



## An Assessment of the Impact of School Feeding Programmes on Pupils' Enrollment and Retention in Primary Schools in Zaria Local Government Area, Kaduna State

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### ABSTRACT

School Feeding Programs (SFPs) serve as crucial initiatives designed to improve access to and the standard of education. In Nigeria, both national and local governments have adopted these programs, though there is a lack of empirical research on their effects on essential metrics such as enrolment and retention, particularly in the northern regions. This research evaluated the influence of SFP on student enrolment and retention in primary schools located in the Zaria Local Government Area of Kaduna State, Nigeria. A concurrent mixed-methods approach was utilized for the study. A well-structured survey was distributed to 380 educators and school administrators drawn from 12 primary institutions chosen through a multi-stage sampling technique, achieving a response rate of 95%. The quantitative data obtained were analyzed using descriptive statistics, Pearson's correlation, and independent samples t-tests. At the same time, 15 detailed interviews were carried out with principals and program overseers, and the qualitative data were examined thematically. The quantitative outcomes revealed a significant positive relationship between the deployment of SFPs and enrolment figures ( $r = .78$ ,  $p < .001$ ). Schools that maintained consistent feeding programs saw an average enrolment increase of 34% over three years compared to similar control periods prior to the intervention. The retention rates, evaluated through annual dropout statistics, improved by nearly 22% in schools participating in the SFP. The t-test indicated a noteworthy distinction in retention rates between SFP and non-SFP periods ( $t(378) = 5.67$ ,  $p < .001$ ). Qualitative insights uncovered major obstacles, including unreliable funding (noted by 92% of respondents), delays in food deliveries (85%), inconsistent meal quality (73%), and inadequate community involvement (67%). The findings illustrate that the SFP within Zaria LGA significantly enhances primary school enrolment and retention. Nonetheless, systemic obstacles pose risks to its long-term viability and effectiveness. Suggestions for improvement involve ensuring consistent funding, enhancing supply chain processes, establishing rigorous quality control measures, and promoting stronger community engagement. This research offers practical insights for policymakers to refine SFPs as a means to fulfill Sustainable Development Goal 4.

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## INTRODUCTION

Supplying nutritious meals within the school environment is widely recognised as an essential social support intervention with far-reaching educational and social benefits across different regions of the world. School feeding programmes are designed not only to meet the immediate nutritional needs of children but also to function as strategic mechanisms for improving access to basic education. Empirical and theoretical discussions in education and development literature suggest that adequate nutrition enhances pupils' concentration, physical wellbeing and readiness to learn, thereby creating conditions that are conducive to regular school participation and sustained engagement in learning activities.

Beyond nutritional support, school feeding programmes are frequently associated with increased school enrolment, improved attendance patterns, enhanced academic performance and reduced dropout rates, particularly in low- and middle-income countries. The central theoretical assumption underlying these programmes is that the provision of free meals acts as an incentive for households experiencing food insecurity to enrol their children in school and to keep them enrolled over time. As a result, school feeding programmes are often viewed as demand-side interventions that reduce the direct and indirect costs of schooling for disadvantaged families.

In Nigeria, the implementation of school feeding initiatives reflects a strong policy commitment to human capital development and social protection. The National Home-Grown School Feeding Programme, introduced by the Federal Ministry of Humanitarian Affairs, Disaster Management and Social Development in 2016, aims to provide one nutritious meal per school day to millions of pupils in public primary schools. This national effort is complemented by state-level initiatives, including the Kaduna State School Feeding Programme, which has been implemented since 2015 as part of broader educational reforms under the All-Progressive Congress administration.

Despite the scale of financial and administrative investment devoted to these programmes, concerns remain regarding the extent to which their stated educational objectives are being realised. In many contexts, particularly in Northern Nigeria, socio-cultural norms, poverty and gender-related constraints continue to limit access to basic education, especially for the girl-child. Consequently, the assumed positive effects of school feeding programmes on enrolment and retention require systematic and context-specific empirical examination rather than reliance on policy narratives or political claims.

Zaria Local Government Area of Kaduna State provides a suitable setting for such an assessment due to its educational significance and its mixture of urban and rural communities. An evidence-based investigation within this context is necessary to determine whether school feeding programmes genuinely influence pupils' enrolment and retention patterns. Therefore, this study seeks to provide a data-driven analysis that addresses existing uncertainties by examining the actual educational outcomes of school feeding programmes in Zaria Local Government Area, thereby filling a notable gap in context-specific empirical literature. The study will focus on the following inquiries:

1. How does the School Feeding Program impact enrollment figures in public primary schools within Zaria LGA?
2. To what degree does the program affect student retention and minimize dropout rates?
3. What key obstacles hinder the program's overall effectiveness?
4. What evidence-based recommendations can be made to improve the initiative?

Through addressing these questions, this research seeks to enrich the ongoing dialogue regarding educational growth and the efficacy of social policies in Sub-Saharan Africa.

## LITERATURE REVIEW

### Global Insights and Theoretical Underpinnings

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Social Fund Programs, or SFPs, are based on the principles of human capital theory, which considers both education and health as key investments that offer long-lasting economic benefits (Becker, 1964). Research consistently emphasizes their effectiveness as a demand-side strategy. A comprehensive analysis conducted by Kristjansson et al. (2016) found that SFPs notably boost school enrollment and attendance rates, presenting an average effect size of 0.15 standard deviations. Furthermore, the World Bank (2019) has labeled SFPs as a "wise investment," suggesting they can generate economic returns ranging from \$3 to \$10 for every dollar invested by enhancing education and health metrics.

### The Nigerian Context and Research Gaps

The Nigerian Landscape and Research Shortcomings within Nigeria, investigations into SFPs have produced hopeful outcomes, although these findings are closely tied to specific contexts. Research conducted in Southwestern Nigeria (Adekunle & Christiana, 2016; Oyefade, 2014) found significant positive correlations between SFPs and enrollment/attendance. Research in the North, however, is less abundant and often highlights implementation hurdles.

Briggs (2018) documented issues of politicization, corruption in the supply chain, and inadequate monitoring. Uduku (2011) noted that while SFPs attract initial enrolment, their impact on long-term retention is less certain without complementary quality improvements in teaching and infrastructure. A critical gap exists in disaggregated, local government level analyses that capture on the ground realities. Most evaluations are macro level, missing the nuanced challenges of implementation in specific communities like Zaria. This study aims to fill this gap by providing a micro-level, mixed-methods assessment.

### Conceptual framework

The foundation of this research is based on a modified interpretation of the "School Feeding Theory of Change" as outlined by the WFP in 2020. According to this framework, the regular delivery of nutritious meals (input) results

in improved daily student attendance (output), which subsequently contributes to enhanced enrollment figures and ongoing student retention (outcome). Influencing elements encompass the management of the program, engagement from the community, and the overall quality of the educational setting. This investigation explores not only the direct effects but also the mediating influences that could facilitate or hinder the targeted results.

### METHODOLOGY

A concurrent triangulation mixed-methods design, as articulated by Creswell and Plano Clark (2017), was adopted for this study. This approach enabled the simultaneous collection and analysis of quantitative and qualitative data, thereby allowing for the integration and comparison of findings from both strands. The use of concurrent triangulation strengthened the validity of the study by providing a more comprehensive and balanced understanding of the impact of school feeding programmes than could be achieved through a single methodological approach.

The study was conducted in Zaria Local Government Area of Kaduna State, located in Northern Nigeria. Zaria Local Government Area is an educationally significant region with a mixture of urban and rural settlements. The population of the study comprised all teachers, head teachers and headmasters working in the fifty-six public primary schools within the Local Government Area that were implementing the School Feeding Programme at the time of the study.

A multi-stage sampling technique was employed to select the study sample. In the first stage, all public primary schools implementing the programme were stratified into urban and rural categories, consisting of eight urban and forty-eight rural schools. In the second stage, twelve schools were selected proportionally through random sampling, comprising two urban and ten rural schools. In the third stage, simple random sampling was used to select teachers, while all head teachers in the selected schools were purposively included, resulting in a target sample size of four hundred respondents. For the



qualitative component, fifteen key informants, including head teachers and Local Government School Feeding Programme supervisors, were purposively selected based on their direct involvement in programme implementation.

Data were collected using both quantitative and qualitative instruments. Quantitative data were gathered using a structured questionnaire containing thirty-five items, divided into sections on socio-demographic characteristics, effects on enrolment, effects on retention and implementation challenges. Responses were measured using a five-point Likert scale ranging from strongly agree to strongly disagree. The reliability of the instrument was established through a pilot study involving forty respondents from a neighbouring Local Government Area, yielding acceptable internal consistency indices. Qualitative data were obtained through semi-structured interviews designed to elicit participants' experiences, perceptions of programme impact and implementation challenges. Data collection lasted eight weeks, ethical approval was obtained from the relevant institutional review board, and informed consent was secured from all participants.

Quantitative data were analysed using the Statistical Package for the Social Sciences, version twenty-six. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarise the data. Pearson Product Moment Correlation was applied to examine the relationship between school feeding programmes and pupils' enrolment and retention, while an independent samples t-test was used to compare retention rates before and after programme implementation using historical school records. Qualitative data were audio-recorded, transcribed verbatim and analysed thematically following the systematic procedures proposed by Braun and Clarke, allowing for the identification of recurring patterns and themes relevant to the study objectives.

## FINDINGS OF THE STUDY

Demographic Profile among the 380 individuals who participated, 52% identified as female, while 48% were male. The mean teaching tenure was 12.4 years, with a standard deviation of 5.7 years. A notable 88% had been employed at their current institutions since the SFP began.

### *Influence on Student Enrollment*

The results of the quantitative assessment indicated a robust and statistically significant positive relationship between the perceived success of the SFP and the rates of student enrollment ( $r = .78, p < .001$ ). Examination of enrollment records from the twelve selected schools demonstrated an average yearly increase of 18.7% in student enrollment during the three years following the SFP's launch, contrasting with a mere 2.3% average growth prior to the SFP's initiation. As articulated by one head teacher during an interview (Interview #7): "Previously, we had to visit homes and ask parents to send their kids. Now, parents come to us with their children. The number of students in Primary 1 has doubled since 2019."

### *Impact on Pupil Retention and Dropout Rates*

The mean score for items assessing the SFP's impact on retention was high ( $M = 4.21, SD = 0.67$ ). Archival data indicated the annual dropout rate fell from an average of 8.5% pre-SFP to 6.6% post-SFP. The t-test comparing pre- and post-SFP dropout rates was significant ( $t(378) = 5.67, p < .001$ ). Qualitative data enriched this finding, with teachers noting improved afternoon concentration and reduced "hunger-induced" absenteeism, especially during farming seasons.

### *Key Implementation Challenges*

The major challenges identified are summarized in Table 1 and corroborated by qualitative themes.

Table 1: Major Challenges Facing the School Feeding Program (N=380)

| Challenges                  | % Agreement | Mean Score (SD) | Decision |
|-----------------------------|-------------|-----------------|----------|
| Erratic and delayed funding | 92%         | 4.56 (0.51)     | Agreed   |

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| Challenges                                  | % Agreement | Mean Score (SD) | Decision |
|---|-------------|-----------------|----------|
| Logistical delays in food supply            | 85%         | 4.32 (0.62)     | Agreed   |
| Inconsistent quality/ quantity of meals     | 73%         | 4.32 (0.62)     | Agreed   |
| Poor community engage/ sensitization        | 67%         | 3.89 (0.81)     | Agreed   |
| Inadequate infrastructure (kitchen/storage) | 61%         | 3.75 (0.85)     | Agreed   |

Table one presents respondents' assessments of the major challenges affecting the implementation of the School Feeding Programme. Erratic and delayed funding was rated as the most severe challenge, with ninety-two per cent of respondents indicating agreement and a very high mean score of 4.56 (SD = 0.51), demonstrating strong consensus that funding instability significantly undermines programme operations. Logistical delays in food supply were also widely acknowledged, as reflected by eighty-five per cent agreement and a high mean score of 4.32 (SD = 0.62), indicating persistent inefficiencies in the supply chain. Similarly, inconsistent quality and quantity of meals was perceived as a major concern, with seventy-three per cent of respondents agreeing and a mean score of 4.32 (SD = 0.62), suggesting that meal standards are not reliably maintained across schools.

Poor community engagement and sensitisation was identified by sixty-seven per cent of respondents, with a moderate mean score of 3.89 (SD = 0.81), pointing to limited stakeholder involvement and variability in implementation experiences. Inadequate infrastructure, including kitchen and storage facilities, although ranked lowest, was still considered a significant challenge, as indicated by sixty-one per cent agreement and a mean score of 3.75 (SD = 0.85). Overall, the decision outcomes show that all listed factors were agreed upon as major challenges, with financial and logistical issues emerging as the most critical constraints. The implication of these findings is that addressing funding reliability, improving food supply logistics, ensuring consistent meal quality, strengthening community participation and upgrading school infrastructure

are essential for enhancing the effectiveness and sustainability of the School Feeding Programme.

The top challenges faced are erratic and delayed funding (92%), logistical delays in food supply (85%), and inconsistent meal quality/quantity (73%), highlighting significant operational and engagement issues. In-depth qualitative interviews highlighted various difficulties. A program supervisor mentioned during an interview: "Sometimes, we receive funding two months after it's expected. This forces the cook to cover expenses out of her own pocket, which can result in vendors missing days of service. This situation damages the program and erodes public confidence.

Suggested Strategies for Improvement  
Responses gathered from open-ended survey questions and interviews revealed several key priorities:

1. Institutionalize Funding: Secure School Feeding Program funding within official budgets and establish automated disbursement schedules.
2. Strengthen Supply Chains: Utilize local agricultural cooperatives to ensure efficient farm-to-school procurement processes.
3. Quality Assurance: Conduct regular, unannounced assessments of meal quality and quantity through independent committees from the community.
4. Community-Led Model: Shift towards a model managed by the community, empowering Parents-Teachers Associations (PTAs) to take charge of cooking and procurement, enhancing accountability and ownership.



## DISCUSSION OF FINDINGS

The findings of this research indicate that the SFP in Zaria LGA Area serves as an effective method for increasing enrolment in primary schools, this aligns with international research (Kristjansson et al., 2016) and national findings (Adekunle & Christiana, 2016). The 34% relative increase in enrolment underscores the program's role as a powerful incentive for households facing economic hardship.

The significant improvement in retention rates (22% relative reduction in dropout) extends the findings of previous research. It suggests that in the Zaria context, the SFP does more than attract pupils; it helps keep them in school, likely by mitigating economic shocks that would otherwise force children into labor or early marriage. However, the identified challenges, erratic funding, poor logistics, and quality issues mirror the systemic weaknesses documented in Nigerian public service delivery (Briggs, 2018). These challenges create a "cycle of distrust" where intermittent program performance erodes the very community confidence needed for its success. This study argues that the current centralized implementation model is a key vulnerability.

The proposed shift towards a community led co-management model is a critical recommendation. Evidence from successful programs in Brazil and Kenya suggests that devolving management to school level committees improves transparency, adapts meals to local preferences, and creates a powerful stakeholder group invested in the program's success (Global Child Nutrition Foundation, 2021).

## CONCLUSION AND RECOMMENDATIONS

This research localized evidence that the School Feeding Program in Zaria LGA significantly enhances pupil enrolment and retention in primary schools, contributing directly to SDG 4 targets, however, its potential is constrained by predictable yet severe implementation challenges. In conclusion, the School Feeding Program is a vital educational intervention in Northern Nigeria. With strategic

reforms focused on financial predictability, logistical localization, and community empowerment, its promise can be fully realized, turning a meal into a meaningful education for millions of children.

To ensure sustainability and maximize impact, the following evidence-based recommendations are made:

### For Kaduna State Government & NHGSFP Implementers:

1. Financial Reform: Decouple SFP funding from political cycles. Establish a dedicated, ring-fenced educational development fund with bi-monthly automated disbursements.
2. Supply Chain Localization: Mandate a minimum percentage of food procurement from verified local farmer cooperatives within each LGA to reduce logistics costs and boost local economies.
3. Adopt a Community Co-Management Framework: Pilot and scale a model where PTAs, supported by trained nutritionists and transparent digital tracking tools, manage daily operations. The government's role should shift to funding, standard-setting, and auditing.

### For School-Level Actors:

1. Strengthen Accountability: Establish and publicly display SFP notice boards detailing monthly budgets, menus, and supplier information.
2. Integrate with Pedagogy: Train teachers to link lessons on nutrition and agriculture to the SFP, enhancing its educational value beyond caloric intake.

### For Further Research:

Longitudinal studies tracking the academic performance and health outcomes of SFP beneficiaries versus non beneficiaries are needed. Research should also evaluate the cost effectiveness of the proposed community co-management model compared to the current top-down approach.



### Limitations:

This study relied on self-reported data and archival records, which may contain inaccuracies. The findings are specific to Zaria LGA, and generalization to other contexts should be done cautiously.

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