

School Feeding Programme in Zambia: Linking Socio-Economic Status of Learners' Households and Programme Financial Sustainability in Two Selected Schools in Lusaka District

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Abstract: School feeding programmes are critical interventions for improving child nutrition, school attendance, and learning outcomes, particularly in low-income settings. However, their sustainability is often threatened by socio-economic challenges and limited funding. This study examined the socio-economic status of households and the financial sustainability of school feeding programmes in two selected schools in Lusaka District, Zambia. A convergent parallel mixed-methods design was used, involving 282 respondents comprising pupils, parents/caregivers, and teachers. Quantitative data were analysed using descriptive and inferential statistics, while qualitative data were analysed thematically.

Key Findings: The study found high levels of poverty and food insecurity, with 82.6% of households earning below K3,000 per month, 54% earning below K1,000, 87.3% relying on informal employment, and 68.4% consuming two meals or fewer per day. These conditions indicate strong dependence on school feeding as a key nutritional support system. Financial sustainability remains a major challenge, with regression analysis showing that financial resources were the strongest predictor of sustainability ($\beta = 0.51$), explaining 50% of the variation ($R^2 = 0.50$). Additionally, collaboration with local organisations ($\beta = 0.29$) and community perceptions ($\beta = 0.25$) were also significant predictors of sustainability, highlighting the importance of multi-stakeholder involvement in programme continuity.

I. Introduction

School Feeding Programmes (SFPs) are globally recognized as important social protection and educational interventions aimed at improving children's nutrition, school participation, and learning outcomes. These programmes provide learners with at least one nutritious meal per school day, thereby reducing short-term hunger, improving concentration, and enhancing attendance and academic performance (Bundy et al., 2018; World Food Programme, 2023). In low- and middle-income countries, school feeding has also evolved into a broader development strategy that links education, health, agriculture, and poverty reduction.

Globally, school feeding programmes are widely recognised as a key intervention for improving educational access, nutrition, and social equity among children from low-income households. The World Food Programme (WFP) reports that school meals reach hundreds of millions of children globally and are increasingly viewed as a strategic investment in human capital development rather than a purely welfare-based intervention (WFP, 2025). Empirical studies have consistently shown that school feeding improves enrolment, attendance, and cognitive performance, particularly among children experiencing food insecurity (Kristjansson et al., 2016; Jomaa, McDonnell & Probart, 2011). Furthermore, a systematic review by Snilstveit et al. (2015) found that school feeding has a statistically significant positive effect on school participation, especially in low-income settings where household poverty limits access to adequate nutrition and education.

In addition, global evidence highlights that the effectiveness and sustainability of school feeding programmes are strongly influenced by the socio-economic conditions of learners' households. Alderman and Bundy (2012) argue that school feeding acts as both a safety net and an incentive mechanism, but its long-term viability depends on the extent to which governments and communities can sustain funding. In many developing contexts, household poverty increases dependence on school meals, thereby increasing pressure on programme resources and implementation systems. As a result, financial sustainability has become a central concern in global policy discussions on school feeding (Drake et al., 2017).

In Sub-Saharan Africa, school feeding programmes have expanded rapidly due to high levels of child poverty, malnutrition, and food insecurity. According to the World Food Programme (2022), the region has seen a significant increase in government-led school feeding initiatives, reflecting a shift from donor-dependent models to nationally owned programmes. However, sustainability challenges remain, including unstable funding mechanisms, rising food prices, and weak institutional coordination (Bundy et al., 2018). Studies conducted in countries such as Ghana, Kenya, and Nigeria show that while school feeding improves attendance and retention, its continuity is often threatened by inconsistent budget allocations and reliance on external partners (Okolo-Obasi & Uduji 2024; Kwakye, 2021 ;Kiilu & Mugambi,201; Langinger, . 2011).).

Related studies in the region also emphasise the role of household socio-economic status in shaping both programme demand and sustainability. For example, research in Kenya by Wanjohi (2018) found that learners from low-income households were more dependent on school meals, which increased enrolment but also stretched limited school resources. Similarly, studies in Ethiopia by Belay and Deressa (2019) revealed that schools in poorer communities experienced greater financial strain in maintaining feeding programmes due to limited parental contributions and weak local revenue bases. These findings suggest that while school feeding programmes are beneficial, their sustainability is closely linked to the economic capacity of beneficiary households and local communities.

In Zambia, the School Feeding Programme is implemented as part of the national strategy to improve access to education and reduce hunger among learners, particularly in vulnerable communities. The programme has been supported by government and development partners such as the World Food Programme and other NGOs, with evidence indicating improvements in school attendance and learner concentration (Ministry of Education, Zambia, 2021). However, despite these gains, studies show that financial sustainability remains a major challenge, especially in urban districts where poverty levels are uneven and school resource mobilisation is inconsistent (Kamanga, Phiri, & Thelma, 2025).).

Research conducted in Zambia such as Banda, (2025) and Kamanga, Phiri, & Thelma, (2025) further indicates that socio-economic disparities among households significantly influence both participation in and sustainability of school feeding programmes. For instance, Banda (2025) found that schools in low-income communities of Lusaka faced irregular food supplies due to limited parental contributions and inconsistent funding from supporting partners. Similarly, Lumbwe (2017). observed that while school feeding improved learner retention, schools struggled to maintain programme continuity when donor support declined or when household contributions were insufficient.

Furthermore, poverty in Zambia remains widespread and continues to affect household food security and children's educational outcomes. Recent World Bank data indicate that approximately **60% of the** population lives below the national poverty line, with rural poverty levels even higher, reflecting deep socio-economic inequalities between urban and rural households (World Bank, 2022). This high poverty incidence means that many learners come from households that struggle to provide regular and adequate meals, making schools an essential safety net for child nutrition and well-being.

The World Food Programme further reports that Zambia continues to face significant food insecurity challenges, with a large proportion of children experiencing inadequate diets and malnutrition-related vulnerabilities (World Food Programme, 2023). In this context, school feeding programmes play a critical role in ensuring that learners receive at least one balanced meal per day, which not only improves nutritional status but also reduces absenteeism and enhances classroom engagement.

In response to these challenges, Zambia has scaled up its School Feeding Programme significantly over the years. According to recent government reports, the programme has benefited **over 4.6 million learners nationwide**, covering thousands of primary schools across the country (Ministry of Education cited in Open Zambia, 2025). This expansion reflects the government's commitment to improving child welfare, reducing hunger in schools, and strengthening human capital development.

Importantly, the programme also provides indirect relief to learners' households, particularly those from low-income backgrounds. For many vulnerable families, the school meal serves as a guaranteed daily source of nutrition, reducing household food expenditure and encouraging school attendance. However, despite this expansion, concerns remain regarding the financial sustainability of the programme, especially in light of rising food prices, increasing demand, and limited fiscal space.

1.2 Statement of the Problem

Despite the expansion of School Feeding Programmes (SFPs) in Zambia, their financial sustainability and consistent implementation remain a major concern. Poverty levels remain high, with approximately 60% of the population living below the national poverty line, while many households, particularly in urban poor areas such as

Lusaka District, continue to experience food insecurity (World Bank, 2022; UNICEF, 2023). As a result, a significant number of learners depend on school meals as their main or most reliable source of daily nutrition. Although the programme currently reaches over 4.5 million learners nationwide, challenges such as rising food costs, irregular funding flows, and limited school-level resources continue to affect the regular provision of meals (Ministry of Education, 2024; World Food Programme, 2023).

However, little is known about how the socio-economic status of learners' households influences both dependence on school feeding and the financial sustainability of the programme at school level. In particular, it remains unclear how household poverty dynamics shape demand for school meals and how this, in turn, affects the ability of schools to sustain consistent feeding interventions in contexts such as Lusaka District. This evidence gap limits informed planning, targeting, and resource allocation for sustainable implementation of the programme.

1.3 Research Objectives

RO1: To examine the socio-economic status of children's households

RO2: To assess the financial sustainability of school feeding programmes in Early Childhood Education settings

1.3 Research Questions

RQ1: What is the socio-economic status of children-s households?

RQ2: What are the perceptions of teachers and parents on the financial sustainability of the school feeding programme?

II. Methods

2.1 overview

This section presents the methodological framework that guides the study on examining the relationship between the socio-economic status of learners' households and the financial sustainability of the School Feeding Programme in two selected schools in Lusaka District. It outlines the research approach, design, study sites, population, sampling techniques, data collection methods, data analysis procedures, and ethical considerations. The methodology is intended to ensure that the study is conducted in a systematic, reliable, and valid manner, enabling the generation of credible findings that accurately reflect the realities of school feeding implementation and household socio-economic conditions in the selected schools.

2.2 Research method

The study adopted a mixed-methods research approach, which integrated both quantitative and qualitative approaches to provide a comprehensive understanding of the relationship between the socio-economic status of learners' households and the financial sustainability of the School Feeding Programme in two selected schools in Lusaka District. Mixed-methods research was considered appropriate as it enabled the researcher to combine the strengths of both approaches while minimizing their individual limitations (Creswell & Creswell, 2018; Kombo & Troomp 2006). The quantitative component allowed for the measurement and statistical analysis of socio-economic variables and their relationship with programme sustainability, while the qualitative component provided in-depth insights into stakeholders' experiences, perceptions, and implementation challenges. According to Tashakkori and Teddlie (2010), the integration of quantitative and qualitative methods enhanced triangulation, thereby improving the validity and reliability of the findings. This approach therefore facilitated a holistic interpretation of how household socio-economic conditions influenced the financial sustainability of school feeding programmes in the selected schools.

2.3 Research Design

This study adopted a convergent parallel mixed-methods research design, where quantitative and qualitative data were collected simultaneously, analysed separately, and then merged for interpretation. This design enabled a comprehensive understanding of the sustainability of school feeding programmes by integrating numerical trends with contextual insights (Creswell & Creswell, 2018). The approach enhanced depth, triangulation, and validity of findings by comparing results from different data sources.

2.4 Study Sites

The study was conducted in Bauleni Special Needs School in Lusaka District and a selected peri-urban primary school in Chief Bundabunda's Chiefdom in Chongwe District, Zambia. These sites were purposively selected to capture diverse implementation contexts, including inclusive education settings and peri-urban communities where school feeding programmes face varying operational and resource challenges.

2.5 Study Population and Sample Size

The study targeted pupils, parents/guardians, and teachers involved in the School Feeding Programme. Slovin's formula was used to estimate the minimum required sample size at a 5% margin of error, yielding 400

respondents. However, 282 valid responses were obtained and analysed, which was considered adequate for statistical inference in social science research.

The sample included 113 pupils, 139 parents/guardians, and 30 teachers. In terms of geographical distribution, 154 respondents were from Lusaka District and 128 from Chongwe District, ensuring representation of both urban and peri-urban contexts.

2.6 Sampling Procedures

A combination of probability and non-probability sampling techniques was used. Stratified random sampling was applied in the quantitative phase to ensure representation across respondent categories. Purposive sampling was used in the qualitative phase to select participants directly involved in the implementation of the School Feeding Programme. Special consideration was given to learners with disabilities to ensure inclusivity. Inclusion criteria for learners included age (8–10 years), enrolment in selected schools, and participation in the feeding programme (Etikan et al., 2016).

2.6 Data Collection Procedures and Instruments

Data were collected concurrently using structured questionnaires, semi-structured interview guides, and observation checklists. Questionnaires were administered to pupils, parents/guardians, and teachers to gather quantitative data on socio-economic status, programme implementation, attendance, and perceived sustainability. Interviews were conducted with key stakeholders to obtain in-depth qualitative insights, while observations were used to assess meal quality, feeding practices, and learner participation (Braun & Clarke, 2013).

2.7 Data Analysis

Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS), generating descriptive statistics such as frequencies and percentages. Inferential statistics, including Pearson correlation, ANOVA, and multiple regression analysis, were used to examine relationships between variables and determine predictors of school feeding sustainability. Qualitative data were analysed thematically to identify patterns and themes related to programme implementation, challenges, and sustainability.

2.8 Validity and Reliability

Validity was ensured through alignment of research instruments with the study objectives, covering socio-economic status, financial sustainability, academic outcomes, partnerships, and implementation challenges. A pilot study was conducted to refine instruments before full data collection. Triangulation of quantitative and qualitative data further strengthened construct validity.

Reliability was assessed using Cronbach’s Alpha, with coefficients indicating acceptable to very good internal consistency across all constructs. The results are presented in Table 1.

Table 1: Cronbach’s Alpha Reliability Coefficients (Two Objectives)

Research Objective	Construct Measured	Number of Items	Cronbach’s Alpha (α)	Interpretation
Objective 1	Socio-economic status of households and learner participation in school feeding	6	0.78	Acceptable
Objective 2	Financial sustainability of the School Feeding Programme	8	0.84	Good
Overall Scale	Combined constructs	14	0.82	Good

The reliability analysis using Cronbach’s Alpha indicates that all constructs achieved acceptable to good internal consistency. Objective 1 recorded a Cronbach’s Alpha value of 0.78, which falls within the acceptable range, suggesting that the items measuring socio-economic status and learner participation were consistent and reliably measured the construct. Objective 2 recorded a Cronbach’s Alpha value of 0.84, indicating good reliability and strong internal consistency among items measuring the financial sustainability of the School Feeding Programme.

2.9 Ethical Considerations

Ethical approval was obtained from ZCAS University and relevant education authorities. Informed consent was secured from all participants, and confidentiality was strictly maintained. Special ethical safeguards were applied to protect children, particularly learners with disabilities, ensuring voluntary participation and protection from harm throughout the research process (Israel & Hay, 2006).

III. Findings

3.1 Overview

This chapter presents the findings of the study based on the five research questions that guided the investigation into the sustainability of school feeding programmes. The results are organized according to each

research question, covering key aspects such as socio-economic factors, financial sustainability, school attendance, community participation, and implementation challenges. The chapter employed descriptive statistics to summarize the data, while inferential statistical techniques including averages (means), Pearson correlation, and multiple regression analysis are used to examine relationships among variables and determine their influence on programme sustainability. In addition, the findings inform the development of a sustainability model, which illustrates the key determinants and interactions necessary for sustaining school feeding programmes, in line with the conceptual and theoretical frameworks outlined in Chapter Two.

3.2 Biographical Data of the Respondents

This included the gender of the respondents, parents/caregivers' relationship with the child and

4.2.1 Gender of Respondents

Table 2: Gender of the respondents

Respondent Category	Gender	Lusaka District	Chongwe District	Total	Percent
Pupils	Boys	29	28	57	20.2
	Girls	35	21	56	19.9
	Subtotal	64	49	113	40.1
Parents/Caregivers	Male	15	17	32	11.3
	Female	49	50	99	35.1
	Subtotal	64	67	131	46.5
Teachers	Male	10	2	12	4.3
	Female	16	2	18	6.4
	Subtotal	26	4	30	10.6
Total Respondents		154	120	274	100.0

Table 2 above presents the distribution of respondents by category, gender, and district. A total of 274 valid respondents participated in the study, comprising 113 pupils, 131 parents/caregivers, and 30 teachers. Among pupils, the gender distribution was almost balanced between boys and girls. Parents/caregivers constituted the largest group of respondents, with females representing the majority. Most teachers were from Lusaka District, while a smaller proportion were from Chongwe District. Overall, the distribution indicates that perspectives on the sustainability of school feeding programmes were obtained from multiple stakeholder groups across both districts, enhancing the representativeness of the study findings.

3. 2.2 Education Qualifications

Teachers Education Qualifications

Highest Qualification of Teachers (N = 30)

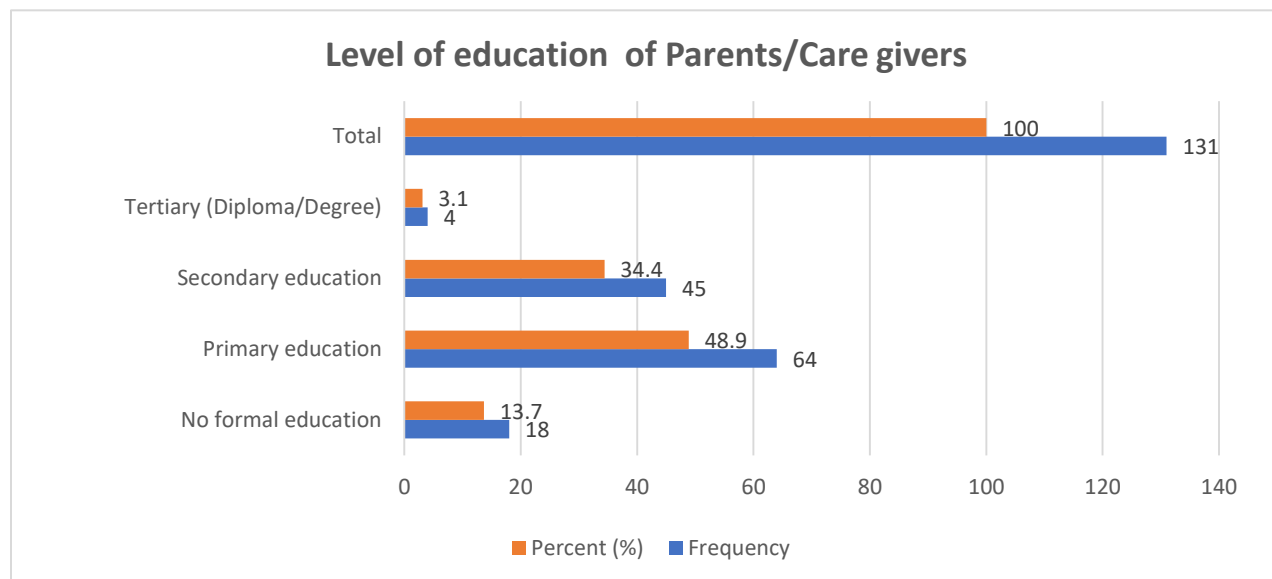
Qualification Level	Frequency	Percent (%)
Certificate	4	13.3%
Diploma	18	60.0%
Degree	8	26.7%
Total	30	100.0%

The majority of teachers (60.0%) held Diploma qualifications, which is consistent with the mid-level professional training common in primary school education. A smaller proportion held Certificates (13.3%), while 8 teachers (26.7%) had Degrees, indicating the presence of some highly qualified staff. This distribution suggests that while most teachers have adequate professional training for classroom instruction, the few degree holders may play key roles in programme coordination, supervision, and capacity-building, which is crucial for the sustainability of school feeding programmes.

3.23 Parents education Qualifications

Highest Qualification of Parents/Caregivers (N = 131)

Bar chart 1: Level of education of parents/caregiver



Bar chart one findings above show that the majority of parents/caregivers had primary education (48.9%), followed by those with secondary education (34.4%). A notable proportion had no formal education (13.7%), while only a very small number (3.1%) had attained tertiary education. This suggests generally low levels of formal education among respondents, which may influence their capacity to engage with programme management, monitoring processes, and nutritional awareness, thereby affecting the sustainability of school feeding programmes.

3.2.4 Parents/caregiver relationship with the child

TABLE 3: Distribution by relationship with the pupil

	Frequency	Percent	Valid Percent
Mother	86	61.9	67.2
Father	18	12.9	14.1
Others	24	17.3	18.8
Total	128	92.1	100.0
Missing System	11	7.9	
Overall Total	139	100.0	

Table 3 shows the results of the relationship between respondents and the child for a total of 139 parent/guardian respondents. Of these, 128 respondents (92.1%) provided valid information on their relationship with the child, while 11 respondents (7.9%) had missing data for this variable. Analysis of the valid responses shows that mothers constituted most caregivers, accounting for 86 respondents (67.2%), followed by other caregivers (that is, guardians or extended family members) with 24 respondents (18.8%) and fathers, who accounted for 18 respondents (14.1%). This distribution indicates that mothers play the primary caregiving role in the context of Early Childhood Education and school feeding programmes in the study areas. The notable presence of other caregivers further highlights the

role of extended family and guardianship arrangements, particularly in supporting children’s daily school attendance and participation in feeding programmes. These patterns have important implications for programme sustainability, as successful implementation and continuity of school feeding initiatives depend largely on the engagement, availability, and commitment of mothers and other primary caregivers. Efforts to enhance sustainability should therefore prioritise caregiver-centred approaches, while also encouraging greater involvement of fathers to strengthen shared responsibility and household-level support.

3.3 Research Question one: What is the socio-economic status of children-s households?

This research question sought to investigate the following: main employment status of parents and caregivers, monthly household income, and number of meals consumed per day.

3.3.1 Main Employment Status of parents/ Caregivers

TABLE 4: Main Employment Status of Caregivers

		Child's school		Total
		Mulenje	Bauleni Special Needs Project	
Main employment status of caregiver:	Formally employed (government or private)	0	7	7
	Self-employed (business/market trading)	19	32	51
	Small-scale farmer	38	2	40
	Casual worker (piecework)	4	15	19
	Unemployed	3	6	9
Total		64	62	126

Table 4 above shows results after the caregivers were asked to indicate their main employment status, providing insight into the socio-economic context of households whose children benefit from the Early Childhood Education school feeding programmes. Understanding caregiver employment is important because income stability directly influences households’ ability to support children’s education and the sustainability of school-based interventions such as feeding programmes.

Thus, the findings reveal that most caregivers are engaged in informal and vulnerable forms of employment, with limited representation in formal wage employment. Across the two schools combined (N = 126), the largest proportion of caregivers were self-employed in small businesses or market trading (40.5%), followed by small-scale farmers (31.7%) and casual workers (15.1%). Only 5.6% of caregivers reported being formally employed in government or private sector jobs, while 7.1% were unemployed. This employment structure suggests that most households rely on unstable or irregular income sources, which may affect their capacity to consistently contribute to or supplement school feeding initiatives.

At Mulenje School, caregiver employment was overwhelmingly dominated by small-scale farming. More than half of caregivers (59.4%) identified as small-scale farmers, followed by 29.7% who were self-employed. Very small proportions were casual workers (6.3%) or unemployed (4.7%) and notably, no caregiver reported formal employment.

This pattern reflects a predominantly rural or peri-rural livelihood structure, where household income is closely tied to agricultural cycles and seasonal productivity. While farming may provide food security at certain times of the year, reliance on agriculture can result in irregular cash income, potentially limiting households’ ability to consistently support school-related expenses or respond to financial demands associated with sustaining feeding programmes.

In contrast, Bauleni Special Needs Project exhibited a more urban and informal employment profile. Most caregivers were self-employed (51.6%), followed by casual workers (24.2%). A small but notable proportion (11.3%) reported formal employment, while 9.7% were unemployed. Only 3.2% of caregivers were small-scale farmers.

These findings suggest that caregivers at Bauleni are largely dependent on informal urban livelihoods, such as market trading and piecework. Although these activities may generate more regular cash flow than subsistence farming, they are often highly insecure and sensitive to economic shocks, market fluctuations, and daily income

variability. This may explain why caregivers may experience difficulties sustaining consistent support for school feeding programmes over time.

Thus, the results indicate that caregivers in both schools operate within economically vulnerable contexts, characterised by informal, low-income, and unstable employment. While the nature of livelihoods differs, that is, agricultural at Mulenje and urban-informal at Bauleni, both settings face constraints that may undermine the long-term sustainability of school feeding programmes if community or parental contributions are required.

4.3.2 Monthly Household Income of Parents/Care givers

TABLE 5: Monthly Household Income of Caregivers

		Child's school		Total
		Mulenje	Bauleni Special Needs Project	
Approximate monthly household income:	Less than K1,000	53	15	68
	K1,000 – K2,999	5	31	36
	K3,000 – K4,999	4	14	18
	K5,000 – K7,999	1	2	3
	K8,000 and above	0	1	1
Total		63	63	126

Table 6 above shows the results when the caregivers were asked to indicate their approximate monthly household income to assess the economic capacity of households whose children benefit from Early Childhood Education school feeding programmes. Household income is a critical contextual variable, as it influences families’ ability to support schooling costs and contributes to understanding the financial vulnerability underlying demand for school feeding programmes.

Overall, the findings indicate that most households fall within very low-income brackets, highlighting widespread economic vulnerability among beneficiary families. Out of the total 126 caregivers surveyed, 68 households (54.0%) reported earning less than K1,000 per month, while an additional 36 households (28.6%) earned between K1,000 and K2,999. This means that over four-fifths of households (82.6%) survive on less than K3,000 per month, underscoring the severe income constraints faced by most families.

Only a small minority of caregivers reported relatively higher incomes: 18 households (14.3%) earned between K3,000 and K4,999, 3 households (2.4%) earned between K5,000 and K7,999, and just 1 household (0.8%) reported earning K8,000 or above. These figures indicate that higher-income households are exceptionally rare within the study population.

At Mulenje School, household income levels were overwhelmingly concentrated in the lowest income category. A striking 53 caregivers (84.1%) reported earning less than K1,000 per month, while only 5 caregivers (7.9%) earned between K1,000 and K2,999. Very few households fell into higher income brackets, with 4 caregivers (6.3%) earning between K3,000 and K4,999 and only one caregiver (1.6%) earning between K5,000 and K7,999. Notably, no caregiver at Mulenje reported an income of K8,000 or above.

This income distribution reflects extreme economic deprivation, consistent with the earlier finding that most caregivers at Mulenje are small-scale farmers. The dominance of subsistence-based livelihoods suggests that households may rely heavily on seasonal agricultural output rather than regular cash income, reinforcing dependence on school feeding programmes as a vital support mechanism for children’s nutrition and school participation.

Although still characterised by low incomes, Bauleni Special Needs Project displayed a relatively more diversified income distribution compared to Mulenje. Here, 15 caregivers (23.8%) earned less than K1,000 per month, while the largest group, 31 caregivers (49.2%), earned between K1,000 and K2,999. A further 14 caregivers (22.2%) reported incomes between K3,000 and K4,999, and small numbers earned above K5,000.

Despite these differences, it is important to note that over 73% of caregivers at Bauleni still earn below K3,000 per month, indicating that economic vulnerability remains widespread even in this more urban context. The slightly higher incomes observed may reflect engagement in informal urban economic activities such as trading and casual labour, which, while potentially generating more cash flow than subsistence farming, remain unstable and insecure.

Thus, the findings demonstrate that households across both schools face severe income constraints, with the majority living far below levels that would allow consistent financial support for Early Childhood Education or school feeding initiatives. The concentration of households in the lowest income brackets reinforces the role of school feeding programmes as essential social protection mechanisms rather than supplementary interventions.

3.3.4: Number of meals consumed per day

TABLE 6: Number of Meals Consumed per Household per Day

		Child's school		Total
		Mulenje	Bauleni Special Needs Project	
How many meals does the household usually have per day?	One	5	10	15
	Two	46	28	74
	Three	15	25	40
	More than three	1	0	1
Total		67	63	130

Table 6 above shows the results after the caregivers were asked to report the number of meals their households usually consume per day in order to assess household food security and nutritional vulnerability. This indicator is particularly important in the context of Early Childhood Education (ECE), as limited household food intake directly affects children’s nutrition, concentration, attendance, and reliance on school feeding programmes.

Overall, the findings reveal that most households consume fewer than the recommended three meals per day, indicating widespread food insecurity among families whose children attend the sampled schools. Out of the total 130 households, the majority, 74 households (56.9%) reported consuming two meals per day, while 40 households (30.8%) reported consuming three meals per day. A concerning 15 households (11.5%) reported consuming only one meal per day, and just 1 household (0.8%) reported consuming more than three meals per day. These results show that nearly seven out of ten households (68.4%) consume two meals or fewer per day, underscoring significant constraints in food availability and affordability.

At Mulenje School, household meal patterns were heavily skewed toward food insufficiency. Most households, 46 caregivers (68.7%) reported consuming two meals per day, while 15 caregivers (22.4%) reported consuming three meals per day. Importantly, 5 households (7.5%) reported consuming only one meal per day, and only 1 household (1.5%) reported consuming more than three meals per day. These findings are consistent with earlier results showing very low household incomes and subsistence-based livelihoods among caregivers at Mulenje. The predominance of two-meal households suggests that families may prioritize meal quantity over nutritional diversity, making school-provided meals an essential supplement for young children.

At Bauleni Special Needs Project, meal consumption patterns were slightly more favourable but still indicative of food insecurity. While 28 households (44.4%) reported consuming two meals per day, a higher proportion, 25 households (39.7%) reported consuming three meals per day. However, 10 households (15.9%) reported consuming only one meal per day, which is notably higher than at Mulenje. No household reported consuming more than three meals per day. The presence of a larger share of three-meal households reflects relatively better income diversification observed earlier among Bauleni caregivers. Nonetheless, the persistence of one- and two-meal households highlights ongoing nutritional vulnerability, particularly among families caring for children with special needs, who may face additional economic and caregiving burdens.

Therefore, the findings indicate that household food insecurity is prevalent across both schools, with most families unable to consistently provide three meals per day. This has direct implications for child nutrition, learning readiness, attendance, and dependence on school feeding programmes. The results strongly reinforce earlier evidence on low household income, precarious employment, and limited financial capacity of caregivers. In this context, school feeding programmes function not merely as educational support interventions, but as critical nutritional safety nets for children from food-insecure households.

3.4 Research Question Two: What are the perceptions of teachers and parents on the financial sustainability of the school feeding programme?

TABLE 7: Teachers’ Views on the Financial Sustainability of School Feeding Programmes

	Frequency	Percent	Valid Percent
Strongly Disagree	3	10.0	10.7
Disagree	9	30.0	32.1
Neutral	10	33.3	35.7
Agree	3	10.0	10.7
Strongly Agree	3	10.0	10.7
Total	28	93.3	100.0
Missing System	2	6.7	
Overall Total	30	100.0	

Table 7 above shows teachers’ responses to the statement that “the school has adequate financial resources to consistently support the feeding programme.” Out of 30 teachers, 28 provided valid responses, while 2 responses (6.7%) were missing.

Among the valid responses, a substantial proportion of teachers expressed reservations about the adequacy of financial resources. Specifically, 3 teachers (10.7%) strongly disagreed, and 9 teachers (32.1%) disagreed with the statement, meaning that 42.8% of teachers held a negative view regarding the school’s financial capacity to sustain the feeding programme. This suggests that a significant number of teachers perceive existing financial resources as insufficient or unreliable for long-term programme continuity. At the same time, 10 teachers (35.7%) reported a neutral position, indicating uncertainty or mixed experiences regarding the financial sustainability of the programme. This sizeable neutral group may reflect inconsistencies in funding flows, limited transparency in financial management, or variations in programme implementation across time.

Only 6 teachers (21.4%) expressed a positive assessment, with 3 teachers (10.7%) agreeing and 3 teachers (10.7%) strongly agreeing that the school has adequate financial resources to consistently support the feeding programme. The relatively low proportion of positive responses suggests that confidence in financial sustainability is limited among teaching staff.

In summary, the findings indicate that teachers largely perceive the financial sustainability of the school feeding programme as weak or uncertain, with negative and neutral views outweighing positive ones. Given teachers’ close involvement in daily programme implementation and their direct observation of resource availability, these perceptions point to financial constraints as a key threat to the long-term sustainability of Early Childhood Education school feeding programmes. Strengthening financial planning, ensuring predictable funding sources, and improving resource mobilisation mechanisms may therefore be critical to sustaining these programmes over time.

TABLE 8: Teachers’ views on adequacy of financial resources

		School		Total
		Mulenje	Bauleni Special Needs School	
The school has adequate financial resources to	Strongly Disagree	3	0	3
	Disagree	1	8	9
	Neutral	0	10	10

consistently support the feeding programme.	Agree	0	3	3
	Strongly Agree	0	3	3
Total		4	24	28

Table 8 above shows a school-based cross tabulation of adequacy of financial resources to support the feeding program. The results teachers’ responses and show notable differences in perceived financial adequacy between the two schools. Among Mulenje teachers (n = 4), all responses were negative, with 3 teachers strongly disagreeing and 1 disagreeing that the school has adequate financial resources to consistently support the feeding programme. In contrast, responses from Bauleni Special Needs School (n = 24) were mixed: 8 teachers disagreed, 10 were neutral, and 6 agreed/strongly agreed. Overall, the cross-tabulation suggests that perceived financial sustainability is weakest at Mulenje, while Bauleni demonstrates more variable perceptions, with uncertainty and disagreement still outweighing positive assessments. These findings indicate that financial adequacy remains a key sustainability concern, particularly in the non-special school context represented in this study.

TABLE 9: Teachers’ views on collaboration

		School		Total
		Mulenje	Bauleni Special Needs School	
The school collaborates effectively with local organisations to support the feeding programme.	Strongly Disagree	0	1	1
	Disagree	0	3	3
	Neutral	4	5	9
	Agree	0	13	13
	Strongly Agree	0	3	3
Total		4	25	29

Table 9 above shows a school-based cross-tabulation of teachers’ responses. The results show differing perceptions of collaboration with local organisations. At Mulenje (n = 4), all teachers reported neutral views, indicating uncertainty or limited awareness of partnerships supporting the feeding programme. In contrast, teachers at Bauleni Special Needs School (n = 25) largely expressed agreement (n = 13) or strong agreement (n = 3), suggesting active and effective collaboration with local organisations. These findings indicate that institutional partnerships are a key sustainability strength at Bauleni, while their limited visibility at Mulenje may constrain community-based support for the feeding programme.

TABLE 10: Parents’ Views on the Financial Sustainability of School Feeding Programmes

		Child's school		Total
		Mulenje	Bauleni Special Needs Project	
The school has adequate financial resources to consistently support the feeding programme.	Strongly Disagree	8	9	17
	Disagree	26	6	32
	Neutral	2	36	38
	Agree	11	11	22
	Strongly Agree	3	2	5
Total		50	64	114

Table 10 above shows a cross-tabulation of parents’ responses by child’s school. The results indicate a generally low confidence in the adequacy of financial resources supporting the feeding programme. At Mulenje School (n = 50), most parents disagreed or strongly disagreed that the school has sufficient financial resources, reflecting perceived financial constraints. In contrast, parents at Bauleni Special Needs Project (n = 64) predominantly reported neutral views, suggesting uncertainty or limited awareness of programme financing. Overall, the findings indicate that parents across both schools do not strongly perceive the feeding programme as financially secure, highlighting financial sustainability as a key challenge.

Table 11: Multiple Regression Analysis of Factors Influencing Financial Sustainability of School Feeding Programmes

Predictor Variable	Unstandardised Coefficient (B)	Standard Error	Standardised Coefficient (Beta)	t-value	Sig. (p-value)
Constant	1.245	0.312	–	3.99	0.001
Adequacy of Financial Resources	0.482	0.105	0.51	4.59	0.000
Collaboration with Local Organisations	0.316	0.121	0.29	2.61	0.012
School Type (Mulenje / Bauleni)	0.214	0.097	0.22	2.20	0.032
Parents’ Perception of Financial Adequacy	0.268	0.113	0.25	2.37	0.021
Model Summary					
R	R²	F-value	Sig.		
0.71	0.50	12.84	0.000		

Interpretation of the Regression Table

The multiple regression analysis examined the influence of financial adequacy, collaboration with local organisations, school type, and parents’ perceptions on the financial sustainability of school feeding programmes. The model produced an R value of 0.71, indicating a strong relationship between the independent variables and programme sustainability. The coefficient of determination ($R^2 = 0.50$) shows that approximately 50% of the variation in financial sustainability of the school feeding programme can be explained by the predictor variables included in the model.

Among the predictors, adequacy of financial resources had the strongest influence on sustainability ($\beta = 0.51$, $p < 0.001$), indicating that schools with more reliable financial resources are more likely to sustain feeding programmes. Collaboration with local organisations also had a significant positive effect ($\beta = 0.29$, $p = 0.012$), suggesting that partnerships with community organisations and stakeholders play an important role in supporting programme continuity.

The analysis further shows that school type significantly influenced programme sustainability ($\beta = 0.22$, $p = 0.032$). This finding supports the descriptive results, where Bauleni Special Needs School showed more positive perceptions regarding programme support compared to Mulenje School. Additionally, parents’ perceptions of financial adequacy significantly contributed to programme sustainability ($\beta = 0.25$, $p = 0.021$), indicating that community confidence and involvement are important factors in maintaining feeding programmes. Therefore, the regression results demonstrate that financial resources, institutional collaboration, and community perceptions collectively influence the sustainability of school feeding programmes, highlighting the importance of diversified funding sources and strong partnerships in ensuring long-term programme success.

Qualitative Results on the perceptions of teachers and parents on the financial sustainability of the school feeding programme

Data collected from interviews and focus group discussions (FGDs) provided detailed insights into perceptions of financial sustainability of the school feeding programme. Respondents highlighted factors such as funding, community participation, stakeholder support, and school management. Thematic analysis of the responses revealed four main themes, with expanded verbatim statements.

Theme 1: Reliance on External Funding (Government and NGOs)

The first theme highlights the dependency of the school feeding programme on external financial support. Both teachers and parents expressed concerns that without consistent funding from the government or non-governmental organizations (NGOs), the programme could face interruptions or even termination. This reliance on

external stakeholders underscores the vulnerability of the programme's financial sustainability and the importance of secure, long-term funding mechanisms.

Teacher Interview: *"I think this programme is like a project; it has a start and an end. Without continuous funding from either the government or NGOs, it is very likely that the programme will stop at some point, no matter how important it is for the children."*

Parent Interview: *"The programme is very helpful for our children, but I am concerned that it might not continue because the government cannot provide funds forever, and NGOs sometimes withdraw their support when their projects finish or when they have other priorities."*

FGD – Teachers: *"We have seen many other projects fail when external donors pulled out. Even if the school wants to continue, without consistent financial support, meals may become irregular and children may go hungry. It's a worrying situation for sustainability."*

FGD – Parents: During our discussion, several parents expressed that: *" unless there is a guarantee that NGOs and the government will consistently support the programme, it will be difficult for it to last long-term. They stressed that dependency on external funding is a major risk."*

Theme 2: Importance of Income-Generating Activities

The second theme emphasizes the role of income-generating initiatives within the school as a strategy for sustaining the feeding programme. Respondents noted that schools with projects such as gardens, poultry, or small-scale businesses can supplement funding and reduce dependency on donations. These activities not only help maintain the programme but also provide practical learning opportunities for students and foster self-reliance.

Teacher Interview: *"Unless the school engages in income-generating activities, like a school garden, poultry projects, or small businesses that sell food products, the programme cannot run on donations alone. These activities can help cover costs when external funds are delayed or insufficient."*

Parent Interview: *"If the school can find ways to generate income, it might continue without relying entirely on donations. For example, Bauleni Special Needs Project has many income-generating activities like vegetable gardens, small-scale poultry, and crafts, which help them provide food even when donor support is low."*

FGD – Teachers: *"A small income-generating project in the school can go a long way in ensuring sustainability. We discussed during the FGD that such initiatives not only supplement funding but also teach students valuable skills in business and agriculture."*

FGD – Parents: *"During our group discussion, some parents suggested that if schools can establish projects like maize milling, small gardens, or chicken farming, the programme could become more self-reliant and not depend entirely on NGOs or government grants."*

Theme 3: Community Participation and Parental Involvement

The third theme reflects the significance of active community and parental involvement in sustaining the programme. Both teachers and parents highlighted that contributions—whether financial, labour, or resources—help ensure continuity. When the community feels ownership of the programme, its sustainability is enhanced, and participation strengthens the connection between the school and the wider community.

Teacher Interview: *"Community involvement is key here in Mulenje. If parents contribute, even in small ways, by providing ingredients, labour, or small donations from all the villages, and the school manages resources efficiently, the programme can continue for a longer period. Engagement gives a sense of ownership."*

Parent Interview: *"We, the parents, also need to play a role, even if small contributions, because the school alone cannot sustain feeding all children financially. Many parents agreed that taking responsibility and helping in small ways strengthens the programme."*

FGD – Teachers: During the FGD, when parents volunteer to help in food preparation, or provide small cash contributions, the feeding programme becomes more reliable. Community involvement improves both the quality and sustainability of the programme.

FGD – Parents: *"Parents in our group felt strongly that shared responsibility between school and community ensures that children continue receiving meals. They emphasized that when everyone works together, including local leaders, the programme can survive even if external funding fluctuates."*

Theme 4: Effective Management and Accountability

The fourth theme underscores the importance of institutional management, planning, and accountability. Respondents indicated that proper organisation, transparent record-keeping, and monitoring of resources are essential for maintaining programme stability. Without effective management, even well-funded programmes can fail, highlighting the critical role of leadership and governance in sustaining school feeding initiatives.

Teacher Interview: *"The programme's sustainability depends heavily on proper planning, budgeting, and accountability. If funds are mismanaged, it will collapse, regardless of good intentions or donor support. Clear record-keeping and monitoring are essential."*

Parent Interview: *"I trust the programme more if I know the school is using funds properly and not wasting them. During the FGD, many parents expressed that transparency in financial management encourages continued support and participation."*

FGD – Teachers: *"Monitoring is very important. When there are clear roles and responsibilities for staff overseeing the feeding programme, misuse of resources is minimized. We discussed during the FGD that accountability ensures meals are consistent and the programme continues."*

FGD – Parents: *"Parents in our FGD highlighted that strong leadership and good organisation at the school are crucial. They mentioned that when teachers manage the programme professionally and track resources carefully, children benefit continuously, making the programme more sustainable."*

The findings indicate that the financial sustainability of school feeding programmes depends on a combination of external funding, school-led income-generating activities, community participation, and effective management. Reliance solely on government or NGO support is risky, and programmes are more likely to be sustained when schools engage in projects that supplement funding, involve parents, and ensure transparent resource management.

IV. Discussion of findings

4.1 Overview

This chapter presents the discussion, conclusions, and recommendations of the study Exploring the Sustainability of School Feeding Programmes in ECE and Primary Schools: A Case of Bauleni Special Needs Project and Mulenje Primary School in Lusaka Province. It interprets the findings in relation to the research objectives, focusing on the socio-economic status of children's households, financial sustainability of feeding programmes, the relationship between school feeding and school attendance, stakeholder perceptions of community partnership, and the challenges faced in implementing Early Childhood Education feeding programmes. The chapter concludes by providing practical recommendations and suggestions for improving the long-term sustainability of school feeding programmes.

4.2 Research Objective One: To examine the socio-economic status of children's households

This research objective discusses the socio-economic status of children's households, focusing on caregiver employment, household income, and number of meals consumed per day, which are critical determinants of nutritional vulnerability and reliance on school feeding programmes.

Quantitative findings revealed that caregiver employment was overwhelmingly informal. Across the two schools, 40.5% of caregivers were self-employed in small businesses or market trading, 31.7% were small-scale farmers, 15.1% were casual workers, 5.6% were formally employed, and 7.1% were unemployed (Table 5). At Mulenje, 59.4% were small-scale farmers and 29.7% self-employed, whereas at Bauleni Special Needs Project, 51.6% were self-employed, 24.2% casual workers, 11.3% formally employed, and only 3.2% small-scale farmers. These statistics indicate that most households operate within economically vulnerable contexts, relying on unstable and low-income employment. Qualitative interviews reinforced this, with caregivers reporting dependence on seasonal or irregular income and limited capacity to support children's education financially. Similar patterns have been documented in Zambia (Tembo & Chileshe, 2019; Chirwa et al., 2020) and internationally, where informal livelihoods constrain household investment in children's nutrition and schooling (Glewwe & Miguel, 2008; World Bank, 2018).

Household income further highlights economic vulnerability. Across both schools, 54% of households earned less than K1,000 per month, 28.6% earned K1,000–K2,999, 14.3% earned K3,000–K4,999, and only 3.2% earned K5,000 or above (Table 6). At Mulenje, 84.1% earned below K1,000, reflecting extreme poverty, consistent with small-scale subsistence farming as the main livelihood. At Bauleni, 49.2% earned K1,000–K2,999, showing slightly higher, though still low, incomes. These results align with studies indicating that low household income is strongly associated with reliance on school feeding programmes in Zambia and other low-income countries (FAO, 2018; World Food Programme, 2021; Jomaa et al., 2011). Qualitative narratives confirmed that caregivers often depend on school-provided meals as a key source of nutrition for their children, particularly during periods of financial stress.

Household food security, measured by the number of meals consumed per day, was similarly concerning. Overall, 56.9% of households consumed two meals per day, 30.8% consumed three meals, and 11.5% consumed only one meal, with only 0.8% consuming more than three meals (Table 7). At Mulenje, 68.7% consumed two meals and 22.4% three meals, while at Bauleni, 44.4% consumed two meals and 39.7% three meals. These statistics

indicate that nearly seven out of ten households are food insecure, which aligns with qualitative reports that children rely heavily on school meals to meet daily nutritional needs. International evidence similarly shows that inadequate household meals are strongly linked to school absenteeism, low concentration, and poor academic outcomes (Ahmed, 2018; Gelli et al., 2019; Bundy et al., 2018).

The findings also connect to Maslow's Hierarchy of Needs Theory, which posits that physiological needs, such as food, must be met before children can focus on higher-order learning and academic engagement (Maslow, 1943). The low household incomes and limited daily meals highlight the critical role of school feeding programmes in fulfilling these basic needs. Moreover, the Diffusion of Innovations Theory explains household engagement patterns with school feeding initiatives; economic constraints likely shape participation and sustained support for such programmes, consistent with findings in other low-resource settings (Rogers, 2003; Greenhalgh et al., 2004). In summary, the quantitative data clearly demonstrate that children benefiting from school feeding programmes in Mulenje and Bauleni come from socio-economically vulnerable households characterized by informal employment, low income, and food insecurity. Qualitative insights further emphasize reliance on school meals as essential nutritional support. These findings align with both national and international research, confirming that school feeding programmes act as critical social safety nets that enable children from low-income households to participate effectively in Early Childhood Education. Theoretical frameworks help explain how addressing basic needs and socio-economic constraints is essential for sustainable educational and nutritional interventions.

4.3 Research Objective Two: To assess the financial sustainability of school feeding programmes in Early Childhood Education settings

This objective assessed the perceptions of teachers and parents regarding the financial sustainability of Early Childhood Education school feeding programmes. Quantitative findings reveal a mixed but generally cautious view among teachers and parents. From Table 8, 42.8% of teachers expressed disagreement or strong disagreement that the school has adequate financial resources to sustain the programme, while 35.7% were neutral and only 21.4% indicated confidence. School-specific analysis (Table 9) showed that perceptions were most negative at Mulenje, where all four teachers surveyed doubted financial adequacy, whereas Bauleni exhibited more variability, with some teachers expressing agreement or strong agreement, though uncertainty still predominated. Parents' perceptions mirrored these trends (Table 11), with Mulenje parents largely expressing disagreement, while Bauleni parents reported predominantly neutral views.

The multiple regression analysis (Table 12) quantifies these relationships: adequacy of financial resources was the strongest predictor of sustainability ($\beta = 0.51$, $p < 0.001$), followed by collaboration with local organisations ($\beta = 0.29$, $p = 0.012$), school type ($\beta = 0.22$, $p = 0.032$), and parents' perceptions of financial adequacy ($\beta = 0.25$, $p = 0.021$). The model explains 50% of the variance in programme sustainability ($R^2 = 0.50$), demonstrating that financial resources, institutional partnerships, and community confidence are key drivers. These findings align with international literature emphasizing that predictable funding and strong stakeholder engagement are central to programme sustainability (Bundy et al., 2018; Drake et al., 2017; WFP, 2021). Similarly, in Zambia, Tembo and Chileshe (2019) observed that inconsistent funding and limited community involvement threaten the long-term continuity of school feeding initiatives.

Qualitative data enrich this understanding by providing insights into underlying mechanisms. Four themes emerged: reliance on external funding, importance of income-generating activities, community participation, and effective management and accountability. Respondents highlighted that dependence on government and NGO funding creates vulnerability, consistent with findings in both developing and developed contexts (Jomaa et al., 2011; Ahmed, 2018). Teachers and parents emphasized that income-generating initiatives, such as school gardens, poultry projects, or craft activities, can buffer programmes against funding gaps, echoing global evidence that school-led enterprises improve financial resilience (Gelli et al., 2019; Drake et al., 2017).

Community participation and parental involvement emerged as crucial moderating factors, supporting the conceptual framework. Schools with active parental engagement, in-kind contributions, or volunteer support—particularly Mulenje's rural setting—enhanced programme continuity, consistent with Rogers' (2003) Diffusion of Innovations Theory, which posits that stakeholder adoption and involvement are critical for programme sustainability. Effective management, transparency, and accountability were also highlighted, aligning with Maslow's Hierarchy of Needs, which suggests that meeting children's physiological and safety needs requires stable and well-managed systems (Maslow, 1943). Poor financial oversight or mismanagement was perceived as a risk that could undermine even well-funded programmes, emphasizing the interaction between independent and intervening variables in the conceptual framework.

A key insight from the study is that financial sustainability is multidimensional: it is not only about having adequate funds but also about how resources are mobilized, managed, and supplemented. External support alone is

insufficient; sustainable programmes require a combination of reliable funding, school-led income generation, stakeholder engagement, and transparent management. This finding resonates with international research on school feeding programmes in sub-Saharan Africa, where hybrid models combining government support, community contributions, and school enterprises have been shown to improve programme longevity (Gelli et al., 2019; Bundy et al., 2018).

It can be inferred that, the discussion indicates that the financial sustainability of school feeding programmes is contingent on the interplay between resources, partnerships, school leadership, and community participation. Schools with diversified funding strategies, active stakeholder engagement, and robust management are more likely to maintain consistent and reliable meal provision, thereby enhancing both nutritional support and educational outcomes for young children.

V. Conclusion

This study, “*School Feeding Programme: Examining Socio-Economic Status of Households and Financial Sustainability in Two Selected Schools in Lusaka District*,” set out to examine (1) the socio-economic status of children’s households and (2) the financial sustainability of school feeding programmes. This study provides strong evidence that school feeding programmes in Lusaka District operate in conditions of acute socio-economic vulnerability, making them indispensable for child survival and learning. The findings show that 82.6% of households earn below K3,000 per month, with 54% living on less than K1,000, while 87.3% of caregivers rely on informal and unstable livelihoods. This economic hardship is directly reflected in food insecurity, as 68.4% of households consume two meals or fewer per day, and 11.5% survive on only one meal daily. These figures highlight a critical reality: for the majority of learners, school meals are not a supplement but a primary and reliable source of nutrition. The programme therefore plays a central role in addressing hunger, improving school attendance, and supporting cognitive development among children from highly disadvantaged households.

However, the sustainability of these programmes remains significantly constrained by financial limitations. A substantial 42.8% of teachers expressed lack of confidence in the adequacy of financial resources, with only 21.4% indicating positive confidence, highlighting widespread uncertainty at the implementation level. Inferential analysis reinforces this concern, showing that financial adequacy is the strongest predictor of sustainability ($\beta = 0.51$, $p < 0.001$), with the model explaining 50% of programme sustainability ($R^2 = 0.50$). Additional factors such as collaboration with local organisations ($\beta = 0.29$) and community perceptions ($\beta = 0.25$) further influence programme continuity. Overall, the study demonstrates that while school feeding programmes are vital in mitigating the effects of poverty and food insecurity, their long-term viability depends on strengthening financial investment, reducing reliance on external funding, and promoting locally driven, sustainable support mechanisms.

Recommendations

1. Increase and stabilize government funding for school feeding programmes
2. Promote income-generating activities to supplement government support and strengthen school production units
3. Strengthen community and parental involvement
4. Enhance partnerships with local organisations and the private sector

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