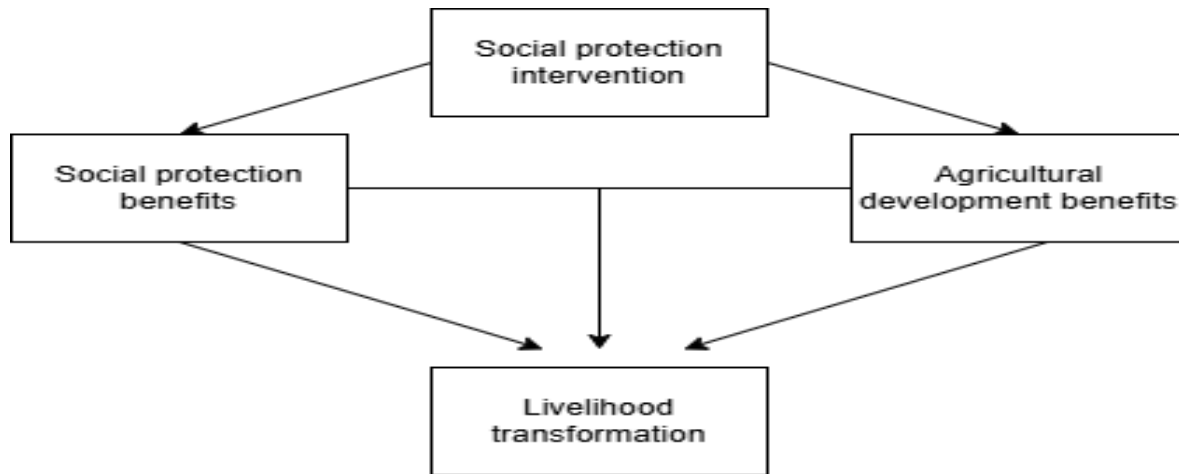
However, more emphasis has been placed on local (i.e., national or community level) procurement in recent years, an approach also known as Home-Grown School Feeding (HGSF) (Adelman et al., 2008). Key principles include local food procurement, smallholder engagement, nutrient-rich and diverse foods, and regularity in meal provision (Global Panel, 2015; Shrestha et al., 2020; Sumberg & Sabates-Wheeler, 2011; Wineman et al., 2022).

The HGSFPs are an innovative approach that combines social protection interventions with agricultural development initiatives, creating a potential win-win situation for both sectors as shown in Figure 1. The linkage between smallholder farmers and SFPs can be used for the provision of fresh organic, nutrient-rich foods in the meal programs (Soares et al., 2017). This is particularly important for countries like Nigeria, where high rates of stunting and wasting among young children highlight the need for nutritious meals rich in essential micronutrients such as vitamin A, iodine, and iron (Abay et al., 202; Fadare et al., 2019; Benson et al., 2018; Amare et al., 2018; Fernandes et al., 2016; Jomaa et al., 2011). Studies have emphasized the importance of adequate iron and iodine intake during childhood, as deficiencies in these nutrients can lead to cognitive impairments and brain damage. (WFP, 2020; WHO, 2013).

HGSFP provides nutritious meals for schoolchildren, prepared from locally sourced food items grown by smallholder farmers in the surrounding communities. The meals are fortified or supplemented as necessary, and pupils receive regular deworming treatments, ensuring improved nutrition and health outcomes. By sourcing food items from the farmers, the program offers opportunities for economic empowerment (Drake et al., 2016; Masset and Gelli, 2013). Furthermore, the program strengthens the capacity of local food processors and traders, contributing to the development of resilient local food systems.

The benefits of linking school feeding programs and local community agricultural development are substantial, including creating resilient rural communities with stable local economies, increasingly successful smallholder farmers with a secure future, improved demand for local and fresh food, and healthier and happier school children (Neaser, 2012). Ensuring an adequate intake of essential nutrients including protein, vitamins, iron, and calcium is crucial for supporting growth and tissue repair in children (Rufina et al., 2018; Baah et al., 2009). HGSFP supports inclusive education and social protection while diversifying agricultural activity. As a food-based safety net program, it is also intended to help promote food security in the beneficiary households. Thus, the HGSFP aligns multiple stakeholders – children, households, farmers, communities, and government. It facilitates sustainable and socially inclusive food system transitions across spheres of influence (Graça et al., 2022).

**Figure 1: Linking social protection intervention to agricultural benefits: a win-win scenario**



Source: Adapted from Sumberg & Sabates-Wheeler (2011).

Evidence from Brazil, Ethiopia, Indonesia, the United States<sup>2</sup>, South Africa, Ghana, Kenya, and Nigeria provides increasing support for the concept of linking smallholder production with school feeding demand to improve the smallholder farmer household food security and create new markets in middle- and low-income countries (Sabates-Wheeler et al., 2009; Sumberg & Sabates-Wheeler, 2011; Barnabas et al., 2023; Amare et al., 2024). These case studies demonstrate the potential for schools to achieve multiple goals through nutrition programs, as schools can provide healthy and balanced meals to students while increasing demand for local agricultural outputs.

Findings from Appollm & Daniel (2021) suggested that Nigeria's HGSFP was associated with improved local food production and income of farmers. There is enormous scope for programs to purchase and use locally produced food in middle- and low-income countries. A study of school food procurement activities in the United Kingdom estimated a three-fold return on investment, in the form of positive social, economic, and environmental gains (Kersley & Knuutila, 2011). Several studies have revealed that the linkage has helped improve opportunities for farmers to reduce risks and loss and increase their profit and food security status by increasing the demand for vegetable products, staple foods, and cereals (Singh & Fernandes, 2018; IFAD, 2015; Masset & Gelli, 2013; Sabates-Wheeler et al., 2009). This approach provides small-scale farmers with

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<sup>2</sup> United States Government, Agricultural Act of 2014, in H.R.2642. 2014: Washington DC (USA).

greater economic security and stability, empowering them to invest in productivity-enhancing inputs, such as improved seeds, fertilizers, and agricultural technologies (Appollm & Daniel, 2021; Bundy et al., 2009). While farmers gain the principal economic benefits of local procurement for schools, the benefits to local communities include job creation in support of food delivery and preparation of schools' meals, as well as at other points in the value chain where value-added is generated (Global Panel, 2015).

In Nigeria, for example, the national policy allows for different mechanisms for decentralization of school meal procurement and delivery involving the private sector. In many cases, school implementing committees or caterers (cooks) purchase directly from farmers, farmers' associations, or local markets while local vendors provide logistical support for delivery. Similarly, the Indian state of Rajasthan has delegated the buying of food for school meals to small and medium-sized businesses (Bundy, 2009b). The benefits tend to be even greater for smallholder farmers who do not have access to urban markets or international markets (Sidaner, Balaban & Burlandy, 2013). Local value-added production has also become more frequent. For instance, in Bangladesh, the wheat flour donated through WFP was processed by seven local firms in a competitive bidding process to produce the fortified biscuits used in the Bangladesh SFP (Ahmed 2004), while in the Nigerian HGSP model, farmers take advantage of the new opportunities across the supply chain, including catering, processing, and food handling jobs, which could help in boosting the local economy.

Institutionalized procurement that is decentralized to the local level through these programs may induce general and commodity-specific corrective measures to promote diversified food production and consumption (Banerjee, 2011). School menus provide a critical interface to strengthen linkages among agricultural production, markets, and diets (Fernandes et al., 2016; Parish and Gelli, 2015). Additional food system activity that can be promoted includes the establishment and maintenance of local storage facilities (which most schools do not have a priori) and the procurement of domestically produced micronutrient-fortified products. In India, for example, fortified processed foods, such as factory-produced Indiamix (a micronutrient fortified maize-soy mix used to make porridge) or fortified rice-lentil mixes made by local women's groups, have been procured by state and local governments for use in primary school systems for many years.

### 3. Implementation models for home-grown school feeding programs

HGSFPs are typically designed to address the coordination risk arising from thin markets and weak institutions in rural areas by providing a reliable demand for smallholders’ produce and thus offer a promising approach to address various value chain challenges faced by smallholder farmers in rural areas. By establishing a structured demand through public procurement, HGSFPs can fill important market gaps by creating a strong market linkage for smallholders, leading to the development of the agricultural value chain. This structured market demand can also stimulate an increase in the production base of smallholder farmers, allowing for increased volume and quality of crops available for procurement (Zwane, 2015; Masset & Gelli, 2013, Drake et al., 2012; Sunberg & Sabates-Wheeler, 2011).

Various models are adopted in the implementation of HGSFPs, which can vary by country based on their specific context and objectives. The FAO and WFP (2018) identified two major models – centralized and decentralized models – with the possibility of many variations as presented in Figure 2. Each of these models has its unique advantages and trade-offs in terms of benefits for schools, students, smallholder farmers, quality of food, cost efficiency, and cost effectiveness (FAO and WFP, 2018).

**Figure 2: Spectrum of home-grown school feeding models**



Source: WFP (2017).

For instance, decentralized models offer flexibility to adapt to local conditions and opportunities. The more decentralized the system, the more it can benefit local communities by creating local-to-local connections (Barnabas et al., 2023). Decentralization also helps in providing fresh food, increasing food variety, and aligning with local tastes and habits (FAO and WFP, 2018). On the other hand, centralized models ensure standardized procedures, making monitoring and quality control easier. However, centralized procurement in large quantities through a few contracts may raise concerns about procurement manipulation (FAO and WFP, 2018). Third-party models provide governments with the opportunity to support smallholder production without directly purchasing from them. This model allows governments to focus on managing contracts with specialized caterers, ensuring efficient and effective purchases from smallholder farmers, and benefiting them through timely and fair payment and access to markets (FAO and WFP, 2018).

Other SFP models include the direct procurement model, in which government agencies purchase food directly from local communities to supply feeding programs, stimulating regional or local development (World Bank, 2013); the voucher or cash transfer model, in which beneficiaries receive vouchers or cash transfers to redeem at specified local food markets or vendors (Shrestha et al., 2020); the food fortification model, which involves providing fortified food products such as fortified flour, rice, and cooking oil as part of school meals to enhance nutritional quality; the public-private partnership (PPP) model involving collaboration between the private sector and government agencies, with the private sector contributing resources and expertise; and the community-based model, which is considered the most ideal, with the community taking the lead in planning and implementing HGSFPs while receiving support from government agencies and international partners.

### **3.1 Implementation models of the home-grown school feeding program in Nigeria**

The inception of SFPs in Africa can be attributed to the Millennium Development Goals (MDGs)<sup>3</sup> and the Comprehensive Africa Development Programme (CAADP) initiative, which advocated for SFPs utilizing locally sourced foods instead of imports (Dennis et al., 2021). In response to the nutritional situation and the need to reduce malnutrition, especially among the poor and vulnerable in Nigeria, the HGSFP was established, with Nigeria being among 12 pilot countries invited to

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<sup>3</sup> [Millennium Development Goals \(MDGs\)](#)

implement it (Abay et al., 2021; Amare et al., 2018; Fadare et al., 2019). Nigeria's Universal Basic Education (UBE) Act of 2004 provided legislative support for the SFP's implementation in select states across the country's six geo-political zones (Dennis et al., 2021). States included FCT Abuja, Bauchi, Cross River, Enugu, Imo, Kano, Kebbi, Kogi, Rivers, Ogun, Osun, Nasarawa and Yobe, selected under the coordination of the Federal Ministry of Education (Dennis et al., 2021).

The program aimed to provide pupils with adequate meals during the school day (Federal Government of Nigeria, 2016). However, shortly after its launch, the program was halted in some states, with only Osun and Kano States continuing their school feeding initiatives. The experience from the pilot provided several important policy and operational insights for HGSF implementation in Nigeria and was instructive in developing new plans and strategies (Federal Government of Nigeria, 2016). This led to the official inauguration of the National Home-Grown School Feeding Program (NHGSFP) by the Federal Government of Nigeria (FGN) in 2016.

The evolution from traditional SFPs to HGSFPs represents a significant improvement in design and implementation. The Nigerian HGSFP aims to deliver a government-led, cost-effective school feeding program with a specific focus on the development of smallholder farmers and local procurement to spur growth in the local economy (Action Health Inc., 2018). This transition was motivated by several factors, including the desire to reduce costs, create reliable markets for local smallholder producers, establish a more sustainable feeding program, foster a sense of ownership of the school feeding program among local communities, and promote broader local development (According to Songa, 2011; Hatzenbuehler et al., 2023).

The NHGSFP was officially relaunched and inaugurated by the FGN as a multisectoral collaboration, with funding, design, guidelines, monitoring, and impact assessment carried out by the federal government (Federal Government of Nigeria, 2016). The NHGSFP aims to improve primary school enrollment and reduce dropout rates in Nigeria; enhance the nutrition and health status of schoolchildren to boost their learning outcomes; stimulate local agricultural production and increase incomes for smallholder farmers by linking them to the SFP's reliable market; and generate employment opportunities along the HGSF value chain to spur broader economic growth and development at the community and state levels (Action Health Inc., 2018; World Bank, 2013; Kiamba, 2013). The program aimed to provide nutritious and balanced meals to 5.5 million

primary school children in grades 1 to 3 (Alabede et al., 2020; Federal Ministry of Education Nigeria, 2006).

The implementation of HGSFPs involves a range of activities and processes to ensure their effectiveness. One key aspect is the identification and selection of local smallholder farmers to supply food to cooks or schools. This process requires coordination with local agricultural ministries to identify farmers who can provide a reliable and sustainable supply of food. Additionally, partnerships with farmer cooperatives and associations can help streamline the procurement process and ensure fair prices for farmers. Like most HGSFPs across Africa, Nigeria's HGSFP is administered at the national level through a secretariat accountable to a range of government ministries, which formulates policies and establishes institutional structures (Gokah, 2008; Sumberg & Sabates-Wheeler, 2011). For instance, the federal government is responsible for coordination and monitoring in Nigeria while the state government implements the program at the local level, and the food procurement and ground implementation are handled by the schools.

The school feeding standard adopted in Nigeria follows a top-to-bottom model, with policy, regulatory framework, and financing occurring at the federal level, while implementation and the role of communities are determined by the state government. The procurement model used is a third-party system, with food procurement occurring at the school level. Food vendors or cooks are hired by the state to provide one hot nutritious meal to students daily while school is in session, sourcing food inputs from respective local markets, thus providing opportunities for more linkages with local smallholder farmers directly benefiting communities (AUDA-NEPAD, 2020).

### **3.2 Meal plans in the Nigeria's home-grown school feeding program**

The menu plans for the NHGSFP in Nigeria are designed to incorporate locally sourced food items from various communities where the schools are located. The access to a nutritious midday meal has been recognized to play a vital role in achieving good nutritional status and overall well-being, improving cognitive and mental development and enhancing academic performance of schoolchildren (Ibianu et al., 2017). This approach aligns with the project's objective of ensuring that schoolchildren receive nutritious and balanced meals to support their growth and development while also promoting local food systems and economies.

The typical meal in Nigeria consists of a carbohydrate staple such as rice, maize, millet, or cassava, paired with a protein source like beans, eggs, or fish, and vegetables. This combination aims to provide a balanced and nutrient-dense meal for the students. The menu plans for the NHGSFP take into consideration several key factors, including local availability of products, cost, children's preferences, variety, religious and cultural appropriateness, and food seasonality (Lagos Food Bank's school feeding guide<sup>4</sup>). These considerations ensure that the meals are not only nutritious but also culturally relevant and acceptable to the local communities.

Table 1 showcases the diverse food menu plans implemented across three states in Nigeria: Ogun, Niger, and Osun. The menu plans reflect the rich culinary heritage and locally available ingredients in each state, with traditional dishes and staple foods incorporated into the school meals. In Ogun, for instance, the menu features dishes such as beans, ikokore (Nigerian water yam pottage), eko (pap), moin moin (bean pudding), and eba (gari) with vegetable soup, highlighting the state's staple foods and culinary traditions (Nwagboso et al., 2024; Action Health Inc., 2018; Ogunbeni et al., 2013). Beyond featuring local cuisines, the menu plans also prioritize dietary diversity. Various protein sources, including fish, eggs, beef, and chicken, are incorporated to provide essential amino acids. Vegetables like spinach and moringa leaves, as well as fruits such as carrots and oranges or tangerines, are included to ensure adequate intake of vitamins, minerals, and dietary fiber. The menu plans also consider the inclusion of foods rich in essential micronutrients like iron and iodine, which are crucial for cognitive development and overall health in growing children.

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<sup>4</sup> [NEW-SCHOOL-FEEDING-PROGRAM-GUIDE-2-Repaired-1.pdf \(lagosfoodbank.org\)](#)

**Table 1 Food menus by state**

<b>Days</b>	<b>States</b>		
	<b>Ogun<sup>a</sup></b>	<b>Niger<sup>b</sup></b>	<b>Osun<sup>c</sup></b>
Monday	Rice and beans with fish	Jollof rice and meat	White rice, melon soup, and egg
Tuesday	Beans and stew with fish	Yam porridge, vegetables, and egg	Bean porridge and beef sauce
Wednesday	Rice and stew with meat	Rice and beans	White rice, melon soup, and egg
Thursday	Eba/fufu and vegetable with meat	Bean porridge and bread	Yam/cocoyam, bean porridge, and fish sauce
Friday	Ikokore/eko and moin moin	Soya cheese sauce and bread	White rice, beans, and beef sauce

Source: <sup>a</sup> Action Health Inc. (2018).

<sup>b</sup> National Home-Grown School Feeding Program Office, Niger State.

<sup>c</sup> Osun State Elementary School Feeding and Health Program (O-MEALS) office.

### 3.3 State context: Osun State elementary school feeding

The following summary of the experience of the Osun State HGSP is derived from a careful examination of the literature as well as insights gathered from discussions with Osun State officials. This integration contributes to a comprehensive understanding of the implementation and impact of the Osun State HGSP. The Osun State Elementary School Feeding and Health Program (O-MEALS), formerly known as the Home-Grown School Feeding Program, was restructured, scaled up, and officially relaunched on April 30, 2012.<sup>5</sup> The state is known as a model of good practice for the program in Nigeria. Unlike other states, which depend solely on the federal government for funding, the HGSP in Osun State utilizes co-funding from the state government. The key improvements include backward integration with local food markets and streamlining processes. The daily feeding allowance for each pupil has also been increased to ₦120 (around \$0.30),<sup>6</sup> while the national payment per child is ₦100<sup>7</sup> (around \$0.25). As one of the largest schools feeding program in Nigeria, Osun State gained international endorsement for its impact on multiple fronts such as improving school enrollment and attendance by 25 percent.<sup>8</sup>

The intervention currently encompasses 1,475 schools, engages 2,470 cooks, and serves 95,983 students across the state. The objectives of the state's SFP involve various actors and focus on increasing pupil enrollment and retention, improving the nutritional and health status of pupils, addressing specific micronutrient deficiencies for better school performance, alleviating hunger and malnutrition, creating jobs, boosting local food production and income for farmers, as well as reducing poverty and supporting the development of small and medium-scale enterprises (Yunusa et al., 2012). The O-Meals program in Osun state provides employment and income to thousands of local caterers, farmers, and traders, which may indirectly improve their health. The program's menu has been expanded to include more nutritious alternatives such as cocoyam, which can be substituted for yam when it is unavailable. There are also plans to introduce orange-fleshed sweet potato as an additional nutrient-dense option (Drake et al., 2016).

The state-level implementing office is responsible for key administrative and operational aspects of the program. This includes selecting the participating schools as well as appointing dedicated

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<sup>5</sup> [Osun Elementary School Feeding and Health Programme \(OMEALS\) – Osun State Official Website](#)

<sup>6</sup> Central Bank of Nigeria Average Dollar Exchange Rate for 2021 – ₦399.3597 to \$1

<sup>7</sup> [NHGSP – KDSG | Official Website](#)

<sup>8</sup> [Osun Elementary School Feeding and Health Program \(OMEALS\) – Osun State Official Website](#)

local government officers. With the support of the NHGSFP, the state office determines the food menus and coordinates the supply chain logistics. Vendors selected by the state are paid directly by the federal government, with additional funding support from the state government. Furthermore, the state provides all necessary cooking equipment. The state also engages local aggregators to procure specific products, such as fish, beefs, eggs, and chicken, for distribution to the appointed vendors (cooks).

Aggregators play a crucial role in linking smallholder farmers to school cooks. Typically, farmers' cooperatives act as aggregators, buying animal proteins from their members to supply the program. This aggregator system helps smallholder farmers access a reliable market, addressing issues of scale and consistency in dealing with individual schools. By participating in the HGSFP supply chain, aggregators enable small-scale producers to increase their incomes through institutional procurement. Other food items and condiments are sourced directly from local markets by the cooks.

The implementation of the HGSFP in Osun State presents both opportunities and challenges that warrant careful consideration by policymakers and program implementers. The program's emphasis on sourcing locally grown agricultural produce could stimulate the state's agricultural sector by providing a much-needed boost to the livelihoods of smallholder farmers and rural economies. This could prompt policymakers to prioritize supportive policies such as improving agricultural extension services, facilitating market linkages, and fostering public-private partnerships within the agricultural value chain. Also, the anticipated benefits of improved nutrition, cognitive development, and educational outcomes among students could drive policymakers to allocate adequate resources for sustaining the program's quality and expanding its reach.

### **3.4 Challenges of the school feeding program in Nigeria**

The NHGSFP plays a crucial role in increasing school enrollment, improving nutrition, and empowering local cooks and farmers. However, its implementation has faced numerous challenges that have hindered its effectiveness and impact. These challenges range from funding and infrastructure deficiencies to institutional and regulatory gaps, undermining the program's ability to reach its target beneficiaries and achieve its intended objectives effectively.

## a) Funding and financial sustainability

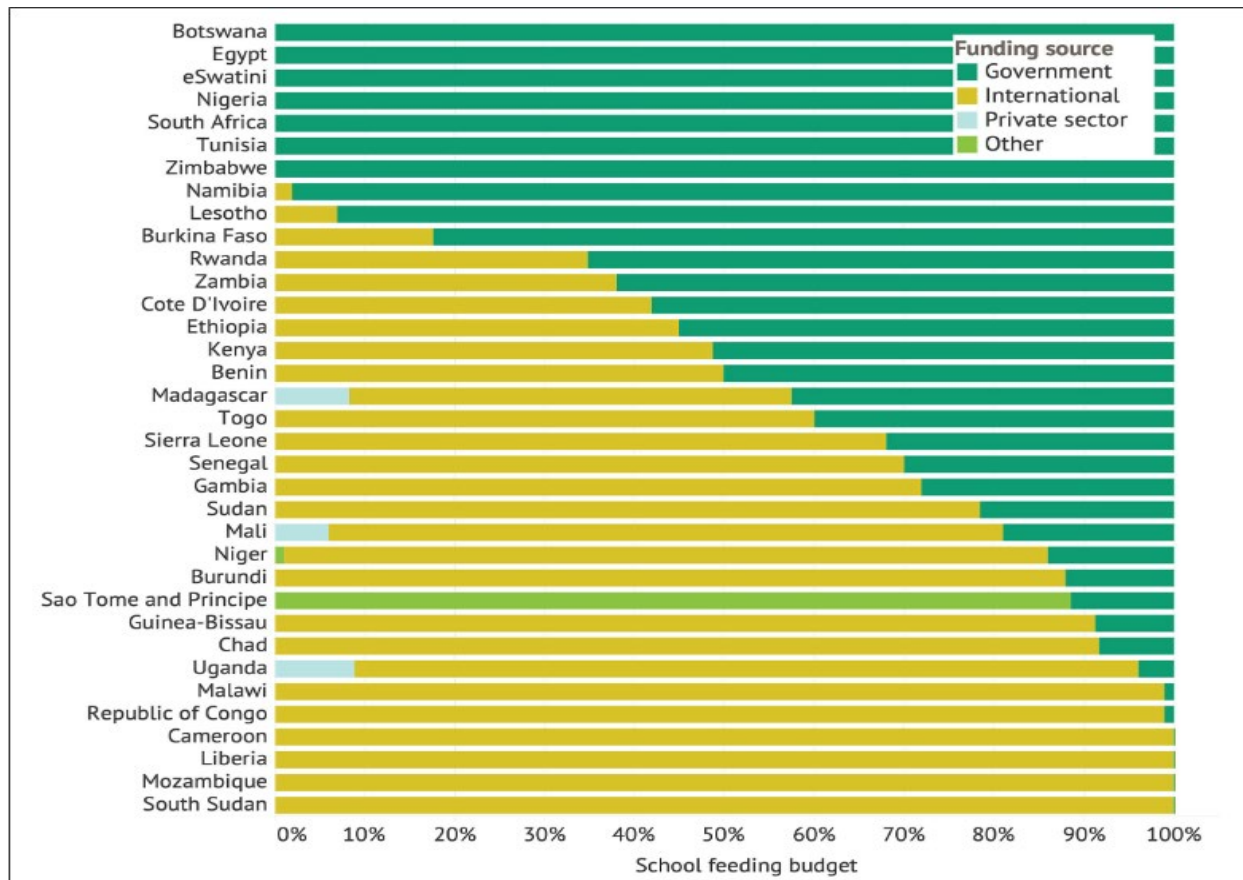
The establishment of SFPs requires a substantial initial investment for training, infrastructure, and procurement of food products. Acquiring the necessary funding can be particularly challenging, especially for less developed and developing countries (Schwartzman et al., 2017). In such cases, governments often seek aid from international donors to ensure the sustainability of the program (Aurino et al., 2023). According to Wineman et al. (2022), African countries spend an average of \$22 per year per beneficiary child on SFPs, varying from \$16 in low-income countries to \$56 in upper-middle-income countries, and regionally from \$7 in northern Africa to \$34 in southern Africa; additionally, as shown in Figure 3, countries such as Nigeria, Egypt, Botswana, Eswatini, South Africa, Tunisia, and Zimbabwe fully fund their social protection programs through government resources, while other countries receive supplementary funds from other sources, including private sector and international institutions including the WFP (WFP, 2013).

Funding remains a significant challenge in Nigeria, primarily due to the heavy reliance on the federal government for financial support. One of the primary reasons for the discontinuation of the initial SFP was the failure of the Universal Basic Education Commission (UBEC) to disburse funds to pilot states, coupled with the states' inability to provide their counterpart funding, resulting in significant funding shortages. In recent times, inconsistent disbursement of funds by the federal government disrupts the smooth operation of the program. Discussions with the Osun state officials reveal that there are months when they do not receive funds from the federal government, forcing them to rely solely on state resources to provide meals. This irregularity exacerbates the challenges faced by the program, making it difficult to maintain consistent food quality and delivery.

Although the program has undergone restructuring, it continues to face significant financial challenges, which are reflected in the quality and quantity of food provided to children, both of which have consistently fallen short of expectations and required standards. This issue is particularly pressing in light of the rising food inflation rate, which, for the 12 months ending August 2024, averaged 36.99%. This represents an increase of 11.98 percentage points compared to the average rate recorded in 2023 (National Bureau of Statistics, 2024). The ₦100 (approximately \$0.25 in 2021) budget allocated per day for feeding a child has become unrealistic considering the current exchange and inflation rate. As of September 2024, the Central Bank of Nigeria's average exchange rate stands at ₦1,617.717 to \$1, which has effectively reduced the

daily amount to **only US\$0.06** per child. This stark decrease renders the funding insufficient to provide adequate nutrition for children.

**Figure 3: Source of funding for school feeding programs in Africa**



Source: Wineman et al., (2022) – 2019 Global Survey of School Meal Programs.

Note: Information on the school feeding budget was not available for the Central African Republic, Congo, Libya, or Mauritania.

### b) Infrastructure and logistical challenges

Infrastructure and logistical challenges in developing economies pose significant constraints to the effective implementation of HGSFPs. These challenges are dynamic and vary across different regions and contexts, impacting the timely procurement, transportation, and distribution of food items, and ultimately affecting the program’s efficiency (FAO, 2018). With the emphasis on procuring food from local smallholder farmers, reliable transportation is crucial for timely delivery of supplies to schools (Ahern et al., 2021; Guo & Hawkins, 2016; Jayne et al., 2010).

In Nigeria, many rural areas where farmers operate face significant challenges due to poor road connectivity, which hampers the efficient transportation of agricultural produce (Balana & Fazoranti, 2022; Hatzenbuehler et al., 2023). The poor road infrastructure, combined with the considerable distances between agricultural production areas and schools in various regions, exacerbates transportation difficulties. As a result, these factors contribute to increased transportation costs, delays in delivering produce, and a decline in the quality and freshness of food items (Balana & Fazoranti, 2022; Ahern et al., 2021; Kolawole et al., 2021; Hatzenbuehler et al., 2023). These challenges are further compounded by inadequate storage facilities at both schools and distribution centers, which result in food spoilage and insufficient supplies to meet children's needs (Acheampong, 2022). The lack of adequate infrastructure severely hampers the program's ability to consistently deliver quality meals, resulting in interruptions in food availability and reducing its overall effectiveness.

Building strong local supply chains that rely on smallholder farmers and community resources is critical. However, this is particularly challenging in rural areas where access to markets is limited, further complicating efforts to maintain steady food supply and ensure the program's sustainability. Additionally, low levels of training in postharvest food handling and weak farmer organization impact the consistency of rural supply chains. Effective infrastructure and a strong logistical support system are necessary to facilitate the receipt of locally procured foods from farmers and their distribution to cooks in various communities (FAO, 2015).

### **c) Capacity building and program monitoring**

Food handlers require thorough training on effective food handling, preparation, and storage techniques. Implementing regular evaluation and monitoring systems can enhance compliance with safety regulations (Gelli et al., 2010). The NHGSFP faces significant challenges due to insufficient training for meal preparation, handling, and distribution. For example, the federal government, in collaboration with the WFP, implemented a one-time training for food handlers and cooks at the state level in 2023. However, this training was not cascaded to local levels, resulting in gaps in knowledge and skills. Such inadequacies can lead to critical issues related to food safety, quality, and nutritional value, undermining the program's effectiveness in improving children's health and educational outcomes. This situation underscores the urgent need for

capacity-building initiatives to equip food vendors and cooks with the essential skills and knowledge required for effective program management.

#### **d) Community engagement and ownership**

The implementation of the NHGSFP faces significant challenges related to low community engagement, which undermines the program's foundational theory that emphasizes community involvement. Insufficient sensitization and advocacy efforts have resulted in limited awareness and participation among community members, who often lack knowledge about the program implementation guidelines and their rights to access HGSFP markets (Walker et al., 2005). This lack of empowerment prevents them from participating in decision-making processes regarding the program, which can negatively affect their perception and sustainability of the program. Moreover, low community participation has serious implications for food sovereignty. Conversely, high levels of community involvement can foster a sense of ownership, which is vital for program sustainability.

#### **e) Cropping season**

The over-reliance of smallholder farmers on rainfed agriculture in Nigeria presents significant challenges for the implementation of the NHGSFPs. Seasonal fluctuations limit farmers' ability to supply food consistently throughout the school year (Barnabas et al., 2023; FAO, 2015). Also, smallholder farmers often lack the production capacity to meet the program's demand, particularly during adverse weather conditions or pest infestations, making it difficult to ensure a steady supply for caterers and schools (Agbon et al., 2012; Falade et al., 2012). Food vendors often turn to alternative sources when local smallholder farmers cannot meet demand. These unregulated sources might offer cheaper food options but may lack proper oversight regarding food safety, freshness, and nutritional value. This practice raises concerns about the nutritional integrity of the meals provided to schoolchildren and undermines the program's goals of providing nutritious, locally sourced food.

To address these issues, it is important to reinforce local smallholder farmers' capacity to consistently supply food items, even during off-seasons, and ensure food vendors receive training on the importance of sourcing regulated, high-quality ingredients.

#### **f) Policy and institutional support**

Legal frameworks have been established to mandate HGSFPs and ensure their sustainability across various administrative units in Nigeria. However, gaps in these policies at both state and federal levels have resulted in coordination and regulatory issues (Nigeria Home Grown School Feeding Strategic Plan 2016-2020). Strengthening these frameworks at national and local levels is essential for enhancing operational efficiency. A significant challenge faced across countries is the lack of effective intersectoral collaboration, particularly among the education, health, agriculture, and welfare sectors.

Efficient and transparent procurement and supply chain management are critical for improving the quality and timely delivery of food to schools. Policies should promote effective procurement strategies that enhance the performance of smallholder farmers and stimulate local economic development.

**3.5 Achievements of the home-grown school feeding program**

Figure 4 shows the key beneficiaries of HGSFPs. While SFPs simply target schoolchildren, HGSFPs are expanded to target different actors along the agricultural value chain and recipient communities, especially those who are poor due to weakened access to resources such as human capital, land, and water.

**Figure 4: Beneficiaries and potential benefits**



Source: FAO & WFP (2018).

#### **4. Best practices and lessons learned to inform the design and implementation in Nigeria**

A notable success story in HGSFPs comes from Brazil, with the implementation of its National School Feeding Program (PNAE - Programa Nacional de Alimentação Escolar), which existed for decades. The PNAE was first launched in the 1950s but underwent substantial expansion in the 1990s and 2000s. The aim of the program is to offer healthy meals for school-going children while promoting family farmers and local agriculture. There are several key elements of success for PNAE in Brazil.

One key element is the integration of local agriculture, a crucial aspect of Brazil's feeding program, with an emphasis on locally sourced food. The program in Brazil prioritizes sourcing food products from local farmers, which serves a dual purpose of ensuring a supply of fresh and nutritious food while supporting the local economy. Another key element is the observance of nutritional standards. The Brazilian PNAE follows a strict nutritional requirement protocol to ensure that meals provided to schoolchildren meet dietary needs, focusing on nutrition to improve their well-being and health and translating to better educational outcomes.

Brazil has also invested in robust logistics and infrastructure to support the delivery of food products and services to schools. This includes sufficient transportation networks, distribution mechanisms, and storage facilities to overcome logistical limitations and ensure the timely and effective supply of food. Community engagement is another critical success element in Brazil's program. The success of the PNAE is attributed to intense community engagement, with teachers, parents, local authorities, and smallholder producers fully involved in planning, implementing, and monitoring the feeding program. This high level of engagement promotes a sense of accountability and ownership, leading to greater effectiveness in the program.

Additionally, Brazil demonstrates strong political commitment to the goals of the program, prioritizing investment in SFPs as part of educational and social policies. This sustainability in policy support has ensured the expansion and continuity of the programs. Furthermore, participation in the PNAE has been found to strongly influence school attendance, nutritional outcomes, and academic performance, helping to establish a conducive learning environment by addressing malnutrition and hunger. The PNAE feeds millions of Brazilian schoolchildren, making it one of the largest HGSFPs globally. The program has contributed significantly to improving child nutrition, reducing food insecurity, and malnutrition rates among vulnerable communities,

while also stimulating local economic development through supporting local production among smallholder farmers.

## **4.1 Emerging trends in implementation of home-grown school feeding programs**

### **4.1.1 Use of technology to improve program efficiency**

The use of technology in supply chain management can greatly improve the distribution, storage, and procurement of food products, as well as the assessment of the nutritional content of meals served to schoolchildren, ensuring they receive balanced and nutritious meals. For instance, WFP developed a School Feeding Management App (SFMA)<sup>9</sup> that helps to connect farmers to schools to enhance school meals and nutrition in Guatemala, while creating new opportunities for farmers to generate income and improve their livelihoods. This tool uses technology that integrates transparency, data permanency, and reliability to improve the performance of school feeding programs and deliver higher-quality services to children and families. According to Alderman et al. (2024), such digital technology can enhance nutritional monitoring in HGSFPs, leading to better outcomes for both smallholder farmers and the students.

Additionally, exploring the use of technology in capacity building and training could significantly enhance the implementation of HGSFPs (Acheampong, 2022). This approach would not only improve the skills of volunteers and staff in program management and food safety practices but also make training more accessible. Virtual and online training programs, for example, can reach a broader audience and are often more cost-effective than traditional methods. Furthermore, mobile applications for managing programs can facilitate real-time evaluation of food preparation, delivery, and consumption, enhancing overall efficiency. Workers in the field can easily use these applications to provide instant reports, reducing the need for paperwork and enhancing reporting efficiency.

### **4.1.2 Nutrition-sensitive programming**

In addition to the immediate benefits for schoolchildren, linking school feeding programs to smallholder and agricultural development can lead to shorter supply chains and more diversified food procurement. This approach promotes the use of traditional, underutilized, and neglected

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<sup>9</sup> <https://innovation.wfp.org/project/school-feeding-management-app>

foods, contributing to the conservation of biodiversity and environmental sustainability (Bundy et al., 2009; Morgan et al., 2007). HGSFPs incorporate nutrition-sensitive programming, which encourages dietary diversity based on local dietary habits and enhances the economic development of local smallholder farmers by integrating them into food markets (Drake et al., 2016). However, it is crucial for programs aiming to diversify diets through local food procurement to be aware of situations where local foods may not provide sufficient nutrients, such as scarcity of animal-source foods leading to iron deficiency. In such cases, school meals provided under HGSFPs may need to include fortified foods and other supplements to address these deficiencies (Hunter et al., 2017).

In Ghana, the HGSFP has implemented training to enhance the nutritional content of menus. Also, the government uses a digital school meals planner to develop nutritionally balanced school meals using local ingredients. The training emphasizes the incorporation of protein-rich foods like legumes as alternatives to animal products, which can be costly and difficult to store without refrigeration (Fernandes et al., 2016). Additionally, children in Ghana are provided with vegetables such as African indigenous vegetables and other previously underutilized crops, which are rich in vitamins like iron. This approach is particularly beneficial due to the diverse range of vegetables used in Ghanaian cooking, which provide a variety of highly nutritious options.

According to FAO and WFP (2018), various organizations have created diverse tools that can aid in crafting menu options within the HGSF framework. These tools include NutVal, a spreadsheet application in Excel designed for planning, calculating, and monitoring the nutritional value of food assistance. The School Meals Planner is another resource, intended to assist school nutrition professionals in planning, preparing, providing, and promoting nutritious and safe meals that align with basic global nutrition standards. Additionally, other tools such as Optifood that also use linear programming including data from food composition tables are available to facilitate nutrition-sensitive programming.

## **5. Recommendations to enhance the effectiveness, efficiency, and sustainability of HGSFP in Nigeria**

The sustainability of the HGSFP remains a critical concern, as evidenced by the recent challenges faced in Nigeria. In January 2024, President Bola Ahmed Tinubu suspended all programs, including the school feeding initiative, administered by the National Social Investment Programme Agency (NSIPA), following an investigation into alleged irregularities. This led to a disruption in

the provision of meals to pupils across the country, except in Osun state, where the state government stepped in to ensure continued funding.

In contrast, the HGSFP model in Mali involves a semi-decentralized approach, combining support from a central budget allocation, donor funding, and partnerships with parents and the school meal committees to raise additional funds (Aurino et al., 2019). Specifically, the model uniquely engages parents by requesting the contribution of vegetables, condiments (such as peanuts), and seasonings to assist in school meal preparation.

The diversified funding strategy offers several advantages that could significantly enhance the effectiveness, efficiency, and sustainability of Nigeria's HGSFP. By relying on multiple funding sources, the program becomes more resilient to potential disruptions. If one source of funding is affected or reduced, other sources can help maintain the program's operation, ensuring its continuity and stability. This community-based approach not only reduces reliance on external funding sources, which can be unpredictable, but also when communities contribute directly to the program, they develop a stronger sense of ownership and are more likely to monitor its effectiveness and advocate for its continuation. The local contribution of fresh produce and condiments can enhance the nutritional value and variety of meals, potentially at a lower cost.

### **5.1. Role of stakeholders and partnership in program execution**

The HGSFP's multisectoral approach, involving representatives from relevant ministries, departments, and agencies, provides a balanced mix of expertise and practical knowledge that fosters innovative solutions and strengthens the program, while their involvement in planning and implementation ensures sufficient capacity across the value chain – from school to farmers – ultimately contributing to the program's long-term sustainability (FMHADMSD, 2024). Several stakeholders play crucial roles in the implementation of HGSFPs. Government agencies in countries where HGSFPs are implemented have a significant role in coordinating and overseeing the entire program. Specifically, governments are responsible for policy development and implementation, fund and resource allocation, program monitoring and evaluation, and providing technical guidance, support, and political goodwill (Adekunle & Christiana, 2016).

In some countries, the ministry also plays an important role in improving the nutritional quality and sustainability of HGSFPs. They facilitate linkages between local farmers or smallholder

producers and schools, promoting agricultural activities that enhance the production of quality and nutritious foods. Additionally, these ministries provide technical expertise through extension services and training to farmers.

Parents play an important role as stakeholders in encouraging their children to take part in the interventions, and in providing feedback to the school administration and government officials and volunteering to give support to the intervention, for instance through food preparation and distribution (Gelli et al., 2010). Some parents play the role of cooks and others participate as small-holder farmers who supply food products and services to the feeding program. Operational experiences suggest that local communities are also important stakeholders in HGSFPs, as they support local producers and smallholder farmers in supplying nutritious foods to the program, volunteering in meal distribution and preparation, and providing infrastructure and resources.

Donors and non-governmental organizations (NGOs) are useful in providing financial support for the execution and implementation of the programs, offering technical aid in areas such as logistics, agriculture and nutrition, and monitoring and evaluation in HGSFPs. Literature documents various institutions that have been on the forefront in the execution of these interventions. These include: The World Bank, Centre of Excellence Against Hunger (CoE), the International Fund for Agricultural Development (IFAD), Food and Agriculture Organization (FAO), Partnership for Child Development (PCD), Global Child Nutrition Foundation (GCNF), and New Partnership for Africa's Development (NEPAD) (Acheampong, 2022).

## **6. Conclusions**

This paper has provided a comprehensive review of the HGSFP in Nigeria, emphasizing its potentially significant role in agricultural development. This paper also highlights key implementation models, challenges, and emerging innovations. Although SFPs are known to improve school attendance and nutrition outcomes, there is a growing understanding of the potential that HGSFPs, unlike traditional SFPs, may also provide smallholder farmers with better economic outcomes and reduce household financial burdens. However, there are important evidence gaps on the effects of HGSFP on smallholder agriculture as well as on the costs associated with HGSFP activities.

Nevertheless, the implementation of the HGSP in Nigeria has showcased notable operational achievements, including scale-up of program activities and, in contexts like Osun State, also achieved relative stability of the program. However, the program also faces persistent challenges including funding constraints, market fluctuations and inconsistent supply, infrastructural and logistical issues, capacity building, and quality control. While the Osun state government's efforts to complement federal funding and provide additional support have helped ensure smoother implementation, the program's reliance on government budgets still raises questions about its long-term sustainability.

In order to ensure the sustainability of HGSPs, it is critical to support community involvement and engagement, as demonstrated by the success stories from other nations such as Brazil and Mali. In Brazil, the program's achievements were attributed to the active involvement of parent, teachers, smallholder producers, and local authorities in the planning, implementation and monitoring of the feeding program. Similarly, the community-based approaches adopted by programs across the region, where parents contribute fresh foods alongside implementation support (e.g., cooking and supervision), can foster a shared sense of responsibility and commitment to the program's success.

Based on this review, a number of programming opportunities are apparent that could potentially enhance the effectiveness and sustainability of Nigeria's HGSP. For example, enhancing supply chain management, training cooks to deliver diverse meals sourced from smallholders, encouraging community participation in program design and implementation, and allocating funds for steady program delivery and vital infrastructure upgrades including better transportation and storage systems are a few of these. These crucial areas must be addressed for Nigeria's HGSP to continue providing the desired results and acting as a role model for other nations looking to establish long-term, domestic school feeding programs.

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