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## The Nexus Between School Feeding Programme, and Academic Performance on Boy-Child Education: A Case of Nairobi's *Dishi Na Kaunti* Programme, Kenya

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**Abstract:** This study purposed to investigate the nexus between school feeding programme and academic performance of the by-child, the case of Nairobi's *Dishi na Kaunti* programme. The study was guided by the theory of Maslow's hierarchy of needs. Descriptive research design was employed using quantitative data collection approach. The research targeted 216 public primary schools within Nairobi City County that have adopted the *Dishi na Kaunti* school feeding programme. Questionnaires were administered to the school head teachers who were the study participants. Data was analysed using descriptive statistics like frequency distribution and measures of central tendencies (mean and standard deviation). The level of association of variables was determined using correlation analysis, while the nature of the relationship among the study variables was determined by regression analysis. Quantitative data was analysed using statistical techniques with the help of SPSS software. The study findings revealed that the *Dishi na Kaunti* school feeding programme significantly improves boy-child education outcomes in Nairobi by enhancing academic performance. Overall, the programme proves effective in boosting participation and learning among boys, though sustained results require additional support and policy integration. The study recommends that to maximize impact, schools should align meal times with learning sessions to optimize alertness during lessons in language and mathematics. Policymakers should institutionalize school feeding as part of basic education and ensure sustained funding, especially in vulnerable areas.

**Key words:** School, Feeding Programme, Academic Performance, Boy-Child, Education, "*Dishi Na Kaunti*" Programme

### 1.1 Background of the study

Hunger is a common phenomenon that has characterized world governance and politics for ages. This lived reality, especially in the developing nations has often prompted discourses aimed at finding lasting solutions. Consequently, eliminating hunger especially among school-going-children has featured as among the Development Goals as framed by the United Nations (Drake et al, 2023). For the past few years, and across various programmatic planning, there has been a lot of dialogue centered at a global scale around school feeding programmes (SFP) and how they can enhance pupil access to education, provide a safety net and reduce the hunger problem. It is appreciable that today, School Feeding is a

well-established and popular development assistance programme in the global south. According to WFP (2019), close to 400 million pupils benefit from feeding schemes worldwide.

In Mexico for example, the influence of SFP is greater in girls in terms of enrolment, attendance and completion of school (Bolka et. al, 2024). The SFP is highly integrated into the national policy in Brazil due to the National Constitution, subservient laws, and the initiative of the country. School feeding programme is becoming more and more prominent in Africa, to some degree or the other it has also managed to be successful to some extent. In South Africa, SFP is implemented by the government through National School Nutrition Programme (NSNP).

Several school feeding programs have already been implemented in Ghana premised on expanding pupil enrolment, retention and attention; targeting over 1 million pupils with particular focus largely on the deprived areas, which has a high poverty tendency, and consequent malnutrition challenges (Kwofie et al, 2021). The SFP model in Ghana depends on locally grown food products, which promotes domestic food production and improves market access for resourceful local farmers, thereby increasing the employment and income level of farmers at the community and national level (Auriono et al, 2023).

In Rwanda, School feeding program was introduced in the secondary day schools in 2014. In the vision of its national school feeding policy in the year 2019, Rwanda aims at providing all school kids with adequate healthy foods at school in line with a sustainable school feeding program to achieve their full growth potentials. Three school food programs are active in Rwanda: The first is the One Cup of Milk per Child school milk program, backed by the National Early Childhood Development Programme (NECDP) and dispenses milk to pre-primary and primary school children in grades 1 twice a week in 19 districts. Following an Integrated Development Programme (IDP) resolution, which authorized the Rwanda Agriculture Board (RAB) to implement the program in schools, the Government of Rwanda initiated its program with the "One Cup of Milk per Child" in May 2010.

In Kenya, as in the rest of the world, every child requires education in order to guarantee both individual growths, and the country's prosperity. In order to support other education programs, many counties across Kenya's administrative landscape are implementing feeding programme. However, school feeding program predates the present-day County Governments, and can be traced back to mid-1980's with the establishment of school feeding council. Whereas experiences across different jurisdictions are varied, hunger is an impediment to the noble objective of universal education. For one-year running, the County Government of Nairobi has undertaken a school feeding program dubbed *Dishi na Kaunti*. The program has been adopted over three hundred and ten thousand students across 216 schools. *Dishi na Kaunti* operates seventeen kitchens spread across different sub-regions. The programme dubbed *Dishi na Kaunti* targets pre-school and public primary schools across different sub counties in Nairobi County. The long- term objective is aimed at promoting universal primary education of vulnerable children. Broadly, SFP is given as a meal at lunchtime programme which is organized at school level.

## 1.2 Statement of the Problem

One of the main mandates of County Governments on Kenya is the development of childhood education in general, and initiatives which are aimed at enhancing education access, education equity and quality in particular. These initiatives have been attended by expansion of infrastructure, school facilities development, implementing feeding programs and enhancement of teaching staff. Although, many

studies have been carried out to analyze the impact of school feeding program on education (Mwanthi, 2023; Wainaina, 2023; Ferrero, 2022 and Aurino, 2023), few have examined the nexus between school feeding programme, and academic performance of the boy-child education. Despite these significant developments, there remains a significant gap in advancing access to universal education further supported by extreme poverty, and systemic challenges. School feeding programs (SFPs) have been touted as a panacea to traditional challenges of pupil absenteeism and poor performance of children in Africa. This has previously been studied as bridging gender gaps in education through stemming various systemic barriers related to schooling specifically notable for girls (Aurino et al., 2020; Destaw et al., 2022; Kaur, 2021; Verguet et al., 2020; Wall et al., 2022; Wineman et al., 2022). Thus, this study intends to further the discussion on the nexus between school feeding programme, and academic performance on boy-child education of the Nairobi's *Dishi na Kaunti* Programme, Nairobi City County, Kenya.

### 1.3 Research Objective

This study examined the nexus between school feeding programme, and academic performance on boy-child education: A case of Nairobi City County's *Dishi na Kaunti* Programme, Kenya.

### 1.4 Significance of the Study

The findings from this research might have far-reaching implications beyond Nairobi, as it adds to the global knowledge body on the intricate intersection of food governance, boychild education, policy formulation, gaps on research knowledge between gender dynamics in school feeding programs and academic performance and local implementation dynamics.

### 1.5 Scope and Delimitation of Study

This study focused on examining the nexus between school feeding programme, and academic performance on boy-child education: A case of Nairobi's *Dishi na Kaunti* Programme, Kenya. The study was conducted in 216 public primary schools within Nairobi County which have adopted the *Dishi na Kaunti* School feeding programme.

### 1.6 The Conceptual Framework

#### *Independent Variable*

##### **Academic Performance**

- Class participation
- Termly assessment scores
- Language and math scores

#### *Dependent Variable*

##### **Boy-child Education outcomes**

- Increased attendance rate.
- Increased enrolment rate.
- Improved academic performance.
- Decreased drop-out rate.

##### **Intervening variable**

***Socio-economic status*** (Household Income Level; Parental Employment Status; Access to Basic Needs (food, shelter, clothing))

**Figure 1: The Conceptual Framework**

**Source:** Own Conceptualization, 2025

## 1.7 Literature Review

Literature review of this study explored the theoretical and empirical reviews on the nexus between school feeding programme, and academic performance on boy-child education.

### 1.7.1 Theoretical Review

#### *Maslow's Theory*

Maslow theory was developed by Abraham Maslow in 1971. Its key propositions focus on determining the motivations and the behaviors of those employed by deciphering the basic human needs for those part of a hierarchy. It is a motivational theory majorly applied across different facets but in psychology, in particular. This theory presumes that human needs are broadly categorized in five tiers. The needs are portrayed as rising from one-level to another on the basis of hierarchy. Maslow (2008) argues that developmental growth cannot be realized unless the need for food is met together with other needs. However, this theory can be critiqued in the sense that order of needs in the hierarchy contemplated in the building tenets is arbitrary, and that people don't necessarily pursue needs in that order. Further, Maslow's theory is based on the biographies of middle-class white men, and may not necessarily apply to people from other cultures, particularly in the global south. Appreciably, human needs are not always clearly linear or hierarchical as purported by Maslow. While the theory fails to acknowledge the ranking of needs varies with age, this research intended to focus on school going pupils. Provision of food through the school feeding programme under the framework of *Dishi na Kaunti*, especially to the less advantaged child, is one of the ways of addressing this need. Given its focus on physiological needs, this theory offers great insights relevant to the study. Consistent food provision with the right calorie quantity can greatly enhance learning. The lack of school feeding programme in schools may put the vulnerable children at a disadvantage as they get little to no food in their homes. According to Maslow's theory, for children to be able to move to the next levels of development, they have to fulfil their basic needs. Food fundamentally forms part of the basic needs. Implicitly, this theory therefore assumes that those children in preschools with feeding programmes will be incentivized to move to the next level of development with ease hence participate better in school.

### 1.7.2 Empirical review

#### *Academic Performance, and Boy-Child Education.*

Various studies have been conducted on the nexus between school feeding programs and the learner's academic performance (Mainje et al., 2024; Destaw et al., 2022). They indicate that projects focused on sustainability and planning of meals, will enhance pupils' understanding and general learning outcomes. On the flipside, studies demonstrate that learning ability is hampered when students are hungry students (Verguet et al., 2020). A study done in Ethiopia points to the conclusion that SFP promotes multiple academic outcomes among socio-economically disadvantaged children without particular reference to gender (Desalegn et al., 2021). This underscores the need for well-coordinated, versatile and policy-anchored programmes in order to stem traditional challenges. For learning poorly, or completely missing classes, pupils miss out critical content of curriculum and overall competencies that have the consequence of derailing their academic performance and achievements at the end of their learning programme. Ideally, school feeding programmes are by design, programmed to enhance learner attentiveness by helping deter short-term anger. Thus, they have attendant consequence of enhancing academic performance and cognitive abilities. According to Lowe et al (2023), school feeding enhances better cognition by enhancing child nutrition. However, hunger is just but one factor in understanding the entire scope of pupil performance. Improved food security is another contributing factor to improved

school quality. Consequently, teachers do not need to spend a lot of effort in reviewing content and reteaching. Rather, they get more time to introduce nuanced concepts to learners.

A study conducted in Kenya in 2008 in Mwala division, Machakos County established that school feeding improves pupils' performance (Okumu, 2021) but Obonyo (2009) in his study in Yala division, Busia County had a contradicting finding where he concluded that school meals do not have any effects on pupils' performance. Thus, there is need for more studies to ascertain the contribution of school feeding programme on pupil performance.

### 1.8 Research methodology

**Research Design:** The study employed the use of descriptive research design using quantitative data collection approach. Primarily, this approach addresses fundamental questions such as what is happening, where it is taking place, when it occurs, and how it unfolds. Further, it did not involve manipulating variables; instead, it emphasizes careful observation and measurement to portray an accurate snapshot of the subject under investigation. The *Dishi na Kaunti* is applied in various and active contexts, with different social, economic, and environmental realities and that in itself enables a comprehensive analysis of the idiosyncratic context, and mature, quantitative information that reflects the viewpoints of different actors involved with the implementation of the *Dishi na Kaunti* programme.

**Study Area:** The study was carried out in Nairobi City County. Some parts of the area exist within the informal settlements and therefore receive very overwhelmingly large number of pupils. On a social-economical level, the parents are not highly placed to support day-to-day feeding needs. In addition, high levels of poverty in the area bar parents from fully participating in provision of school feeding programme. However, some schools exist within formal settlements. Thus, whereas pupils face difficulties concerning the physiological needs, these needs are varied from one location to another. Nairobi City County was appropriate because it has different enrolment rates, and various elements relevant to the study.

**Target Population:** Furthermore, the sample for the research is taken from the population that is being studied. Specifically, the purpose of this study was to examine the nexus between school feeding programme, and academic performance on boy-child education: A case of Nairobi's *Dishi na Kaunti* Programme, Kenya. From the universe population, 216 head teachers from the 216 public primary schools located within Nairobi County, who have adopted the *Dishi na Kaunti* program, responded to issues pertaining to the education of boy children in terms of academic performance. To generate data, the researcher gave questionnaires to one head teacher in each school selected in the sample who responded to the survey questions. The target respondents were Head Teachers who as per definition under the Teacher Service Commission Act (2012) is the individual in charge of a primary school level educational institution appointed by the Commission and is solely responsible for the administration and implementation of the policy guidelines and general professional practices. (Nairobi county Govt, 2024).

**Sampling Procedure:** In the context of this research, the targeted respondents were the most knowledgeable persons on the general day-to-day activities of the school and overall performances of pupils in the school. Such individuals were selected because of their positions as leaders in the school and their demonstration of rich insights into the programme, as well as the fact that they are beneficiaries. A census of all public primary schools in Nairobi County was done and only 216 head teachers from the 216 public primary schools that have adopted the *Dishi na Kaunti* School Feeding Programme formed the study sample.



**Sample Size:** In order to achieve reliability and validity, a sample size included all the public primary schools in Nairobi County represented in the total population was chosen and spread across the 17 sub-counties in Nairobi. For this study, only 216 schools were selected using the implementation of *Dishi na Kaunti* programme as the eligibility criteria for selection.

**Tools of Data Collection:** The study used structured questionnaires which included close-ended questions that were administered to the headteachers. The questionnaires were distributed among the respondents and later retrieved upon filling in the questionnaires.

**Data Collection Procedures:** The researcher made appointments with the head teachers of the sampled schools at their convenient time. The questionnaires were administered to the respondents and handed to them so that they would fill in themselves. Aggregation of information provided by the respondent was done accordingly to be interpreted and analyzed.

**Data Analysis Procedures:** Data was analyzed using the Statistical Package of Social Sciences (SPSS). The analysis entailed descriptive interpretations using different measures of central tendencies, these are: standard deviation and mean frequencies. The relationship between variables was tested with the help of inferential statistical analysis. All the questionnaires were coded symbolically according to the variables of academic performance.

**Ethical Considerations:** For this study, informed consent was obtained from the study participants. They were also told clearly how their information would be utilized and stored, safeguarded against and were also given a chance to withdraw out of the research anytime. In ensuring their privacy and confidentiality data security provisions were taken into consideration such as painting the data used on paper on a secure storage bearer and storing the data on the password protected device. Identifiable data were removed and replaced with specific codes and only those who played central roles in the research project had access to data. Participation was voluntary and the responses of the respondent were held in a confidential manner. Moreover, the researcher obtained research permit issued by NACOSTI, IRB approval through Catholic University of Eastern Africa, County of Nairobi approval letter and the Nairobi RDE approval letter, which were communicated to the respondents as a confirmation of legitimacy of the study.

## 1.9 Study Findings

### *Response Rate of the Questionnaires*

The study administered a total of 216 questionnaires to head teachers of public primary schools implementing the *Dishi na Kaunti* Programme in Nairobi City County. Out of which, 180 questionnaires were returned fully completed, resulting in a response rate of 83.3%. This is considered a very good response rate for a survey-based study in educational research. An 83.3% response rate thus enhances the reliability and generalizability of the findings. The high return rate could be attributed to the professional engagement of head teachers, the relevance of the research topic to their daily responsibilities, and possibly follow-up measures by the researcher. Conversely, the relatively low non-response rate of 16.7% (36 unreturned questionnaires) could be due to tight school schedules, administrative workload, or lack of availability during the data collection period.

### *Results for Background Data*

The demographic characteristics of the respondents provided critical background for understanding the capacity and context within which the *Dishi na Kaunti* Programme. Analyzing variables such as gender, years of experience, and educational qualifications, descriptively using statistics such as frequencies and percentiles assessed and described the characteristics, preparedness and potential influence of school leadership on boy-child education outcomes.

**Table 1: Respondents Background Data**

Variable	Response Category	Frequency (%)
Gender of the Respondent	Male	113 (62.8%)
	Female	67 (37.2%)
Years Worked by the Respondent	Less than 5 years	11 (6.1%)
	5–10 years	85 (47.2%)
	11–15 years	60 (33.3%)
	Above 15 years	24 (13.3%)
Level of Education	Certificate	21 (11.7%)
	Diploma	60 (33.3%)
	Undergraduate Degree	90 (50.0%)
	Master's Degree	9 (5.0%)

**Source:** Field data, 2025

### ***Gender of the Respondents***

The results showed that 62.8% were male, while 37.2% were female, indicating a male-dominated leadership in the public primary schools implementing the *Dishi na Kaunti* Programme. This aligns with Onyango and Omollo (2020), who highlighted that educational leadership in Nairobi's public schools still exhibits gender disparities, despite national policies aimed at promoting gender equity. While gender may not overtly determine programme success, the underrepresentation of female leaders may limit gender-responsive leadership approaches that cater to diverse student needs, including those of the boy-child. From the Systems Theory perspective, the diversity of leadership within educational systems contributes to inclusivity, balanced decision-making, and responsiveness to contextual challenges.

### ***Years of Experience in School Administration***

Most respondents (80.5%) had over five years of administrative experience, with the largest segment (47.2%) falling within the 5–10 years bracket. This suggests that the head teachers overseeing the *Dishi na Kaunti* Programme are relatively experienced, a factor that likely contributes to competent management of school operations and programme implementation. According to Wanjala and Were (2021), leadership experience plays a crucial role in resource allocation, stakeholder coordination, and the sustainability of education interventions such as school feeding programmes. Drawing on Human Capital Theory, accumulated professional experience can be viewed as a form of capital that enhances leadership effectiveness, ultimately impacting key outcomes like attendance, enrolment, and retention of the boy-child in schools.

### ***Highest Level of Education of Respondents***

The study found that more than half of the respondents (n=90, 50.0%) held undergraduate degrees, while 33.3% had diplomas and only 5% had Master's degrees. This distribution suggests that while most school leaders meet the minimum qualifications set by the Teachers Service Commission (TSC), there remains a gap in advanced academic and leadership training. Kiplang'at et al. (2022) found that head teachers with higher academic qualifications were better positioned to implement complex educational programmes, apply data-driven decision-making, and manage school-based interventions more effectively. Through the lens of Human Capital Theory, education level represents a form of investment that increases leadership capacity and programme efficiency. Therefore, the relatively low proportion of Master's degree holders may indicate a need for ongoing professional development to equip leaders with

the skills necessary to optimize the delivery and impact of the *Dishi na Kaunti* Programme on boy-child education outcomes.

### Academic Performance

**Table 2: Respondents' Perception on Academic Performance**

Statement	SD	D	M	A	SA	Mean	Std. Dev
The <i>Dishi na Kaunti</i> programme has improved pupils' participation during class lessons.	3 (1.7%)	4 (2.2%)	54 (30.0%)	76 (42.2%)	43 (23.9%)	3.84	.871
Pupils are more active and engaged in classroom discussions since the introduction of the feeding programme.	3 (1.7%)	2 (1.1%)	38 (21.1%)	107 (59.4%)	30 (16.7%)	3.88	.749
Class participation among boys has increased as a result of the school feeding programme.	0 (0.0%)	4 (2.2%)	34 (18.9%)	111 (61.7%)	31 (17.2%)	3.94	.670
Termly assessment scores have improved since the implementation of the <i>Dishi na Kaunti</i> programme.	0 (0.0%)	2 (1.1%)	17 (9.4%)	103 (57.2%)	58 (32.2%)	4.21	.649
Pupils perform better in their end-of-term tests due to improved nutrition from the feeding programme.	0 (0.0%)	13 (7.2%)	24 (13.3%)	104 (57.8%)	39 (21.7%)	3.94	.799
There is a notable improvement in boys' academic performance in termly assessments.	3 (1.7%)	1 (0.6%)	53 (29.4%)	89 (49.4%)	34 (18.9%)	3.83	.795
Pupils' scores in language subjects have increased since the start of the feeding programme.	1 (0.6%)	3 (1.7%)	44 (24.4%)	95 (52.8%)	37 (20.6%)	3.91	.750
Math performance among pupils has improved following the implementation of the school feeding programme.	1 (0.6%)	2 (1.1%)	46 (25.6%)	100 (55.6%)	31 (17.2%)	3.88	.714
The <i>Dishi na Kaunti</i> programme has positively influenced boys' performance in both language and mathematics.	1 (0.6%)	22 (12.2%)	39 (21.7%)	79 (43.9%)	39 (21.7%)	3.74	.953
Aggregate composite values						3.91	.588

**Source:** Field data, 2025

The findings indicate that majority of the respondents felt that academic performance influence the boy-education outcomes under *Dishi na Kaunti* school feeding programme (mean=3.91, SD=0.588). Notably, the Termly assessment scores improved since the implementation of the *Dishi na Kaunti* programme (mean = 4.21, SD = .649), implying widespread agreement that improved nutrition has enhanced pupils'



academic results. Similarly, class participation among boys has increased (Mean = 3.94, SD = .670) and pupils perform better in end-of-term tests due to improved nutrition (Mean = 3.94, SD = .799), and pupils' scores in language subjects have increased (Mean = 3.91, SD = .750) were rated favorably, showing that the feeding programme likely contributes to improved classroom engagement and learning outcomes. These findings align with Maslow's hierarchy of needs, which posits that physiological needs like food must be met for learning to occur effectively. A study by Ouko and Orodho (2021) found that school feeding programmes in low-income areas of Kenya led to better academic performance through enhanced concentration and reduced absenteeism.

Conversely, certain statements received relatively lower ratings, though still moderately positive. For example, "The *Dishi na Kaunti* programme has positively influenced boys' performance in both language and mathematics" had a mean of 3.74 (SD = .953), suggesting moderate agreement with high variability in responses. Additionally, "There is a notable improvement in boys' academic performance in termly assessments" (Mean = 3.83, SD = .795) and "The *Dishi na Kaunti* programme has improved pupils' participation during class lessons" (Mean = 3.84, SD = .871) were rated slightly lower than others, implying that while gains are observed, some respondents may perceive the impacts as not yet fully realized or consistent across all learners. These variations may reflect contextual factors such as differences in school implementation or individual pupil characteristics. A study by Wambua et al. (2022) in Nairobi echoed similar findings, noting that although school meals improved general class participation, disparities in programme execution limited uniform benefits. The results emphasize the need for targeted enhancements to maximize the programs' positive academic impact, especially for the boy-child.

### ***Correlation and Regression Analysis findings***

The study conducted a Pearson correlation analysis to examine the relationships between academic performance and the boy-child education outcomes. The goal was to determine the strength, and direction as well as the statistical significance of the associations. The study underscored a strong, positive and statistically significant association between academic performance and boy-child education outcomes ( $r = .706$ ,  $p = 0.000$ ). This indicates that better academic achievement among boys is positively associated with improved overall education outcomes. Performance reflects the extent to which learners acquire and apply knowledge, which is a key component of educational success. This finding is supported by Human Capital Theory (Becker, 1993), which suggests that academic achievement is a critical return on educational investment. Supporting this, Ochwada (2024) observed that academic performance among learners was a reliable predictor of their future educational advancement and transition rates in Kisumu public schools. The regression predictive model was constructed to indicate how changes in independent variables are associated with variations in the dependent variable. Each unit improvement in academic performance leads to a 0.246 unit increase in education outcomes for the boy-child, when other factors kept constant. Improving learning quality through teacher support, tutoring programs, and curriculum review is essential to boosting boys' academic success and long-term education attainment.

### **1.10 Conclusion**

The study made the conclusion that academic performance is a key driver of boy-child education outcomes. The feeding programme has notably improved test scores, participation, and language subject

performance, confirming that nutritional support enhances learning. Despite some variation in responses, the overall impact on academic achievement is strongly positive and statistically significant.

### 1.11 Recommendations

The schools under *Dishi na Kaunti* should schedule meals in alignment with core learning periods to optimize alertness during lessons in language and mathematics. Education policies should mandate school feeding impact evaluations as part of performance reviews and standardize implementation across regions. Learning and cognitive development theories should more explicitly account for nutrition as a foundational input influencing academic results, especially in under-resourced environments.

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