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A critical analysis of the impact of the Supplementary Feeding Programme (SFP) on learners affected by the El-Nino induced drought covering the period 2023 -2024 rain season: A case study of two rural primary schools in Zimbabwe

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Abstract

The motive of the study was to examine the impact of the implementation of the Supplementary Feeding Programme on rural primary school learners affected by the El-Nino induced drought covering the period 2023 -2024 rain season, in Zimbabwe. The study also explored key stakeholders involved in the implementation of the Supplementary Feeding Programme (SFP), the constraints and possible approaches that enhance SFP for the benefit of rural primary school learners in Zimbabwe. The study involved two rural primary school cases. Descriptive data were generated using structured in-depth interview questions from a purposively selected sample of two (2) heads of schools, eight (8) senior teachers, eight (8) School Development Committee (SDC) members and ten (10) parents. Survey questionnaires were used to collect quantitative data from a randomly selected sample of 70 junior class teachers. The major findings were that: the El-Nino induced drought caused learner withdrawal, high absenteeism, malnutrition and low academic performance; key stakeholders involved in the implementation of SFP were teachers, parents, school heads, the central government and Non-Governmental Organisations (NGOs); the benefits of SFP included improved: nutrition among the learners, overall health, academic performance, opportunities for socialisation and community income; the impact of SFP include improved: nutrition, school attendance, performance, class participation and completion of school tasks on time. The study revealed that SFP was constrained by limited financial resources, logistical constraints, inappropriate infrastructure, cultural diversity and lack of school-based policy frameworks that regulated its implementation. and bureaucratic protocols. Further, the study established five approaches that enhance the implementation of SFP, which are community engagement, collaboration, pro-locally sourced food, capacity building, monitoring and evaluation. Based on the study's major findings, the Supplementary Feeding Programme implementation five star-model was developed, anchored on collaboration, community engagement, capacity building, pro-locally sourced food, monitoring and evaluation.

Key words: *El-Nino drought; Learners; Malnutrition; Nutrition; Supplementary Feeding Programme .*

1.0 Introduction

The Supplementary Feeding Programme (SFP) is a government of Zimbabwe initiative aimed at mitigating the effects of the El-Nino induced drought among learners in rural primary schools. El-Nino refers to a complex weather pattern characterised by climate and precipitation changes, resulting in severe drought (Ndlovu and Chilo, 2020). Other studies have confirmed that the Southern region of Africa experienced unusually extreme high temperature levels and low rainfall patterns in the Sothern African Development Community countries (SADC) to which Zimbabwe belongs. Thus, a long dry season cycle caused crop production failure, livestock deaths and water scarcity in Zimbabwe (Makate and Makate, 2021).

The El-Nino induced drought experienced in the 2023 – 2024 summer cropping rain season resulted in food shortages in most rural households in Zimbabwe. It is estimated that 32.2% of the Zimbabwe rural population indicated that children from rural households were unlikely to attend school on a daily basis due to the effects of the El-Nino induced

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drought (UNICEF, 2024). It is against this background that the government of Zimbabwe declared a state of national disaster and introduced the implementation of the Supplementary Feeding Programme in public rural primary schools. It further pronounced the policy of leaving no place and no one behind in the distribution of food meant for the implementation of SFP in rural primary schools in Zimbabwe.

The complexity in the mobilisation of financial and food resources, distribution and implementation of SFP needs a critical analysis in order to be informed and come up with plausible approaches that enhance the implementation of SFP processes to promote nutrition and user-friendly learning environments that attract learners to attend lessons regularly in the rural primary schools in Zimbabwe (Brown and Jackson, 2020). This background ignited the study in order to come up with approaches that enhance the implementation of SFP in rural primary schools in Zimbabwe.

1.1 Statement of the problem

The negative effects of the El-Nino induced drought are a global concern that draw the attention of many governments, including the Southern African Development Community countries. The nutritional well-being of learners in primary schools is a matter of concern among governments, parents, guardians, teachers and school administrators in Zimbabwe. Malnutrition among primary school learners has potential long-term consequences to their health and educational outcomes (Brown and Green, 2021). The indicators of literature gaps on the effects of the 2023-2024 El-Nino induced drought and the impact of the implementation of the Supplementary Feeding Programme ignited this study. The indicators include characteristics of the affected learners, effectiveness of key stakeholders involved in the implementation, and benefits of SFP in rural primary schools. Although a number of studies have established that the El-Nino induced drought has coursed multiple biological defects among children including rickets, weakened immune systems and infections, they did not come up with El-Nino drought school- based effects with specific reference to rural primary schools in Zimbabwe. Thus, this study explores the effects of the El-Nino induced drought and the impact of the implementation of the Supplementary Feeding Programme on learners. Further, grey areas include possible constraints and approaches that enhance the implementation of SFP in rural primary schools in Zimbabwe. It is this backdrop that prompted this study on examining the effects of the El-Nino induced drought and the impact of the implementation of the Supplementary Feeding Programme on rural primary school learners in Zimbabwe.

1.2 Research questions

The study was anchored on the following research questions:

1.5.1 What are the effects of the El-Nino induced drought among rural primary school learners in Zimbabwe?

1.5.2 Who are the key stakeholders involved in the implementation of the Supplementary Feeding Programme in rural primary schools in Zimbabwe?

1.5.3 To what extent does the Supplementary Feeding Programme impact learners in rural primary schools in Zimbabwe?

1.5.4 What are the benefits of the Supplementary Feeding Programme in rural primary schools?

1.5.5 What are the barriers encountered in the implementation of the Supplementary Feeding Programme in rural primary schools in Zimbabwe?

1.5.6 How can the implementation of the Supplementary Feeding Programme in rural primary schools in Zimbabwe be enhanced?

2.0 Literature review

This section reviews related literature on the effects of the El-Nino induced drought, the scope, implementers and the impact of the Supplementary Feeding Programme in schools.

2.1. The effects of El-Nino induced drought in schools

El-Nino induced drought refers to a complex weather pattern characterised by extremely hot temperatures, very low or no rainfall resulting in water scarcity, crop failure and livestock diseases and deaths (Brown and Green, 2021). The El-Nino phenomenon negatively affects the following:

2.1.1 Agriculture

According to Brown and Green, (2021), the El-Nino induced drought coupled with low rainfall causes crop failure, poor yields, poor pasture and food insecurity. They further assert that due to water scarcity and extreme heat, stressed livestock become vulnerable to diseases that result in high mortality. Shortage of food affects the general health of the population, particularly the children and the elderly.

2.1.2 Health

Inadequate balanced meals in households cause malnutrition, especially among children, which increases the risk of infections and diseases (Spradley, 2019). In the same vein, during El-Nino induced drought experiences, young children may be affected by heat-related illnesses and water-borne diseases. Thus, an El-Nino induced drought can lead to increased prevalence of diseases like malaria, diarrhea, cholera and measles. In brief, inadequate balanced meals cause a range of health conditions like malnutrition, cognitive health challenges, scurvy, weakened immune system and impaired cognitive function. Thus, malnutrition causes physical and cognitive development retardation.

2.1.3 Social

Critical shortages of food and water resources cause changes in social life patterns including, social interaction and day to day social activities among the people. Neuman (2019), contends that drought exacerbates unnecessary conflicts and social tensions, especially for critical resources like food and water. Thus, people of all ages scramble and fight over the basic needs if they are limited. Further, Zindi and Dube (2018), assert that social impacts can develop into psychological effects such as anxiety, stress and depression. In fact, El-Nino induced droughts have multiple social

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impacts, which affect people's lives physically, psychologically, cognitively and culturally.

2.1.4 Economic

Research has confirmed that the Southern region of Africa's economy is agro-based (Morgan, 2020). Thus, El-Nino induced drought cause livestock deaths and low crop production which results in the loss of income for pastoralists, peasant and commercial farmers. In the same vein, loss of livestock and crop-failure exacerbate poverty among rural populations, who solely depend on agriculture for income generation. Thus, parents and guardians may experience challenges in raising income for their children's food, education and health services.

2.1.5 Culture

According to Chikorera and Chikoti (2020), droughts may affect the culture and religion of a population. The cultural impact ranges from the way of living, practices and traditions especially those anchored on agricultural practices, food production, food preparation and eating habits. Further, El-Nino induced drought may cause population displacement, migration in search for food and water, which negatively impact on their common way of worship and beliefs attached to their places of origin.

In summary, El-Nino induced drought negatively impacts a country economically, socially, culturally, agriculturally and health wise.

2.2 The essence of the implementation of Supplementary Feeding Programme in schools

2.2.1 The Supplementary Feeding Programme as an intervention strategy

The Supplementary Feeding Programme is a critical intervention strategy designed to address the nutritional needs of vulnerable children with specific dietary requirements. According to Smith, Johnsonson and Williams (2021), the essence of SFP is to:

- improve the nutritional and health of children;
- support physical health growth and development;
- enhance cognitive function and
- reduce the risk of malnutrition-related illnesses.

Further, the Supplementary Feeding Programme is a targeted intervention strategy, designed to enhance the nutritional status, cognitive development, and academic performance of school-age children by providing them with regular and nutritious meals during the school day (Marambanyika, 2020).

2.2.2 Nutrition enrichment

The SFP provides regular balanced meals that improve nutrition among children (Chikovore, 2019). The meals are tailor-prepared to provide essential vitamins, minerals and nutrients that enhance the young learners' physical growth and development. Kabiru and Njenga (2020), explored the impact of SFP in Kenya and concluded that the programme improved dietary habits and nutritional outcomes for children. Thus, the essence of SFP is mainly to enhance the health of learners.

2.2.3 Cognitive function enhancement

Munro, (2018) asserts that SFP in schools provides rich nutrition that enhances brain development, leading to better cognitive function among children. Learners' cognitive function enhancement allows them to actively participate in both academic and co-curricular activities. Further, enhancement of cognitive function leads to improvement of memory, learning abilities and performance in general.

2.2.4 Improvement of physical and mental health of learners

The implementation of SFP reduces all risks of malnutrition, infections and illnesses related to the physical and cognitive health of young learners (Nyoni, 2021). The assertion implies that SFP promotes good food uptake habits, which benefits young learners by improving their physical and mental health.

2.2.5 Increase of school enrollment

The SFP enhances increase in school enrolment due to a number of factors as articulated below.

Some studies established that the provision of free meals, naturally attracts learners to willingly attend school regularly (Chikuvire and Matamanda, 2021). Thus, SFP assists in creating a more learner-friendly and caring environment, making learners to feel valued and motivated to voluntarily attend school. Further, the engagement of parents and the community in the implementation of SFP develops mutual trust that encourages the parents and guardians to enroll their children in the schools, hence increasing school enrolments.

In a nutshell, the crux of SFP implementation is to enhance learners' physical and cognitive function, overall health, learning outcomes and to increase school enrolment.

3.0 Methodology

The study used Mixed Method Approach (MMA) in which both qualitative and quantitative methods were employed in the generation of data from two (2) rural primary schools. Participants were drawn from teachers, heads of schools and School Development Committee (SDC) members of the two rural primary schools in Zimbabwe in order to establish the effects of El-Nino induced drought and the impact of the implementation SFP on the learners.

The sample sizes of participants for each category are indicated in Table 1 below.

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3.1 Population sample size

Table 1: *Sample sizes of participants from the two primary schools*

	Samples of population that provided qualitative data				***Sample of population that provided quantitative data***
Participants category	***School heads***	***Parents***	***SDC members***	***Junior class teachers***	***Junior class teachers***
Number of participants	**2**	**10**	**8**	**8**	**70**

Key: SDC - School Development Committee Members

3.2 Research instruments

The study used a Mixed Method Approach (MMA) anchored on the pragmatic design in which two instruments were employed to collect data. Structured in-depth interview questions were used to generate qualitative data from heads of schools, infant class teachers and SDC members, while structured questionnaire was used to collect numerical data from junior class teachers. Descriptive data were analysed using the thematic approach, and quantitative data were analysed using IMBSPSS version 21 to come up with themes. The two sets of data were concurrently presented, discussed and interpreted to come up with results, inferences, conclusions, insights and the development of a model.

4.0 Results

Descriptive and numerical data are presented, analysed and interpreted under specified themes as this section unfolds.

4.1. Effects of El-Nino induced drought in rural primary schools in Zimbabwe

The qualitative data were categorised into three major sub-themes based on the participants' responses as presented in Table 2 below.

Table 2: Responses on the effects of El-Nino induced drought on learners

Learner withdrawal	Malnutrition	**Low performance**
FGP1: "El-Nino induced drought has caused a lot of suffering among our children because of hunger. We are unable to feed them so the only option is that they withdraw from school."	**FGP1:** "The El-Nino induced drought has caused some households to eat anything edible that is not nutritious.' **FGP3**: "During the drought, we experienced, as parents families are not affording a balanced diet meal. This result in high risk of malnutrition."	**FGH2:** "Psychology has taught us that hunger and malnutrition are linked to high risk of depression and anxiety that affects learners' academic performance."
FGH 2: "We are experiencing high absenteeism and dropouts from school due to the effects of El-Nino induced drought experienced in the country. Yes, learners are withdrawing due to hunger." FGT2: "In my view, food challenges cause most of the learners to voluntarily withdraw from school."	**FGP5:** "The truth is, in rural areas the drought spell has made parents fail to provide balanced meal. In fact, we feed our children with anything available that has malnutrition consequences." **FGSDC 1:** "As SDC member, I have witnessed some learners looking weak and tired, which are related to symptoms of malnutrition."	**FGH1:** "My experience of the two successive droughts show that children who come to school with empty stomach most of the time result in having lower grades in academic and practical work." **FGT6:** "Yes, it is a fact that learners who come to school hungry do not concentrate in class resulting in poor performance."
FGT4: "Based on what learners say, most parents fail to provide three basic meals, forcing the learners to be absent from school and to some extent withdraw." FGH1: "El-Nino induced drought has affected our enrolment; learners are withdrawing due to hunger."	**FGSDC3:** "From my knowledge and experience, continuous uptake of unbalanced diet food causes malnutrition, resulting in children to sleep in classrooms." **FGT6:** "El-Nino drought has hit the country for two successive rain seasons, and rural children have health challenges associated with malnutrition in my view."	**FGT4**: "I concur with other participants that children who suffer from malnutrition and other related health challenges experience mental challenges leading to low performance in class tasks." **FGP7:** "My child was bright in class, but now the performance is low since we introduced two meals per day in

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		the home."

Key: **FGP** = Focus Group of Parents, **FGT**= Focus Group of Teachers**, FGH** = Focus Group of Heads of schools

The research findings show that there are three major effects of the El-Nino drought among the learners in rural primary schools in Zimbabwe. The El-Nino induced drought caused learner withdrawal, malnutrition, and low academic performance among the learners as presented and discussed below.

4.1.1 Learner withdrawal from school

Results in Table 2 above show that FGT2 and FGP1 highlighted that one of the major effects of El-Nino induced drought among the learners was lack of food, that consequently caused some to withdraw from school. Further, participant FGT4 indicated that due to the El-Nino induced drought, most households failed to provide three basic meals for their children, causing them not to attend school regularly.

Further, two of the participants, FGP2 and FGT6 confirmed Kabiru and Njenga (2020)'s assertion that, El-Nino induced drought results in water scarcity and food insecurity, driving learners to drop out of school due to thirst and hunger.

4.1.2 Malnutrition

Results in Table 2 above show that both FGP1 and FGT3 highlighted that inadequate and unbalanced diet among young learners lead to a high risk of malnutrition. The results resonate well with earlier research findings, that malnutrition causes health effects, which include impaired physical and cognitive development (Brown and Jones, 2020). Further, one of the participants, FGT7, indicated that El-Nino induced drought caused uncertainty about the availability of a balanced diet in the home.

4.1.3 Low performance in academic and extra-curricular activities

Results in Table 2 show that FGT3, FGH1 and FGH2 highlighted that malnutrition may further cause mental health challenges linked to a high risk of depression and anxiety, leading to low performance in both academic and practical school tasks. The results imply that due to the shortage of food (balanced diet), learners may struggle to pay attention to teaching and learning processes, which affects their overall class participation and performance in academic and extracurricular activities.

4.2 The key stakeholders involved in the implementation of SFP in Primary schools in Zimbabwe

Results in Table 2 show that there are four key stakeholders involved, and five benefits of SFP implementation, as presented and discussed below:

Table 3: Responses on key stakeholders involved in the implementation of SFP in Primary schools in Zimbabwe

Participants' responses on key stakeholders involved in the implementation of SFP
FGP1: *"The central government of Zimbabwe introduced SFP in rural Primary schools, so it is a key stakeholder in my view."* FGT7: *"I have noted five groups of stakeholders who are involved in the implementation of SFP, these are teachers, heads of schools, School Development Committee members, the government officials and NGOs."*
FGH 2: *"Major key stakeholders involved in the implementation of SFP in the schools are the teachers, parents, guardians and Non-Governmental Organisations. The Non-Governmental Organisations supply food stuffs for the children as well."* **FGT8:** *"Parents are key stakeholders because they are highly involved in meal planning, preparation and serving together with the teachers."*
FGSDC 3: *"We work as a team of stakeholders who include teachers, the heads of schools, parents, the central government and Non-Governmental Organisations. In fact, each stakeholder has a specific responsibility."* **FGT4:** *"Parents, guardians and teachers provide services while the government and NGOs supply required resources."* **FGSDC 3:** *"Teachers are critical in that they align SFP with children's specific nutritional needs and preferences."*

Key: **FGP1** = Focus Group of Parents, **FGT**= Focus Group of Teachers**, FGH** = Focus Group of Heads of schools, **FGSDC** = Focus Group of School Development Committee member

4.2.1 Key stakeholders involved in the implementation process of SFP

4.2.1.1 Parents / guardians

Results in Table 3 show that FGT7, FGT8 and FGT4 highlighted that parents and guardians are key stakeholders in the implementation of the Supplementary Feeding Programme in primary schools in Zimbabwe. The results imply that parents and guardians are involved in food preparation and serving, collective decision making, hygiene maintenance, identification of malnourished learners and other logistics necessary for the success of the SFP at the school. The results concur with Kabiru and Njinga (2020) findings that parents and guardians play a critical role in the social and health welfare of their children when they are at home and at school.

4.2.1.2 Teachers

Secondly, focus group discussions, results in Table 3 also indicate that FGSDC1 and FGT4 responded that teachers are critical stakeholders in the implementation of SFP in rural primary schools in Zimbabwe. The discussants further highlighted that teachers are responsible for aligning the SFP

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with children's specific nutritional needs and preferences. The results imply that teachers play critical roles in menu planning, logistics management, food serving and portion control. The study's finding concurs with Munro (2018), who contends that teachers are key players in all school programmes including the SFP in that they create a positive food culture by promoting meal times, supporting learners to participate in the feeding as well as in the programme, making it a positive and enjoyable experience.

4.2.1.3 The central government

Results in Table 3 show that discussants FGP1 and FGSDC3 cited that central government is critical for the success of the implementation of SFP in rural primary schools in Zimbabwe. The responses suggest that the central government is a key stakeholder, which is responsible for resource mobilisation and allocation for the successful implementation of SFP in Zimbabwe rural primary schools. Thus, the study's findings resonate with the findings from Kabiru and Njinga's (2020) study on the effectiveness of government's involvement in social support programmes in schools, which documented that government's involvement in financial and material supply leads to improvement in the effectiveness of nutritional programmes.

4.2.1.4 Non-Governmental Organisations (NGOs)

Results in Table 3 show that FGH2 and FGT4's sentiments echoed that Non-Governmental Organisations (NGOs) are key stakeholders who complement central government in the provision of basic foodstuffs and other materials required for the successful implementation of SFP in rural primary schools in Zimbabwe. The findings concur with research by Smith, Johnson and Brown (2019) who also found out that the partnership between central government and Non-Governmental Organisations (NGOs) had a high positive impact on SFP in schools. Thus, the findings of the study imply that it is essential to involve different stakeholders in rural primary schools' Supplementary Feeding Programme in order to enhance the nutritional well-being of learners during drought periods.

4.2.2 Benefits of the implementation of SFP in rural primary schools in Zimbabwe.

Results in Table 4 show that there are five benefits of the implementation of SFP as presented and discussed below:

Table 4: Responses on the benefits of the implementation of SFP in rural primary schools in Zimbabwe

Participants' responses on benefits of SFP implementation
FGT1: *"The introduction of SFP in rural primary schools has motivated children to come to school almost every school day and concentrate on school work."* **FGP4:** *"The supplementary food given at our school has enhanced the dietary intake by most children and improves their overall health."* **FGT3**: *"I agree with the former speaker that SFP in the school has improved learners' concentration in class. I also observed improvement of nutrition among the children"*
FGH1: *"The implementation of SFP managed to reduce the rate of absenteeism. The learners are coming to school every school day as they are assured of a meal during lunch time. The government of Zimbabwe has done well in this regard."* **FGSDC5:** *"In my view one of the major benefits of SFP implementation noted is the improvement of social skills. In fact, the SFP implementation fosters communication, team work and sharing among stakeholders and the beneficiaries."* **FGSDC3:** *"In fact, SFP makes children, teachers and parents socialise. We are becoming one family, the school and community during the period 2023 -2024 when SFP was introduced*." **FGT6:** *"The SFP provides the opportunity to the locals to supply food stuffs hence the community improves their source of income."*
FGT8: *"I agree with the previous speakers that the implementation of SFP in rural schools fosters collaborations and partnerships between the government, NGOs, the community and schools."* **FGP2:** *"Yes, by asking the parents to supply food stuffs, create employment and improves the community's source of income."* **FGP2:** *"As a parent, I noted that one of the benefits of SFP is the improved nutrition among the learners. In fact, the past twelve months, health of our children significantly improved their health in general."*

Key: **FGP1** = Focus Group of Parents, **FGT**= Focus Group of Teachers**, FGH** = Focus Group of Heads of schools, **SDC** = School Development Committee member

Benefits refers to advantages, positive outcomes or rewards that result from a particular programme or an activity (World Health Organization, 2020). In the context of this paper benefits means a gain that is derived from the implementation of the Supplementary Feeding Programme in schools.

The results in Table 4 above reveal that the Supplementary Feeding Programme (SFP) in rural primary schools had benefits for both the learners and the community, particularly during the El-Nino induced drought period covering the period 2023 - 2024 when food insecurity was prevalent. The study established the following benefits as presented and discussed below:

4.2.2.1 Improved Nutrition among learners

Participants FGP2 and FGP4 highlighted that the SFP implemented in rural primary schools had significantly improved nutrition among the learners. The results resonate with a previous study by Makoni, Chabaya and Marambanyika (2020) who contend that supplementary

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feeding meals planned and prepared collectively improve the nutrition of learners. Thus, the results imply that the SFP implemented in rural primary schools in Zimbabwe during the period 2023 - 2024 benefitted the learners significantly. In short, the study reveals that a well-nourished learner is more likely to have the energy to focus and participate in class.

4.2.2.2 Improved Overall Health

Results in Table 4 also indicate that participants FGP4 and FGP2 highlighted that the implementation of the SFP benefitted the learners in terms of their overall health. A survey by Smith, Johnson and Brown (2019) concurred with this study in the view that constant uptake of balanced meals at school feeding centres improves the overall health of learners. The results imply that adequate uptake of nutritionally balanced meals by learners helps to prevent illnesses, hence, their overall health conditions improve.

4.2.2.3 Social opportunities for socialisation

Results in Table 4 show that participants FGSDC5 and FGSDC3 highlighted that the implementation of SFP in schools provides social opportunities for a high level of socialisation among learners, teachers and parents. The results resonate with Chitsiko and Mhene (2018), who assert that common meal time is a social event that promotes socialisation and community relations building. Thus, the results imply that having common meals at school increases the level of socialisation and builds cordial relationships.

4.2.2.4 Community improved economy

The results indicate that participants FGT6 and FGP2 echoed that SFP can stimulate local economies by sourcing food from local farmers. The results confirm findings by Spradley (2019) that established that community involvement in the supply of local goods improves the economy of the locals. The results suggest that engagement of the community in supplying locally available materials creates employment and business opportunities, hence, improving the community's sources of income.

4.2.2.5 Breaking the cycle of hunger and malnutrition

Results in Table 4 above show that participants FGH1, FGT1 and FGP4 highlighted that SFP helps in breaking the cycle of hunger and malnutrition by providing learners with the nutrition they need to succeed in their learning activities. The findings resonate well with Kabiru and Njenga (2020) who assert that supplementary feeding programmes in schools result in breaking the shortage of food cycle. Thus, the results imply that SFP provides continuity of meals from home to school, hence breaking the hunger-poverty cycle.

4.3. The impact of the implementation SFP among learners in Zimbabwe rural primary schools

In order to assess the impact of SFP among learners in primary schools in Zimbabwe, teachers were asked to respond to five items on the five-point Lickert-scale as presented in Table 5 below**.**

Table 5: Level of agreement on the impact of the implementation of SFP on learners in rural primary schools

Respondents	Item	N	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree	Mean	SD
Teachers	1.Improves school attendance	70	6 (8.3%)	4(6%)	17 (23.8%)	28 (40.5%)	15 (21.4%)	3.51	1.1153
	2.Improve learner participation in class activities	70	7 (10.7%)	11 (16.3%)	8 (11.4%)	24(34.1%)	20(28.6%)	2.19	1.1770
	3.Completion of class and homework tasks	70	3 (4%)	14 (19.8%)	17 (24.2%)	27(38.1%)	9 (13.1%)	2.34	1.0505
	4.Encourages active participation in extra-curricular activities	70	9 (12.8%)	10 (14.3%)	9 (12.9%)	23(32.9%)	19(27.1%)	2.88	1.1809
	5.Increases school enrollment	70	3(4.8%)	9 (13.1%)	10 (13.9%)	25 (35.7%)	23 (32.5%)	3.68	1.1624

Key: N= Number of sample participants; Criterion Mean (CM)= 3 and above indicates high agreement in positive impact of Supplementary Feeding Programme implementation in this study;

Standard Deviation (SD) measures the decision dispersion from the mean score in the study.

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The teacher participants were asked about their levels of agreement on the positive impact of SFP among learners in Zimbabwe rural primary schools. Results are presented in Table 5, based on the five (5) items on the 5-point Likert scale. The results are presented and discussed below as per item.

Item 1: Improves learners' school attendance

Results in Table 5, on the aspect of whether SFP implementation improves school attendance, 40.5% agreed and 21.4% strongly agreed with a mean score of 3.51 and SD of 1.1353. The results imply that the levels of agreement by the teachers on the positive impact of the implementation of SFP in rural primary schools was fairly high, showing that the programme improved learners' school attendance significantly.

Item 2: Improves learner participation in class activities

Results in Table 5, with regards to whether SFP implementation improves learner participation in class activities, show that 34.1% agreed and 28.8% strongly agreed with a mean score of 2.19 and SD of 1.1770. On average 62.9% agreed that the feeding programme improved learner participation at school. The results establish that SFP implementation improves learner participation during lesson delivery fairly highly. Thus, the results imply that SFP implementation motivates the learners to actively engage and participate in both indoor and outdoor class activities.

Item 3: Completion of class and homework tasks

Results in Table 5 also relate to whether the implementation of SFP in Zimbabwe rural primary schools motivate learners to work and complete class and homework tasks. Teacher participants who agreed were 38.1% and 13.1% strongly agreed with a mean score of 2.34 and SD of 1.505. On average 51.2% of the participants agreed that the implementation of SFP extrinsically motivated learners to complete their individual class and homework tasks fairly. The results imply that, on average learners were motivated by meals offered at school to do their homework and class assignments to completion.

Item 4: Encourages active participation in extra-curricular activities

Table 5 also show that 32.5% of the participants agreed while 27.1% strongly agreed, with a mean score of 2.88 and SD of 1.1809 that the implementation of SFP in Zimbabwe rural primary schools motivated learners to actively participate in co-curricular activities. Thus, on average, 59.6% agreed that the feeding programme at the schools encouraged learners to actively participate and compete in co-curricular activities.

Item 5: Increases school enrollment

With regards to whether the implementation of SFP increases enrolment in rural primary schools, results in Table 5 indicate that 35.7% agreed and 32.5% strongly agreed, with a mean score of 3.68 and SD of 1.1624, implying that the positive impact was very high on the increase in school enrolment. On average, 68.2% of the participants agreed that the implementation of SFP increases enrolments in rural primary schools in Zimbabwe. Thus, the results imply that the feeding programme encourages learners to voluntarily enroll at schools in numbers, hence, increasing the enrolments.

4.4. Barriers to the implementation of the Supplementary Feeding Programme in rural primary schools in Zimbabwe

Results in Table 6 below show responses from participants on the barriers that constrain the implementation of SFP as presented.

Table 6: Barriers that constrain the implementation of SFP in Zimbabwe rural primary schools

School Development Committee members and Parents responses	Heads of schools and Junior class Teachers responses
FGP8: "We have no proper shelter for preparing and serving the meals to children." FGSDC 3: "The challenge is that meals are prepared and served in open space, there is no infrastructure for the purpose. Also there is no policy on supplementary feeding programme at the school" **FGSCD2**: "In my view, financial resources are inadequate, and they hinder the progress of SFP implementation."	**FGH2:** "The most limitation is limited financial resources to buy utensils and adequate food stuffs for the whole school. We appreciate government's effort and NGOs who assist." **FGJST4**: "There are two limitations in my view that constrain the implementation of SFP at the school, thus financial resources and improper shelter for preparing the meals."
FGSDC6: "You know, the type of meals is not that inclusive. The planners should consider culture diversity, some children ended up not taking the food, so in my view it's a challenge." FGP7: "In my view, shortage of food and erratic serving of meals constrain the smooth flow of SFP	**FGJT2:** "The major challenge in my opinion is of shortage of kitchen facility. The school needs a facility specifically for implementation of SFP in order to maintain good hygiene." **FGH1:** "Sometimes due to logistical issues such as poor planning make us to go for a long time with no food supplies. This constrains the SFP a lot especially among the children due to uncertainty of having a meal on the next

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implementation." FGSDC1: "Unplanned logistical issues such as processing papers for procurement, delivery of supplies and storage of food stuffs constrain the SFP."	day." **FGJT1:** "The finances are not enough to meet the purchase of utensils, detergents and construction of a proper kitchen."
FGSDC1: "I have noted that processing papers is taking long due to the many offices the papers have to go through. It slows the supply of food stuffs." **FGP2:** "I noted that for schools to depend on donor funding is not sustainable because the funding is unpredictable." **FGP4:** "The school budget is too small to fund the implementation of SFP. In fact, the funds are limited."	**FGJT5:** "The schools have no clear policy frameworks that regulate supplementary feeding programme." **FGST7:** "I concur with the previous speaker because papers have to go through the local, district and provincial offices. I suggest that the process be decentralised." FGJT 3: "Food that is prepared is not inclusive because some children do not eat the food due to their religious backgrounds."

Key: **Key**: **FGP1** = Focus Group of Parents, **FGJT**= Focus Group of Junior class Teachers**, FGH** = Focus Group of Heads of schools, FG**SDC** = Focus Group of School Development Committee member. SFP= Supplementary Feeding Programme

The results generated from four focus groups revealed five common barriers to the implementation of Supplementary Feeding Programme (SFP) in rural primary schools in Zimbabwe as shown in Table 6 above. The barriers to SFP are presented and discussed as this sub-section unfolds.

4.4.1 Logistical constraints

Results in Table 6 indicate that FGSCD1, FGP2 and FGH1 cited those unplanned logistical activities such as food procurement, transportation of food stuffs and schedules of receiving of deliveries as some of the constraints to the implementation of SFP. Further, FGH1 stated that logistical delays make the schools spend long periods without food supplies, which negatively affects the Supplementary Food Programme. The findings concur with Desai and Drake (2019), who contend that challenges in the procurement and distribution of foodstuffs in rural schools derail the implementation of feeding programmes.

4.4.2 Infrastructure

Descriptive responses in Table 6 show that FGP8, FGJT2 and FGJT4 indicated that most rural Zimbabwe rural primary schools were caught unaware when the SFP was introduced and had no proper infrastructure for storing foodstuffs, preparing meals and serving big numbers of learners. The study further revealed that the Zimbabwe rural primary schools used makeshift infrastructure and classrooms during the period 2023 - 2024 as a contingency measure. The results imply that the implementation of SFP was constrained when the weather was windy, cold and rainy. The results resonate well with the findings by Makoni and Tarusarira (2019), who assert that proper infrastructure should be developed prior to introducing a programme, as sub-standard infrastructure causes health hazards and to some extent accidents.

4.4.3 Financial resources

Results in Table 6 further, indicate that FGSD2, FGP4 and FGJT1 highlighted that limited financial resources derailed the implementation of SFP in the rural primary schools in Zimbabwe. The discussants revealed that the school budget alone was not enough to buy items that include utensils, detergents as well the construction of standard infrastructure for preparing and serving meals. The results imply that limited financial resources is a major barrier in the implementation of SPF in Zimbabwe rural primary schools. The findings resonate well with the study by James and Moyo (2020), who established that limited funding hinders the implementation of social and educational related programmes in primary schools. Lack of funding for the implementation of SFP, reduces the procurement quantities required by the schools as per their enrollments.

4.4.4 Cultural dietary

In the context of this study, cultural dietary preferences refer to a specific type of food that is particular to a community. This includes traditional food and eating habits. A number of cultural dietary preferences by learners from different religious backgrounds constrain the SFP when trying to accommodate every learner coming from diverse cultural settings in rural areas. Results in Table 6 show that participants from both cases FGSDC 6 and FGJT3 highlighted that one of the common challenges was that of trying to accommodate all diverse cultural dietary preferences and eating habits based on the religious backgrounds of the learners. The results, imply that the SFP implementers experience challenges in coming up with common meals that are inclusive to all cultures in a school set up.

4.4.5 Lack of school-based policy framework on Supplementary Feeding Programme

Results in Table 6 indicate that participants FGJT5 and FGSDC3 highlighted that there was lack of a policy framework that regulates the implementation of SFP in rural primary schools in Zimbabwe. The results suggest the SFP implementation was not supported and regulated by institution-based policies.

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4.5 Approaches that enhance the implementation of the Supplementary Feeding Programme in rural primary schools

Results in Table 7 below show responses on the approaches that enhance the implementation of SFP in Zimbabwe rural primary schools.

Table 7: Responses on the approaches that enhance the implementation of SFP in Zimbabwe rural primary schools

School Development Committee members and Parents responses	Heads of schools and Junior class Teachers' responses
FGSDC8: "The modern way of improving the implementation of SFP in schools is to use the heritage-based food sources that are nutritious." FGP6: "In my opinion, taking a collective approach route in mobilisation of resources, planning, preparing and serving meals is ideal. People feel ownership of the programme."	**FGH 1:** "In order to sustain and enhance the implementation of SFP, the school should consider using locally available nutritious food. The parents should also assist with sources of the local nutritious food.' **FGST7**: "During the implementation of SFP there is need to evaluate the impact in order to assess progress." **FGJT2**: "I think by engaging the community especially the parents of the learners it enhances the SFP implementation process at school."
FGP8: "I personally believe in training people at the grassroots enhances the implementation of any programme like the SFP." FGSDC1: "I suggest collaborative approach on which partnerships are established between the school, the government, parents and NGOs enhance resource mobilisation. Planning, preparation and serving meal."	**FGJT5:** "For the programme to be effective there is need for monitoring and evaluation. This would inform administrators on gaps to be improved." **FGH2:** "As SDC member I have witnessed some learners looking weak and tired, which are related to symptoms of malnutrition."
FGSDC 5: "In order to enhance the implementation of SFP community engagement approach is ideal in my view FGSDC 1: "I concur with the previous speaker that the community needs to be engaged especially on programmes that benefit their children. In fact, if they are involved in the planning, implementation and monitoring of the programme, they own the project." FGSDC3: "The stakeholders involved in SFP implementation should go through rigorous capacity building training."	**FGH1:** "From my knowledge and experience, continuous evaluation of a programme assists in identifying areas for improvement." **FGJT6:** "El-Nino induced drought has hit the country for two successive seasons and rural children have health challenges associated with malnutrition in my view." FGJT5: "Training of parents, teachers , cooks and other SDC members should focus on meal planning, food preparation and nutrition education in order to enhance the implementation of the feeding programme at school."

An approach is defined as a specific strategy or plan of action that ensures achievement of a goal. In the context of this study a strategy refers to a long-term plan of action designed to achieve a particular goal or set of goals. The results on strategies that enhance the implementation of SFP in rural primary schools are presented in Table 7 above and discussed as this section unfolds.

4.5.1 Community Engagement

Results in Table 7 show that participants FGSDC 5, FGP6 and FGJT2 highlighted that involvement of the community in the implementation process ensures the programme meets their needs and expectations. Thus, the findings imply that engaging learners' parents and the community enhances the SFP, and encourages parental participation. The findings resonate with Jonson and Brown (2020), who also observed that community engagement has higher chances of enhancing sustainability.

4.5.2 Locally sourced food

Results in Table 7 reveal that SFP planners should consider providing nutrient-rich food options that are locally available and culturally acceptable. FGH1 and FGSDC 8 highlighted that the implementation of SFP should include sourcing and incorporating traditional Zimbabwean dishes and ingredients into the programme in order to promote sustainability and community ownership. Johnson and Brown (2020), recommended schools offering SFP to partner with local commercial and peasant farmers to source fresh produce. The results imply that locally sourced food reduces transport costs, and also meets the cultural dietary needs of the consumers.

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4.5.3 Capacity building and training

Results in Table 7 above also show that in order to enhance the successful implementation of SFP in rural primary schools in Zimbabwe, there is need to provide capacity building and training opportunities to parents, cooks, teachers and the School Development Committee members, who are directly involved in the feeding programme. Participant FGSDC 3, FGJCT5 and FGP8 highlighted that the training should focus on nutrition education, meal planning, and food preparation to ensure that the programme is effectively and sustainably implemented. The results suggest that involving and capacitating members in the implementation of SFP as well as sharing knowledge on best practices enhance the SFP.

4.5.4 Monitoring and evaluation

The results reveal that there is need to establish a robust monitoring and evaluation system in order to track the SFP progress and its impact. Participants FGP5, FGSDC3 and FGJT 7 indicated that the SFP committee should engage key stakeholders who include the learners, parents, teachers and community leaders to gather feedback and insights on the programme's effectiveness. Thus, the results imply that the monitoring and evaluation assists in identifying areas for improvement and facilitate making the necessary adjustments.

4.5.5 Establishment of partnerships and collaborations

The results in Table 7 above indicate that FGSDC1, FGSDC5 and FGP6 highlighted that in order to enhance resource mobilisation, infrastructure development and capacitating key stakeholders involved in the implementation of SFP, it is important to establish partnerships and collaborations. The findings imply that by establishing partnerships and collaborations with the NGOs, parastatals, traditional leadership, health organisations and the Ministry of Primary and Secondary Education (MOPSE) would leverage resources and expertise that are necessary for the effective implementation of SFP in rural primary schools in Zimbabwe.

5.0 Discussion of findings

The El-Nino induced drought affected young learners during the period 2023 - 2024, in the rural primary schools in Zimbabwe. The learners were affected physically, healthwise, educationally and socially, leading the government of Zimbabwe to introduce the Supplementary Feeding Programme in rural primary schools. The effects of the El-Nino induced drought on learners, the stakeholders involved in the implementation, impact of SFP, limitations and approaches to the implementation of SFP are discussed based on the above presented results (4.0 – 4.5.5) as this section unfolds.

5.1 The effects of El-Nino induced drought on learners in rural primary schools in Zimbabwe

The study's analysis on the effects of the El-Nino drought experienced during the period 2023 to 2024 on learners in rural primary schools in Zimbabwe confirmed outcomes of researches by Kabiru and Njega (2020) and Chikuvira and Matamanda (2021), which also established similar negative effects as discussed below.

5.1.1 Learner withdrawal from school

Firstly, the El-Nino induced drought of 2023 -2024 led learners to withdraw from schools due to lack of regular decent meals in their homes specifically in the rural areas. Further, the study revealed that the non-availability of adequate food caused the learners to frequently absent themselves from school, leading to compelled withdrawal. The findings resonate with Kabiru and Njenga (2020) who assert that the El-Nino induced drought resulted in food insecurity, thirst and hunger in most rural communities, causing learners to drop out of school. Thus, the results of the study imply that when households experience shortages of food, that may compel learners to withdraw from school permanently.

5.1.2 Malnutrition

Secondly, the findings revealed that the El-Nino induced drought of 2023 -2024 that led crop failure caused shortages of a balanced diet in households, leaving children at a high risk of developing malnutrition. The study's findings echoed Brown and John (2020), who assert that continuous uptake of unbalanced diet had negative effects on health that included retarded physical and cognitive growth. Thus, the findings imply that malnutrition weakens the immune and biological systems, putting the learners at a high risk of diseases.

5.1.3 Low performance in class work

Thirdly, the study's results indicated that malnutrition causes retarded cognitive development and function. A similar study by Munro (2018), established that low cognitive function results in low academic performance. Thus, the findings of this study imply that learners who suffer from malnutrition perform lowly in academic and practical work.

5.2 The implementation of SFP in rural primary schools in Zimbabwe

5.2.1 Key stakeholders involved in the implementation of SFP in rural primary schools in Zimbabwe

The study established five key stakeholders involved in the implementation of SFP in rural primary schools in Zimbabwe as discussed in this sub-section.

5.2.1.1 The government of Zimbabwe

It was revealed that the central government of Zimbabwe was a key stakeholder responsible for crafting the policy framework that regulates the implementation of SFP in Zimbabwe. Further, the central government avails financial and material resources for the support of the feeding programme.

5.2.1.2 Heads of schools / Teachers

The study, cited heads of schools and teachers as key stakeholders responsible for on-the-ground logistical activities, that include meal planning, food preparation, food serving, storage and security of the foodstuffs for SFP implementation.

5.2.1.3 The parents

Thirdly, the study revealed that the parents of the learners are key stakeholders who are also directly involved in infrastructure development, food preparation, and the

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mobilisation of locally available food stuffs and in the general maintenance of hygiene at the cooking area.

5.2.1.4 The non-governmental organisations

Fourthly, the results established that Non-Governmental Organisations (NGOs) are key stakeholders who collaborate with the central government in supplying basic food stuffs for the implementation of the Supplementary Feeding Programme.

5.2.2 The positive impact of SFP among rural primary school learners in Zimbabwe

The study's findings resonate with Munro (2018); Smith, Johnson and Brown (2021) who assert that feeding programmes enhance teaching and learning processes in schools. In the same vein, this study established that SFP has positive impact among learners on five aspects as highlighted below.

5.2.2.1 Improved school attendance

The study revealed that 61.9% confirmed that the implementation of SFP improved learner school attendance by one hundred percent (100%). It implies that the improved regular nutritious meals at the schools served as a significant incentive for improved and regular school attendance.

5.2.2.2 Improved learner participation in class

The study further revealed that 62.7% of the teacher-participants confirmed that the implementation of SFP improved learner participation in class activities significantly. The results imply that the constant availability of nutritious meals at school through the SFP enhanced learner participation in both indoor and outdoor activities.

5.2.2.3 Completion of class and home work

The study also established that the improvement of learners' participation in class activities positively impacted on both their class and homework, and enhanced their academic performance. Thus, the results suggest that SFP positively influenced the learners to seriously work on given individual homework, class tasks and group research work.

5.2.2.4 Active participation in co-curricular activities

Further, the study confirmed that the SFP extrinsically motivated learners to actively participate in extra-curricular activities. An average of 60% of the teacher-participants highlighted that a significant number of learners who benefit from the SFP were highly active in extra-curricular tasks.

5.2.2.5 Enhanced school enrolment

The study also indicated that the implementation of SFP in rural primary schools in Zimbabwe boosted school enrollments and drastically reduced school dropouts. 68.2% of the participants confirmed that frequency in the feeding of learners in schools increased enrolments across all grade levels. The results imply that meals provided at school motivated children in the communities to voluntarily enroll, thereby enhancing school enrolments.

5.3 Benefits of the implementation SFD in rural primary schools in Zimbabwe

Based on the study's findings, the following SFP benefits were established.

5.3.1 Improved nutrition among learners **-** The essential nutrients provided to the learners through the implementation of SFP improved the basic nutrition composition required in young learners.

5.3.2 Improved overall health **-** The SFP reduce the risk of malnutrition-related health challenges, hence, it improved the overall health conditions among learners.

5.3.3 Social opportunities for socialisation **-** The involvement of teachers, heads of schools, NGOs, the central government officials and the community (parents) created a social opportunity for a high level of socialisation, sharing of ideas and engagement for the benefit of the clients (learners).

5.3.4 Community improved income (economy) **-**The implementation of SFP involved the community, thus creating employment for the local people engaged in the transportation, and supply of food and non-food materials. The community's economy naturally improved.

5.3.5 Breaking hunger and poverty cycle - Engaging the community in supplying locally available resources enabled the individuals to directly participate in economic activities, hence breaking the hunger-poverty cycle.

5.5 Barriers to the implementation of SFP in rural primary schools in Zimbabwe

The results of this study confirm the findings by Desai and Drake (2021), who noted that limited resources and poor management are major barriers to the effective implementation of community and school programmes. In the same vein, this study emerged with five barriers to the implementation of SFP in Zimbabwe rural primary schools during the period 2023 - 2024. The barriers include the following:

5.5.1 Logistical constraints- These were administrative limitations related to planning, sourcing of foodstuffs, transportation and execution of activities that delayed the receipt of food consignments by schools, and learners would go for several days without a meal at the school.

5.5.2 Inappropriate infrastructure **-**The physical structures in the Zimbabwe rural primary schools lacked proper equipment, ventilation, sanitation, storage space for bulk foodstuffs, utensils and kitchen equipment. In fact, some of the infrastructure did not meet local health codes, safety and standard regulations.

5.5.3 Financial resources **-** The SFP in rural primary schools depended heavily on external aid. There was no local budget to meet administrative overheads like travel costs, utilities and cleaning detergents. Thus, limited financial resources affected the flow of the implementation of the SFP.

5.5.4 Social and Cultural diversity **-** The prepared SFP meals were like, 'one size fits all type'. The meals were not inclusive of cultural and religious restrictions; hence, some

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learners did not benefit from the SFP in the Zimbabwe rural primary schools.

5.5.5 Lack of school-based policy framework - The implementation of SFP varied across Zimbabwe rural primary schools leading to unequal benefits for the learners. Further the unavailability of school-based policy frameworks on SFP implementation resulted in poor management, unhealthy food options, improper food handling and unclear monitoring guidelines on the feeding programme.

5.6 Approaches that enhance the implementation of SFP in rural primary schools in Zimbabwe

The study established five approaches that can enhance the implementation of SFP in rural primary schools in Zimbabwe as discussed below.

5.6.1 Approach 1: Community Engagement

The study's results confirm earlier studies by Johnson and Brown (2020) that community engagement as a pillar is an effective strategy that draws local people to be directly involved in the SFP activities voluntarily. The study's descriptive results indicate that community engagement involves partnering with local leadership in the day-to-day management of SFP and also encourages community members to contribute to the feeding programme. It also emerged that engaging the community in the SFP, implementation guarantees acceptance and uptake of the meals by learners, enhanced cultural relevance and empowered community.

5.6.2 Approach 2: Pro-locally sourced food

The study emerged with a pro-locally sourced food approach to enhance the rural primary school SFP in Zimbabwe. The study established that the pro-locally sourced food approach, whose benefits include reduced transportation and storage costs, is more culturally acceptable, tailored to the dietary preferences of the learners, often fresher and more nutritious.

5.6.3 Approach 3: Capacity Building

The study found out that SFP implementers operating at different levels in terms at their knowledge and skills may result in failing to achieve the objectives of the feeding programme. The study emerged with capacity building and training as a strategy that enhances knowledge and skills among the directly involved stakeholders who include teachers, parents and School Development Committee members in areas such as food safety, nutrition, decision-making, meal preparation and general SFP management.

5.6.4 Approach 4: Monitoring and Evaluation

The study confirmed that Monitoring and Evaluation (M & E) is crucial in enhancing SFP. The M&E approach gives an opportunity to track the success level, identify areas for improvement. It improves effectiveness and informs on collective decision making on the implementation of SFP. In fact, the M& E approach fosters transparency and accountability among key stakeholders involved in the implementation of SFP in primary schools in Zimbabwe.

5.6.5 Approach 5: Establishment of partnerships and collaboration

The establishment of partnerships and collaborations is a fundamental strategy in the 21st century organisational management system (Makate and Makate, 2020). The study's participants indicated that it is ideal to establish partnerships with significant others in order to enhance resource mobilisation, infrastructure development and capacitation of key stakeholders directly involved in the implementation of SFP in Zimbabwe rural primary schools. The finding resonates well with Makate and Makate (2020), who further contend that partnering with parastatals, NGOs, health organisations and MoPSE increases opportunities for the collective of implementation of SFP in schools. Further, the collaboration ensures that the SFP implementation is responsive to the learners' needs.

6.0 Conclusions

Based on the major findings of the study, the following conclusions were established:

6.1 The 2023 - 2024 effects of El-Nino induced drought in rural primary schools were: Learners' withdrawal from schools due to hunger, malnutrition and to some extent, low performance in both academic and extracurricular activities.

6.2. Four key stakeholders involved in the implementation of the Supplementary Feeding Programme in rural primary schools in Zimbabwe include : central government of Zimbabwe, community (parents / guardians, Non-Governmental Organisations (NGOs) and heads of schools and teachers.

6.3 Five benefits of Supplementary Feeding Programme in rural primary schools in Zimbabwe during the period 2023-2024 include improved: nutrition among learners, overall health, academic performance, social opportunities for socialisation among learners and community income (economy).

6.4 The study indicated that the impact of the implementation of SFP on learners in Zimbabwe rural primary schools, there was significant improvement on the: learners' school attendance, participation in class activities, completion of class and homework tasks.

6.5 The barriers in the implementation of SFP in Zimbabwe rural primary schools were: logistical constraints, inappropriate infrastructure, limited financial resources, cultural diversity and lack of school- based policy frameworks that regulate the SFP in the schools.

6.6 The approaches that enhance the implementation of SFP in Zimbabwe rural primary schools include: community engagement, pro-local sourced food, capacity building and training, establishment of partnerships, monitoring and evaluation of the SFP.

Based on the study's conclusions, *an* ***implementation of Supplementary Feeding Programme five-star model*** that enhances the feeding programme as illustrated on Figure 1 below was developed.

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Key: **SFP** – *Supplementary Feeding Programme*

Fig.1: ***Implementation of Supplementary Feeding Programme five-star model.***

The model is anchored on five pillars which are capacity building, collaboration, pro-sourced local food, community engagement, monitoring and evaluation.

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