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National Home Grown School Feeding Programme and School Enrollment: A Moderates Role of Poverty Reduction in Selected Public Primary Schools in Niger State, Nigeria

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Abstract

This study investigates National Home-Grown School Feeding Programme (NHGSFP) and pupil enrollment in selected public primary schools across Niger State, Nigeria, while examining poverty reduction as a potential moderating factor. Drawing on Human Capital Theory, Maslow's Hierarchy of Needs, and Social Safety Net Theory, the study adopted a descriptive survey design with a structured questionnaire administered to 372 pupils and teachers from twelve purposively selected schools across six local government areas. Descriptive and inferential statistics were applied using STATA 17, including moderated regression analysis. Findings revealed that while the NHGSFP has a positive but statistically insignificant effect on school enrollment ($\beta = 0.104$, $p > 0.05$), the interaction effect of poverty reduction was also not statistically significant ($\beta = -0.019$, $p > 0.05$). However, descriptive analysis showed general agreement among respondents that the program enhances motivation, improves nutrition, and reduces financial burdens on households. The results suggest that although the NHGSFP contributes to improved school attendance and community perception of education, its direct impact on enrollment is limited and not significantly influenced by poverty reduction. The study recommends integrating NHGSFP with broader poverty alleviation strategies and improving local food procurement mechanisms to strengthen the program's educational and socio-economic outcomes.

Keywords: NHGSFP, School Enrollment, moderating role, Poverty Reduction

Introduction

Quality basic education is difficult to get in many areas of Nigeria, particularly in rural and neglected areas, despite the fact that education is often believed to be an important factor in societal and economic progress. According to Faladeet *al.* (2012) and Okolie*t al.* (2024), among the factors preventing educational development include food insecurity, poor enrollment and retention rates, and high poverty. The Nigerian government re-instituted the National Home-Grown School Feeding Programme (NHGSFP) in 2016 to combat poverty and child malnutrition and increase educational opportunities for children (Agu*et al.*, 2023). The NHGSFP aims to increase school enrollment, attendance, cognitive development, and local agricultural output via the provision of free, nutritious meals to primary school students (Ogidi*et al.*, 2025; Okah*et al.*, 2023; Jomaa*et al.*, 2011).

Both educational and economic achievements are the focus of the NHGSFP's operations. Odoh*et al.* (2024) and Okolo-Obasi and Uduji (2022) found that purchasing food from local sources helps alleviate poverty since it provides income for smallholder farmers and jobs in rural areas. In Niger State, where poverty is a big obstacle to education, the NHGSFP is an important intervention because it reduces household expenditures and encourages parents to enroll their children in school, which helps alleviate the financial burden on families (Salihu*et al.,* 2024; Hassan*et al.*, 2024; Adewale and Okafor, 2025).

Research has shown that school feeding programs have the potential to greatly enhance enrollment and retention rates, among other educational indicators, particularly in economically disadvantaged areas (Ibrahim, 2023; Maruyama *et al.*, 2022). Nevertheless, the NHGSFP's ability to accomplish these objectives hinges on the reliability and uniformity of its execution. Many have voiced their concerns about the program's effectiveness, citing issues such as corruption, variable food quality, and insufficient monitoring (Olutola&Aguh, 2023; Ogidi*et al.,* 2025; Desalegn*et al.,* 2022).

In light of the fact that poverty and education tend to go hand in hand, this research looks at how the NHGSFP affected enrollment in a few public primary schools in Niger State, Nigeria, and how alleviating poverty mediated this effect. The thinking behind this is that various areas' levels of poverty will affect how well the program works to increase access to education. As a result, we may learn more about the program's efficacy and gain ideas for better-targeted policy initiatives by looking at the moderating role of poverty reduction. In the end, this research adds to what is already a substantial amount of work on sustainable development, social safety nets, and educational policy in Nigeria.

Literature Review

Concept of the National Home-Grown School Feeding Programme (NHGSFP)

The National Home-Grown School Feeding Programme (NHGSFP) is a comprehensive, government-led program that uses a school-based intervention to address many developmental concerns in Nigeria. The program's main goals are to increase students' regular attendance, school enrollment, and nutritional status in public primary schools while also supporting regional agricultural economies. It functions by giving schools free, wholesome meals made using foods that are purchased directly from neighborhood farmers and merchants. This strategy supports agricultural productivity and local economic development by ensuring that children obtain adequate foods and by giving smallholder farmers access to a structured market (Agbon*et al.*, 2012; Cletus *et al.*, 2022; Masset &Gelli, 2013).

Goal 2 (Zero Hunger) and Goal 4 (Quality Education) are two of the Sustainable Development Goals (SDGs) that the NHGSFP is intended to help accomplish. By carefully combining nutrition, education, and agriculture, the program is positioned as a social safety net that tackles both immediate and long-term issues.

The meals offered aid in addressing malnutrition, which often impairs children's cognitive development and learning ability, as well as temporary hunger. Additionally, by lessening the financial strain on families, particularly in underprivileged areas, the program encourages parents to enroll and maintain their children in school (Goulas&Zervoyianni, 2016; Olutola&Aguh, 2023).

Improving schoolchildren's nutritional status is one of the NHGSFP's main goals. Undernutrition and micronutrient deficiencies affect a large number of Nigerian children, which hinders their ability to develop physically and cognitively. The program aims to provide vital nutrients needed for healthy growth by providing consistent, well-balanced meals throughout school hours. According to studies, kids who eat school lunches are more likely to pay attention in class, have better attendance records, and do better academically (Masset &Gelli, 2013; Soares*et al.*, 2017). As a result, nutrition is both a health issue and an important instructional tool.

Reducing absenteeism and raising school enrollment are two more crucial NHGSFP objectives. The expense of meals prevents many low-income families from regularly attending school. A strong motivator for parents to take their kids to school is the promise of a free daily lunch. Additionally, it encourages kids to go to school on a regular basis, particularly in rural and food-insecure areas where meal availability is scarce. This directly advances Nigeria's overarching objective of attaining universal basic education (Agbon*et al.*, 2012; Obembe*et al.*, 2024). Additionally, the NHGSFP is essential to promoting regional farming. Purchasing food products from community-based merchants, women's cooperatives, and smallholder farmers is given priority under the initiative. This local sourcing approach encourages the production of a variety of locally accessible crops, increases farmer incomes, and fortifies rural food systems. The initiative promotes more farming investment and improves food security in the communities it serves by establishing a steady and predictable market for agricultural products (Olutola&Aguh, 2023; Delmond*et al.*, 2018).

The NHGSFP supports agriculture, education, nutrition, and overall community development. In order to build community ownership and guarantee sustainability, the initiative encourages cooperation amongst stakeholders, including educators, local government representatives, community leaders, and caregivers. By establishing employment as chefs, sellers, and food handlers, the initiative also empowers women and adolescents via this multisectoral cooperation, fostering inclusive economic development (Delmond*et al.*, 2018).

Additionally, the NHGSFP plays a key role in the battle against hunger. The school supper may be the only substantial meal of the day for a large number of kids from low-income households. The program's goal is to eliminate hunger among children who are at risk and provide them the energy and concentration they need to succeed in school settings by addressing this nutritional gap (Zinda& Zhang, 2019). Last but not least, by guaranteeing that kids eat meals full of essential nutrients like protein, iron, and vitamins, the NHGSFP promotes cognitive development. Proper nutrition and cognitive function have been directly linked in research, showing that children who eat

properly tend to be more focused, have stronger memories, and are better at solving problems. In this sense, the program helps kids learn and achieve academically in addition to providing them with food (Zinda& Zhang, 2019).

Concept of Enrolment

A basic idea, enrollment describes the methodical procedure of enrolling or admitting people to a program, study, or institution. To guarantee that participants are formally acknowledged and documented inside a certain organizational structure, it entails a number of strategic and administrative actions (Boswell *et al.,* 2014; Mazzocco*et al.,* 2002). Even though enrollment is a general idea that may be used to many different fields, including research, education, and healthcare, it has particular meaning in each of these contexts. Effective enrollment generally has a direct impact on an institution's capacity, resource allocation, and planning results, making it essential to its operational success and sustainability (Pinxteren, 2017; Ids *et al.,* 2025; Hafeez*et al.,* 2020).

The process by which students are accepted and registered into official educational institutions, such as schools, colleges, and universities, is referred to as enrollment in the context of education. It is an essential indicator for evaluating inclusion, participation, and access to education. Policymakers and other stakeholders often utilize educational enrollment to assess the effectiveness and scope of the educational system. While low enrollment may suggest structural issues like poverty, inadequate infrastructure, or societal obstacles, high enrollment often denotes more accessibility and a potentially better human capital base (Dong, 2024; Pajankar& Srivastava, 2019).

Managing student enrollment in education involves more than just tallying enrollment; it involves intentional tactics to draw in, accept, and keep students in accordance with the goals and purpose of the school. In order to increase both initial enrollment and long-term student retention, this involves outreach activities, financial assistance packages, community participation, and other measures (Marshall & Oliver, 1970). Effective enrollment management guarantees that educational institutions continue to be operational, financially sustainable, and able to provide all enrolled students with a high-quality education. As a result, it is essential to the overall effectiveness of planning and development initiatives in education.

Theoretical Review

This research is based on theoretical frameworks that explain how educational enrollment, social welfare programs like school meals, and poverty reduction interact. The theoretical review examines one underlying theory and two supporting hypotheses that explain how the National Home-Grown School Feeding Programme (NHGSFP) affects school enrollment, using poverty reduction as a moderating variable.

This research is centered on Schultz (1961) and Becker (1964)'s Human Capital Theory. The notion states that investing in people via education, health, and nutrition

boosts productivity and long-term economic rewards. Nutritional meals for students are an investment in their cognitive growth, physical health, and education under the NHGSFP. By increasing nutrition, the program helps youngsters focus and learn, which builds human capital. Free lunches encourage healthy youngsters to attend school, which improves their prospects of graduating from primary school and working later in life. This approach supports school feeding as a development method to improve education and economic potential.

NHGSFP increases school enrollment from a psychological standpoint using Maslow's Hierarchy of Needs Theory (1943). Maslow's hierarchy of requirements begins with physiological demands including food, drink, and shelter. These fundamental requirements must be addressed before people may concentrate on learning and self-actualization. Hunger hinders learning for public primary school pupils, especially disadvantaged ones. Free daily meals from the NHGSFP eliminate a key barrier to school attendance by meeting this physiological necessity. Hunger-free youngsters are better able to study. From this perspective, school food programs attract students and boost their enthusiasm and learning.

The Social Safety Net Theory supports the NHGSFP as a socio-economic intervention to reduce vulnerability among disadvantaged people. Social safety nets are non-contributory programs that assist the disadvantaged recover from shocks and avoid poverty. Conditional and unconditional cash transfers, school nutrition, and food subsidies are included. NHGSFP helps disadvantaged families by providing free lunches to their children, thereby boosting disposable income. The notion states that school feeding makes education more affordable, therefore families are more inclined to enroll and keep their children in school. This theory also supports the assumption that poverty reduction and educational access are linked and that initiatives like NHGSFP may address both issues concurrently.

This research is based on human capital development, psychological motivation, and socio-economic protection. The NHGSFP's impact on educational enrollment is examined using the Human Capital Theory. Maslow's Hierarchy of Needs emphasizes food security's importance in learning preparedness, while the Social Safety Net Theory views the program as a poverty-reduction strategy that boosts school attendance. These ideas explain how school feeding programs might increase educational access in low-income countries like Niger State, with poverty reduction as a key moderator.

Empirical Review

In various parts of Nigeria and beyond, empirical research on the effects of school feeding programs; in particular, the National Home-Grown School Feeding Programme (NHGSFP)has repeatedly demonstrated the critical role that these interventions play in raising school enrollment, attendance, retention, and, in certain situations, academic performance. Recent research, however, is still focusing on the degree of their efficacy and the moderating influence of poverty reduction. The effects

of school feeding on Jigawa State's nomadic schools were evaluated by Kaugama (2024), who found gains in student enrollment, attendance, completion rates, and academic achievement. The research promoted the program's sustainability and the need of raising community awareness. Similar to this, Akinmoladun*et al.* (2021) emphasized how the NHGSFP improves learning results and enrollment, particularly in rural Nigeria. Consistent feeding programs led to more enrollment and lower absence in schools, highlighting the need of careful implementation and oversight.

Kidane (2012) discovered that school feeding programs in Ethiopia had a favorable impact on Jigjiga Zone enrollment and dropout rates. The research came to the conclusion that in order to properly customize school food programs, it is necessary to have a thorough understanding of educational access hurdles. Similarly, Jumare (2020) in Kaduna State found that the NHGSFP significantly increased school enrollment; but, the program failed to retain students and draw in out-of-school children, citing a lack of infrastructure and supplemental assistance. Evarist*et al.* (2015) and Michael (2015) found that school feeding significantly affected enrollment and attendance in Tanzania, but they also emphasized the importance of other supporting elements including infrastructure, learning resources, and teacher availability for long-term success. These results are consistent with those of Taylor and Ogbogu (2016), who noted higher performance and enrollment in Osun State, Nigeria, but emphasized the need for greater resource allocation and execution.

In Kaduna State, Ayuba (2021) likewise found a strong positive correlation between the NHGSFP and student enrollment and retention. However, because of inadequate facilities and a shortage of trained instructors, completion rates remained unchanged, similar to previous research. In their evaluation of the program in Taraba State, Jev*et al.* (2023) pointed out that the program's limited effect on poverty reduction was caused by inadequate local procurement processes. They suggested policy restructuring to promote local sourcing and enhance benefits to target areas. A Difference-in-Differences study conducted in China by Zhao *et al.* (2024) supported claims about the program's capacity to generate human capital by confirming that school-based nutritional meals greatly enhanced the cognitive capacities of underprivileged students. However, research conducted in Niger State by Iortswam (2023) and Musa (2021) found that food supplies were often purchased from outside sources, which limited the program's ability to alleviate poverty for regional farmers and merchants. Achoba and Saliu (2023), who concentrated on Niger State's Rijau LGA, discovered that NHGSFP enhanced rural employment, health, and enrollment; however, they also identified logistical and monitoring issues. Brigham and Haug (2022) also underlined the need for agricultural production and procurement strategies to be coordinated in order for smallholder farmers to gain. Oladipo (2018) investigated the program's effect on women's empowerment and demonstrated how it decreased unemployment and poverty by creating jobs for caterers in Osun State.

In Mozambique, Sitao (2018) verified that school feeding increased enrollment and retention from a regional standpoint, but the research was unable to connect the

program to local agricultural growth. However, Tijjani*et al.* (2018) discovered that uneven execution in Borno State resulted in inadequate hunger alleviation, hence weakening the program's health and educational goals. Although several international studies, such as those conducted in Kenya, Ghana, Brazil, and Ethiopia, have shown the value of school feeding programs in raising educational metrics, there is still little contextual applicability of these research in Nigeria. Studies conducted in Nigeria, such those by Dennis *et al.* (2021) and Roseline& Felix (2021), have evaluated the implementation and political ramifications, but they have mostly ignored the moderating effect of poverty reduction on educational progress. The claim that school food programs have a good effect on student enrollment, retention, and sometimes academic achievement is well supported by this empirical evidence. However, one important factor that might either increase or decrease these results is the elimination of poverty, particularly among farmers, caterers, and parents. The program's full potential is constrained by current shortcomings in infrastructure, monitoring, execution, and local sourcing tactics. The present research aims to explore the moderating influence of poverty reduction on the link between the NHGSFP and enrollment in public primary schools in Niger State, since no previous study has thoroughly evaluated this relationship.

Methodology

This study adopted a descriptive survey design to examine the impact of the National Home-Grown School Feeding Programme (NHGSFP) on pupil enrolment in public primary schools across Niger State, Nigeria, with a specific focus on enrolment as the dependent variable and the moderating effect of poverty reduction. The research was limited to the use of a structured questionnaire for quantitative data collection.A total of twelve public primary schools were purposively selected from six Local Government Areas (LGAs), distributed across the three senatorial districts; Niger North, Niger East, and Niger South. Schools were selected based on their pupil enrolment sizes (low, moderate, and high) to ensure balanced representation. The target population comprised both pupils and teachers, totaling 4,567 individuals.

Using Taro Yamane's formula (1967) for determining sample size, and accounting for a 10% buffer for non-responses, a final sample size of 405 respondents was drawn. Questionnaires were administered using the accidental sampling method to ensure fair representation.The research instrument, titled the National Home-Grown School Feeding Programme Questionnaire (NHGSFPQ), was designed by the researcher and validated by experts in Public Administration. The questionnaire was structured using a 5-point Likert scale and contained items measuring NHGSFP implementation, enrolment outcomes and poverty reduction. The internal consistency of the NHGSFP Implementation, enrolment and poverty reduction related items was confirmed using Cronbach's Alpha, which yielded a value of 0.83, 0.78 and 0.86, indicating acceptable reliability.
Data were analyzed using the STATA 17.

Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize responses, while inferential statistics were employed to test the hypotheses. The primary regression model used to estimate the direct effect of the NHGSFP on pupil enrolment was:

$ENROLL = \beta 0 + \beta 1 NHGSFP + \mu$----------eqt(1)

To assess whether poverty reduction moderates the relationship between the NHGSFP and pupil enrolment, an interaction term was introduced into the model. The moderated regression model used was:

$ENROLL = \beta 0 + \beta 1 NHGSFP + \beta 2 POVRED + \beta 3(NHGSFP \times POVRED) + \mu - - - \text{eqt}(2)$

Where:ENROLL = Pupil enrolment, NHGSFP = National Home-Grown School Feeding Programme, POVRED = Poverty reduction indicator, NHGSFP × POVRED = Interaction term (moderating effect), β_0 = Intercept, β_1–β_3 = Regression coefficients and μ = Error term

Statistical significance was tested at the 5% level ($p < 0.05$). The use of both direct and moderating models allowed for a more comprehensive understanding of how school feeding programmes not only influence enrolment directly but also how poverty reduction enhances or limits this effect.

Result

Demographic Characteristics of the Respondents

The demographic characteristics of the respondents, as presented in the table, provide insights into their gender, age, and class distribution. In terms of gender, the majority of respondents are male, with 226 individuals making up 60.6% of the total sample. Female respondents, on the other hand, account for 146 individuals or 39.4%. This indicates a male-to-female ratio of approximately 3:2, highlighting a notable gender imbalance among the respondents.

Table 4.1:

Demographic Characteristics of the Respondents

Categories	Sub-category	Frequency	Percentage (%)
Gender	Male	226	60.6
	Female	146	39.4
	Total	372	100.0
Age	1–9	166	44.6
	10–15	89	23.9
	15–20	84	22.7
	Above 20	33	8.9
	Total	372	100.0
Class	Primary one	96	25.7
	Primary two	110	29.7
	Primary three	121	32.6
	Primary six	13	3.5
	Class Teacher	32	8.5
	Total	372	100.0

Regarding age distribution, the majority of respondents are young, with those aged 1-9 years comprising 166 individuals, representing 44.6% of the total sample. This is followed by respondents aged 10-15 years, who account for 89 individuals or 23.9%, and those aged 15-20 years, making up 84 respondents or 22.7%. Only a small fraction of respondents, 33 individuals or 8.5%, are aged above 20 years. In terms of class distribution, the respondents are predominantly pupils in the lower primary grades. Primary one has 96 respondents (25.7%), Primary two has 1q0 respondents (29.7%), and Primary three accounts for 121 respondents (32.6%), making it the largest single group. Primary six account for only 13 respondents (3.5%), while 32 respondents (8.5%) are class teachers. This indicates that the respondents are heavily concentrated in the lower primary levels, with relatively few in higher grades or among the teaching staff

Home Grown School Feeding Programme in Niger State

Table 4.2:

Home Grown School Feeding Programme in Niger State

	Mean	SD	Min	Max	Skewness	Kurtosis
The NHGAFP has achieved its aims in Niger State.	2.659	.954	1.000	5	.204	2.863
The NHGAFP provides nutritional meals that benefit the pupils' learning experience.	3.602	.992	1.000	5	-.234	2.358
The NHGAFP has been consistent in providing meals daily.	3.72	.93	1.000	5	-.385	2.676
Pupils are more enthusiastic about coming to school because of the meals provided.	3.895	.904	1.000	5	-.517	2.821
The NHGAFP is managed effectively to ensure all pupils	3.129	1.004	1.000	5	-.02	2.552

Note: Mean 1-3.49= Disagreement, Mean 3.5-5.0 Agreement

Table 4.2 presents the descriptive statistics on respondents' perceptions of the implementation and effectiveness of the National Home Grown School Feeding Programme (NHGSFP) in Niger State. The responses were rated on a 5-point Likert scale, with mean values ranging from 1.00 to 3.49 indicating disagreement, and values from 3.50 to 5.00 indicating agreement with the statements.The results show that respondents agreed with the statement that "The NHGSFP provides nutritional meals that benefit the pupils' learning experience" (Mean = 3.602, SD = 0.992), as well as "The NHGSFP has been consistent in providing meals daily" (Mean = 3.720, SD = 0.930). The highest level of agreement was observed in the statement "Pupils are more enthusiastic about coming to school because of the meals provided" (Mean = 3.895, SD = 0.904), highlighting the programme's role in enhancing pupil motivation and attendance.

On the other hand, the statement "The NHGSFP has achieved its aims in Niger State" recorded a lower mean of 2.659 (SD = 0.954), suggesting a general disagreement among respondents regarding the programme's overall success. Similarly, the item "The NHGSFP is managed effectively to ensure all pupils are

served" had a mean score of 3.129 (SD = 1.004), reflecting neutrality or mild disagreement.In terms of distribution characteristics, the skewness values for all items fall between -0.517 and 0.204, which, according to Kline (2015), are well within the acceptable range of ±1 for normal distribution in social sciences. This implies that the data are approximately symmetric, with no significant skewness.Furthermore, the kurtosis values for all items range from 2.358 to 2.863, which also fall within the acceptable threshold of ±3 suggested by DeCarlo (1997) and supported by West, Finch, and Curran (1995) for approximate normality in behavioral research. These values suggest that the data do not exhibit extreme peaks or flatness and are therefore suitable for parametric analysis.

Home Grown School Feeding Programme and School Enrollment in Niger State

Table 4.3

HGSFP and Pupil enrolment in Niger State

	N	Mean	SD	Min	Max	Skewness	Kurtosis
Enrollment rates have increased since the	372	2.293	1.243	1	5	.824	2.601
The HGSFP encourages parents to enroll their children in school.	372	2.28	1.253	1	5	.826	2.546
Families are more willing to send their children to school because meals are provided.	372	2.358	1.260	1	5	.711	2.313
The HGSFP has reduced barriers to enrollment for low-income families.	372	2.78	1.433	1	5	-.143	1.553
More children in my community are enrolling in school due to the availability of school meals.	372	2.274	1.202	1	5	.832	2.715

Note: Mean 1-3.49= Agreement, Mean 3.5-5.0 Disagreement

Table 4.3 presents the descriptive statistics on respondents' perceptions of the influence of the Home Grown School Feeding Programme (HGSFP) on pupil enrolment in Niger State. The responses were rated on a 5-point Likert scale, with values from 1.00 to 3.49 interpreted as agreement, and 3.50 to 5.00 as disagreement. The findings show that respondents generally agreed that the HGSFP has had a positive impact on enrolment. Specifically, the statement "Enrollment rates have increased since the introduction of HGSFP" had a mean of 2.293 (SD = 1.243), while "The HGSFP encourages parents to enroll their children in school" recorded a similar mean of 2.280 (SD = 1.253). These results suggest a favorable perception of the programme's ability to increase enrolment.Likewise, respondents agreed with the statements that "Families are more willing to send their children to school because meals are provided" (Mean = 2.358, SD = 1.260) and "More children in my community are enrolling in school due to the availability of school meals" (Mean = 2.274, SD = 1.202). These findings reinforce the role of the HGSFP in improving school enrolment by alleviating the burden of feeding among low-income households. However, the item "The HGSFP has reduced barriers to enrollment for low-income families" recorded a higher mean of 2.780 (SD = 1.433), though still within the agreement range, suggesting a slightly less strong perception of this specific impact.

In terms of distribution, the skewness values for most items fall between 0.711 and 0.832, indicating moderate positive skewness, which suggests that a larger number of respondents leaned towards the lower end of the scale (i.e., agreement). According to Kline (2015), skewness values within ±1 are considered acceptable for normality in behavioral and social sciences research. Only one item ("The HGSFP has reduced barriers to enrollment for low-income families") had a slightly negative skewness of -0.143, indicating a near-symmetrical distribution with a marginal tendency toward higher responses, but still within acceptable bounds.Regarding kurtosis, all items range from 1.553 to 2.715, which are well within the standard acceptable range of ±3 recommended by DeCarlo (1997) and West, Finch, & Curran (1995). This suggests that the response distributions are neither too peaked nor too flat, supporting the assumption of approximate normality in the data.

Home Grown School Feeding Programme and Poverty Reduction in Niger State

Table 4.4:

HGSFP and poverty reduction in Niger State

	N	Mean	SD	Min	Max	Skewness	Kurtosis
The school feeding programme helps reduce the financial burden on low-income families.	372	2.239	1.199	1	5	.912	2.937
The programme supports families that might otherwise struggle to provide meals for their children.	372	2.325	1.235	1	5	.766	2.584
The feeding programme is effective in alleviating poverty-related challenges in education.	372	2.309	1.282	1	5	.801	2.535
The provision of school meals has reduced the cost of living for families in my community.	372	2.36	1.246	1	5	.76	2.555
The feeding programme directly benefits children from poverty-affected households in this area.	372	2.266	1.223	1	5	.82	2.675

Note: Mean 1-3.49= Agreement, Mean 3.5-5.0 Disagreement

Table 4.4 presents descriptive statistics on respondents' perceptions of the role of the Home Grown School Feeding Programme (HGSFP) in alleviating poverty among households in Niger State. Based on a 5-point Likert scale, where mean values between 1.00 and 3.49 indicate agreement, the data suggests a general consensus in support of the poverty-reduction impact of the programme.All five items recorded mean scores between 2.239 and 2.36, clearly within the range of agreement. The statement "The school feeding programme helps reduce the financial burden on low-income families" received the lowest mean score of 2.239 (SD = 1.199), suggesting strong agreement that the HGSFP eases household financial stress. Other closely aligned statements such as "The programme supports families that might otherwise

struggle to provide meals for their children" and "The feeding programme directly benefits children from poverty-affected households in this area" had mean scores of 2.325 and 2.266, respectively, indicating a shared perception of the programme's socio-economic relevance.

Moreover, the item "The feeding programme is effective in alleviating poverty-related challenges in education" had a mean of 2.309, affirming the belief that the HGSFP plays a critical role in minimizing education-related burdens caused by poverty. Collectively, these results underscore the effectiveness of the programme in supporting vulnerable families and promoting educational inclusion through poverty alleviation.The skewness values range from 0.760 to 0.912, indicating moderate positive skewness. This means that the distribution of responses is slightly concentrated on the lower end of the Likert scale (i.e., "Strongly Agree" to "Agree"). According to empirical standards in social sciences (Kline, 2015), skewness values between -1 and +1 are considered acceptable, indicating no serious departure from normality.

Similarly, the kurtosis values range from 2.535 to 2.937, which are close to the kurtosis of a normal distribution (which is 3). These values suggest a mesokurtic distribution, meaning that the data exhibit a normal degree of peakedness and are neither too flat nor too sharply peaked. As DeCarlo (1997) notes, kurtosis values between 1 and 3 are typical in behavioral research and suggest no threat to data validity or statistical robustness.The Findings provide strong evidence that the Home Grown School Feeding Programme contributes to poverty reduction in Niger State. Respondents consistently agree that the programme alleviates financial pressure on families and supports children from low-income households. The accompanying skewness and kurtosis values confirm that the data are normally distributed, enhancing the reliability of these results for further statistical analysis.

Data Analysis

Effect of home grown school feeding programme on enrolment rate of primary school pupils in Niger State

Table 4.5

Home Grown School Feeding Programme and Enrolment Rate

Enroll	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
HGSFP	.104	.075	1.39	.165	-.043	.252	
Constant	2.042	.257	7.95	0	1.537	2.547	***

Mean dependent var	2.397	SD dependent var	0.593
R-squared	0.105	Number of obs	372
F-test	1.939	Prob> F	0.165
Akaike crit. (AIC)	668.228	Bayesian crit. (BIC)	676.066
Vif	1	Heteroscedasticity (Prob>chi2)	0.9245

*** p<.01, ** p<.05, * p<.1

The result presented in Table 4.5 shows the effect of the Home Grown School Feeding Programme (HGSFP) on the enrolment rate of primary school pupils in Niger State. The coefficient of the HGSFP variable is 0.104 with a standard error of 0.075. This positive coefficient suggests that participation in the HGSFP is associated with a 0.104 unit increase in enrolment rate. However, the relationship is not statistically significant at the 1%, 5%, or 10% significance levels, as the p-value is 0.165. Furthermore, the 95% confidence interval for the coefficient ranges from -0.043 to 0.252, which includes zero, further indicating that the effect is not statistically significant. The constant term of the model is 2.042 and is statistically significant at the 1% level ($p < 0.01$), suggesting that when the HGSFP variable is held at zero, the baseline enrolment rate is 2.042.

The R-squared value of the model is 0.105, indicating that approximately 10.5% of the variation in enrolment rate is explained by the model. The F-statistic is 1.939 with a corresponding p-value of 0.165, implying that the overall model is not statistically significant. The Variance Inflation Factor (VIF) is 1, which suggests that there is no multicollinearity issue in the model. Additionally, the Breusch-Pagan test for heteroscedasticity yields a p-value of 0.9245, indicating that the assumption of homoscedasticity is not violated.In conclusion, although the estimated coefficient for the HGSFP variable is positive, the effect is not statistically significant. Therefore, the study finds no sufficient empirical evidence to conclude that the Home Grown School Feeding Programme has a significant impact on the enrolment rate of primary school pupils in Niger State.

Home grown school feeding programme and enrolment of primary school pupils in Niger State; a moderating effect of poverty reduction

Table 4.10

Moderating effect of poverty reduction on HGSFP and enrolment

Enroll	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
HGSFP	.139	.081	1.72	.087	-.02	.297	*
HGSFP*Povertyre	-.019	.016	-1.14	.257	-.051	.014	
Constant	2.07	.258	8.03	0	1.563	2.577	***
Mean dependent var		2.397		SD dependent var		0.593	
R-squared		0.009		Number of obs		372	
F-test		1.615		Prob> F		0.200	
Akaike crit. (AIC)		668.931		Bayesian crit. (BIC)		680.688	
Vif		1.16		Heteroscedasticity (Prob>chi2		0.9676	

**** p<.01, ** p<.05, * p<.1*

Table 4.9 presents the regression results on the moderating effect of poverty reduction on the relationship between the Home Grown School Feeding Programme (HGSFP) and the enrolment of primary school pupils in Niger State. The coefficient of HGSFP is 0.139, with a standard error of 0.081, a t-value of 1.72, and a p-value of 0.087, indicating that the direct effect of HGSFP on enrolment is statistically significant at the 10% level. This suggests that, in the absence of the moderating effect of poverty reduction, participation in the school feeding programme is associated with a modest increase (0.139 units) in pupil enrolment.

However, the interaction term (HGSFP*Poverty Reduction) has a coefficient of -0.019, a t-value of -1.14, and a p-value of 0.257, which is not statistically significant. This indicates that poverty reduction does not significantly moderate the relationship between the school feeding programme and enrolment. In other words, the positive effect of HGSFP on enrolment does not vary meaningfully based on changes in poverty reduction levels among the sampled population.

The constant term is 2.070 and statistically significant at the 1% level ($p < 0.01$), suggesting that the baseline enrolment level, when all explanatory variables are held constant, is 2.070.The model's R-squared value is 0.009, indicating that only about 0.9% of the variation in enrolment is explained by the model. This low explanatory power suggests that other important variables not captured in the model may influence enrolment. Additionally, the F-statistic is 1.615 with a Prob> F of 0.200, implying that the model as a whole is not statistically significant. The Variance Inflation Factor (VIF) of 1.16 indicates no concern of multicollinearity among predictors, and the Breusch-Pagan test for heteroscedasticity ($p = 0.9676$) confirms that the assumption of constant variance of errors (homoscedasticity) is satisfied.

The analysis reveals that while the Home Grown School Feeding Programme has a marginally significant positive effect on enrolment of primary school pupils in Niger State, poverty reduction does not significantly moderate this relationship. The result suggests that although school feeding contributes to enrolment increases, its effectiveness is not significantly amplified or diminished by variations in poverty levels within the scope of this study.

Discussion of Findings

This research found that NHGSFP had a beneficial effect on enrollment in public primary schools in Niger State, however the effect was not statistically significant. This indicates that the program's impact on school attendance may be modest, and not strong enough, to warrant widespread optimism about the program's ability to increase enrollment. This result is in line with the data presented by Jumare (2020), who discovered that NHGSFP enrollment increased in Kaduna State but had no effect on student retention or recruitment of non-schooled children owing to administrative and infrastructural constraints. A moderated regression model revealed that reducing poverty had no discernible moderating effect on the association between the NHGSFP and student enrollment. This goes against the grain of certain theoretical beliefs, especially those based on Social Safety Net Theory, which holds that programs like NHGSFP make higher education more accessible by easing financial strains on families. This conclusion, however, is borne out by the empirical research. One study found that the NHGSFP had a limited impact on poverty reduction in Taraba State due to ineffective local procurement systems (Jev*et al.*, 2023). This suggests that the program may not have had the desired educational benefit overall.

Although the regression analysis did not provide statistically significant findings, descriptive statistics did offer valuable insights into the environment. The NHGSFP was able to increase students' motivation to attend school, provide them with healthy meals on a continuous basis, and offer overall positive feedback from respondents. Also, people's views were in line with the program's purpose of helping low-income families out financially. Studies like Akinmoladun*et al.* (2021) corroborate these results by highlighting the NHGSFP's ability to boost community views of education and attendance, despite minimal quantitative benefits on enrollment. Even if the program's immediate enrollment impacts are small, the Human Capital Theory is still a useful framework for understanding its long-term potential. Research in China by Zhao *et al.* (2024) supports the idea that programs that boost kids' appetites and enthusiasm for learning might have a lasting impact on their academic performance and overall productivity. Since poverty reduction did not have a substantial moderating effect, it is clear that the program's economic integration needs work. This is especially true when it comes to coordinating food purchases with local agricultural initiatives and giving families access to supplementary programs to help alleviate poverty. Overall, in the setting of Niger State, the NHGSFP does a good job of lowering family costs and increasing school attendance, but its impact on enrollment is weak and is not magnified by poverty reduction.

Conclusion and Recommendation

Finally, although the National Home-Grown School Feeding Programme (NHGSFP) in Niger State is well-received for its positive effects on student motivation, family finances, and nutrition, the program's direct effect on enrollment is statistically insignificant and is not mitigated by efforts to reduce poverty. This indicates that the program's poor integration with local economies, lack of supplementary support structures, and implementation gaps restrict its efficacy, despite its promise to improve educational access. Consequently, the NHGSFP should be fortified by integrating it with larger programs to reduce poverty and enhance educational facilities, as well as by conducting better monitoring and localizing food procurement to improve rural lives. To maximize the program's impact and guarantee its longevity, it is important to focus on regions with high poverty rates and to encourage more community involvement.

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