COMPARATIVE PERCEPTIONS OF THE HOME GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOL FEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFORMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

by

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DECLARATION

This is my original work and has not been presented before an award of a degree or diploma in this or any other university.

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Dedication

This thesis is dedicated to my husband, my parents and my daughters.

Their prayers, love, support and patience have carried me through.

Without your prayers and support, this thesis would not have been completed.

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God, I thank you. Through it all I have learnt to trust in Him.

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ABSTRACT

Comparative perceptions of the home grown school feeding programme versus the non-home grown school feeding programme on aspects of learners' performances and food security in the Lubombo Region, Swaziland

by

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Supervisor: Ms. G.J. Gericke,

Background: The rural and food insecure population is mostly affected by hunger, poverty and malnutrition. The young and school-going children are the mostly affected individuals due to their vulnerability. The home grown school feeding programme (HGSFP) has been recognised in hunger and poverty eradication.

Aim: To explore and describe the functioning of the HGSFP at school and community levels; perceptions on the HGSFP within schools, households, and communities and how it might have affected education, well-being and its sustainability in schools, as well as household food security.

Research design: A cross sectional descriptive survey using a comparative approach in the quantitative and qualitative domains was implemented.

Setting: Government primary schools located in the southern part of the Lubombo region of Swaziland.

Sample: Thirty schools (conveniently sampled) were grouped into two (n=15: HGSFP group; n=15: non-HGSFP group). Informed consent was obtained from participants (school principals, teachers, learners, heads of the households of learners, farmers supplying food products to schools.

Methodology: Structured interview schedules were used in the quantitative domain. School registers, stock books and academic record books were used. MS Excel 2007 and SPSS 20 programmes, descriptive statistics, the Fishers test, independent-samples t-test and Mann-Whitney U tests were used for analysis (quantitative data). Four focus group discussions were

conducted for the qualitative data. Qualitative data were transcribed and analysed. Ethical approval was obtained from the Ethics Committee, Faculty of Natural and Agricultural Sciences, University of Pretoria (*Ref no EC 130110-102).* Research permission was also granted by the Ministry of Education in Swaziland through the Regional Education Office.

Main findings: The HGSFP and non-HGSFP increased school enrolments as indicated by school principals (53.3% and 46.7% respectively). The school principals (86.6%) and teachers (100%) (HGSFP) had good and excellent school attendance versus 66% of school principals and teachers in the non-HGSFP group. The school principals (73%) (HGSFP) had low rates of learners' dropout versus only 40% in the non-HGSFP group. Participants (HGSFP) (73%) had no hunger illnesses amongst their learners versus 54.4% in the non-HGSFP group. Learners (HGSFP group) had higher mean scores on recorded class performance scores versus learners in non-HGSFP group. The HGSFP group had enhanced food security status, a better sustained FP through procuring from the local farmers which was cost effective versus the non-HGSFP group which bought from retailers. The HGSFP group (60%) was food secured versus 53.3% (non-HGSFP group) which was slightly food secured. The HGSFP had a poverty reduction potential within households; 33.3%: school principals, 46.7%: teachers indicated that jobs were created within communities. Heads of the households (40.5%) observed a reduction in food consumption versus the non-HGSFP group.

Conclusion: The HGSFP and non-HGSFP increased the school enrolment. However, the HGSFP group had better attendance and retention; learners' health status and academic performance; sustained FP, enhanced food security, and better poverty reduction potential within households versus the non-HGSFP group.

Recommendations: Currently used SFP policies in Swaziland should be reviewed to adopt the HGSFP approach. The Ministry of Education, relevant ministries and organisations should conduct more studies on the HGSFP.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
ADA	American Dietetic Association
AIDS	Acquired Immune Deficiency Syndrome
CFS	Committee on World Food Security
DFID	Department of International Development
FAO	Food and Agricultural Organisation
FDGs	Focus Group Discussions
FP	Feeding Programme
FRAC	Food Research Action Center
GSFP	Ghana school feeding programme
HGSF	Home Grown School Feeding
HGSFP	Home Grown School Feeding Programme
HIV	Human Immune-deficiency Virus
IAC	Inter Academy council
IFAD	International Fund for Agricultural Development
IRIN	Integrated Regional Information Network
MDG	Millennium Development Goals
MoA	Ministry of Agriculture
MoET	Ministry of Education and Training
MoH	Ministry of Health
NEPAD	New Economic Partnership for African Development
NERCHA	National Emergency Response Council on HIV and AIDS
NGO	Non-Governmental Organisations
OVC	Orphans and Vulnerable Children
PCD	Partnership for Child Development
PRSAP	Poverty Reduction Strategy and Action Programme
REO	Regional Education Office
RSSC	Royal Swaziland Sugar Corporation
SEA	Swaziland Environmental Authority
SF	School Feeding

LIST OF ABBREVIATIONS (CONT.)

SFP	School Feeding Programme
SG	Swaziland Government
SCN	Standing Committee on Nutrition
SNVAC	Swaziland National Vulnerability Assessment Committee
SPSS	Statistical Package for Social Science
UK	United Kingdom
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNHTF	United Nations Hunger Task Force
USAID	Unites States Agency for International Development
USDA	United States Department of Agriculture
USGAO	Unites States Government Accountability Office
VAM	Vulnerability Analysis and Mapping
WFP	World Food Programme
WV	World Vision

CHAPTER ONE

BACKGROUND AND SUBSTANTIATION OF RESEARCH

1.1 Background

Globalisation has given rise to unprecedented challenges which led to the invention of the Millennium Development Goals (MDGs). Starvation and poverty were prioritised as indicated in the United Nations' (UN) MDG number 1 which focuses on the elimination of the life-threatening hunger and poverty by 2015. This goal intends to lessen by half the fraction of people living on less than a dollar a day due to hunger and poverty (United Nations Hunger Task Force (UNHTF), 2003). Execution of school feeding programmes (SFPs) with locally sourced foods has been mentioned and acknowledged in the eradication of hunger together with poverty (UNHTF, 2003). According to the UNHTF (2003) SFPs combine both education and agriculture, resulting in increased school attendance and market demand for foods procured in the neighbourhoods (UNHTF, 2003). An all-inclusive SFP must be community and school based, comprising of micronutrient supplementation, systematic deworming, nutrition and health education, among other things (Sanchez, Swaminathan, Dobie and Yuksel, 2005).

SFPs have been observed in enhancing nutritional status of school children; increased school enrolment, school attendance and academic performance; and also increased demand for food sourced locally (Allen and Gillespie, 2001; Bennett and Strevens, 2003; Ahmed, 2004; Hall, Hahn, Farley, Quynh, and Valdivia, 2007). Gelli (2010) found that children who come from poverty-stricken families, and therefore underfed and generally malnourished, highly profit from SFPs compared with children who are sufficiently fed. Moreover, Walingo and Musamali (2008) found that children, aged 10–12 years, who participated in a SFP, were significantly of better nutritional status. Furthermore, literature has also shown that poorly nourished and underfed children benefit cognitively from SFPs (Grantham-McGregor, Chang and Walker, 1998; Allen and Gillespie, 2001; Levitsky, 2005). Bennett and Strevens (2003), Ahmed (2004), Walingo and Musamali (2008) also found that improved school attendance rates were observed amongst adequately fed children. Therefore SFPs could bring about remarkable positive effects on the school population, more especially in societies where there is severe food scarcity (Allen and Gillespie, 2001).

1.2 Problem statement

Hunger and malnutrition have become a global predicament and a public health concern in developing countries where the poor socio-economic conditions exacerbate this problem. The International Fund for Agricultural Development (IFAD), World Food Programme (WFP) and Food and Agriculture Organisation (FAO) (2012) concluded that an approximation of 870 million people the world-over, especially in developing countries, have insufficient food access. This is more evident with people in the rural areas. Consequently, not only do these poor people suffer from malnutrition but they are also constantly vulnerable to numerous diseases and poor health (Bokeloh, Gerster-Bentaya, Weingartener and Rottenburg, 2009). Malnutrition has often been common in developing countries. Unfortunately, young and school-going children are often the most affected by malnutrition. It is not surprising, therefore, to learn that malnutrition has, directly or indirectly, caused about 5 million deaths in young children globally each year (IFAD et al, 2012). Since children are highly vulnerable, especially to severe malnutrition, an immediate comprehensive and sustainable intervention for improving their health, together with their immediate family members, remains a massive challenge.

Swaziland is not an exception as it is one of the food stressed countries in Africa. Worsening poverty and persistent food insecurity are widespread in Swaziland. However, its effects vary from region to region, with the Lubombo region being the most affected. The far-reaching poverty is further illustrated by a high proportion of the population below the national poverty line. About 69% of the total Swazi population lives below the poverty line with an unemployment rate of 40% (United Nations Children's Fund) (UNICEF, 2009). Approximately 40% of the Swazi population is severely malnourished with the majority from the rural areas. This could be due to the consumption of a poor quality diet (Swaziland National Vulnerability Assessment Committee) (SNVAC, 2009). Food consumption by these rural households, especially in the Lubombo region, which is the Lowveld of Swaziland, is generally poor. About 67% of the population from this region has poor food consumption rates (UNICEF, 2010).

Literature indicates that the use of SFPs, especially the home grown school feeding programme (HGSFP), contributes to the long-lasting eradication of poverty and malnutrition, decreased disease risk (World Food Programme) (WFP, 2011), sustainable and effective feeding programmes (FPs) in schools, as well as benefits for local small scale farmers to fight poverty

and financial adversity (WFP, 2001-2003) for an improved living. However, a majority of schools and regions with SFPs, such as the Lubombo region, are still experiencing acute food insecurity. Over-reliance on food aids for SFPs has condemned such schools to increased malnutrition rates as a result of the supplies being so unreliable regarding issues of quality, quantity, and timeliness of deliveries. This might be due to the fact that most of the SFPs in Swaziland are government sponsored, and supplied from national centres with the food being imported from other countries, which effectively means local farmers benefit very little or none from such programmes. This is despite the fact that researchers concur that the HGSFPs help in alleviating poverty and food insecurity, while also sustaining the FPs in schools. Scholars, for example, maintain that it could be possible to balance up the family's farm produce with the SFPs in areas experiencing food scarcity (WFP, 2001-2003).

The WFP (2003) put forward that local farmers from food insecure areas could supply neighbouring schools with much fresher and cost effective food products while, at the same time, themselves getting that ready market for their produce which could in turn stabilise the economy of their families and communities. Furthermore, these programmes feed not only the children in the school but also the general family members, while simultaneously improving food security for the community in general and income for the farmer (WFP, 2001-2003 and Ghana school feeding programme (GSFP), 201). The HGSFP is therefore seen as part of the solution for poverty-stricken countries in Africa, such as Swaziland, since it promotes local procurement of food (World Bank, 2011; Government of Ghana, 2010). Local food procurement results in a sustainable SFP, thereby reducing poverty and improving food security for the country concerned.

1.3 Research justification

Most children in schools, both urban and rural, especially in non-industrialised countries, have been found to be suffering from hunger not only when they are at school, but also when they are with their poverty-stricken families. This exposes them to not just malnourishment and ill health but also poor performance in their academic work. This undoubtedly warrants an effective and sustainable FP in schools. When done appropriately, the HGSFPs are aimed at poverty reduction and food security, increased school enrolment, attendance and retention. However, in Swaziland, a largely non-industrialised and poverty-stricken country itself, the SFP is dependent on food aid

from international agencies and other non-governmental organisations (NGOs), and distribution is done by the Swaziland Government (SG) through the Ministry of Education and Training (MoET). This is contrary to the view that procurement of locally grown food products could sustain the FP in schools, promote domestic food production and improve market access for resource-poor farmers in rural and food insecure areas. The government of Swaziland has a serious challenge with the FP and need to promote domestic food production through an increase in employment and income level of farmers at community and national levels. In addition, food crops availability, accessibility and utilisation at community level are assumed to be key in improving the household food security, reducing malnutrition and eradicating poverty (Bokeloh et al, 2009). FAO has stressed that community based strategies to speedily reduce malnutrition are essential.

However, due to the fact that the role of the HGSFP has not been recognised in Swaziland, the performance of such programmes is hardly known. Thus, the suggested positive impact of this FP is not experienced in its totality in the country. As already alluded to above, no studies have been conducted on the impact of the HGSFP in the country; this then necessitates a study of this nature. This study, therefore, sets out to explore the effects of the HGSFP particularly in relation to its impact on school enrolment, attendance and retention; academic performance; sustaining the FP, and on domestic food production at community level in the Lubombo region, Swaziland. The exploration included the functioning of the HGSFP at school and community levels; how it was perceived within schools, households, and communities and how it might affect education, well-being and its sustainability in the schools under investigation. The research was comparative in nature; two groups of schools were compared. Schools with HGSFP (n=15) were compared against non-HGSFP schools (with ordinary SFP, n=15).

1.4 STRUCTURE OF THIS DISSERTATION

A chapter format has been used in presentation of this dissertation.
Chapter 1 is an introductory chapter, followed by Chapter 2, which is a review of the literature. This review covers food security and its link to agriculture; food insecurity and poverty; the vicious cycle of food insecurity, malnutrition and poor health and its effects on learners' education. Aspects of the school feeding programme (SFP): its impact on education and learning; as a promoter of community participation; the HGSFP and its purpose, the overview of the SFP in Swaziland, including the background about Swaziland, the procurement also distribution and payment for the SFP and organisations supporting the SFP in Swaziland also form part of the review.

Chapter 3 shows the methodology of this study, including: description of the study design, the recruitment of the participants, data collection, data management (data capturing, data analysis and data presentation), quality control, limitation of the study as well as ethical approval of the study.

Chapter 4 shows the presentation and interpretation of the research findings. The results in the quantitative domain includes the comparison of the HGSFP and non-HGSFP on the demographic characteristics of the participants; findings on the school enrolment, attendance and retention; health benefits; academic performances; perception on the sustainability of the SFPs; food security and poverty reduction potential of the SFPs and benefits associated with the two groups of SFPs. Results in qualitative domain are presented in a form of a summary paragraph with some ethnographical quotes used to support the presented data.

The discussion of results is in Chapter 5. Results are compared to available literature and possible interpretation for results is given.

Chapter 6 gives an executive summary and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on food security and its link to agriculture; food insecurity and poverty; the vicious cycle of food insecurity, malnutrition and poor health and its effects on learners' education. The chapter will cover information regarding aspects of the school feeding programme (SFP): its impact on education and learning; as a promoter of community participation; the HGSFP and its purpose. The overview of the SFP in Swaziland, including the background about Swaziland, the procurement also distribution and payment for the SFP and organisations supporting the SFP in Swaziland are discussed in this chapter.

2.2 Food security versus food insecurity

2.2.1 Food security

Food security can be defined as the availability and accessibility of safe, nutritious, and culturally acceptable foods at all times to all people in adequate amounts (Food and Agricultural Organisation) (FAO, 2008). Certainly, food security is a prerequisite for an active and healthy life (Hamm and Bellows, 2003; FAO, 2008). Not only must the food be physically available, but it must also be accessible both physically and economically, as well as be utilised on a sustainable basis (Hamm and Bellows, 2003; FAO, 2008).

Food availability A household is said to be food secured if the food available is satisfactory in amount and superiority as well as offering a selection (Mwaniki, 2003). Food production and food storage are key determinants of physical food availability (FAO, 2008). Agriculture plays a crucial role in this category and has positive effects, and thus improved food utilisation (The Agricultural and National Resources Team of the UK Department of International Development) (DFID, 2004). Most importantly, with regards to addressing food insecurity, agriculture increases the accessibility of food at affordable prices for both the poor and the rich (DFID, 2004).

Food access Being deficient in the physical and financial power to obtain food is amongst the main causes of food insecurity. According to the FAO (2008) report, making sufficient food

available in national and international centres, does not give assurance of food security at household level. Under normal circumstances, every individual should access enough food, not only in quantity but also quality. Eventually, adequate access to food should result in a healthy and active life for every individual, which mostly depends on intra-household food distribution (United States Agency for International Development) (USAID, 2011). Agriculture assists in making food physically accessible although very few comprehend its responsibility in a guaranteed monetary access (DFID, 2004).

To start with, agriculture has the potential of increasing farmer's returns on both huge and small farms, especially in the rural settings (DFID, 2004). In addition, enhanced agricultural outputs bring about increments of farming earnings, thus rising wages of workers. Finally, raised food production automatically improves food accessibility through reduced costs of food (DFID, 2004). The short supply of food has necessitated governments and NGOs alike to develop strategic plans in attaining food security objectives in terms of incomes, expenditure, markets and costs (FAO, 2008).

Food utilisation This involves the use of food together with the links between diet and nutritional status (DFID, 2004). A diet which is nutritionally sufficient should be biologically utilised for proper functioning of the body with respect to development and prevention or recovery from diseases (DFID, 2004). Sufficient energy and nutrient intake by the individual (due to good feeding practices, food preparation, diversity of the diet and intra-household distribution of food), combined with good biological utilisation of food consumed, determines the nutritional status of individuals (DFID, 2004).

2.2.2 Food insecurity

People should have adequate, diverse and nutritious foods that are required for an active and healthy life. If they lack it, then they are said to be food insecure (Babu and Reidhead, 2000; Gladwin, Thomson, Peterson and Anderson, 2001; Oberg and Aga, 2010). Food insecurity denotes times where households cannot guarantee its members food or are unable to make enough food available to meet the needs of their family due to financial or other resource constraints (FAO, 2008). Levels of food insecurity differ and may be chronic or transitory (FAO, 2008). Chronic food insecurity is a long-lasting and perpetual condition which manifests when

individuals lack sufficient food due to persistent poverty and the consequent inability to produce and make adequate food available (Gladwin et al, 2001; FAO, 2005; FAO, 2008,). Persistent poverty, unending droughts, lack of financial resources and resultant lack of assets with which to produce enough food, in particular, are causes of food insecurity (FAO, 2008). Transitory food insecurity, on the other hand, is a sudden, short-term situation of food scarcity or inability to access it, which lasts for a certain period of time (FAO, 2008). The sudden change is, more often than not, brought about by unforeseen changes in food prices and decline in family income, among other causes (Gladwin et al, 2001; FAO, 2008). Inadequate food access by households may vary from low inadequate food access to very low inadequate food access (Oberg and Aga, 2010). Low inadequate food access refers to having access to food which will only be sufficient to avoid distortion of individual's eating habits within households, while very low inadequate food access results in changing individuals eating habits within households (Oberg and Aga, 2010).

Availability, accessibility and utilisation of foods as elements of food security, are applicable in the social and administrative levels though they vary in their nature, causes, and effects. Macro, meso and micro levels are distinguished (Bokeloh, Gerster-Bentaya, Weingartener and Rottenburg, 2005). The macro level is the national and global level. The meso constitutes the community which may be at sub-district, district and/or provincial levels, while the micro level is on individual and the household/family level (Gross, Schoeneberger, Pfeifer and Preuss 2000; FAO, 2003; Bokeloh et al, 2005). Inadequate food access in a community may be attributable to, amongst other factors, the scarcity to have access to markets at regional levels and the nationally set standards on the costing of food products (Bokeloh et al, 2005). As a result food that may be adequately accessible in a country may still be inadequately available to certain population groups such as the disadvantaged community (Bokeloh et al, 2005; FAO, 2003; Gross et al, 2000).

At the macro level, food balance sheets and Vulnerability Analysis and Mapping (VAM) are used (Bokeloh et al, 2005). The food balance sheets assist in obtaining statistics on food accessible at state levels while the VAM examines a target population in terms of its susceptibility to food insecurity (Bokeloh et al, 2005). The meso level uses qualitative surveys like focus group discussions (FGDs) to collect information on food availability for the vulnerable

population groups (Bokeloh et al, 2005). Lastly, at the micro level, the components of household food security are evaluated through the use of intra-household food frequency interviews, immunisation surveys and anthropometric surveys for children aged five years and less (Bokeloh et al, 2005; FAO, 2003; Gross et al, 2000).

Having stated the above, failure to set food aside for later use, the gathering and consumption of uncultivated foods, changed or decreased meal patterns within a day, reduction of rations and an alarming rate of unemployment or underemployment are all clear indicators of food insecurity at micro level (Bokeloh et al, 2005). In addition, members of food insecure households often suffer from micronutrient deficiencies (Bokeloh et al, 2005). There is a need to promote agricultural output among small and subsistence farmers in the households, including employment and revenue creating actions, use of small-scale irrigation projects where possible, SFPs, disease immunisation campaigns, and also incorporating the creation of society development organisations as mechanisms and prerequisites of food security at the meso and the micro levels (Bokeloh et al, 2005; Gross et al, 2000).

2.2.3 Food insecurity in rural areas

According to the World Bank report, the world's underprivileged resides in the rural areas and account for 72% (Struble and Aomari, 2003). Approximately 85% of the poor in the rural areas are based on and use land that ranges from an average to high possibility for agricultural productivity growth which could lessen the persistent food insecurity crisis (Ncube, Elkheshen, Lutfumpa, Beileh, 2012). Food insecurity usually affects the general food intake and, as a consequence, the health and nutritional status of households. Gross et al (2000) established that a close link between food intake and health status explains an individual's nutritional status. Poor health status may be a sign of being undernourished, thus weakening the immune system to illnesses (Gross et al, 2000). Inadequate access to foods in developing countries is due to poverty which suppresses any effort to produce enough food (Inter Academy Council) (IAC, 2004), while on the other hand, encourages over-reliance on food relief programmes (Ncube et al, 2012). According to Barret (2006) food aids are food assistance programmes in cases of emergencies, however such food programmes have coincidentally causes the head of the households to be more reliant on them than on working for their household members' dietary needs.

Over 70% of the food insecure population in Africa is found in the rural areas (Ncube et al, 2012). As a prerequisite, the rural households' food insecurity levels can remarkably be changed through improving their livelihoods by generating rural job opportunities during improvement in the agricultural productivity of small holder farmers (Ncube et al, 2012). Studies demonstrated that unless defensive actions are in place, the unacceptable situation will grow from bad to worse (Struble and Aomari, 2003). As mentioned before, food insecurity results in hunger which is evidenced by poor health and weakness such as pain, or illnesses due to the uncontrolled and extended food shortages (Ncube et al, 2012).

However, no strategy on its own can be adequate in reducing poverty in rural areas due to difficult hurdles; thus food insecurity hits hardest on a larger rural population (Struble et al, 2003). Any achievement in getting rid of hunger and food insecurity will definitely rely much on rural development strategies that will primarily persuade the development of infrastructure and agriculture, as well as incorporate human capital development by promoting investments by agribusiness and other industries in the rural areas (Struble and Aomari, 2003; World Bank, 2011). Failure by any household to accumulate sufficient income can lead to that household being unable to meet basic life necessities, and therefore be vulnerable to food insecurity and hunger. For proper health and development, access to adequate quality food is essential for an individual. African rural households can achieve food security through undertaking numerous profit generating strategies such as the buying and selling of food and non-food products, famously popular with women (Gladwin et al, 2001).

2.2.4 Poverty and food insecurity

Poverty has been cited as the main reason of food insecurity in developing countries as it deprives people's access to food (Walker, Wachs, Gardner, Lozoff, Wasserman, Pollitt and Carter, 2007). Alarmingly, a poor family in a poor country spends approximately 70% of its little income on food (WFP, 2011; Gelli, 2010). The deprived population has severe food insecurity due to its inability to have access and/or produce the required food, while at the same time, are more defenseless to impoverishment as they persistently fail to acquire resources to boost their livelihoods (Committee on World Food Security (CFS), 2005; Hart, 2009; Drimie and Casale 2009). Many of the smallholder farmers throughout Africa fail to participate in agricultural activities which position them to be prone to food insecurity despite their willingness to do so

(World Bank, 2011). It is predicted that the food insecurity will, as it has done over the years, continue to grow in most African states unless and until some positive preventive measures are taken to restrain it (CFS, 2005). Poverty reduction, and ultimately its eradication, forms the basis for effectively fighting malnutrition as poverty is a major contributing factor to food insecurity. Total poverty is often cited in an individual if he/she is failing to fulfil his or her basic needs sufficiently (Oberg and Aga, 2010). Inadequate food access and undernourishment are all results of economic scarcity, which later results to unwanted nutritional consequences, with individuals being vulnerable to multiple diseases (Oberg and Aga, 2010).

In addition to food shortages, the most dominant nutritional problems are attributable to unemployment (Ncube et al, 2012). A larger number of underfed members are possibly found in disadvantaged households where the breadwinner has no worthwhile source of income, with children and women the greater exposed groups. Such a situation condemns the households to poverty; so evidently vulnerability to food insecurity is associated with persistent poverty (Ncube et al, 2012). Poverty is notorious for confining its victims from developing and sustaining livelihood strategies, learning to survive with minimal difficulty in their specific environment despite the harshness thereof, and adopting strategies which guarantees enduring food security (Department of Agriculture, 2006). Victims cannot help themselves out of their predicament because of their continual low income, incapacity to acquire the basic goods and services necessary for survival (Haughton and Khandker, 2009).

Poverty limits individuals' right to food due to food price hike which increases their vulnerability to other upsets (Walker et al, 2007; Ackello-Oguthu, Okoruwa and Bahal, 2012). Since poverty is considered as the key barrier to adequate food access, it is sensible to argue that poverty reduction is crucial in enhancing adequate food access (Christiaensen, Demery, Kuhl, 2011). Research has shown that localities with approximately 80% of families hit by poverty are most probable to be food insecured (Department of Agriculture, 2006). The livelihood survey indicated that household members were forced to often skip meals as means of conserving the little available, while children repeatedly ate less than they needed due to food insufficiency (Department of Agriculture, 2006).

In the case of food shortage, a better financial resource could be helpful. Through the survey, it was further discovered that from time to time household members would sleep without having eaten anything due to insufficient money with which to buy food and solve their food need (Department of Agriculture, 2006). Walker et al (2007) and Hart (2009) found that the inability to afford food due to elevated food prices repeatedly obligated the poor to alter their food selection which effectively resulted in compromised nutrition. Understandably, young children are the most susceptible and affected by such circumstances, in particular food scarcity and illnesses, as they have increased demand for nutrients necessary for proper development (Walker et al, 2007).

2.2.5 The impact of farming on food security: Income, food and nutrition

Agriculture has over the years emerged as an efficient extensive adaptive strategy by people to ensure food security worldwide at both household and community levels (Gladwin et al, 2001). Literature concurs that when and where proper farming is practised, it has enhanced food security and improved nutritional status, more so among lower-income groups (FAO, 2008; Hamm and Bellows, 2003). It is therefore logical to conclude that agricultural growth enhances food security in Africa. Farming has the probability not just to increase food availability, but also to reduce food costs. That being the case, agriculture remains the most effective and viable way to decrease and ultimately eradicate rural poverty (Ncube et al, 2012). With proper agriculture, it is possible to enhance the availability and accessibility of food, thus creating the correct food combination for complete eradication of malnutrition through local procurement (Ncube et al, 2012).

A notable increase in locally produced foods increases the chances of alleviating malnutrition (Mwaniki, 2003). The more available and accessible the foods are, the more the intake of the foods thereof (Mwaniki, 2003). In addition, to help in making food available, agriculture also plays a vital role in enhancing the revenue of small scale farmers and the agricultural labourers as they constantly buy food (Ackello et al, 2012). Agriculture boosts the non-farm money-making activity in rural areas, where a majority of the victims of poverty live, through labour provision thereby creating considerable job opportunities and profits for the rural area (Gladwin et al, 2001). Encouraging the participation and involvement of small scale farmers can actually avail and guarantee markets for them regionally and even countrywide, thus encouraging them to

produce even more which could effectively translate into the reduction in food prices for improved food security (Ackello et al, 2012). It has been observed that agricultural projects and food security interventions commonly have a positive impact on the farmer's income (USAID, 2011). To a certain extent, employing the unemployed or underemployed could easily enhance the eradication of food insecurity as it translates to improved food security (USAID, 2011). Agricultural production programmes within households which were meant for earning income have been found to improve their dietary intake as a fraction of the food produced is consumed by the family members (USAID, 2011). The World Bank has observed the fact that agriculture has a pivotal role to play in boosting economic growth through availing employment even to the rural society (Ecker and Breisinger, 2012).

There is not yet a case in any country or continent where transition out of poverty has been achieved and effectively sustained without improving agricultural production (Ecker et al, 2012). With proper policies and investment ideas in place, an expansion in agriculture could guide each country towards the safety zone regarding food security (Ackello et al, 2012). An improvement in agriculture could inform an increase in small scale farmers' capacity to respond to the market demands, and inspire them to increase their yields and cultivate most of the currently imported foods thus eliminating over-reliance on food importation (Ackello et al, 2012). It is logical, therefore, to believe that elevated agricultural development in the rural areas can be the way to go to eradicate Sub-Saharan Africa's own food insecurity. Without agriculture, it is virtually impossible to attain food and nutrition security through the food supply as well as generating income for the rural poor (Christiaensen, Demery and Kuhl, 2011). There is a close connection between agricultural growth and overall growth in a country as well as lower food prices (Christiaensen et al, 2011; Diao, Hazell and Thurlow, 2010).

2.3 Effects of hunger and malnutrition on learners' education and health

Failure by an individual to provide the body with a diet that has sufficient nutrients necessary for general growth and development or inability to utilise the food consumed due to illness results in malnutrition (USAID, 2011). Malnutrition has overwhelming effects on every population. The greatest victims of poverty and malnutrition are young children (UNICEF, 2003). Malnutrition is notorious for upsetting and lowering of the immune system which results in increased infection and chronic disease risks (United Nations) (UN, 2007). It literally opens the door for ensuing

diseases commonly associated with under nutrition such as tuberculosis and diarrhoea as well as HIV/AIDS, whose devastating effects are mostly felt in developing countries (USAID, 2011 and UN, 2007). These diseases are closely related and often go together to cause devastating effects on every individual (UN, 2007). Malnutrition is indicated to be the cause of approximately 60% of the total child mortality in developing countries (World Bank, 2006). Attending to temporary hunger during school hours has a vital role in improving the learners' concentration span. Performance is slowed down if they go without food for longer periods (Del Rosso, 1999). Therefore, reduced attendance rates, poor health and increased withdrawal rates of learners form school are attributable to the potential possible penalties of undernourishment amongst school children (Olusanya, 2010). According to Grantham-McGregor et al (1998) and Adelman et al (2008) avoiding short-term hunger could boost cognitive functions such as memory and efficiency of information processing as well as enhancing general school behaviour. A number of studies have documented that temporary hunger adds to children's complexity to learn which leads to poor academic performance (WFP, 2007).

There is a notable difference between malnourished children who suffer from protein-energy malnutrition, hunger or other diseases, and healthy and well-nourished children regarding learning capabilities (Cueto and Chinen, 2008). The effects of under-nutrition include poorer children's performance at school and greater susceptibility to sickness and illness which in turn translates the risk of mortality (Black, Allen, Bhutta, Caulfield, de Onis, Ezzati, Mathers and Rivera, 2008). The Food Research Action Center (FRAC) also confirmed that undernourished learners perform poorly on cognitive tests due to starving (FRAC, 2008). It is worth noting that the management of hunger might be beneficial to all inhabitants the world over.

2.4 Vicious cycle of food insecurity, malnutrition and poor health

Food insecurity and malnutrition are closely associated with the development of diseases (USAID, 2011). This is because poor food utilisation intensifies susceptibility to communicable viruses and exposes the individual to malaria, measles, persistent diarrhoea, to name a few, thereby hindering adequate food absorption (USAID, 2011). The problem of food insecurity brings about numerous penalties of health and development where children and mothers are the most exposed to such shocking outcomes (USAID, 2011). As a result, child mortality of approximately 2.6 million each and every year is primarily due to malnutrition (USAID, 2011).

A report by the United Nations Standing Committee on Nutrition (SCN) expresses that disease development and stunting of children aged five years and less were due to persistent malnutrition (USAID, 2011).

2.5 School feeding

2.5.1 Defining school feeding

School feeding (SF) has been well acknowledged in all countries alike. It is a mechanism that provides not only educational benefits but also health benefits to the most defenseless population found in areas and communities with severe food shortages (WFP, 2004). SF mitigates cases of hunger and malnutrition (Walingo and Musamali, 2008), while generally promoting education objectives, health and community development (World Bank, 2011; Gelli, 2010). SF is regarded as an instrument which efficiently encourages even the poor children to attend school in both developed and developing countries, knowing they are guaranteed a meal at school (WFP, 2004). SFPs also play a pivotal role in improving HIV and AIDS care and prevention, as well as improving health through the provision of meals in schools, and can be used as effective means for micronutrient supplementation (WFP, 2004). Moreover, the high rate at which learners drop out of school could be curbed while the learner's cognitive functions could be enhanced, thus ensuring better academic performance (UNICEF, 2009; WFP, 2011; Olusanya, 2010; Adelman et al, 2008). UNICEF reported that approximately 10% of school drop-outs are necessitated by extreme financial constraints where the family is obligated to use up the money meant for school fees on staple foods that has become unaffordable for the household (United Nations Office for the Coordination of Humanitarian Affairs, 2011).

A number of studies show that one of the positive effects associated with serving meals at school is the increasing enrolment rate in schools of the undernourished and underprivileged children (WFP, 2004). Whether given to learners as a school meal or a snack to be consumed during the school day or as take home food rations, SF still remains crucial to education and health (WFP, 2001-2003; WFP, 2009). It is for that reason that SF benefits not just the children who are learners at school but also their families (WFP, 2009). Even more importantly, when linked with local purchases, it results in community improvement through improved revenue of neighbouring small scale farmers and households (WFP, 2001-2003). To guard against undesirable elements,

SFPs should be the governments' and/or other partners' responsibility to see to it that local purchases are done to distribute food to local schools (WFP, 2009).

In cases where SFPs had community participation and involvement, stronger and more sustainable stability was observed (Schools and health, 2011); with the communities even inspired to find local solutions to perennial hunger and poverty (WFP, 2009). Therefore, the provision of meals in schools is meant to enhance the socio-economic state of affairs of communities in rural areas on one hand, while on the other hand supporting educational and nutritional benefits (Walingo and Musamali, 2008). Furthermore, SFPs facilitate in satisfying the instant dietary needs of children (WFP, 2009). Short-term hunger mitigation has positive impact on learning capacity, access to education (i.e. enrolment, attendance, retention and completion), reduction of inequalities between boys and girls, health and nutrition status as well as innovation opportunities (WFP, 2009). The SFP consequently makes a giant stride in achieving universal primary education by 2015 (WFP, 2001-2003). Learners for pre-schools and primary schools from food insecure areas are by far the most vulnerable and therefore are the main targets for SFPs (Kain, Uauy and Taibo, 2002; Government of Ghana, 2010; GNCF, 2010). A study by WFP discovered that more than 23 million children in the primary school-age cohort in Africa are underfed (WFP, 2009).

2.5.2 School feeding as promoter of community participation

It is quite advantageous when schools rely on the neighbouring community for SFPs (WFP, 2013). First and foremost, there is better communication between communities, parents and teachers which is a prerequisite for smooth upkeep of quality education and nutritional awareness. This affords parents the opportunity to become more aware of what goes on at schools, and helps build love, appreciation and the value of education for parents and the community at large (WFP, 2009). By the same token, programmes with well-built government and community involvement remain an integral ingredient for improving education (WFP, 2009). As a result, such SFP is recognised by retaining elevated enrolment rates, enhanced school attendance and encouraging community members to be part and parcel of their children's education (WFP, 2009). In many countries, Africa inclusive, it is the duty of the ministry of education to sustain the SFP (WFP, 2009).

Meanwhile, the WFP advocates and lend a hand to societies and communities to be better equipped and to be able to eradicate hunger and malnutrition through guiding them to be able to handle and fight for individuals and households' access to adequate food (WFP, 2013). In Gambia, parents and teachers have taken the responsibility that school vegetable gardening is implemented to supplement their children's diet through the home grown school feeding programme (HGSFP) (WFP, 2013). This exemplary case allowed the community to willingly come in to venture into the farming scheme on the school fields through the teachers' recruitment (WFP, 2013).

2.5.3 Impact of school feeding on education and learning

When an SFP is assessed, one has to measure its direct effects on those variables and indicators targeted by the programme, for example, health indicators could include weight, height, age, the commonness of worms due to insufficiency of micronutrients and the common illnesses in the community, while attendance rates, retention rates and examination scores could be used as educational indicators (Briggs, 2008). Cueto and Chinen (2008) observed a close link between a learner's performance and his/her nutritional and health status. SFP's intervention, in cases where it was practised, has been found to improve nutrition and health, and yielded better performance, which translated to less repeated grades and promoted retention (Gougeon, Henry, Ramdath and Whiting, 2011; Briggs, Safaii, and Beall, 2003). Furthermore, SFPs had been cited to have positive impact on time management in school through increased punctuality and regular attendance (Donald, 2005; Beryl, 2005; Schools and Health, 2011). The provision of meals in a school day or even before the school day begins enhances learners' attention span (WFP, 2004).

According to the WFP (2010), the four impacts of the SFP are correlated and contribute to educated and healthy society members (Figure 2.1). For an efficient and successful SFP with better health and educational objectives, the household and community settings should be accommodating, have a common goal and value education (WFP, 2010). If environments at both household and community levels are not favourable, the said benefits associated with SFPs will be weakened. Therefore, complementary involvements that effectively deals with restrictions in the family unit, school, and community environments are integral if full potential of the SFP is to be attained and sustained (WFP, 2010).

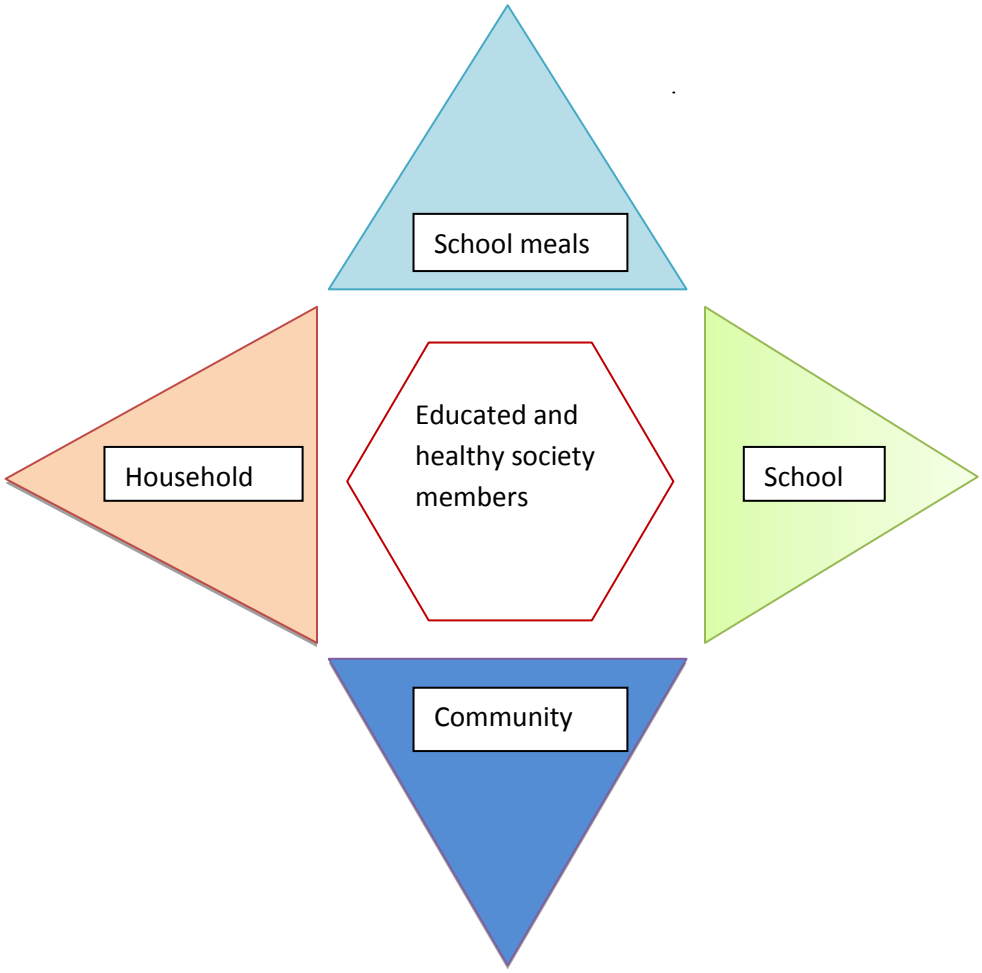


Figure 2.1: The four corners of education and health impacts of the school feeding programme (WFP, 2010)

2.6 Home grown school feeding and its purpose

The HGSFP concept has lately been adopted by many countries, in high and middle income, as one of the key programmes in the provision of meals in schools (WFP, 2009). Rural households, especially in Sub-Saharan Africa, have difficulty in accessing markets and have serious problems selling their products which discourage them. However, the HGSFP encourages the procurement of food from nearby producers which aids in expanding markets locally (WFP, 2009; Sumberg and Sabates-Wheeler, 2011; Hamm and Bellows, 2003). A number of advantages have been associated with the HGSFP which includes confining the production and purchasing of food within a community or nation which, in the process, raises the possibility of local economy

development (WFP, 2009). This could result in more prolonged business opportunities, thus supporting local service delivery (WFP, 2009). More than 70% of the food is procured locally in the HGSFP (WFP, 2009).

Another benefit associated with the HGFSP is that of better access to adequate food especially in Sub-Saharan African countries (WFP, 2009). Therefore, the HGSFP has both direct and indirect benefits. Furthermore, of these benefits, some are linked to profit making while others are more focused on assets creation (Sumberg and Sabates-Wheeler, 2011). Most importantly, this programme could be of great advantage to low-income countries where a larger population is prone to inadequate food access probably because of the limitations in food production (WFP, 2009). The HGSFP advocates for smallholder farmers, who are mostly found in areas with severe food insecurity, to stand up and venture into agricultural expansion (WFP, 2009). Consequently, the ever-increasing requirement for food by schools in places with severe inadequate food access can be fulfilled through the procurement of food which is produced locally.

The WFP favours a more straight association and relatively shorter distances between the small scale farmers and their market, the school, to cut out the expensive intermediaries and have food available at a cost-effective price (Kumar, 2011). It could be advantageous to the farmers due to short distances between them and their target markets, which are the schools. The reduction in travelling distance enables the farmers to be efficient in supplying customers with their local produce with no extra and unnecessary costs incurred (Tschirley and del Castillo, 2007). Besides, the absence of the middleman means the school will also get the product not only relatively fresher, but also at a reasonably lower price.

It has been observed that prearranged delivery deadlines in schools are easily met with fresher produce, at cost effective prices and better quality food produce (United States Government Accountability Office (USGAO, 2009); United States Department of Agriculture (USDA), 2009). This could help farmers to increase their productivity, gain access to the market and produce better-quality crops. Researchers believe that if food was bought from local suppliers, who are small scale farmers, for instance, it could help guarantee market availability for them, thereby improving the small holders' living conditions and turnover (Tschirley and del Castillo,

2007). SFPs principally target school-age children, while the HGSFP have a double effect in that they target both small scale farmers and school-aged children (WFP, 2009). Through the HGSFP, farmer's returns are enhanced not just through their access to SF but also through providing the necessary market while also defending them from the elevating costs of food (Kumar, 2011). The HGSFP therefore offers children safe, wholesome and good quality food while at the same time eliminating universal hunger and poverty through generating sustainable earnings for the small scale farmers (Kumar, 2011). Poverty amongst small-scale farmers is due to inadequate access to prerequisite assets such as land, but also because of inability to easily sell their harvests in markets which limits them to produce food only enough for consumption even if they could do more (World Bank, 2007). This is despite the fact that approximately 60% of the rural people in Africa live in areas of good quality farming probabilities with limited access to markets, while only 23% live in the mentioned areas with market access (World Bank, 2007). What this means is that if markets could be made available for the majority, it could go a long way towards solving numerous problems faced by Africans today.

It has been noted that with national and international markets offering very little demand, African small scale producers of basic crops have no market to sell their produce which condemn them to continuous insufficiency (World Bank, 2007). Had this been not the case, local economies would be promoted, as the unemployed would get job opportunities through the production and purchasing of community grown products, which brings profits for the small scale farmer who is also the breadwinner of the household (Grantham-McGregor, 2005). For the HGSFP to be successful there has to be a strong commitment and involvement from community members (WFP, 2013). The WFP further reports that the HGSFP easily avails meals that are varied, of good quality and healthful as the food products are fresh, which assist children in being fit and always available for learning instead of going to hospitals seeking medical treatment from various diseases (WFP, 2013).

The food received is not uncommon to and is culturally preferred by the recipients as it is locally produced (Violett, Harou, Upton, Bell, Barrett, Gomez and Lentz, 2012; USGAO, 2009). However, it has to be admitted that the school cooks who prepare the learners' meals somehow influence the acceptability of the meals to the learners in that the food is common to them and so they do have the expertise to its preparation. This is important because it certainly guarantees

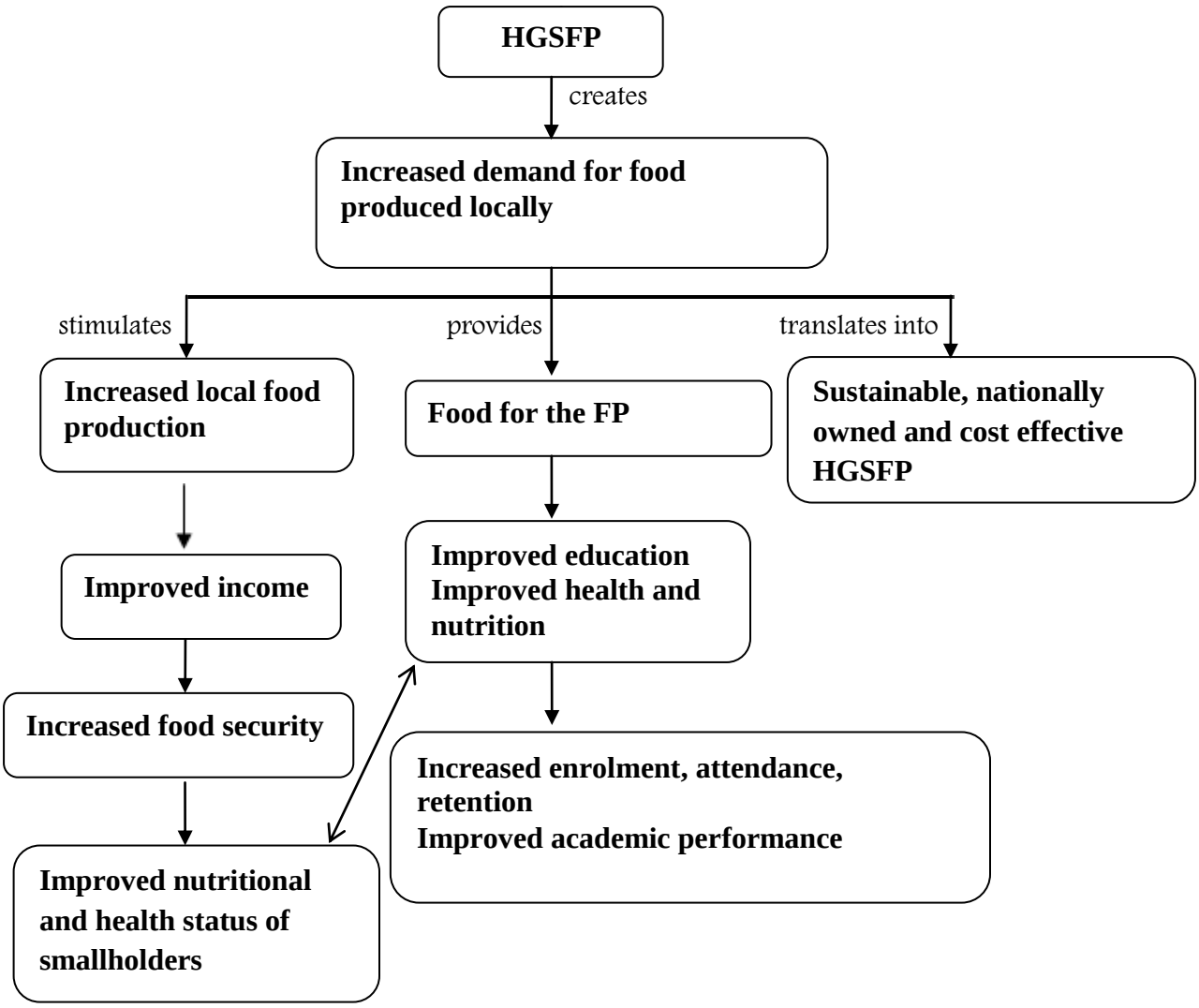
that the food will be consumed by the target group (Violett et al, 2012). Upton and Lentz (2011) postulate that purchasing locally saves costs while supporting local producers which benefits faster delivery than food aids. There were significant savings of between 13-50% observed in a study conducted to evaluate local purchases versus food aid in sub Saharan Africa (Tschirley and del Castillo, 2007; USGAO, 2009).

2.6.1 Theoretical framework of the home grown school feeding programme

The HGSFP is concerned with government primary school children together with their household members in areas with inadequate food access (GSFP, 2011). This programme has been advocated for its capacity to prompt improvements which not only assists school going children, but also the entire societies involved (GSFP, 2011). The far-reaching objective of the HGSFP is to boost all-round access to adequate food while simultaneously eliminating food scarcity (GSFP, 2011). Several achievements are associated with the implementation of the HGSFP, namely: i) improves adequate access to food for deprived and vulnerable rural family units which in turn results in reduced poverty and malnutrition levels; ii) enhances educational objectives (i.e. increasing school enrollment, attendance and retention) and school academic performance, and iii) guarantees an on-going SFP with affordable food products procured in the neighbourhoods (GSFP, 2011).

Through the HGSFP, the cycle that exists between rural household or community poverty and food insecurity is dislocated (Government of Ghana, 2010; GNCF, 2010). As shown in Figure 2.2, the sourcing of food locally produced, among other things, encourages small scale farmers to produce more of their farm produce to meet the local community schools' food demand which results to better farmers' household profits (Ferguson and Kepe, 2011). As a result, the farm earnings obtained by the underprivileged farmers through selling their produce further improves access to adequate and nutritious food as they can meet their food need. Moreover, more expansion in agricultural production can create a need for more superior and highly sophisticated labour saving machinery for better, faster and mass food production which could further help in eradicating extreme poverty at household and community levels. Since the HGSFP offers learners with food products sourced from the neighbourhoods (Government of Ghana, 2010), one nourishing meal served per day could enhance better access to education even for learners from remote rural areas characterised by severe food scarcity (Bundy, 2005). The intake of a high

quality diet is vital for improved memory functions which results in enhanced educational effects (Briggs et al, 2003; the American Dietetic Association (ADA), 2003).The HGSFP is in fact a multi-advantageous programme. It is not only the learners and their household members who benefit from this programme, but also the poor and disadvantaged small scale farmers and the communities at large. Therefore, the HGSFP has the potential to boost the country as a whole socio-economically. This innovative FP is linked with boosting local economy continuously, at affordable costs. Additionally, encouraging community participation or involvement together with the integration of small scale farmers, results in a more continual and maintainable FP.



Key: HGSFP: home grown school feeding programme

FP: feeding programme

Figure 2.2: Theoretical framework on the home grown school feeding programme (adapted from Sumberg and Sabates-Wheeler, 2010; GNCF, 2010)

2.7 School feeding in Swaziland

2.7.1 Background on Swaziland

The elevated costs of food stuffs accompanied by an increased number of joblessness and over-reliance on food reliefs have been major economic challenges that the Swaziland population is faced with. The ever increasing food prices have exposed the majority of the poor population to food scarcity due to their financial restriction. Households in Swaziland have severe inadequate food access as more than 69% of these households have less economic capacity to adequate food access which is further explained by 40% of unemployed Swazis (World Vision, 2009). Of these poor households, approximately 76% of them are from the remote, rural areas. Consequently, these predicaments have obligated the customs of a Swazi family to really fall apart; giving rise to a remarkably altering customary extended family's role of being a social security net, growing the number of child headed families as every individual seek to avoid bigger families to feed (IRIN, 2002; Swaziland Environmental Authority (SEA), 2002.).

There is yet more reason to worry as it is predicted that the number will increase with more and more people being affected by food insecurity, even more so because of the rapidly escalating food prices (WFP, 2008). Swaziland is also characterised by the highest rate of HIV/AIDS (SEA, 2002) among adults at 33.4% (World Vision, 2009; Government of Swaziland, 2009-2014). According to statistics, more than 220,000 Swazis are HIV positive which contribute to the increased number of children orphaned by HIV/AIDS to rise above 63,000 (World Vision, 2009). Poverty exacerbates food insecurity levels in Swaziland (SEA, 2002). A significant majority of the Swaziland population is plagued by high levels of poverty especially in rural communities of the Lubombo region. The Lubombo region is the lowveld and is the centre of the food crisis in Swaziland. Most learners attend school without having anything to eat. According to Save the Children Swaziland's report (2009), a majority of children from underprivileged families had nothing to consume for a day and yet went to school. This finding compelled school authorities to intervene and rescue the situation.

Due to children's susceptibility to the effects of inadequate food access, community members and learners concurred that food reliefs accessible should be for children. Apparently, it was the adverse effects of food insecurity that intensified the attractiveness of the SFP to families. Obviously, this therefore imposed an urgent need for an all-inclusive and sustainable SFP, so that

children can at least have access to one nutritious meal per day. In view of the significance of the programme, the Government of Swaziland was determined to get financial support for this particular relief programme (Save the Children Swaziland, 2009), since Swaziland has recently advocated and is now committed to universal free primary school education.

2.7.2 School feeding

The SFP in Swaziland was for maintaining and sustaining children's healthcare, nutrition and education (Afoakwa, 2010). About 31% of the total population of children in Swaziland is orphaned and vulnerable children (OVC) (UNICEF, 2009). So it becomes very complex to keep them in school on empty stomachs as it is even pointless since they are not able to learn and concentrate (Afoakwa, 2010). It was specifically for that reason that the idea to provide them with at least a meal a day to keep them mentally active during school hours was adopted (Afoakwa, 2010). In as much as Swaziland's target was the OVCs, the provision of the school meals was offered to all children alike (Afoakwa, 2010). Swaziland through the Ministry of Education and Training (MoET) had taken the execution of the programme upon itself by supplying foodstuffs to almost all schools nationwide (Afoakwa, 2010; MoET, 2009).

In assisting the Government of Swaziland, the WFP in coordination with UNICEF, provided food products to approximately 36,000 children with inadequate food access due to famine (WFP, 2004). The WFP gave support to the SFP in all schools in the country between the years 1970 and 1992. It was not until 1992, when the WFP withdrew from the programme, that schools began to run the SFP on their own, though with great difficulty (MoET, 2009). There was relief however in 2002 when the WFP came in again to assist with the SFP. The FP has been regarded as a responsive programme towards the country's threats which includes famine and the HIV and AIDS pandemic (MoET, 2009). Apart from the WFP, other NGOs, including the Royal Swaziland Sugar Corporation (RSSC), Germany Red Cross and National Emergency Response Council on HIV and AIDS (NERCHA) also moved towards supporting the SFP through the Global Fund Round 4 (MoET, 2009). The programme was not all-inclusive though, as only primary schools were sponsored by the above mentioned donors, until 2004 where they all ceased to fund the programme with only NERCHA and the WFP remaining (MoET, 2009). However, things took another angle in 2009 when the WFP once again withdrew from the programme, citing financial constraints as the major reason. This move necessitated that a budget

be created by the Government of Swaziland to the smooth progress and taking-over of the SFP. Thereafter the Government of Swaziland had to fund both primary and high schools (WFP, 2009). The SFP provided by the Government of Swaziland through the MoET intended to enhance the nutritional status of the learners while at the same time achieve educational goals (MoET, 2009). Currently, the food is rationed as follows: cereals (maize/rice) 150g, pulses (beans) 40g and oil 7.5g per child as per followed standard guidelines. The Government of Swaziland supplies maize, rice, beans and vegetable oil to schools in relation to a school's enrolment. The Government of Swaziland advocates that for a better and sustainable programme, every school should have gardens for complementing the supply, while at the same time providing variety in the school meals at minimum food costs (MoET, 2009). However, due to financial restrictions, the Government of Swaziland had once again asked for financial assistance from the WFP who had pulled out from the programme (MoET, 2009). The WFP, on the other hand, also depends on donors to support the FP in Swaziland, which might be compromised by the wide-reaching and soaring economic crisis. Table 2.1 below shows the distribution of schools in the four regions of Swaziland (MoE, 2011).

Table 2.1: The regional distribution of schools in Swaziland (MoE, 2011)

REGION	PRIMARY SCHOOLS (n)	SECONDARY/HIGH SCHOOLS (n)
HHOHHO	161	65
LUBOMBO	123	55
MANZINI	164	61
SHISELWENI	146	55
TOTAL	**594**	**236**

2.7.3 Food procurement, distribution and payment of school feeding programmes

Prior to the procurement of food, the Government of Swaziland transfers money to fund the primary schools into NERCHA's account so that the purchasing of the food is carried out by one entity (MoET, 2009). The MoET then sends requisitions which contain the kind and the amount of food required per school term to NERCHA. Afterwards, NERCHA calls out for bids through the printed media for potential contractors to send in their proposals to select the most qualifying by the NERCHA tender board (MoET, 2009). The MoET then receives a purchase order for the successful bidder. On an agreed upon arrangement of the MoET with the supplier, the food is obtained from him/her using trucks from the government and/or NERCHA (MoET, 2009). NERCHA also sends the food to accredited food testing institutions to verify the safety guaranteed by the suppliers (MoET, 2009). However, schools are permitted, through producing documentation from the Department of Nutrition to obtain their food from the qualified supplier for speeding up the procurement process (MoET, 2009). After all the required food products have been collected from the supplier, invoices are taken to the MoET for approval and later forwarded to NERCHA for payment purposes.

2.7.4. Organisations supporting the school feeding programme in Swaziland

2.7.4.1 World Vision (WV)

The establishment of World Vision (WV) in Swaziland was to enhance coordination between education, nutrition programmes, and to promote agricultural production (WV Swaziland, 2009). WV Swaziland offers food relief programmes targeted at combating food scarcity in rural areas and promoting the presence of agriculture in the schools (WV Swaziland, 2010). Additionally, WV improves access to education for children who are not attending school and are vulnerable due to HIV and AIDS (WV Swaziland, 2010). Over 53,000 people have benefitted from WV through food provision, commodities, and health and nutrition programmes. This number includes approximately 47,400 children who are severely impoverished and affected by the AIDS crisis (WV Swaziland, 2010).

2.7.4.2 World Food Programme (WFP)

The WFP SF scheme works towards achieving several MDGs, including the alleviation of hunger by half, free primary school education and also gender parity in education by 2015 (WFP, 2004). The WFP distributes fortified food to schools to ensure that children get the

micronutrients they need for an improved nutritional status (WFP, 2004; WFP, 2011). The WFP improves children's nutrition, school attendances, prevent hunger through school meals and respond to emergencies. The WFP supported the SFPs which were already in operation in some schools through Save the Children Fund, Swaziland (WFP, 2004). The WFP SFP contributes immensely to poverty and disease reduction. It provides a platform for directly addressing children's health and nutrition, for example through deworming schemes (WFP, 2004).

2.7.4.3 United Nations Development Assistance Framework (UNDAF)

The United Nations Development Assistance Framework (UNDAF) was developed by the United Nations (UN) system in Swaziland. It seeks to achieve the MDGs, including poverty alleviation by 25%, enhanced access to food and other services by the susceptible and underprivileged population within Swaziland (United Nations Development Programme (UNDP) Swaziland, 2009). The UNDP in Swaziland advocates for an effective way to combat the spread of HIV/AIDS hence a reduction of Swaziland HIV/AIDS crisis (UNDP, 2009).

2.7.4.4 United Nations Children's Fund (UNICEF)

According to statistics, 40% of the Swazi population is HIV-positive, which effectively means that Swaziland has the highest HIV/AIDS prevalence rate internationally (UNICEF, 2010). UNICEF therefore came up with strategies to fight the spread of HIV/AIDS in the country due to its adverse effects on food security (World Vision, 2009). According to UNICEF (2010), children in Swaziland are the most challenged group due to the HIV/AIDS pandemic. Approximately 50% of infant deaths are due to HIV/AIDs. Moreover, HIV/AIDs has weakened the family structure and as a result orphans are more prone to any form of abuse. About 40% of children are affected by prolonged undernutrition (UNICEF, 2010). It is documented that for an effective SFP in a country; the programme should have clear objectives and predict expected results. Furthermore, the country has to choose the type of food to be provided in school; plan for school-level management, implement and monitor the on-going SF activities (UNICEF, 2010). Moreover, the country must determine if complementary health and nutrition activities, such as supplementation or fortification, can be incorporated into the programme to achieve additional benefits (UNICEF, 2010).

2.8 Feeding programme's sustainability, poverty reduction and food security in the HGSFP

Food insecurity is a result of being poor, undernourished and more susceptible to diseases, which are related to each other (USAID, 2011). Therefore, if the poor and vulnerable can be guaranteed a sustainable livelihood, food security will be enhanced. Maxwell and Smith (undated) defines livelihood as the ability to afford buying basic needs, and having enough food for sufficient consumption for sustained periods. According to the WFP (2010), for FPs to be sustained effectively, small scale farmers should actively participate and be fully involved through the HGSFP, which seeks to reduce and ultimately eradicate hunger and poverty through involving and empowering the marginalised and vulnerable populations. Gelli, Neeser, and Drake (2010) also concur and emphasise that a sustainable nationally owned programme can only be successful if there is a correlation between that FP, agriculture and community development, which can be achieved through HGSFP. Furthermore, there should be involvement of other government sectors, for a better sustained HGSFP. Government's dedication is also necessary to enable creative policies for a guaranteed sustainability of the FP (WFP, 2010).

The fact that various stakeholders are involved in the HGSFP is an advantage as it attracts attention from donors that had never funded any FPs previously due to the proposed anticipated profits, which is not the case with the SFP (WFP, 2010). The Partnership for Child Development (PCD) also advocated for nationally administered FP where the food is sourced from local farmers in sub Saharan Africa (Gelli et al, 2010) for a sustainable and multi-beneficial programme. The HGSFP almost certainly guarantees improved food security through availability, access, and utilisation plus income earned from agricultural sales (Sumberg and Sabates-Wheeler, 2010). One notable shortcoming of the original SFP is that it benefits only the learner population from participating schools and the rest of the community is left out.

In the HGSFP, the learner population from both participating and non-participating schools, the small-scale local farmers, who are breadwinners and parents (thus major stakeholders in the school) and the entire community at large through agricultural and economic development are sure beneficiaries (Devereux, Sabates-Wheeler, and Martinez, 2010; Sumberg and Sabates-Wheeler, 2010). This must be the case if there is going to be any chance of alleviating not just hunger and malnutrition, but poverty in general. Poverty alleviation is possible if the sourcing of

food is done at community level resulting in increased income for farmers hence an increased income of the local economy (Sumberg and Sabates-Wheeler, 2010).

Another advantage of the HGSFP is that transportation and commercial costs are reduced in the procurement of food at community level due to the exclusion of the middlemen (Sumberg and Sabates-Wheeler, 2010). The HGSFP is, and can also be used to protect the socio-economically poor and vulnerable population with sustainable poverty reduction, while availing market and generating income for them hence livelihood security (Sumberg and Sabates-Wheeler, 2010). Procurement of food from local community farmers and /or cooperatives ensures not just reliable and timely deliveries, but also a better quality food as it is at its very fresh state, promoting more variety of locally produced foods; hence a varied and nutritionally balanced diet (Morgan, Bastia and Kanemasu, 2007).

2.9 Conclusions

Food security can be defined as the access to nutritious, safe and culturally acceptable types of food by all household members in sufficient quantities for an active and healthy life while food insecurity forms the basis of households' inability to provide food to its members due to food scarcity. Levels of food insecurity may be chronic or transitory. Chronic food insecurity is long-lasting and exists when individuals are continuously lacking enough food as a result of poverty. Transitory food insecurity is a temporal state of inadequate food access. Poverty has brought about widespread chronic hunger resulting in inadequate nutrition and poor health. Elements of food security are applicable at different levels of social and administrative organisations, namely on the macro, meso and micro levels.

The root cause of food insecurity in developing countries, among other things, is the inability of people to gain access to food due to poverty and being more reliant on food stuffs brought into a country. Eradication of hunger and food insecurity largely depends on the inclusion of several rural development strategies. Agriculture is a long term adaptive strategy to enhance food security at all the mentioned social and administrative levels. Agriculture has been viewed as the most powerful way to reduce poverty especially in rural areas through the increase in the production of local food products. Increased local production enables the purchasing of foods at affordable prices to the poor, thus enhancing individuals' dietary intake in fighting malnutrition.

Short term hunger and malnutrition contributes to children's inability to learn hence poor academic performance. The provision of meals or a snack or take home rations to learners through the SFPs, have been reported as the best way in alleviating hunger and malnutrition, while supporting education, health and community development. The HGSFP, a recently advocated FP, promotes the supply of food by local producers and helps develop local markets. The HGSFP helps to localise the food supply as 70% of the food is locally sourced. The HGSFP also stimulates the procurement of food from local farmers direct to schools, thus reducing transportation and commercial costs while obtaining better quality, fresh and more varied nutritious food. On top of that, the HGSFP promotes a stronger and more sustainable FP through empowering local farmers and communities, which consequently alleviates hunger and poverty. Increased communication between communities, parents and teachers is enhanced, which in turn has favourable benefits for the quality of education and nutritional awareness as parents become sensible with what goes on at the schools.

Swaziland's SFP intended to support and address the right of all children within the country in terms of health care, nutrition, psychosocial and education. Since the supply of food in the school is not discriminative, all children in the schools benefit. The MoET provides food to nearly all primary and secondary schools across the country, while centralising the FP. WV, WFP, UNDAF and UNICEF are in support of the FP in Swaziland. Sustainability of any FP is enhanced through government, NGOs and local communities' participation. Government's commitment provides creative solutions for a guaranteed long-lasting FP. The HGSFP involves various stakeholders, resulting in a nationally owned FP through sourcing food from local farmers. Through the HGSFP, the learner population, local farmers and the entire community benefit, thus boosting the local economy through increased income.

CHAPTER THREE

EMPIRICAL INVESTIGATION

3.1 Introduction

The main aim of the study was to explore and describe the HGSFP in the Lubombo region of Swaziland and assess its association with school enrolment, attendance and retention; health status of learners; academic performance of learners; the FP's sustainability, its impact on household food security and its poverty reduction potential in households where this FP was implemented in comparison with non-HGSFP. Most SFPs are targeted at primary school learners as they are the most vulnerable population to hunger and malnutrition. The conceptual framework (Figure 3.1) was adopted form NEPAD (2005a, 2005b) and modified for the purpose of the study. Based on the conceptual framework, a single serving of a nutritious meal per day through the HGSFP is said to attain several outcomes: (i) improved educational objectives (i.e. increasing school enrollment, attendance, retention); (ii) improved health status of learners; (iii) improved school academic performance of learners; (iv) ensured a sustainable SFP with cost effective and locally produced foods; and (v) reduced poverty and malnutrition through improved food security in poor and susceptible rural households (GNCF, 2010).

A well managed SFP has been found to promote both educational and health benefits to the most vulnerable children living in highly food insecure areas through hunger and malnutrition alleviation. The SFP improves the cognitive functions of learners. SFPs therefore benefit learners together with their immediate family members through enhanced food security. SFPs which are linked with the procurement of food from local small scale farmers, and involved community participation are expected to result in more sustainable, cost effective and community owned SFPs. This is because such SFPs result in stronger and more sustainable intervention hence empowering communities to alleviate hunger and poverty through improvement in economical and food security levels.

3.2 Aim of the study

This research was aimed at exploring and describing the HGSFP in the Lubombo region of Swaziland. The exploration included the functioning of the HGSFP at school and community levels; how it was perceived within schools, households, and communities and how it might have

affected education, well-being and its sustainability in the schools under investigation. The impact on household food security was also explored. The research was comparative in nature; two groups of schools were compared. Schools with HGSFP (n=15) were compared against non-HGSFP schools (with ordinary SFP, n=15).

3.3 Hypotheses and objectives

3.3.1 Research hypotheses

3.3.1.1 Schools with a HGSFP would have better school enrolment, attendance and retention than non-HGSFP schools in the Lubombo region of Swaziland. Short-term hunger alleviation results in increasing educational benefits and access to education (i.e. enrolment, attendance and reduces absenteeism) (Gelli, 2010; WFP, 2009; Gougeon et al, 2011).

3.3.1.2 Learners from HGSFP schools would have better health status than learners from non-HGSFP schools. The HGSFP promotes access to education which in turn results in improving nutrition education (Devereux et al, 2010; Gelli, 2010).

3.3.1.3 Learners from HGSFP schools would have better academic performance than learners from non-HGSFP schools. Good nutrition contributes to improved cognitive performance hence an improvement in learning outcomes (Devereux et al, 2010; Gelli, 2010).

3.3.1.4 Schools with a HGSFP would have a better sustained FP than non-HGSFP schools. Sustainability of FPs is enhanced through the inclusion of a number of small-scale farmers in food-deficit areas through the HGSFP, which is aimed at hunger and poverty reduction (WFP, 2010).

3.3.1.5 A HGSFP would contribute to food security and poverty reduction in households where the schools with HGSFP are found. A HGSFP stimulates the local production of food thus enhancing the hiring of local family members and farmers. This empowers the downgraded and susceptible populaces through improvement in household income hence a more developed community (World Bank, 2011; Sumberg and Sabates-Wheeler, 2010; Devereux et al, 2010)

3.3.2 Research objectives

The specific objectives of the study were:

3.3.2.1 To describe and compare the school enrolment, attendance and retention in the HGSFP and non-HGSFP schools in the Lubombo region of Swaziland.

3.3.2.2 To describe and compare the health status of learners in the HGSFP and non-HGSFP schools in the Lubombo region of Swaziland.

3.3.2.3 To describe and compare the academic performance of learners in the HGSFP and non-HGSFP schools in the Lubombo region of Swaziland.

3.3.2.4 To describe and compare the sustainability of the FPs in the HGSFP and non-HGSFP schools in the Lubombo region of Swaziland.

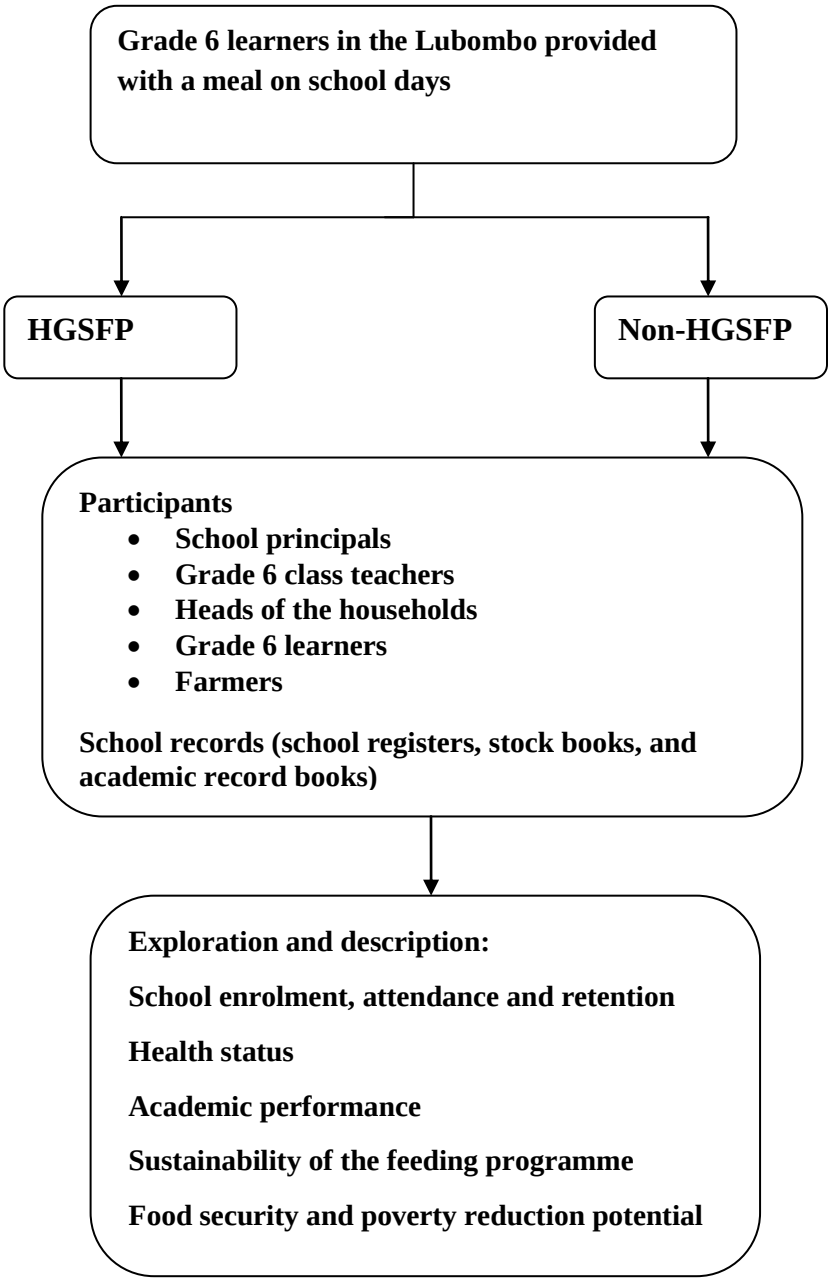
3.3.2.5 To describe and compare the food security and poverty reduction potential of the HGSFP and non-HGSFP in households in the Lubombo region of Swaziland.

3.4 Study design

This was a cross sectional descriptive survey, using a comparative approach in the quantitative and qualitative domains, to obtain baseline exploratory data on the HGSFP in the Lubombo region of Swaziland at the time of the survey in comparison with the non-HGSFP. The study used both primary and secondary data collection methods. Primary data collection included obtaining information through structured interview schedules, focus group discussions (FGDs) and individual interviews with key informants. Secondary data collection involved obtaining information through a desk-top review which included journals, books and government documents (refer to Figure 3.1).

3.5 Conceptualisation

3.5.1 Conceptual framework



Key**:** HGSFP : home grown school feeding programme

Non- HGSFP : non-home grown school feeding programme

Figure 3.1: Conceptual framework of the possible impacts of school feeding programmes (adapted and modified, NEPAD, 2005a; 2005b)

3.5.2 Conceptual definitions

Home-grown school feeding programme (HGSFP) is a SFP that provides food domestically produced by local small scale farmers to create an on-going market while sustaining the programme in a country. In this study, this was the SFP where schools supplemented the government' food supply through buying from local farmers.

Sustainability is the capability of the programme to endure on a long-term basis while maintaining or strengthening food availability. In this study, it was measured by the frequency of food insufficiency in the schools or households within a year period and problems experienced with the SFPs.

School feeding is the provision of meals to learners at school to reduce hunger during the school day.

Poverty is the status of a household that has fallen below a socially-defined minimum level of well-being usually manifested in hunger, sickness or health status, among other indicators. In this study, it was measured by the frequency of being without food, cash income, water, electricity, fuel and medical treatment in their schools or households in a year period.

Food security is the access by all people at all times to sufficient and also culturally acceptable food required for a healthy and active life. In this study the food security scale was used to measure the school principals and the heads' of the households perception in respect to the food security levels in their schools or households.

Household food security is a situation whereby members within the household have access to a safe, culturally acceptable, and nutritionally adequate diet at all times for an active life. In this study the investigation was based on the food utilisation of the households through assessing their dietary intake and food consumption patterns.

Community food security is when all community residents have access to a safe, socially and culturally acceptable, nutritionally adequate diet through a sustainable food system that maximises community self-reliance. In this study, the inclusion of a number of small scale farmers in the SFPs meant community food security was enhanced as the agricultural produce were available for both the schools and community members.

Learner's performance in this study was investigated through the educational objectives and the health status of the learners. The educational objectives included attendance, enrolment, retention and the academic performance which was obtained from the school academic records, while the health status was measured through the absence of illnesses amongst the learner over a year period as it was subjectively assessed.

3.6 Setting

The study was done in government primary schools located in the southern part of the Lubombo region of Swaziland. Lubombo is located in the east of the country. It covers an area of 5,947 km² and has a population of approximately 300,000. It borders three other districts: Hhohho to the north, Manzini to the west and Shiselweni to the south (World Vision, 2009). A majority of the schools from the Lubombo are severely affected by poverty where most people have inadequate food access (World Vision, 2009). The primary schools were ideal for this research because learners from primary schools are vulnerable and get hungry quickly due to their age and growth spurts. They need food frequently to cope with the hours of school work (AFOAKWA, 2010). Due to their vulnerability to hunger, almost all government primary schools had a SFP. The Lubombo region constitutes of people who speak different languages. English and siSwati are the national official languages. SiSwati is commonly spoken in this area (World Vision, 2009).

3.7 Population and sample

3.7.1 Population

In a total of 830 schools in the country, 594 were primary schools and 236 secondary/high schools resulting to a larger learner population from primary schools. In 2011, the Lubombo region had a total number of 178 schools. Of these schools, 123 were primary and 55 secondary/high schools. The study used only the primary schools to control of homogeneity (n=123).

3.7.2 Sample

Convenience sampling was used as a sampling technique so as to recruit schools which were within the researcher's reach in the southern part of the Lubombo region. The Lubombo Regional Education Office (REO) was asked for the names, locations and enrolment of the

schools in the region that were enrolled in the SFP. Thirty rural government primary schools were then conveniently sampled. Fifteen of these schools were from the HGSFP group and the other 15 were from the non-HGSFP group (with ordinary SFP). Schools were only selected if they had enrolled in the SFPs for at least a year, had at least 15 or more learners enrolled in the sixth grade and if the schools were willing to cooperate. School lists comprising the names of all learners enrolled in the sixth grade of the participating schools were collected at every sampled school. The sixth grades were included in the study provided each class had at least 15 learners. Grade 6 learners aged between ten and 18 years were selected for this study. This was based on the fact that they were able to read and write to provide the necessary information to the interviewer and they were available for almost the entire period of this study for making some follow-up when necessary. The total primary learner population was approximately n=450. In addition, participants of the study were 15 school principals, teachers (15 grade 6 class teachers, grade 6 teachers and teachers responsible for the SFPs), parents (the heads of the households) of the participating learners in each SFP group, and the group of farmers supplying the HGSFP group of schools with food products whose names were obtained from the school principals (refer to Table 3.1).

Table 3.1: Summary of the study sample

Sample unit	Participants
HGSFP (n=15)	School principals
	Teachers
	Parents
	Learners
	Farmers
Non- HGSFP (n=15)	School principals
	Teachers
	Parents
	Learners

3.8 Methodology

This study was conducted by the researcher, with the help of three research assistants who were from Swaziland, in 30 government primary schools in the Lubombo region, Swaziland. The data collection process took four weeks to complete in October 2012. Data were collected in the quantitative and qualitative domains. Interview schedules (both domains) were developed by the researcher based or guided by literature.

3.8.1 Quantitative domain

3.8.1.1 Data collection

Both primary and secondary data collection methods were used in the quantitative domain. The primary data collection method involved the use of structured interview schedules to gather the information from the school principals, the teachers, the heads of the households and the farmers (refer to Appendices A,B,C,D). The secondary data collection methods used in the study were school registers which were used to collect data on the school enrolment and the age of the learners; school stock books to gather information on the quantities of food products either received by the school from government/WFP or purchased from local farmers and/or supermarkets, and the school academic record books to obtain information on the learners' academic scores for the first and second term school examinations in October 2012. The structured interview schedules were used for collecting data on demographic information, perceptions and opinions about the two types of SFPs in the Lubombo region; HGSFP and non-HGSFP. The HGSFP group of schools had four different interview schedules used with the school principals, the heads of the households, the teachers and the farmers while the non-HGSFP group of schools had three interview schedules (for the school principals, the heads of the households and the teachers). The interview schedules used with school principals (Appendix A) consisted of five sections namely:

Section A - demographic characteristics

Section B - school enrolment, attendance and retention

Section C - source of food, health status and academic performance

Section D - food security

Section E – parents or community participation

The interview schedules for the teachers, the heads of the households and farmers had four sections in each. The examples of the interview schedules are included in Appendix B, C and D. Individual interviews were conducted with the school principals by the interviewer. The teachers were allowed to fill out the schedules on their own with the interviewer's help where necessary. The heads of the households and the farmers had a siSwati translated interview schedule for them to understand properly since a majority of them from this region were illiterate.

3.8.1.2 Data management

3.8.1.2.1 Data capturing

Qualitative data from the interview schedules obtained through open ended questions were captured using the following steps: The interview notes were read more than once to gain a clearer understanding on the responses in relation to the question asked and marking points relevant to the research objectives. Thereafter, relevant points were sorted, categorised and assigned codes. Finally all the data became quantitative and ready to be entered into the computer for analysis purposes (Srnka and Koeszegi, 2007).

3.8.1.2.2 Data analysis

The data collected through the quantitative methods were tabulated and statistically analysed with the assistance of a qualified statistician from the Medical Research Council. Computer software packages, MS Excel 2007 and SPSS 20 (Statistical Package for Social Science) programmes were used to process and analyse the data. Descriptive statistics were performed on all demographic variables. Percentages were computed for continuous variables while for categorical variables frequencies were calculated. The Fishers exact test for categorical variables, independent-samples t-test for continuous variables and Mann-Whitney U test were used to determine the significance of a difference between the two groups (HGSFP and non-HGSFP). All tests were carried out with a significance level of 0.05 ($p<0.05$) and a confidence interval of 95%.

3.8.1.3 Data presentation

Data were presented using graphical techniques such as histograms, pie charts and tables, depending on the nature of the data.

3.8.2 Qualitative domain

3.8.2.1 Data collection

3.8.2.1.1 Focus groups discussions (FGDs)

Four separate FGDs were conducted with a group of the heads of the households, the farmers, grade 6 learners and the teachers who were at every school sampled in the HGSFP group while in the non-HGSFP group, three separate FGDs in each school were conducted. Each group comprised of six to 12 members with an equal ratio of male to female to overcome gender biases. The researcher had a two-weeks training session where the three research assistants were taught how the FGDs work. The researcher (a moderator) used the focus group guides (Appendix E) to facilitate the discussions while the three research assistants ensured that note taking and voice recordings were properly done. The moderator introduced the topic, created an interactive atmosphere for the participants and guided the discussions (Harris, Gleason, Sheean, Boushey, Beto and Bruemer, 2009). The focus group moderator also ensured that all participants partook in the discussions and no participant led the discussion while giving each participant a chance to participate (Harris et al, 2009).

The FGDs were conducted either in school halls or community halls, especially if the community halls were close to the schools. In the absence of a school and community hall, the discussions were conducted under a tree which was within the school premises. The researcher and the research assistants ensured that the school and community hall or trees were convenient places and that the halls had adequate temperature and lighting to provide a comfortable sitting arrangement for the participants with minimal interferences. The FGDs consisted of general open-ended questions on the SFPs which sought detailed depictions of how the SFPs worked at the school level; how it was perceived within schools, households, and communities, and how it probably affected education, well-being as well as its sustainability within schools. Positive and negative features of the SFPs together with their impact on education, health and sustainability were recorded (Appendix E).

3.8.2.2 Data analysis

Data collected included the participants' responses and comments made from each focus group question. After the data collection process, transcription were made which included writing down

the group's views as they were said, using the tape recorded information as well as observing body language used during the interviews. All the answers from all focus group transcripts were read through looking for patterns and similarities. Answers were then grouped to key points and tally marks made for repeated answers. A summary of the responses for each focus group question was made considering frequency, specificity, and emotions of each response given (Harris et al, 2009). Thereafter few quotes were selected from the transcript to illustrate and provide insight for the summary. Conclusions were made based on the information collected.

3.8.2.3 Data presentation

Data were presented in a form of a summary paragraph with some ethnographical quotes used to support the presented data.

3.8.3 Quality control

Reliability and validity are vital concepts in all scientific investigations. Validity is the degree to which an instrument measures what it claims to measure (Gleason, Harris, Sheean, Boushey and Bruemmer, 2010). Validity (content and face) was established by using a panel of experts and a pilot test. This was done to determine if the interview schedules were measuring what they intended to measure, they represented the content, were appropriate for the sample or population and if they were comprehensive enough to collect all the information needed to address the aim and objectives of the study (Gleason et al, 2010). Three lecturers who taught nutrition courses and four doctoral students were asked to review the questionnaires to determine both face and content validity. This was done by going through the questionnaires, clarifying confusing and ambiguous questions, updating and/or deleting some questions where necessary. They also commented on the apparent validity of the questions and determined if the instrument looked like an interview schedule. The resulting interview schedules were reviewed until no further questions were changed (Feren, Torheim and Lillegaard, 2011). To enhance the reliability of the interview schedules used in the study, the researcher ensured that:

- The interviews were not conducted by the assistants, but by the researcher herself,
- All interviews were conducted in a consistent manner,
- A pilot study was conducted before the main research.

3.9 Pilot study

Pilot testing is a requirement for the accomplishment of research process. A pilot study is a small scale preliminary study conducted prior to the main investigation to check for feasibility and improving the research tool (Lawrence and Worsley, 2007). A pilot study was conducted using school principals, teachers, heads of households and farmers not included in the study groups. Ten sample schools for the pilot test were selected from the list of primary schools in the southern part within the Lubombo region. Test-retest reliability was done to determine the reliability of the interview schedules (Gleason et al, 2010). The interview schedules were said to be reliable when the instrument produced the same results when administered to the same participants under the same conditions (Gleason et al, 2010). The interview schedules were administered twice to a group of ten parents, farmers, school principals and teachers not included in the study thereafter. Results obtained were compared. Appropriate changes were made based on both the pilot test and expert opinions. Same results obtained meant the interview schedules were reliable.

3.10 Assumptions

3.10.1 All the participants provided honest answers to the researcher.

3.10.2 All the participants gave full cooperation during the data collection process by being open and sincere to the researcher.

3.10.3 All the participants were aware and understood what they were expected to do during the data collection process.

3.10.4 The participants did not respond to questions asked to please the researcher.

3.11 Limitations of the study

3.11.1 Teachers' action strike in Swaziland, which was in June 2012, delayed the data collection process. The school principals and staff members, therefore had limited time to share information to the researcher.

3.11.2 Reluctance of some school principals to share or confirm information that had been gained from other groups of participants.

3.11.3 Delay in the availability of the SFP policy in Swaziland was a major constraint in sourcing information regarding the school feeding in the country.

3.11.4 Limited resources available to conduct the study constrained the researcher to have a smaller population size.

3.12 Ethics approval

The research proposal was submitted to the Ethics Committee of the Faculty of Natural and Agricultural Sciences, University of Pretoria, and approval was granted (EC130110-102). Permission was also sought from the Ministry of Education in Swaziland through the Regional Education Officer (REO) (Appendix G) to conduct the study from the schools which were conveniently selected. Letters were sent to the principals of eligible schools outlining the research (Appendix H). A written informed consent was obtained from the school principals, teachers, heads of the households of the sampled learners and the farmers supplying the HGSFP group of schools with food products while the sampled learners were informed and verbally agreed to participate (Appendix F). All information obtained from the participants was treated as confidential.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter consists of the presentation and interpretation of the research findings. A cross sectional descriptive survey, using a comparative approach in the quantitative and qualitative domains was used to achieve the research objectives. The study group comprised of the school principals, teachers, heads of the households of the learners sampled, grade 6 learners of the schools that had been sampled and farmers who supplied food products to schools. The study used 30 schools which were conveniently sampled based on two types of SFPs in the Lubombo region: the HGSFP and the non-HGSFP for comparative purposes. The results in the quantitative domain includes the comparison of the two groups of SFPs (HGSFP and non-HGSFP) on the demographic characteristics of the participants; findings on the school enrolment, attendance and retention; health benefits; academic performances; food security; perception on the sustainability of the SFPs; poverty reduction potential of the SFPs and benefits associated with the two groups of SFPs. These findings were obtained through structured interview schedules, individual interviews with key informants, school registers, school stock books and academic record books. The results in the qualitative domain were obtained through the focus group discussions (FGDs) conducted with the heads of the households, the farmers, the grade six learners and the teachers for every school sampled on the mentioned aspects.

4.2 Results in the quantitative domain

4.2.1 Demographic characteristics

The school principals were asked about the age of their schools in October 2012. The majority of the school principals in the HGSFP and non-HGSFP groups (93.3%) indicated that their schools were more than 15 years old. The villages being served by the groups of schools in 2012 were also considered. Most of the school principals in the HGSFP and non-HGSFP groups (86.7% and 66.7% respectively) indicated that their schools were serving between one and five villages.

School principals

The demographic characteristics of the school principals by group are shown in Table 4.1. The majority of the school principals were males in both HGSFP and non-HGSFP groups (80% versus 60% respectively). A large number of the school principals had spent more than ten years in their current schools in both HGSFP and non-HGSFP groups (60% and 80% respectively). The same trend was observed with work experience of the school principals as the majority (46.7%: HGSFP versus 73.3%: non-HGSFP) had more than ten years work experience. No statistically significant differences between the groups were established on the mentioned variables. However, the school principals' responses indicated a statistically significant difference between the HGSFP and non-HGSFP groups on the position they occupied within the communities (p=0.05). All the school principals in the HGSFP had no position within the community as opposed to 26.7% of the school principals in the non-HGSFP who were serving in the community's chief council.

Table 4.1: Demographic characteristics of school principals by group (N=30)

	HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	p-value
Males	12 (80)	9 (60)	0.427
Period at current school: 1-5 years	4 (26.7)	3 (20)	0.365
6-10 years	2 (13.3)	0	
>10 years	9 (60)	12 (80)	
Work experience: 1-5 years	3 (20)	3 (20)	0.201
6-10 years	5 (33.3)	1 (6.7)	
>10 years	7 (46.7)	11 (73.3)	
Age of school: 6-10 years	0	1 (6.7)	1.000
11-15 years	1 (6.7)	0	
>15 years	14 (93.3)	14 (93.3)	
Position in community: Chief council	0	4 (26.7)	0.05*
No position	15 (100)	11 (73.3)	

Frequency (%)
*Statistically significant (p<0.05)

Teachers

Thirty grade 6 class teachers from the sampled schools were used in the study. The demographic characteristics of the teachers are shown in Table 4.2. A large number of the teachers in the HGSFP group (60%) were females versus 60% male teachers in the non-HGSFP group. The majority of the teachers had spent years ranging between one and five in their current schools in both the HGSFP and non-HGSFP groups (66.7% and 46.7% respectively). The teachers' responses also indicated that their work experience ranged between one and five years (60%: HGSFP versus 40%: non-HGSFP). No statistically significant differences were found between the groups.

Table 4.2: Demographic characteristics of Grade 6 teachers by group (N=30)

		HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	p-value
Males		6 (40)	9 (60)	0.466
Period at current school:	< 5 years	0	1 (6.7)	0.687
	1-5 years	10 (66.7)	7 (46.7)	
	6-10 years	2 (13.3)	4 (26.7)	
	>10 years	3 (20)	3 (20)	
Work experience:	< 5 years	0	1 (6.7)	0.686
	1-5 years	9 (60)	6 (40)	
	6-10 years	2 (13.3)	3 (20)	
	>10 years	4 (26.7)	5 (33.3)	

Frequency (%)
*Statistically significant ($p<0.05$)

The heads of the households

Table 4.3 shows the demographic characteristics of the heads of the households of the learners in the schools that had been sampled. The majority of the heads of the households in both the HGSFP and non-HGSFP groups (69.8% versus 72% respectively) were parents of the learners. More than 80% of them were females in both groups. The majority of the heads of the households in the HGSFP group (66.7%) and non-HGSFP group (60%) were married. The heads of the households in the HGSFP group had a mean age of 40 ± 10.6 years versus 40.13 ± 11.8 years in the non-HGSFP group. A greater number of the heads of the household in both the HGSFP and non-HGSFP groups had spent more than ten years in their communities (84.1%

versus 83.2% respectively); and were not occupying any position within the community (77% versus 78.4%). The mean household size was 8.1 ± 3 members in the HGSFP group versus 8.2 ± 3.5 members in the non-HGSFP group. No significant differences were detected on the mentioned variables. However, the heads of the households in the HGSFP and non-HGSFP groups differed significantly in their education level and employment status (p=0.001). The education level of the heads of the households in the HGSFP group was on the secondary level (45.2%), with a number in the skill training and tertiary training levels (11.2%) as opposed to the non-HGSFP group where the majority (48.8%) had a primary education level and 7.2% had skill training levels and tertiary training levels. About 67% of the heads of the households in the HGSFP group were unemployed as opposed to a larger unemployed population (77.6%) in the non-HGSFP group.

Table 4.3: Demographic characteristics of the heads of the households by group (N=251)

	HGSFP (n=126) (%)	Non-HGSFP (n=125) (%)	p-value
Relationship with child: Parent	88 (69.8)	90 (72)	0.469
Grand parent	19 (15.1)	17 (13.6)	
Relative	11(8.7)	6 (4.8)	
Sibling	8 (6.4)	12 (9.6)	
*Age (years)	40 ± 10.6	40.1 ± 11.8	0.746
Females	107 (84.9)	101 (80.8)	0.407
Period of residence: <5 years	1 (0.8)	0	0.856
1-5 years	10 (7.9)	13 (10.4)	
6-10 years	9 (7.1)	8 (6.4)	
> 10 years	106 (84.1)	104 (83.2)	
Position in community: Motivator	20 (15.9)	13 (10.4)	0.344
Police	5 (4)	5 (4)	
Chiefs council	4 (3.2)	6 (4.8)	
No position	97 (77)	98 (78.4)	
* Household size (members)	8.1 ± 3	8.2 ± 3.5	0.883
Marital status: Single	26 (20.6)	27 (21.6)	0.318
Married	84 (66.7)	75 (60)	
Widowed	14 (11.1)	21 (16.8)	
Divorced	2 (1.6)	2 (1.6)	
Education level: None	23 (18.3)	18 (14.4)	0.001*
Primary	32 (25.4)	61 (48.8)	
Secondary	57 (45.2)	37 (29.6)	
Skill training	7 (5.6)	8 (6.4)	
Tertiary	7 (5.6)	1 (0.8)	
Employment status: Employed	28 (22.2)	18 (14.4)	0.001*
Retired	3 (2.4)	3 (2.4)	
Unemployed (old)	7 (5.6)	16 (12.8)	
Unemployed (young)	77 (61.1)	81 (64.8)	
Self employed	11 (8.7)	7 (5.6)	

*Values are means ± standard deviations
Frequency (%)
*Statistically significant ($p<0.05$)

The heads of the households in the HGSFP and the non-HGSFP groups also differed significantly on their sources of earning a living ($p=0.002$). About 69.1% of the heads' of the households responses in the HGSFP group indicated that they earned a living through agriculture (crop production and livestock farming), with 30.9% who earned a living through wages and self employment. In the non-HGSFP group, the majority of the heads of the households (80%)

indicated that they earned a living through agriculture, whilst the 20% earned a living through wages and being self employed (Figure 4.1).

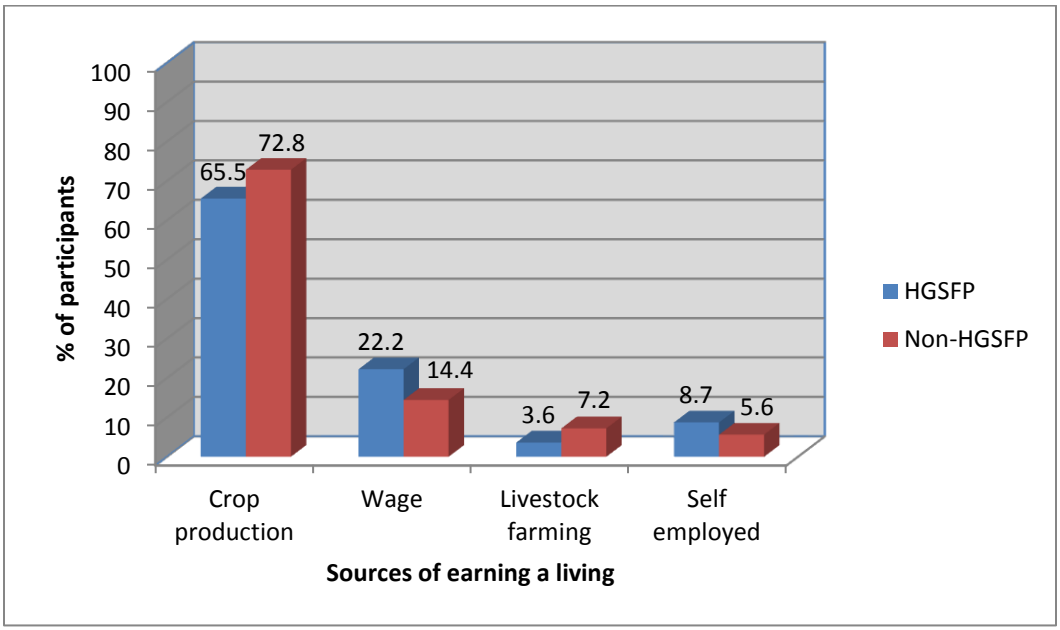


Figure 4.1: Responses of the heads of the households on their sources of earning a living in 2012 by group (N=251)

Farmers

Participants were only the farmers supplying schools with food products. The farmers' demographic characteristics are shown in Table 4.4 below. The farmers had a mean age of 48.6 ± 11.2 years and were mostly males (76.2%). The majority of the farmers (81%) were married with mean household size of 8.9 ± 4.3 members. About 90% of the farmers had spent more than ten years in their communities, with no position held within the community (85.7%). Most of the farmers (42.9%) had primary education and more than 70% earned a living through crop production and livestock farming.

Table 4.4: Demographic characteristics of farmers (N=21)

	HGSFP (%)
*Age (years)	48.6 ± 11.2
Males	16 (76.2)
Period of residence: 6-10 years	2 (9.5)
> 10 years	19 (90.5)
Position in community: Motivator	1 (4.8)
Police	1 (4.8)
Chiefs council	1 (4.8)
No position	18 (85.7)
*Household size (members)	8.9 ± 4.3
Marital status: Single	3 (14.3)
Married	17 (81)
Widowed	1 (4.8)
Education level: None	1 (4.8)
Primary	9 (42.9)
Secondary	3 (14.3)
Skill training	2 (9.5)
Tertiary	6 (28.6)

*Values are means ± standard deviation
Frequency (%)

4.2.2 Enrolment, attendance and retention

Enrolment

Each group of schools had enrolment records taken from the 1st grade to the 7th grade together with the overall school enrolment. The summary recordings made per grade and per group on enrolment in October 2012 are summarised in Table 4.5. The two groups did not differ significantly in their distribution on the enrolment. The age of the learners in the HGSFP group ranged between six years and 18.4 ± 1.5 years, while in the non-HGSFP group they ranged between 5.3 ± 0.3 years and 17.4 ± 2.4 years.

Table 4.5: Summary of enrolment recordings of schools in October 2012 by group (N=30)

Enrolment by Grade	HGSFP (n=15)	Non-HGSFP (n=15)	p-value
1	68.0 ± 27.3	62.9 ± 42.0	0.372
2	63.2 ± 31.0	61.6 ± 32.5	0.787
3	69.5 ± 35.3	64.6 ± 34.6	0.819
4	66.2 ± 29.4	62.7 ± 40.9	0.406
5	61.1 ± 25.3	61.1 ± 36.5	0.520
6	56.9 ± 26.1	54.9 ± 29.5	0.648
7	48.1 ± 26.1	39.8 ± 24.9	0.361
Total enrolment	432.9 ± 185.1	408.6 ± 227.3	0.442

Values are means and standard deviations

The school principals were asked about the enrolment trend in 2012 considering the past few years. The majority of the school principals in the HGSFP and non-HGSFP groups (53.3% versus 46.7%) noted an increase in the enrolment trend, while 40% of the school principals in both groups observed a decrease. A small number (6.7%: HGSFP versus 13.3%: non-HGSFP) indicated that the enrolment trend had not changed over the past few years (Figure 4.2). The majority of the school principals in the HGSFP and non-HGSFP groups (40% versus 28.5%) noticed the enrolment increase or decrease in 2009. The school principals were further asked for the reasons on the increase and decrease in the enrolment trend. The majority of the school principals in the HGSFP and non-HGSFP groups indicated that the increase in the enrolment was attributable to Free Primary Education (FPE) (83.3% versus 100%) and the SFP (66.7% versus 83.3% respectively). On the other hand, the majority of the school principals in the two groups indicated that the reasons for the decrease in school enrolment were the establishment of other new schools (50%: HGSFP) and the fact that the learners did not prioritise and value education (42.9%: non-HGSFP). Statistically, there were no significant differences between the groups in the enrolment changes.

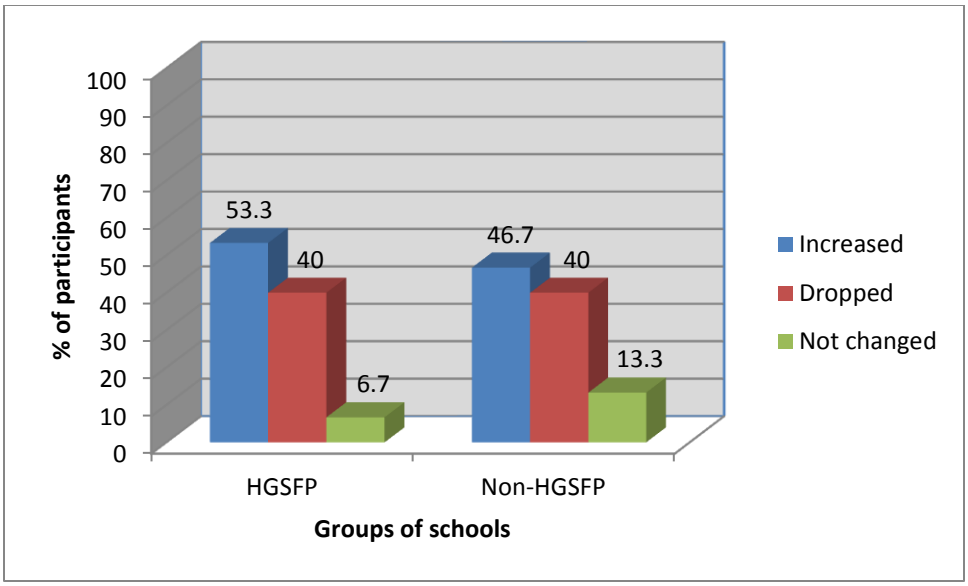


Figure 4.2: Responses of the school principals on the enrolment trend in 2012 by group (N=30)

Attendance

The study further sought information on the school attendance by groups in 2012. Based on the school principals' responses, the HGSFP and non-HGSFP groups differed on the school attendance (p=0.07). The majority of the school principals in the HGSFP group (86.6%) indicated to have good and excellent school attendance rates of learners as opposed to 66.6% in the non-HGSFP group (Figure 4.3). A small number of school principals in the HGSFP group (13.3%) indicated to have poor school attendance rates versus 33.4% of the school principals in the non-HGSFP group, who indicated the school attendance rates ranging between poor and very poor. Teachers' responses indicated a statistically significant difference between the HGSFP and the non-HGSFP groups on the school attendance (p=0.003). All the teachers in the HGSFP indicated to have good and excellent attendance rates of learners as opposed to 66.7% of teachers in the non-HGSFP, who indicated to have good school attendance rates, but with 33.3% who indicated poor attendance rates (Figure 4.4).

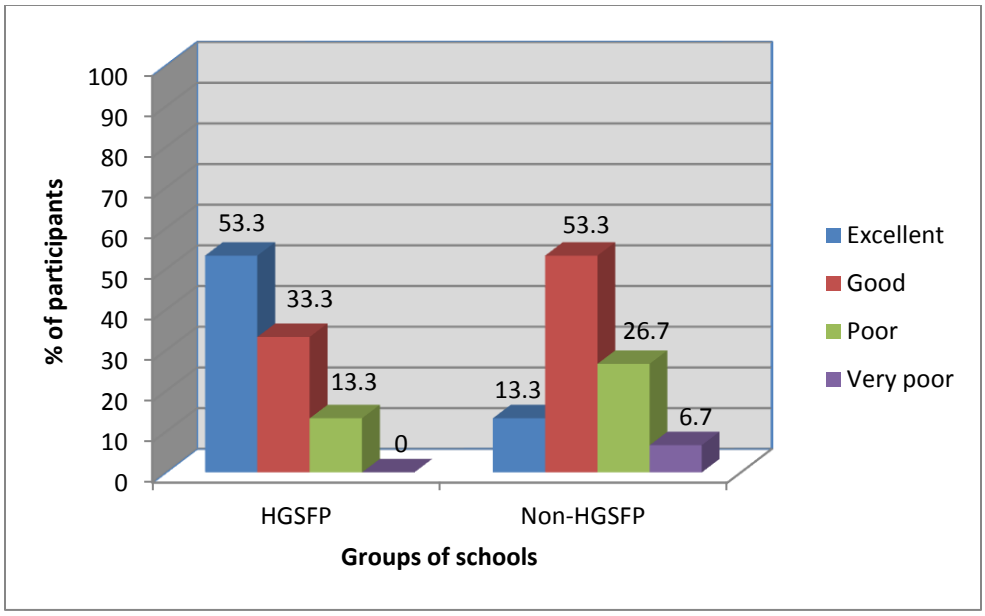


Figure 4.3: Responses of the school principals on school attendance in 2012 by group (N=30)

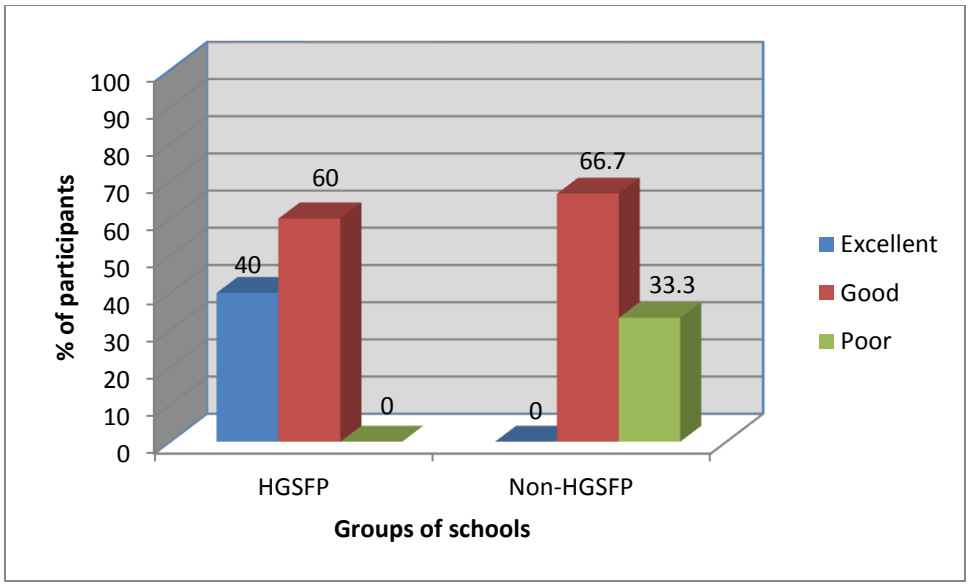


Figure 4.4: Responses of the teachers on school attendance in 2012 by group (N=30)

The school principals, teachers, heads of the households and farmers were asked if the SFPs had impact on attendance. The responses indicated that all the participants in both groups cited that the SFPs were very much associated with attendance. The majority of the school principals and teachers in both groups (60%) noted regular attendance as the major positive impact of the SFPs, while the minority in both groups (40%) on the other hand indicated that the SFPs promoted punctuality. However, the heads' of the households responses in the HGSFP and non-HGSFP groups differed significantly with respect to the SFPs' impact on attendance (p=0.002). The majority of the heads of the households in the HGSFP group (74.6%) indicated that the FP boosted regular attendance as opposed to 56% of the heads of the households in the non-HGSFP group (Figure 4.5). The majority of the farmers (75%) also indicated that the HGSFP enhanced regular attendance amongst learners.

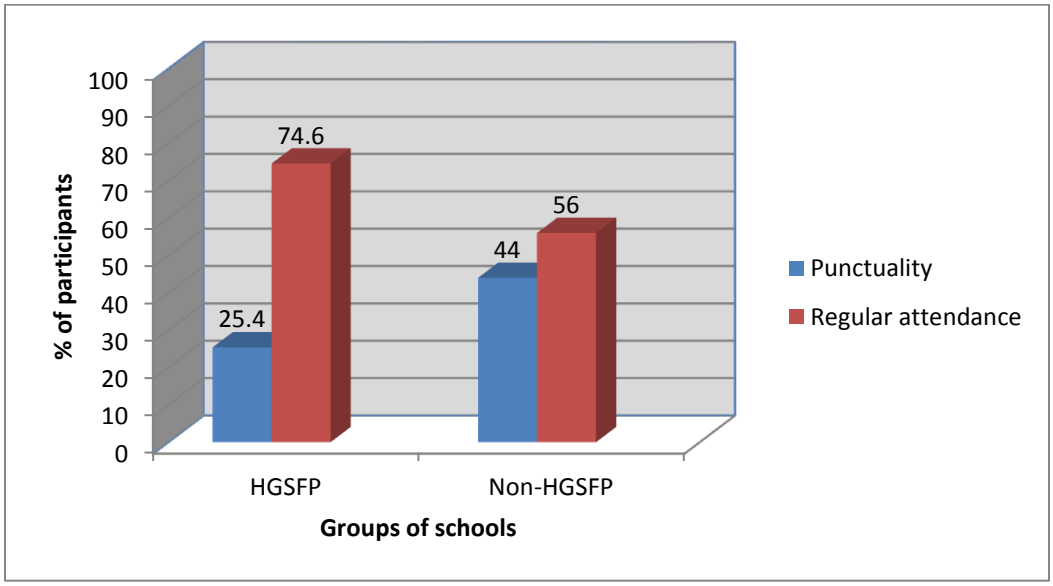


Figure 4.5: Responses of the heads of the households on the impact of the school feeding programmes on learners' attendance in 2012 by group (N=251)

Absenteeism

The school principals, teachers, heads of the households and farmers were asked if they had learners who were absenting themselves from school in 2012. All the mentioned participants agreed that some learners were absenting themselves from school. Based on the absenteeism records taken at the end of the first and second school terms, the school principals and teachers were further asked to rate the learners' absenteeism in their schools in 2012, considering the past few years. The majority of the school principals in the HGSFP group (60%) indicated that learners had low rates of absenteeism versus 66.7% of the school principals in the non-HGSFP group who rated learners' absenteeism to be average in their schools compared to a few years previously (Figure 4.6). The school principals' responses on the rates of learners' absenteeism did not differ significantly between the two groups.

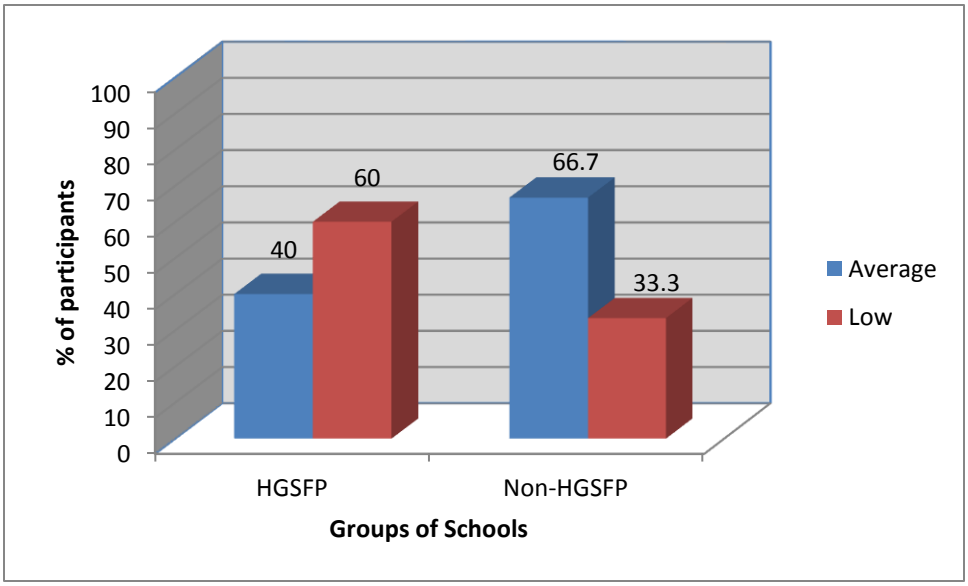


Figure 4.6: Responses of the school principals on the rate of learners' absenteeism in 2012 by group (N=30)

Teachers' responses, on the other hand, indicated the two groups to be significantly different with respect to the rate of learners' absenteeism in their schools in 2012 (p=0.03). The majority of the teachers in the HGSFP group (73.3%) indicated to have low rates of learners' absenteeism versus the majority of teachers in the non-HGSFP group (66.7%) who indicated to have average rates of learners' absenteeism compared to a few years previously (Figure 4.7). A follow-up

question on the reasons for learners' absenteeism was asked from the school principals and teachers. The majority of the school principals' and the teachers' responses (40%: HGSFP and 46.67%: non-HGSFP) cited illness as the major reason for learners' absenteeism in both groups.

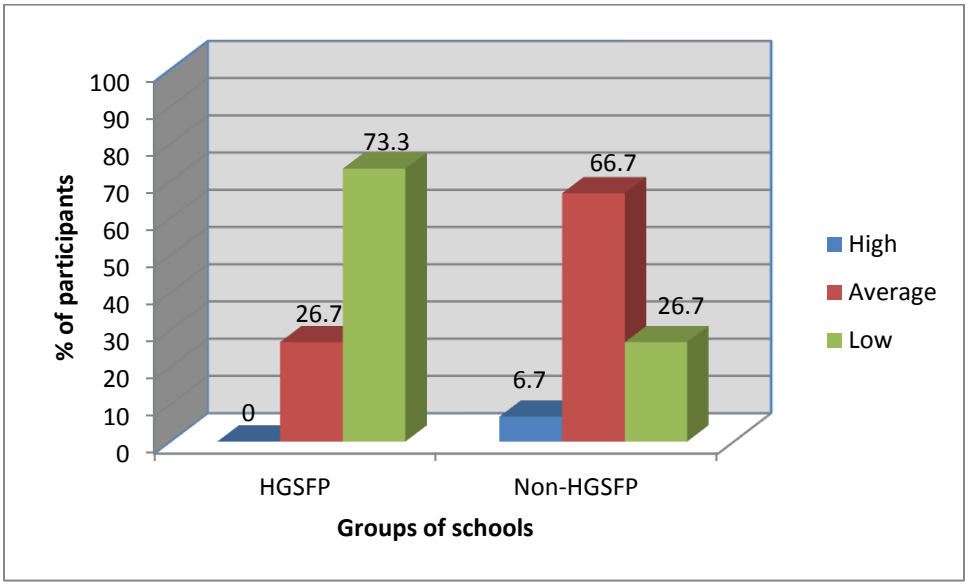


Figure 4.7: Responses of the teachers on the rate of learners' absenteeism in 2012 by group (N=30)

The heads' of the households responses on the rates of learners' absenteeism also showed a statistically significant difference between the groups as depicted in Figure 4.8. The majority of the heads of the households in the HGSFP group (68.3%) indicated that learners in their households did not absent themselves from school versus 52% of the heads of the households in the non-HGSFP group (p=0.01). The heads of the households in the HGSFP and non-HGSFP groups (52.5% versus 65% respectively) cited illness to be the major reason for the learners' absenteeism. Home chores were the second rated cause of learners' absenteeism which was mentioned by 26.7% of the heads of the households in both groups. No significant differences were shown between the groups on the causes of absenteeism.

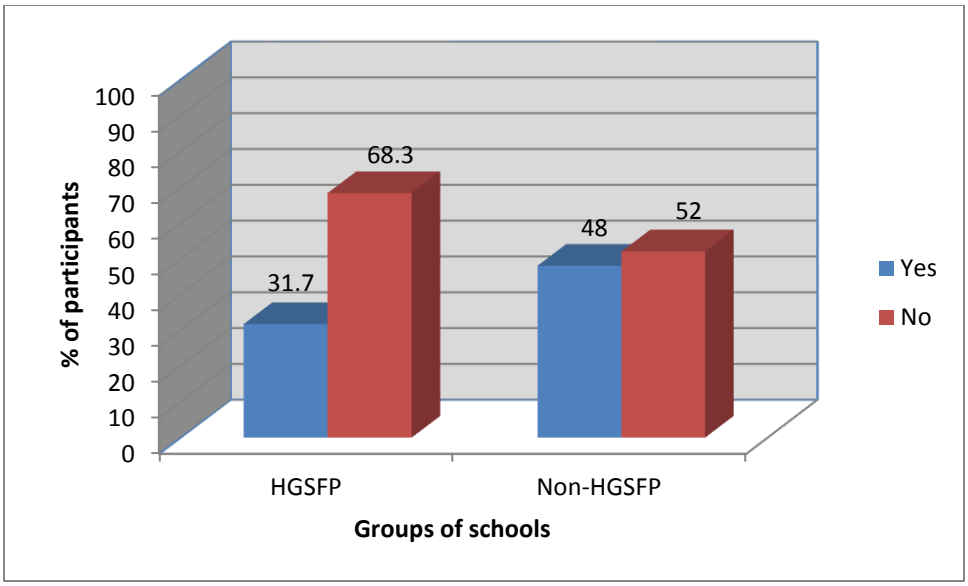


Figure 4.8: Responses of the heads of the households on the presence of learners being absent from school in 2012 by group (N=251)

Retention

The study further gained information on the learners' dropouts between the two groups of schools in 2012. The school principals, teachers, heads of the households and farmers were asked if they had learners who dropped out of school in 2012. The responses from the mentioned participants indicated that some learners dropped out of school. Dropout records taken at the end of the first and second school terms helped the school principals and teachers to rate the dropouts of the learners in 2012 when considering the past few years. The results from the school principals indicated that the HGSFP and the non-HGSFP groups differed with respect to learners' dropout rates in their schools (p=0.07). The majority of the school principals in the HGSFP group (73.3%) indicated that their schools had low rates of learners' dropouts as opposed to only 40% in the non-HGSFP group (Figure 4.9). The teachers' responses indicated that the two groups of schools did not differ on the learners' dropouts rates as the majority of the teachers in both groups (more than 73%) indicated that their classes had low dropout rates in 2012 when considering the past years.

More than 40% of the heads of the households' responses in both groups also indicated that they had learners who dropped out of school in their households. About 80% of the farmers indicated that they did not have learners who dropped out of school for the past few years. The results from the school principals, teachers and heads of the households in both groups indicated that lack of motivation and desire to learn was the major cause for learners' dropouts in both genders, followed by pregnancy in girls and lack of school fees in boys.

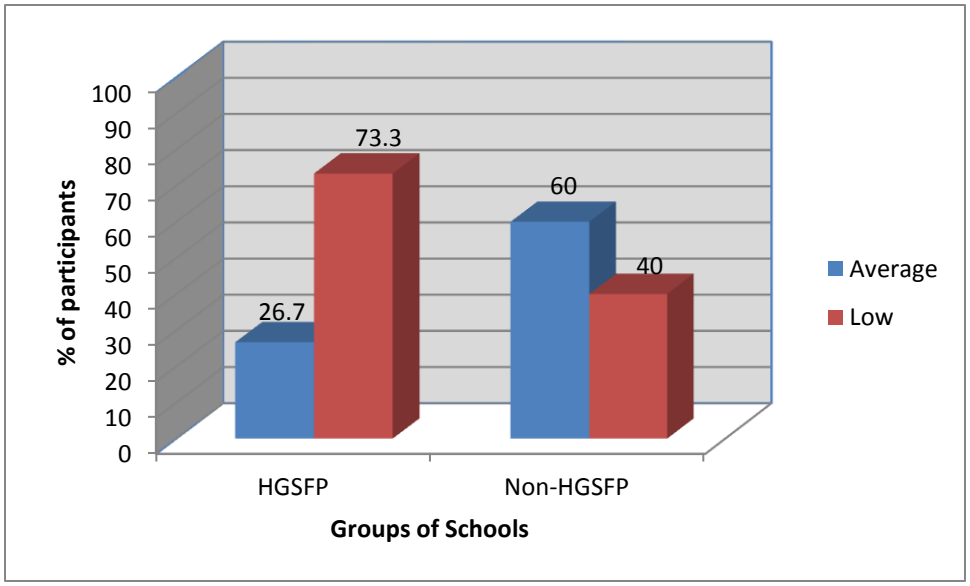


Figure 4.9: Responses of the school principals on the rate of learners' dropouts in their schools in 2012 by group (N=30)

4.2.3 Health benefits of the school feeding programmes

All the school principals, teachers, majority of the heads of the household in both groups (more than 95%) and farmers (57.1%) indicated that almost all the learners benefitted from the SFPs, even health-wise. The school principals in the HGSFP and the non-HGSFP groups differed marginally on why the learners were said to be benefitting health-wise (p=0.074). The majority of the school principals in the HGSFP group (53.3%) alluded to the point that learners looked physically better during school days than when back from school vacations as opposed to 33.3% of the school principals in the non-HGSFP group who mentioned a reduction in hunger related symptoms and no hunger related symptoms respectively from the learners (Figure 4.10).

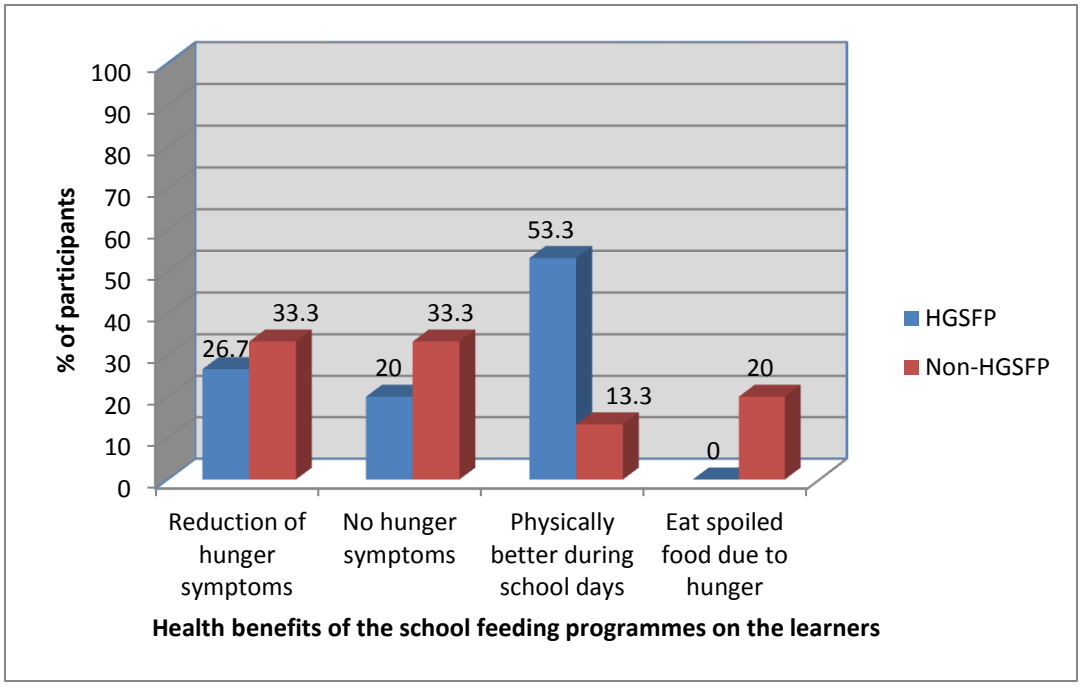


Figure 4.10: Responses of the school principals on the health benefits of the school feeding programmes on the learners in 2012 by group (N=30)

Teachers' responses showed a statistically significant difference between the groups on the health-wise benefits of the SFPs on the learners (p=0.007). In the HGSFP group, a greater proportion of teachers' responses (53.3%) indicated that there were no hunger related complaints amongst learners and 46.7% of the teachers' responses also agreed with the school principals' opinion that learners looked physically better during school days. On the other hand, in the non-HGSFP group, the teachers' responses (40%) mentioned the reduction of hunger related symptoms amongst the learners and only 13.3% of the teachers cited that the learners looked physically better during school days (Figure 4.11).

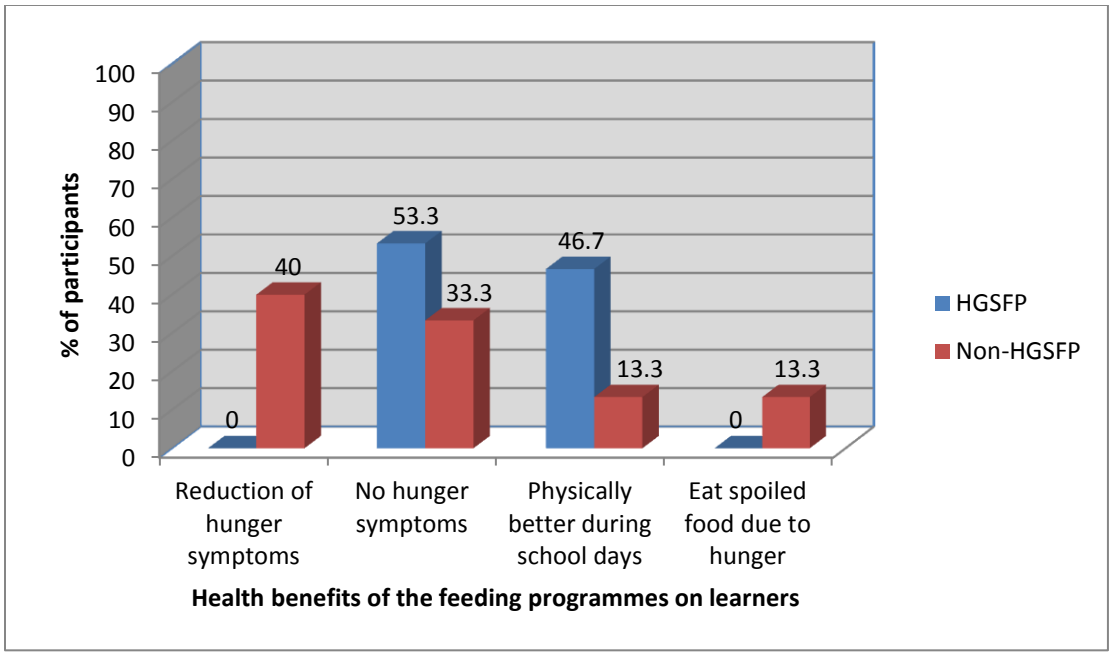


Figure 4.11: Responses of the teachers on the health benefits of the school feeding programmes on the learners in 2012 by group (N=30)

The heads' of the households responses also differed significantly on the health benefits of the SFPs on the learners (p=0.001). A greater proportion of the heads of the households in the HGSFP group (55.6%) also indicated that the learners looked physically more healthy during school days than when back from vacations. The majority of the heads of the households in the non-HGSFP group (37.6%), on the other hand, indicated a reduction in the hunger related complaints (Figure 4.12). The majority of the farmers (61.9%) indicated that there were no hunger related complaints amongst learners in their households.

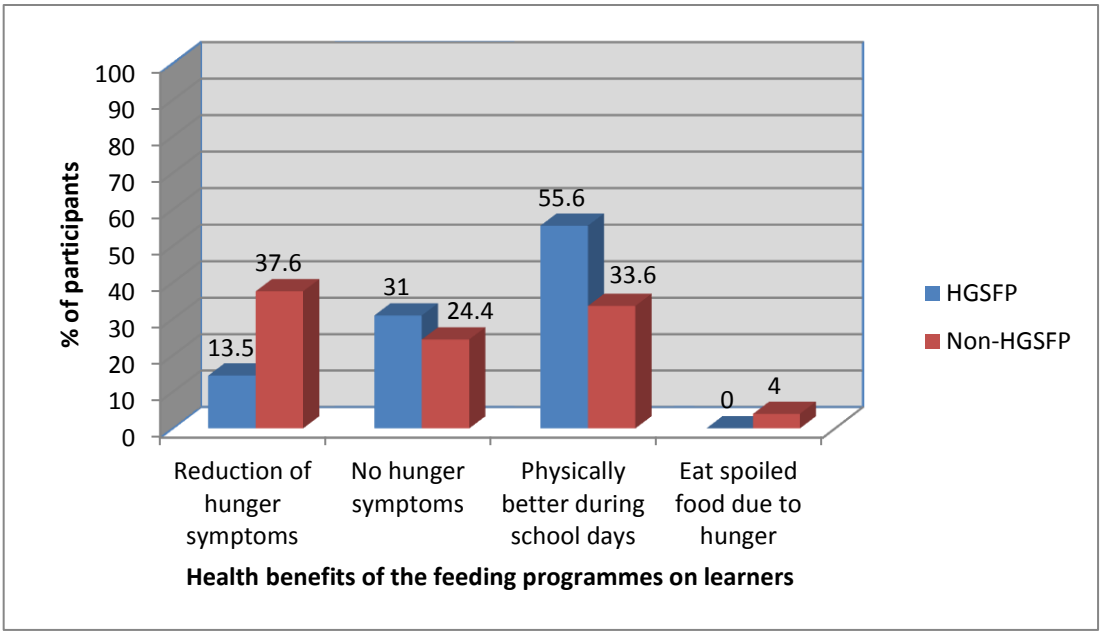


Figure 4.12: Responses of the heads of the households on the health benefits of the feeding programmes on the learners in 2012 by group (N=251)

The school principals, teachers, heads of the households were asked if they had observed any illnesses among the learners in 2012. The school principals' and teachers' responses indicated that the HGSFP and the non-HGSFP groups differed with respect to the presence of illness among the learners over a year period (p=0.06). A larger proportion of the school principals (73.3%) and teachers (80%) in the HGSFP group indicated that they did not experience any illness among their learners as opposed to 66.7% of the school principals, and 53.3% of the teachers in the non-HGSFP group, who experienced illnesses with their school learners (Figure 4.13 and Figure 4.14). The heads' of the households responses differed significantly on the presence of illness among the learners in their households between the two groups (p=0.001). The majority of the heads of the households in the HGSFP group (81.7%) indicated that the learners did not experience any illnesses over the year period, while 45.6% of the heads of the households in the non-HGSFP group experienced illness amongst learners in their households (Figure 4.15).

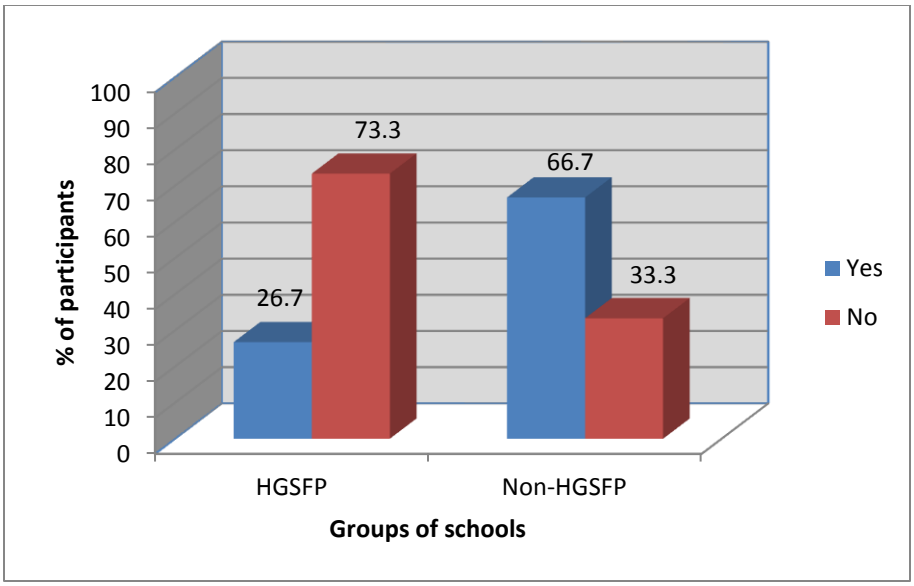


Figure 4.13: Responses of the school principals on the presence of illnesses among the learners in 2012 by group (N=30)

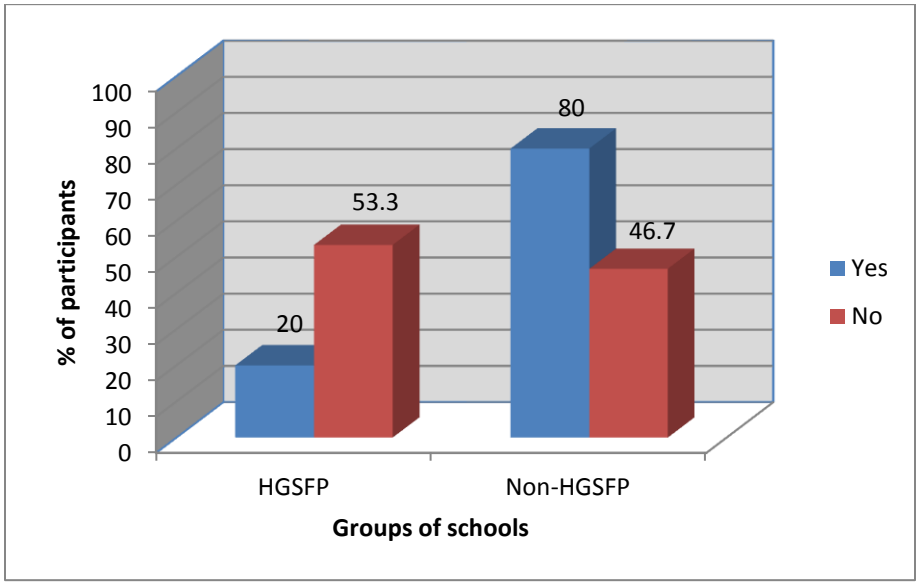


Figure 4.14: Responses of the teachers on the presence of illnesses among the learners in 2012 by group (N=30)

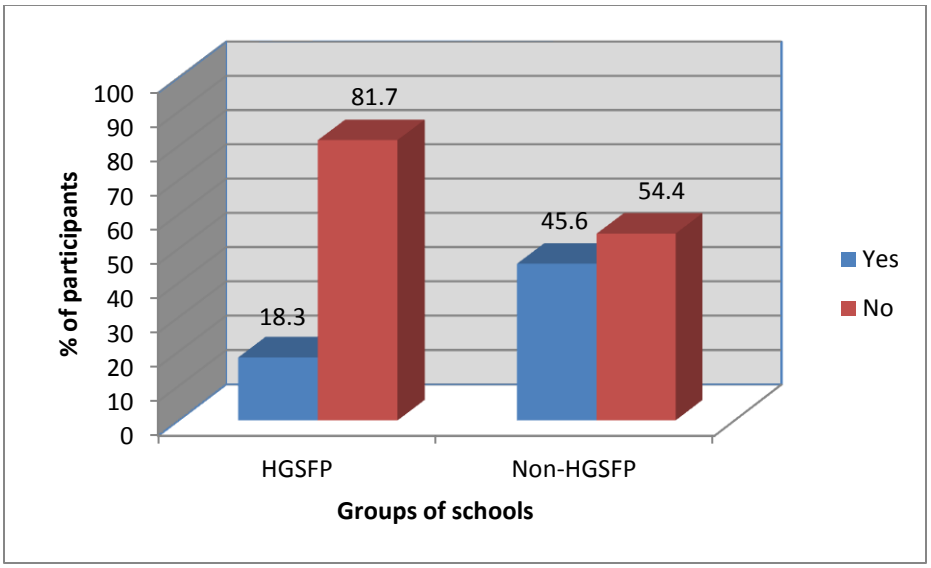


Figure 4.15: Responses of the heads of the households on the presence of illnesses among the learners in 2012 by group (N=251)

A question on the most common illnesses among the learners was asked to the school principals, teachers, heads of the households and farmers. The majority of school principals and teachers in the non-HGSFP group (more than 40%) mentioned that intestinal worm infestation was the most common illness among learners in their schools. The school principals and teachers further indicated that the intestinal worm infestation among the learners showed an increase in 2009 due to insufficient school-based deworming treatment and the poor quality of the food served on the FP. However, a statistically significant difference between the groups on the common illnesses was not established. The heads' of the households responses, on the other hand, differed significantly on the common illnesses between the two groups ($p=0.014$). The majority of the heads of the households in the non-HGSFP group cited stomach aches (34.5%) and intestinal worm infestation (24.1%) as the most common illnesses amongst the learners. In the HGSFP group, only 4.4% and 8.9% heads of the households cited intestinal worm infestation and headaches respectively as the most common illnesses amongst their learners. All the farmers indicated that the learners did not have any illnesses in their households over the year period.

A greater proportion of the school principals, teachers, heads of the households and farmers in both groups (more than 80%) indicated that the SFPs were essential to all learners with no significant differences observed between the two groups of schools. However, the school

principals' reasons on how the SFPs had helped differed significantly between groups (p=0.022). The school principals in the HGSFP group indicated that the FP helped the learners in hunger alleviation (53.3%) and meeting educational objectives (46.7%), while in the non-HGSFP group, the majority of the school principals indicated that the FP helped in hunger alleviation (80%) (Figure 4.16). The heads' of the households responses in the HGSFP and non-HGSFP groups also differed significantly on how the SFP had helped (p=0.012). The heads of the households in the HGSFP group indicated that the FP helped the learners in hunger alleviation (70.9%) and meeting educational objectives (29.1%), while in the non-HGSFP group, the majority of the heads of the households indicated that the FP helped in hunger alleviation (77%) and only 23% of the heads of the households indicated that the FP helped with meeting educational objectives (Figure 4.17).

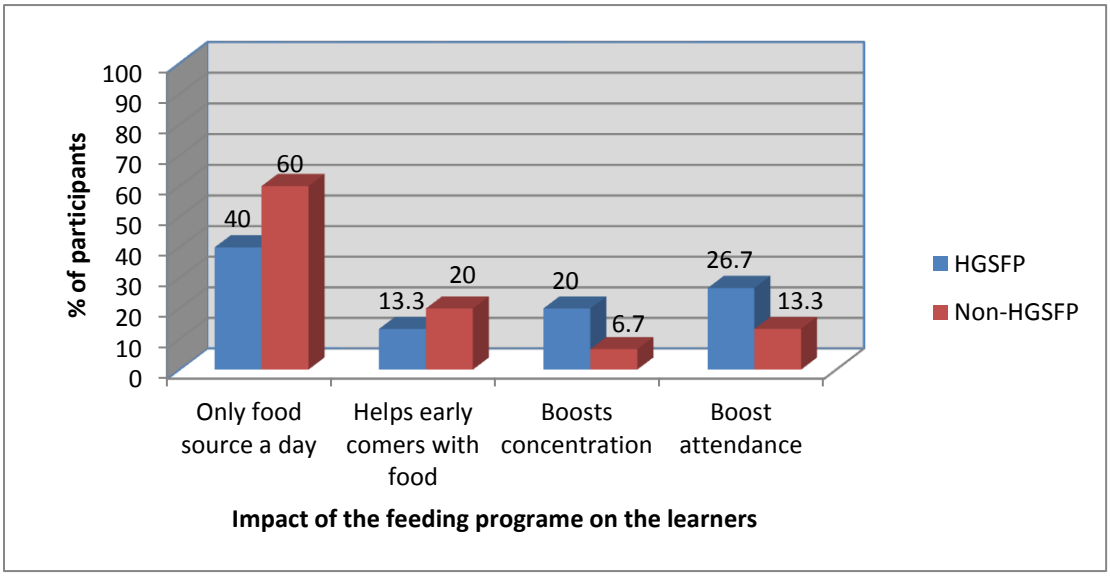


Figure 4.16: Responses of the school principals on the impact of the school feeding programmes on the learners in 2012 by group (N=30)

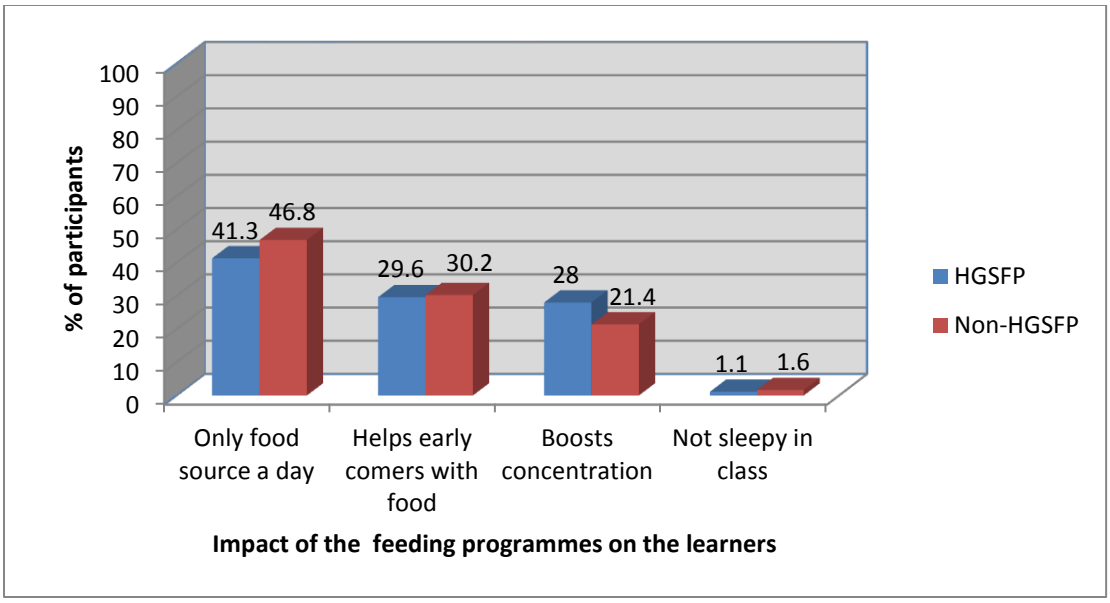


Figure 4.17: Responses of the heads of the households on the impact of the school feeding programmes on the learners in 2012 by group (N=251)

4.2.4 Academic performance

The school principals, teachers, heads of the households and farmers in both groups concurred that the SFPs had positive effects towards learners' performance in class. All the participants indicated that concentration of the learners in class was enhanced due to the SFPs in both groups (more than 33% of all the participants), followed by improved cognitive functions (more than 26% of school principals in both groups, teachers and farmers in the HGSFP group) and learners not feeling sleepy in class (more than 30% of heads of the households in both groups) (Table 4.6). Teacher-learner interaction and active participation of learners were cited as positive effects of the SFPs since pass rates increased.

Table 4.6: Impact of the school feeding programmes on different performances of learners in class by group (N=332)

	School principals		Teachers		Heads of the households		Farmers
Performance	**HGSFP (n=15) (%)**	**Non-HGSFP (n=15) (%)**	**HGSFP (n=15) (%)**	**Non-HGSFP (n=15) (%)**	**HGSFP (n=126) (%)**	**Non-HGSFP (n=125) (%)**	**HGSFP (n=21) (%)**
Learners not sleepy in class	20.0	26.7	13.3	6.7	31.6	30.4	19.0
Boosts concentration	33.3	33.3	46.7	46.7	41.3	39.2	33.3
Enhances teacher-learner cooperation	13.3	6.7	13.3	26.7	11.1	18.4	19.0
Cognitive improvement	33.3	33.3	26.7	20	15.9	12.0	28.5

Frequency (%)

However, the teachers' results on academic performance differed significantly between the two groups (Table 4.7). The teachers' responses in the HGSFP group had higher mean scores based on overall class performance as opposed to the non-HGSFP group. This was based on the highest, average and lowest recorded class performance score in the first and second school term examinations in 2012.

Table 4.7: Academic performance for the Grade 6 class in the first and second school term examinations in 2012 by group (N=30)

Class performance	**HGSFP (n=15)**	**Non-HGSFP (n=15)**	**p-value**
Highest score	78.2 ± 5.75	73.8 ± 7.41	0.022*
Average score	60.53 ± 3.54	54.0 ± 3.35	0.001*
Lowest score	40.0 ± 7.53	28.4 ± 4.7	0.003*

Values are means ± standard deviations
*Significantly different at $p<0.05$

4.2.5 Experiences on the school feeding programmes (two groups)

The study further sought information from the school principals on the two groups of SFPs. The school principals' responses indicated that the period of the SFPs in both HGSFP and non-HGSFP groups differed significantly (p=0.01). The majority of the school principals in the HGSFP group (53.3%) indicated that the duration of the FP ranged between one and five years as opposed to 73.3% of the school principals in the non-HGSFP group who indicated that the duration of the FP was ten years or more (refer to Figure 4.18).

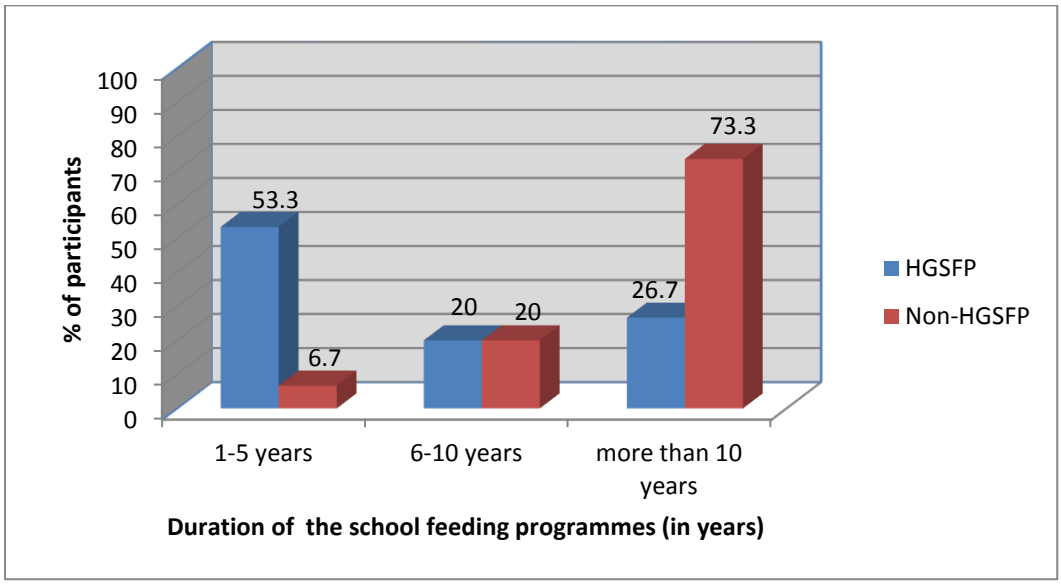


Figure 4.18: Responses of the school principals on the duration of the school feeding programmes in their schools in 2012 by group (N=30)

The school principals were further asked about the sources of food for the SFPs in their schools. The school principals' responses indicated that the primary sources of food for the SFPs did not differ significantly between the groups. The Government of Swaziland and WFP were the primary sources of food in both groups. However, the school principals' responses differed significantly between the groups with respect to the secondary sources of food in their schools (p=0.001). The school principals in the HGSFP group had local farmers as their secondary source as opposed to the non-HGSFP group that had supermarkets as their secondary food sources. The majority of the school principals in the non-HGSFP group (40%) cited that a lack of

cash receipts issued by farmers was a major barrier for not purchasing food products from local farmers.

About 66% of the school principals in the HGSFP group indicated that they had received food from the primary sources for ten years or less versus more than ten years by the majority of school principals in the non-HGSFP group (53.3%). However, no significant differences existed between the two groups on the duration of receiving food from the primary sources. The frequency of receiving food from the primary sources differed significantly between the groups (p=0.001). Only 33% of the school principals in the HGSFP group received food in all the three school terms versus 99.3% of the school principals in the non-HGSFP group who received food in all the three school terms (Figure 4.19).

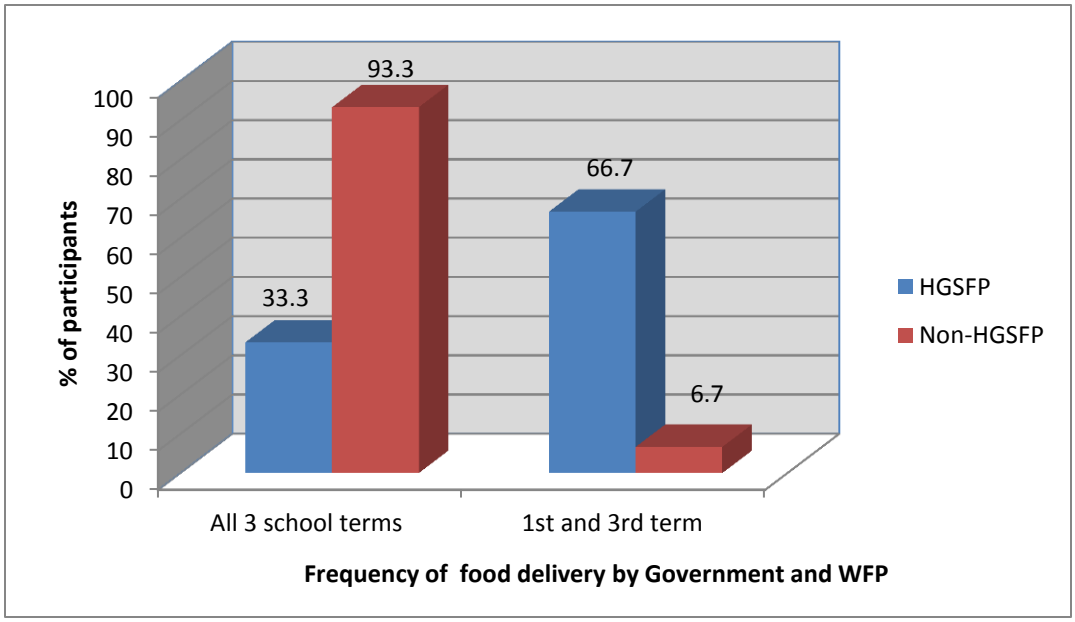


Figure 4.19: Responses of the school principals on the frequency of food delivery by Government and WFP (primary sources) in 2012 by group (N=30)

The food products, on average, delivered by the primary sources (Government and WFP) to schools by group in 2012 are shown in Table 4.8 below. The school principals' responses indicated that the primary sources delivered 50kg bags of maize, rice, beans and peas; 25kg bags of corn soya blend meal; and two 20 litres of sunflower cooking oil in their schools. The HGSFP group of schools received on average 23.7 ± 8.1 bags of maize, 18.8 ± 8.2 bags of rice, 16.8 ±

7.7 bags of beans, 2.2 ± 3.8 bags of peas, 30.7 ± 14.1 bags of corn soya blend meal and two 20 litres of sunflower cooking oil. The non-HGSFP group, on the other hand, received on average 20.2 ± 13.0 bags of maize, 17.4 ± 10.3 bags of rice, 13.6 ± 6.3 bags of beans, 2.5 ± 4.4 bags of peas, 24.5 ± 15.6 bags of corn soya blend meal and two 20 litres of sunflower cooking oil. There were no significant differences between the groups on the quantities of food products received from the primary sources.

Table 4.8: Food products delivered by the primary sources (Government and WFP) to schools in 2012 by group (N=30)

Food products	HGSFP (n=15)	Non-HGSFP (n=15)	p-value
Maize (50kg)	23.7 ± 8.1	20.2 ± 13.0	0.109
Rice (50kg)	18.8 ± 8.2	17.4 ± 10.3	0.343
Beans (50kg)	16.8 ± 7.7	13.6 ± 6.3	0.287
Peas (50kg)	2.2 ± 3.8	2.5 ± 4.4	0.810
Corn soya blend meal (25kg)	30.7 ± 14.1	24.5 ± 15.6	0.146
Cooking oil (2*20L) [n (%)]	8 (53.33)	9 (60)	0.364

Values are means ± standard deviations
Number (%)

All the school principals' responses in both groups indicated that the food products received from the primary sources did not last until the school year ended. They therefore had to purchase to compensate for the shortfall. Below (Table 4.9) is on average, the food products purchased by the schools by group. No significant differences were shown between the groups on the most often purchased food products except for meat where a statistically significant difference in the quantity of meat purchased was shown (p=0.035). The school principals in the HGSFP group had, on average 53.5kgs of meat purchased for the FP versus none for the non-HGSFP group. The HGSFP and non-HGSFP groups differed significantly on the frequency of purchasing food products for their schools (p=0.002). As shown in Figure 4.20, the school principals' responses indicated that the frequency in the HGSFP group shifted towards buying monthly (53.3%) and every school term (40%) as opposed to the non-HGSFP group where some schools shifted towards buying daily (33.3%), every school term (33.3%) and in the first and third school terms (26.7%).

Table 4.9: Food products purchased from the secondary sources (local farmers and supermarkets) in 2012 by group (N=30)

Food products	HGSFP (n=15)	Non-HGSFP (n=15)	p-value
Maize (50kg)	23.7 ± 17.0	20.2 ± 13.0	0.203
Beans (50kg)	10.5 ± 12.3	13.6 ± 6.3	0.389
Meat (kg)	53.5 ± 145.7	0	0.035*
Sour milk (20L)	20.0 ± 77. 5	0	0.317
Vegetables (10kg)	9.0 ± 18.1	4.4 ± 9.0	0.810

Values are means ± standard deviations
Number (%)
*Significantly different at p<0.05

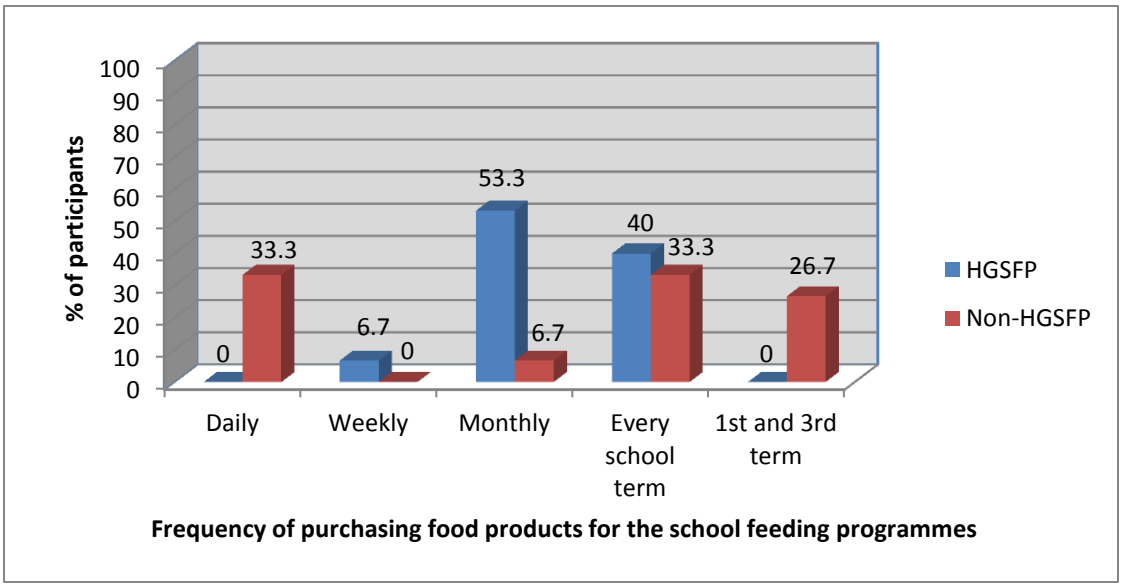


Figure 4.20: Responses of the school principals on the frequency of purchasing food products from local farmers and supermarkets (secondary sources) in 2012 by group (N=30)

The study also gathered information on school gardens used specifically for the FPs in the two groups of schools in 2012. The school principals' responses indicated that the HGSFP and non-HGSFP groups differed significantly on the presence of such school gardens (p=0.001). The school principals' responses in the HGSFP group (86.7%) indicated that they had school gardens used specifically for the FP as opposed to none in the non-HGSFP group (Figure 4.21).

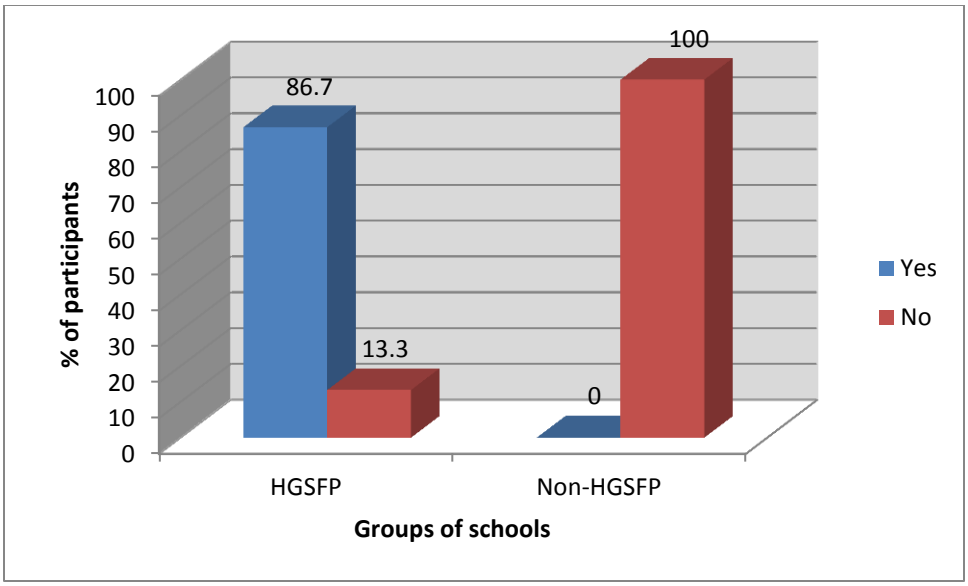


Figure 4.21: Responses of the school principals on the presence of school gardens specifically for the school feeding programmes in 2012 by group (N=30)

4.2.5.1 Management of the school feeding programmes in the schools

More than 85% of the school principals' responses indicated that both groups had individuals trained on nutrition who helped with the SFPs in their schools. The school principals in both HGSFP and non-HGSFP groups, 73.33% and 53.33% respectively, mentioned that most heads of the households were in support of the SFPs. About three quarters of heads of the households in both groups made financial contributions towards the SFPs. The school principals in the HGSFP and non-HGSFP groups indicated that the termly financial contribution paid per learner for the SFPs contributed a mean of E45.06 ($4.1) ± 12.28 and E47.60 ($4.3) ± 5.55 respectively in 2012. Statistically, no significant differences were shown between the groups on the heads' of the households support and contribution towards the SFPs. The school principals indicated that the teachers involved in the management of the SFPs differed between the two groups (p=0.08). The majority of the school principals' responses in HGSFP group (80%) indicated that their schools had staff members, ranging between two and five, who were involved in the management of the FP as opposed to 60% of the school principals' responses in the non-HGSFP group, who had staff members ranging between two and three involved in the management of the FP. More than 66.7% of the teachers in both schools indicated that their schools did not have a parents-teacher association which generally promoted community involvement in the schools.

4.2.5.2 Benefits, problems and suggestions for sustaining the school feeding programmes

The school principals, teachers, heads of the households and farmers were asked the benefits associated with the SFPs (Table 4.10). The school principals in the HGSFP and non-HGSFP groups indicated that the SFPs were providing learners with a meal a day (40% versus 53.3% respectively). About 33% of the school principals in both groups also mentioned that the SFPs improved educational objectives and health status of the learners. The groups did not differ significantly on the mentioned variables. However, the school principals' responses indicated a significant difference between the groups on the creation of job opportunities (p=0.001). About 20% of the school principals in the HGSFP group indicated that the FP created job opportunities for community members versus none in the non-HGSFP group. The majority of the teachers in the HGSFP and non-HGSFP groups (40%) stated that these SFPs provided learners with a meal a day and improved both educational objectives and health status of learners in their schools (33.3%: HGSFP versus 26.7%: non-HGSFP). The teachers' responses did not differ significantly between the groups on the benefits associated with the SFPs. The majority of the heads of the households in the HGSFP group (50.8%) and non-HGSFP group (40%) mentioned that the SFPs provided learners with a meal a day. No significant differences were established between the groups on the benefits of the SFPs. The majority of the farmers (52.4%) mentioned that the HGSFP provided learners with good quality, varied and fresh food produce for better health status.

Table 4.10: Benefits of the school feeding programmes in 2012 by group (N=332)

Benefits	School principals		Teachers		Heads of the households		Farmers
	HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	HGSFP (n=126) (%)	Non-HGSFP (n=125) (%)	HGSFP (n=21) (%)
Learners have a meal a day	40	53.3	40	40	50.8	40	33.3
Creates jobs	20	-	13.3	6.7	-	-	14.3
Educational and health benefits	33.3	33.3	33.3	26.7	16.7	28	-
Hinders theft due to hunger	-	6.7	-	13.3	6.3	5.4	-
Food is of good quality and fresh from the farm and is variety	6.7	-	13.3	-	-	-	52.4
Reduced household food consumption	-	-	-	13.3	15.9	12.8	-
Benefits child headed families	-	6.7	-	-	10.3	12.8	-

Frequency (%)

The school principals' responses in the HGSFP group (53.3%) versus 33.3% of school principals in the non-HGSFP group indicated that food supplied by the Government of Swaziland and/or WFP to schools was insufficient for the three school terms. The responses from the school principals in both groups further indicated that sometimes their schools received poor quality food from the government. There were no significant differences on the problems faced on the SFPs between the groups.

The study gathered information on the sustainability of the SFPs from the school principals, teachers and heads of the households. As shown in Table 4.11 below, the school principals' views in the HGSFP group mentioned that the FP could be better sustained if schools could buy

from local farmers as it is cost effective (20%); schools could have and use school gardens meant for SFPs to supplement their meals (20%); schools could have fields to plant crops for the FP (20%) and if community involvement and participation could be promoted (20%). The majority of the school principals in the non-HGSFP group suggested that the FP could be sustained if the Government of Swaziland could constantly supply schools with food for the FP (26.7%); the schools could have gardens used to supplement school meals (20%) and if the schools could plant their own crops in the school fields to supplement food received from the government (20%). The teachers in the HGSFP group also stated that the FP could be sustained if schools could plant their own crops for the FP (26.7%) and if the schools could buy from the local farmers for procuring fresh food products at reasonable prices (20%). The teachers in the non-HGSFP group mentioned that the FP could be sustained if the schools could plant their own crops for the programme (26.7%), the schools could have gardens used to supplement meals at the schools (20%), and if the government could regularly supply schools with food for the FP (20%). The heads' of the households responses in the HGSFP group (27.8%) and non-HGSFP groups (25.6%) stated that the SFPs could be sustained if schools could buy from local farmers and if the government could supply schools with food for the FPs regularly (23%: HGSFP versus 29.6%: non-HGSFP).

Table 4.11: Views on the sustainability of the school feeding programmes in 2012 by group (N=311)

Views	School principals		Teachers		Heads of the households	
	HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	HGSFP (n=15) (%)	Non-HGSFP (n=15) (%)	HGSFP (n=126) (%)	Non-HGSFP (n=125) (%)
Government should always supply schools with food	13.3	26.7	13.3	20	23	29.6
Schools should buy from local farmers	20	13.3	20	13.3	27.8	25.6
Schools should have and use school garden to supplement meals	20	20	13.3	20	11.9	12.8
Schools should plant their own crops	20	20	26.7	26.7	12.7	10.4
Constant follow-up on the SFPs by nutritionists	6.7	6.7	13.3	6.7	7.9	9.6
Community members should be involved in the SFPs	20	13.3	13.3	13.3	16.7	12

Frequency (%)

4.2.6 Farmers' perceptions on the sustainability of the home grown school feeding programme

About 76% of the farmers indicated that they were the ones responsible for the growing of crops with a minority (23.8%) who used family members and hired people to be responsible. All the farmers were producing either maize, beans, vegetables and rearing livestock for the HGSFP. When managing the HGSFP, the majority of the farmers (52.4%) used family members during crop production, while 47.6% hired community members. About 10% of the farmers did soil testing for maximum crop production. A larger percentage of the farmers (66.7%) also indicated that they financed the programme themselves with only a few (33.3%) who were financed by

agricultural financing institutions or cooperatives. All the farmers agreed that they were doing HGSFP monitoring and evaluation and experienced a positive impact. They indicated that as the crops grew, they did weekly or monthly farm visits depending on the age of the crops to monitor the crops and vegetables for easy and early detection of a problem. All the farmers also did programme evaluation. All the farmers indicated that they maintained constant communication with the schools. About 38% of the farmers paid personal visits to the schools, while 61.9% telephoned the schools before harvest time. All the farmers agreed that the HGSFP had led to individual empowerment within the community through hiring of community members. The farmers had different views on how the HGSFP could be sustained. The majority of the farmers (47.6%) mentioned that schools should buy from local farmers as it is cost effective; 33.3% pointed out that government should decentralise the FPs so that they become community owned rather than to be government's responsibility, and 19.1% mentioned that schools should plant their own crops for the programme' sustainability.

4.2.7 Poverty reduction potential of the school feeding programmes

The school principals, teachers, heads of the households and farmers were asked about the SFPs' contribution towards poverty reduction in their area in 2012. The school principals' responses indicated that the HGSFP and non-HGSFP groups differed significantly on the contribution of the SFPs towards poverty reduction ($p=0.001$). All the school principals in the HGSFP group indicated that the SFP had contributed to poverty reduction in the area versus 40% of the school principals in the non-HGSFP group who, also mentioned that the SFP had contributed to poverty reduction (Figure 4.22).

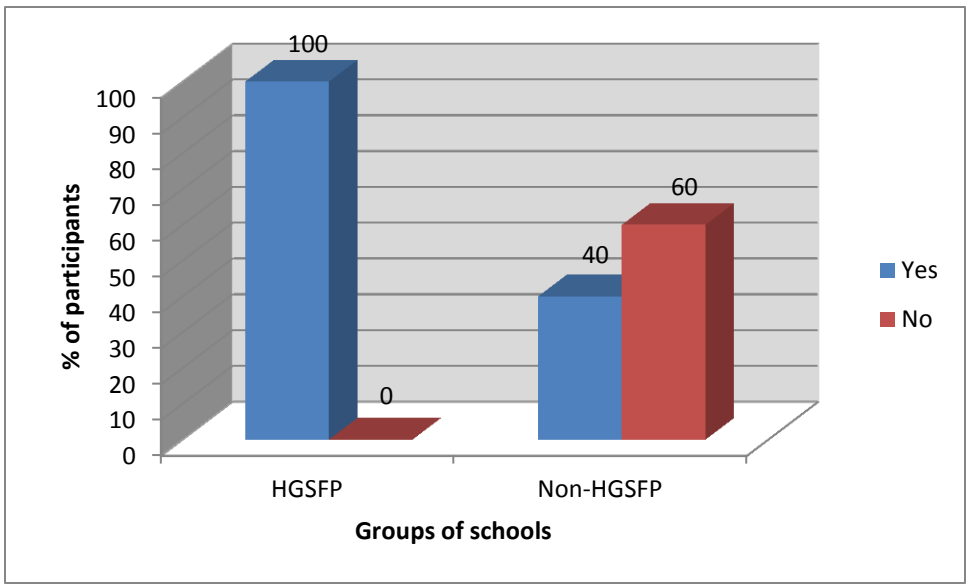


Figure 4.22: Responses of the school principals on poverty reduction potential of the SFPs in their area in 2012 by group (N=30)

Teachers' responses differed between the groups on the contribution of the SFPs on poverty reduction (p=0.07). About 60% of the teachers' responses in the HGSFP group also pointed out that the FP had contributed to poverty reduction versus only 26.7% of the teachers in the non-HGSFP group (Figure 4.23).

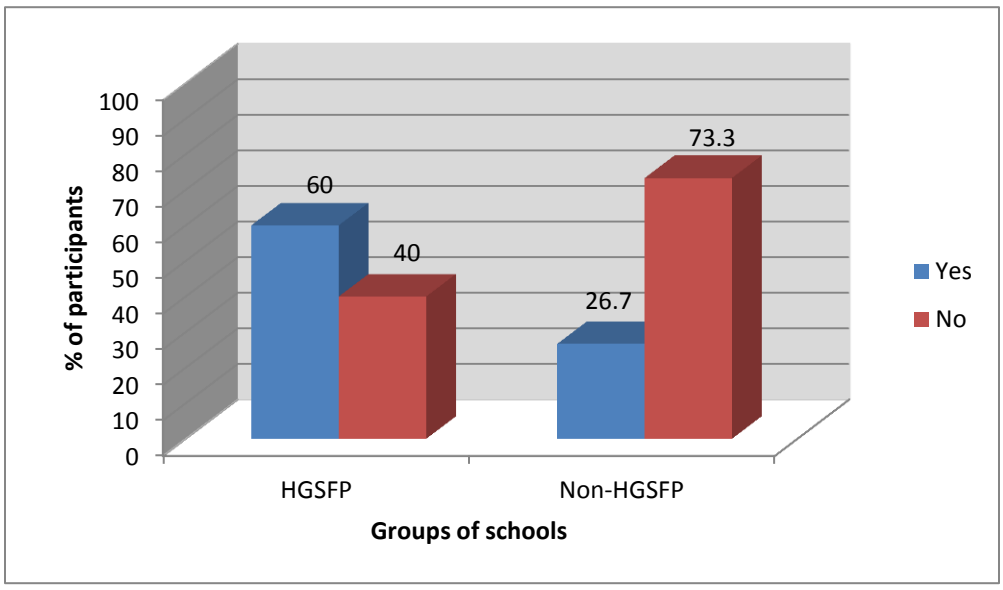


Figure 4.23: Responses of the teachers on poverty reduction potential of the SFPs in 2012 by group (N=30)

The heads' of the households responses indicated that the HGSFP and non-HGSFP groups differed significantly with respect to the contribution of the SFPs on poverty reduction (p=0.025). The majority of the heads' of the households responses in the HGSFP group (66.7%) indicated that the FP had contributed to poverty reduction in their area versus only 20% of the heads' of the households responses in the non-HGSFP who stated that the FP had contributed to poverty reduction (Figure 4.24). All the farmers indicated that the HGSFP had contributed to poverty reduction in their area.

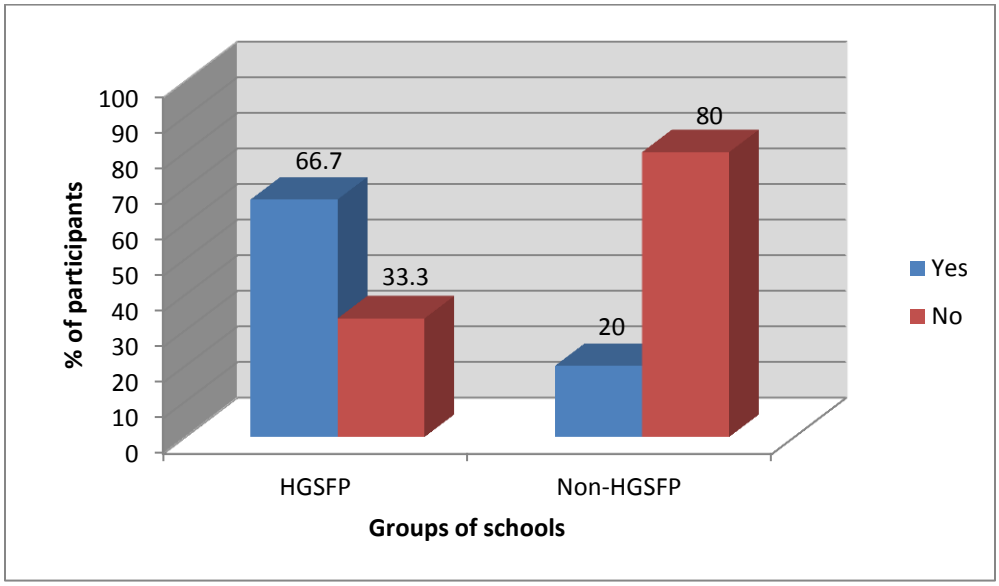


Figure 4.24: Responses of the heads of the households on poverty reduction potential of the school feeding programmes in their area in 2012 by group (N=30)

The school principals, teachers, heads of the households and farmers explained the SFPs' impact on poverty reduction in their areas in 2012. The school principals and the teachers' responses indicated that the impact of the SFPs in their area differed significantly between the groups (p=0.005). The majority of the school principals (33.3%) and teachers (46.7%) in the HGSFP group pointed out that job opportunities were created through the FP as opposed to the majority of the school principals (46.7%) and teachers (33.3%) in the non-HGSFP group who indicated that there was not much empowering of community members by the FP. The heads' of the households responses indicated that the impact of the SFPs on poverty reduction within their communities differed significantly between the groups (p=0.002). The majority of the heads of

the households in the HGSFP group (40.5%) mentioned that food consumption of the learners at their homes had been reduced versus 13.6% of the heads of the households in the non-HGSFP group. A number of the heads of the households in the non-HGSFP group (26.4%) mentioned that the FP promoted poverty as most heads of the households became more dependent on food aids (Table 4.12). More than 40% of farmers alluded to the point that the HGSFP had created job opportunities in their areas (Figure 4.25).

Table 4.12: Impact of the school feeding programmes on poverty reduction in 2012 by group (N=311)

	School principals		Teachers		Heads of the households	
Impact	**HGSFP (n=15) (%)**	**Non-HGSFP (n=15) (%)**	**HGSFP (n=15) (%)**	**Non-HGSFP (n=15) (%)**	**HGSFP (n=126) (%)**	**Non-HGSFP (n=125) (%)**
Provides food	26.7	33.3	26.7	6.7	21.4	33.6
Leads to education	13.3	0	13.3	0	17.5	0
Reduced household food consumption	26.7	6.7	6.7	6.7	40.5	13.6
Creates jobs	33.3	6.7	46.7	26.7	20.6	6.4
No empowering	0	46.7	26.7	33.3	0	20
Promotes poverty	0	6.7	0	6.7	0	26.4

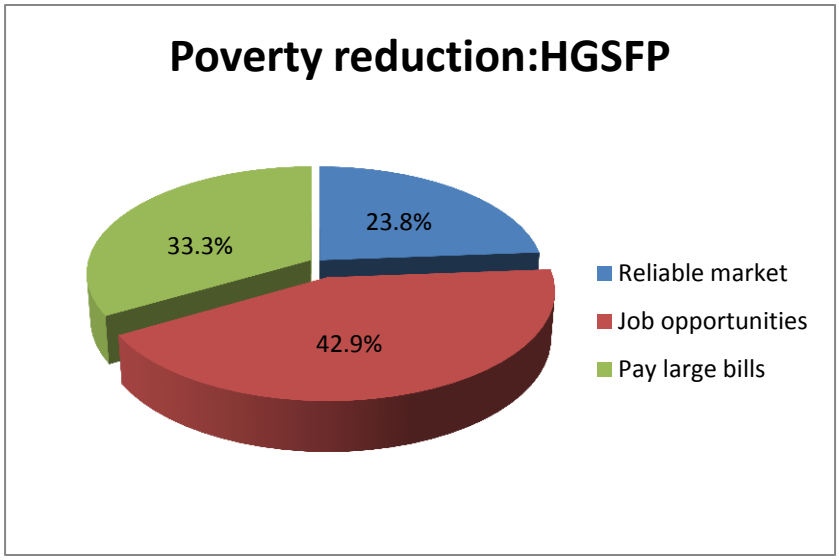


Figure 4.25: Responses of the farmers on the impact of the HGSFP on poverty reduction in their area in 2012 (N=21)

4.2.8 Food security

The study further sought information on food security levels of the schools and the households in 2012. The responses from the school principals indicated that the HGSFP and the non-HGSFP groups differed significantly on their perception in respect to food security levels in their schools (p=0.006). The majority of the school principals in the HGSFP group (60%) indicated that their schools were food secured as opposed to 53.3% of school principals in the non-HGSFP group, who stated that their schools were slighty food secured, but with a number of school principals (33.4%) who indicated their schools being moderately food insecured (Figure 4.26). The heads' of the households responses, on the other hand did not differ significantly between the HGSFP and non-HGSFP groups as the majority (50.8 versus 44% respectively) perceived their households to be slightly food secured (Figure 4.27). More than 95% of the farmers indicated that they had adequate food access.

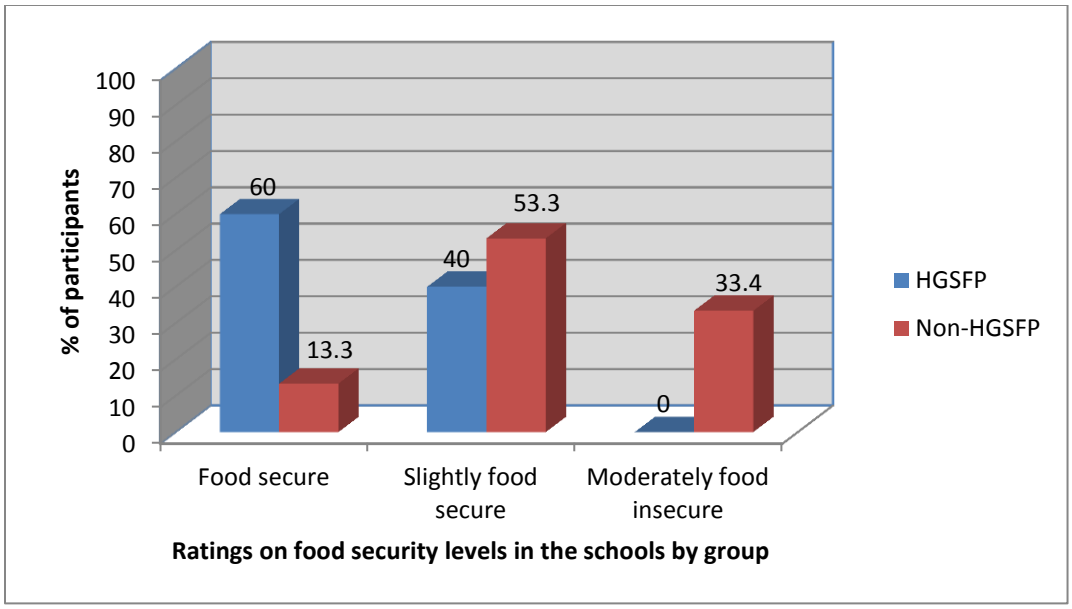


Figure 4.26: Responses of the school principals on food security levels in their schools in 2012 by group (N=30)

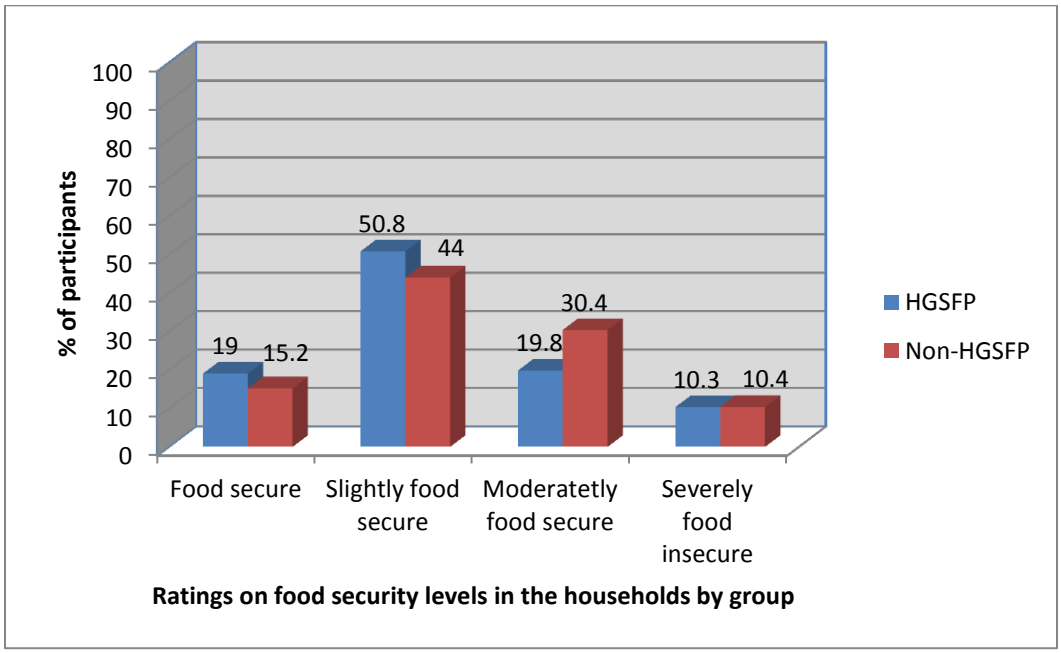


Figure 4.27: Responses of the heads' of the households on food security levels in their households in 2012 by group (N=251)

The school principals, heads of the households and the farmers were further asked whether they had months when insufficient food was available in their schools or households in 2012. The school principals' responses indicated that there were differences between the HGSFP and the non-HGSFP groups on the months when insufficient food was available in their schools for the learners (p=0.066). Only 33.3% of the school principals in the HGSFP group reported that their schools had three months or less with insufficient food for the learners as opposed to 53.3% of the school principals in the non-HGSFP group who had four months or more with insufficient food for their learners (Figure 4.28). The responses from the heads of the households did not show any significant difference between the two groups on the number of months with inadequate food access. About 90% of the farmers indicated that selling their products to schools had improved their food security.

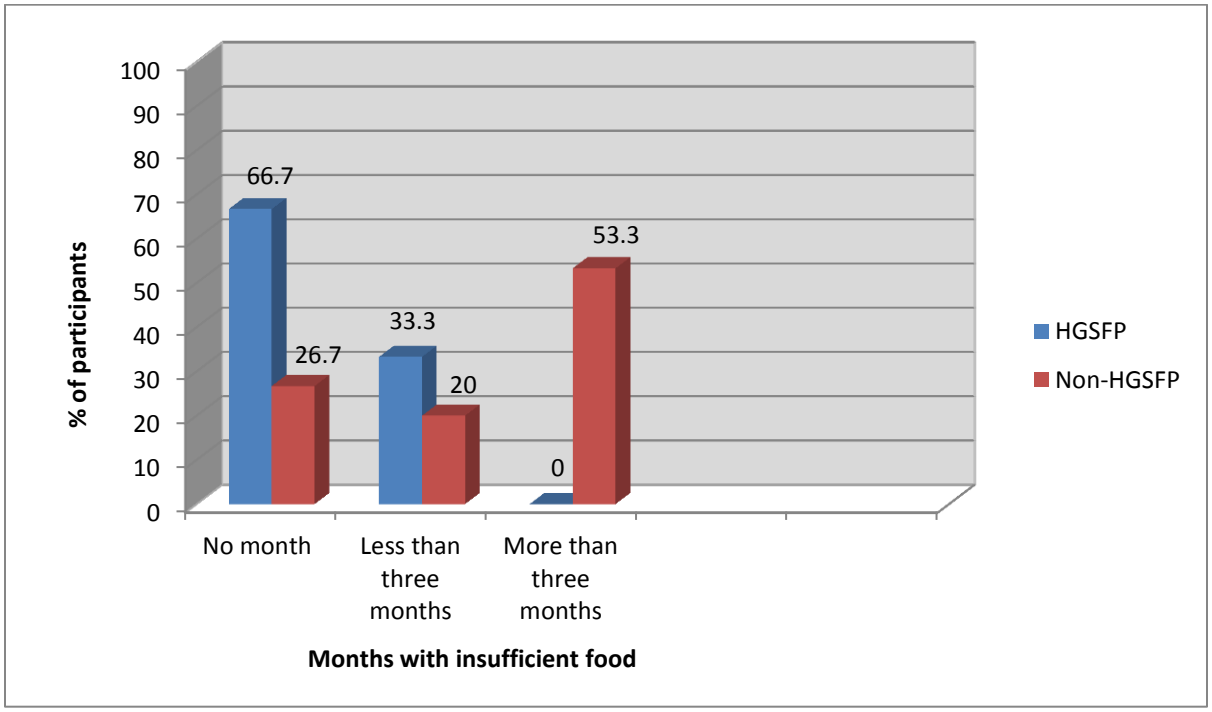


Figure 4.28: Responses of the school principals on the presence of months with insufficient food for learners in their schools in 2012 by group (N=30)

The food security levels in the HGSFP and non-HGSFP schools were further demonstrated by the frequency of serving meals in their schools. The responses from the school principals indicated that the HGSFP and the non-HGSFP groups differed significantly on the frequency of serving meals in their schools (p=0.025). The majority of the school principals in the HGSFP group (66.7%) had school meals served twice a day as opposed to the majority of school principals in the non-HGSFP group (80%) who served school meals once a day (Figure 4.29).

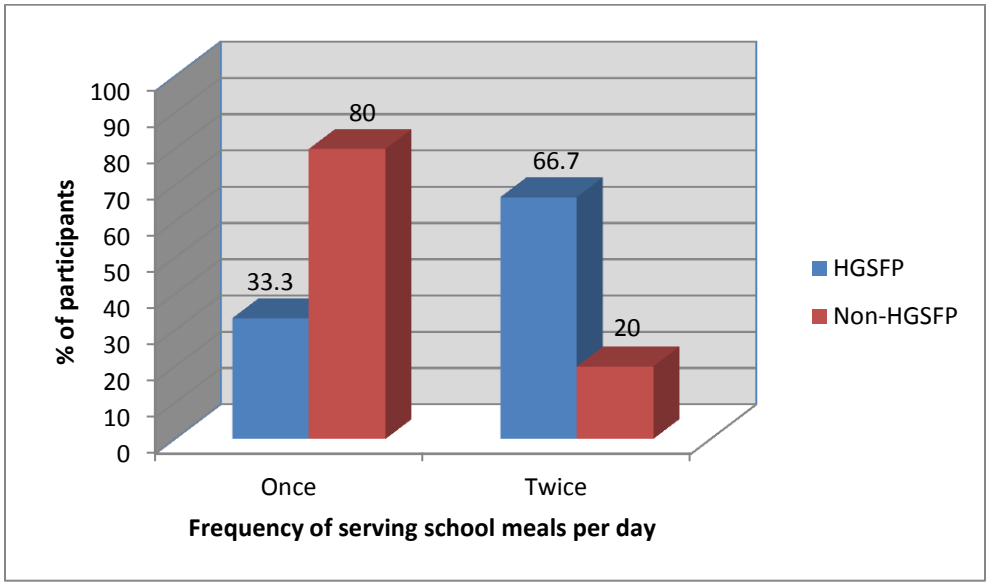


Figure 4.29: Responses of the school principals on the frequency of serving school meals per day in 2012 by group (N=30)

The school principals' responses indicated that the times at which the school meals were served differed significantly between the groups (p=0.019). The school principals in the HGSFP group (66.7%) indicated that they had the first meal served in the morning hours between 6.00am and 7.30am as opposed to 80% of the school principals in the non-HGSFP group who had the first meal served between 10.00am and 12.00pm. A statistically significant difference was evident on the type of foods served, especially in the first meal (p=0.045). The majority of the school principals' responses in the HGSFP group (46.7%) indicated that the learners had a corn soya blend thin porridge served as a first meal versus 80% of the school principals in the non-HGSFP group who mentioned that learners had samp/rice/porridge and beans as their first meal (Figure

4.30). It is worth noting that a number of the school principals in the HGSFP group (20%) indicated that besides serving samp/rice/porridge and beans for the FP, samp/rice/porridge and meat, and sour milk were also served as a second meal. Quantities served did not differ significantly between the groups.

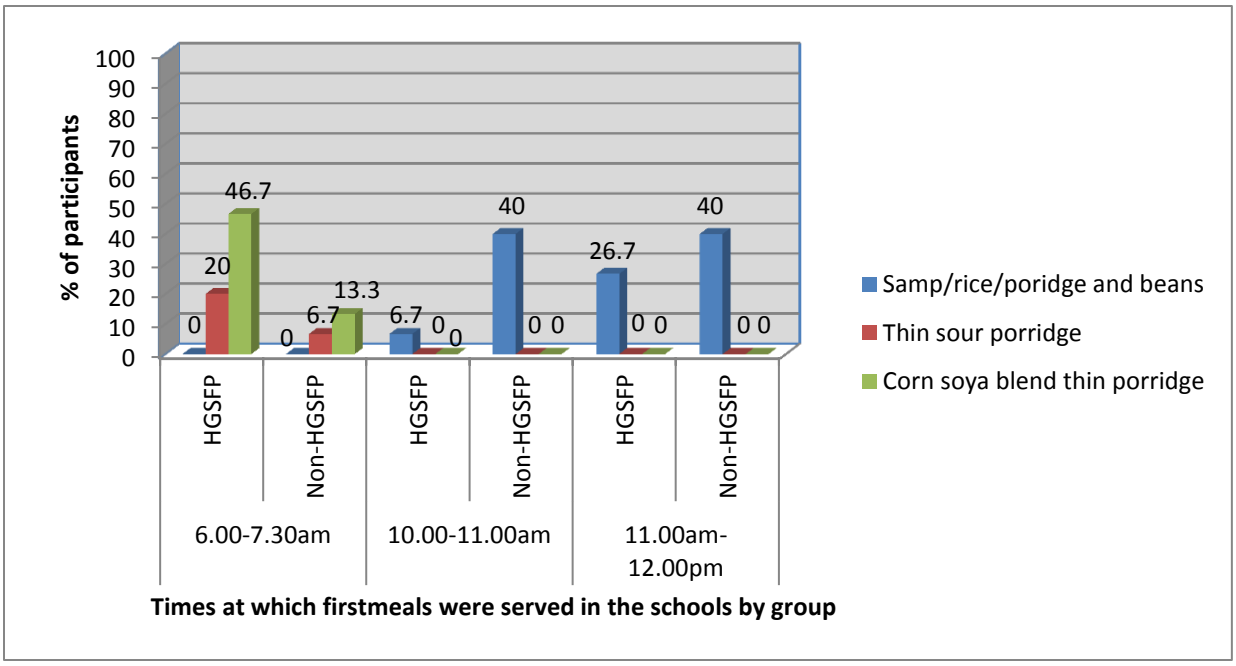


Figure 4.30: Responses of the school principals on the times and the meals served as first meals in their schools in 2012 by group (N=30)

More than 60% of the school principals in both groups reported that the mentioned times were chosen as most learners had insufficient food at their homes and also because they were leaving home early for school. However, the responses from the school principals indicated that the HGSFP and the non-HGSFP groups differed marginally in respect to the school menu management (p=0.061). The school principals in the HGSFP group indicated that their school menu was managed through the ministry of education's workshops contribution (40%), the SFP committee (33.3%) and the parents' involvement (26.7%). The responses from the school principals in the non-HGSFP group indicated that their school menu management involved the ministry of education's workshops contribution (53.3%), the SFP committee (26.7%) and the school cooks (20%) (Figure 4.31).

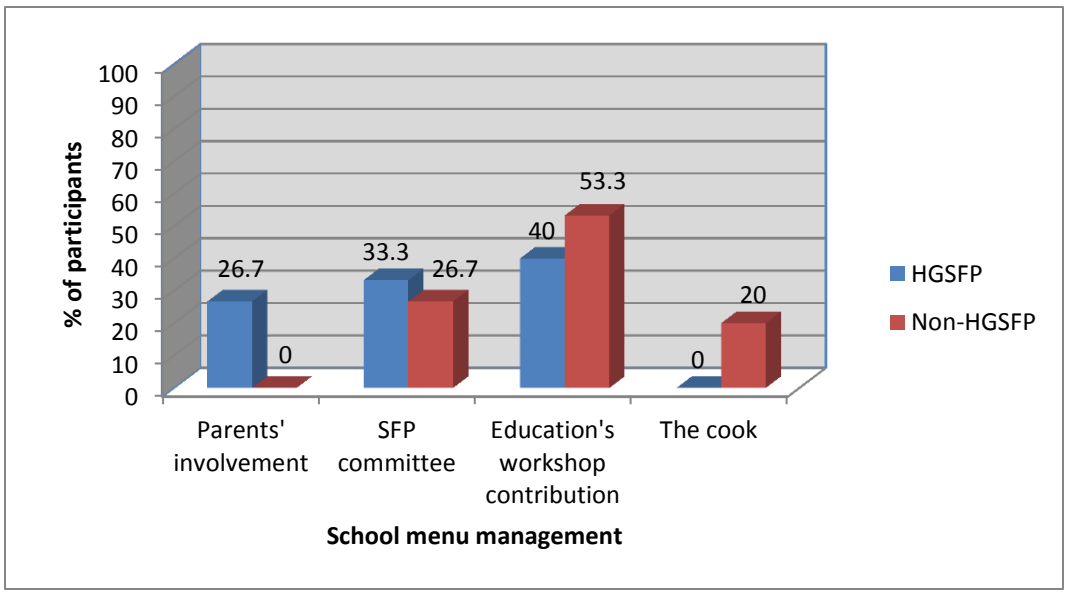


Figure 4.31: Responses of the school principals on the school menu management in 2012 by group (N=30)

The school principals were asked about the economic conditions of their schools while heads of the households and farmers were asked about the economic conditions of their households in 2012 compared to the year before. The responses from the school principals indicated that the HGSFP and the non-HGSFP groups differed significantly on the economic conditions of their schools in 2012 compared to the year before (p=0.016). The school principals' responses in the HGSFP group (73.3%) ranged between a better and a much better economic condition of their schools in 2012. The majority of the school principals in the non-HGSFP group (53.3%) had a better economic condition, but with a number of school principals (33%) who indicated that their schools were ranging between the worse and much worse category in 2012 compared to the year before (Figure 4.32). The heads' of the households responses on the economic condition did not differ significantly between the two groups as the majority of responses (49.21%: HGSFP versus 42.24%: non-HGSFP) were ranging between the better and much better economic conditions of their households in 2012 compared to the previous year (2011). Almost all farmers' responses (95.24%) indicated that their households had a much better economic condition in 2012 compared to the year before.

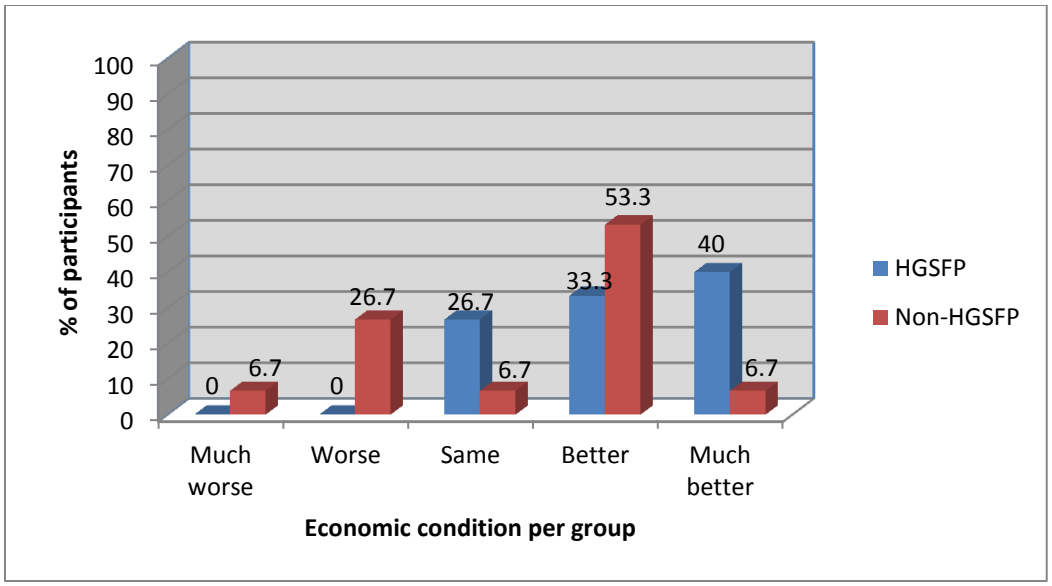


Figure 4.32: Responses of the school principals on the economic conditions of their schools in 2012 compared to the previous year by group (N=30)

The school principals, heads of the households and farmers were asked on their views about the importance of a food aid in their schools or households. Generally, food aid can be defined as the food handouts sourced from international agencies or donors in support of food assistance programmes, whereas the SFP is the provision of food or an intervention programme to address hunger and underfeeding in school going children. The school principals' responses indicated that the HGSFP and non-HGSFP groups had statistically significant differences on their views on the importance of food aid in their schools ($p=0.014$). Only 46.7% of the school principals in the HGSFP group indicated that food aid was very important to their schools versus 93.3% of the school principals in the non-HGSFP group who indicated that food aid was very important to their schools (Figure 4.33).

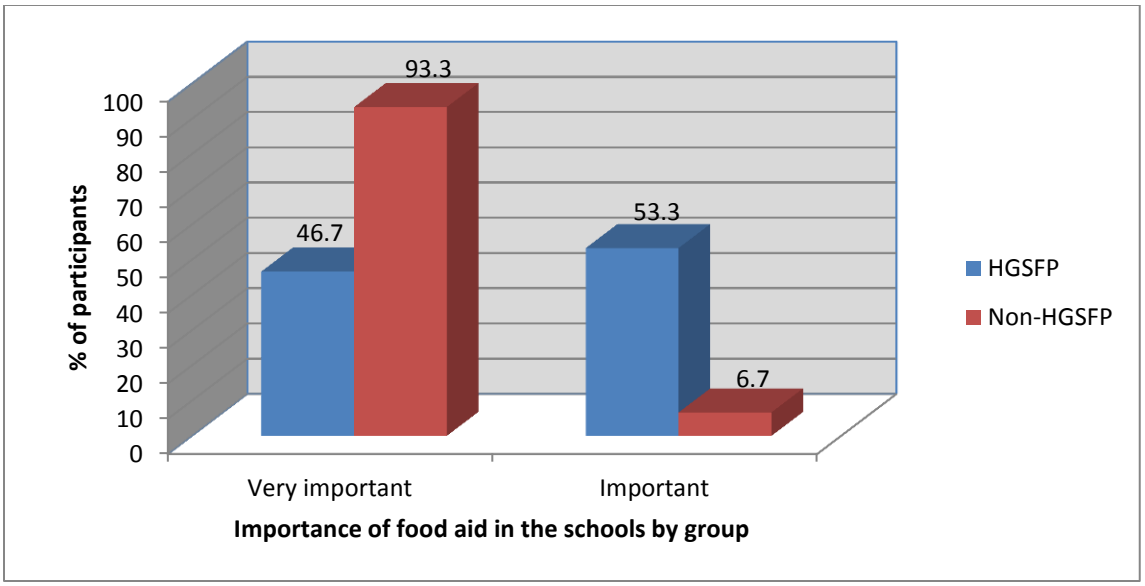


Figure 4.33: Responses of the school principals on their views on the importance of food aid in their schools in 2012 by group (N=30)

The heads' of the households views also differed significantly on the importance of food aid in their households (p=0.001). Only 46% of the heads' of the households responses in the HGSFP group indicated that food aid was very important to their households. A number of the heads of the households in the HGSFP group (29.4%) said that food aid was not important to them as opposed to the majority of heads of the households in the non-HGSFP group (64.8%) who indicated that food aid was very important to them (Figure 4.34). All the farmers, on the other hand, mentioned that any form of food aid was not important to them.

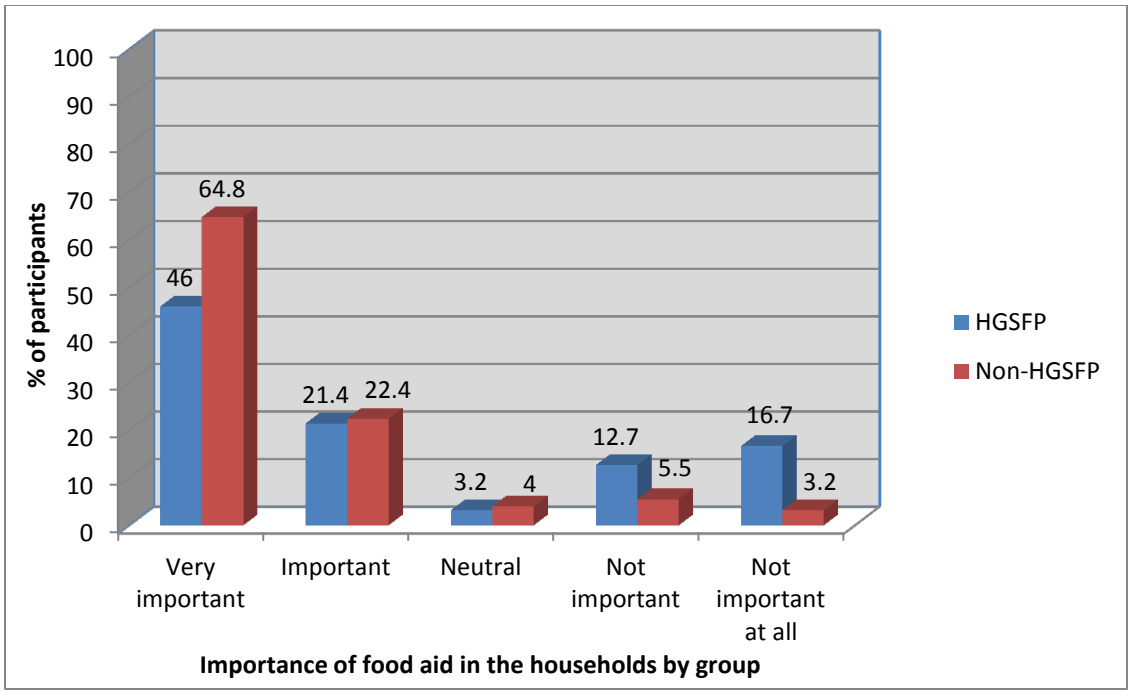


Figure 4.34: Responses of the heads of the households on their views on the importance of food aid in their households in 2012 by group (N=30)

The school principals, heads of the households and farmers were asked on the frequency of being without food, cash income, water, electricity, fuel and medical treatment in their schools or households in 2012. The results from the school principals indicated that the two groups differed on the frequency of being without food (p=0.022), cash income (p=0.007) and water (p=0.074) in their schools. On the frequency of being without food in the two groups of schools, the majority of the schools principals in the HGSFP group (60%) indicated that their schools had never gone without food in 2012 versus the majority of the school principals in the non-HGSFP group (86.7%) who indicated that their schools were without food once in four months (20%), once in six months (40%), once in a year in 2012 (26.7%) (see Figure 4.35).

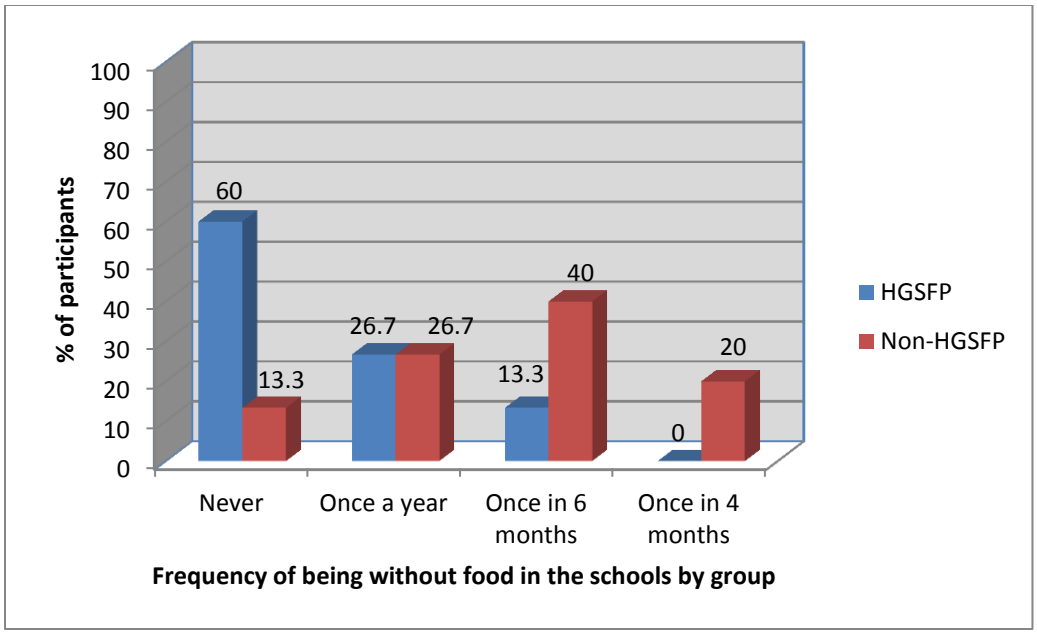


Figure 4.35: Responses of the school principals on the frequency of being without food in their schools in 2012 by group (N=30)

The same trend was also observed in respect to cash income. The school principals' responses indicated that the two groups differed significantly on the frequency of being without cash income in their schools (p=0.007). The majority of the school principals in the HGSFP group (60%) mentioned that their schools had never gone without cash income over a year period as opposed to the majority of school principals' responses in the non-HGSFP group (53.4%) that ranged between once in four months (26.7%) and once in six months (26.7%) without cash income in their schools over a year period (Figure 4.36).

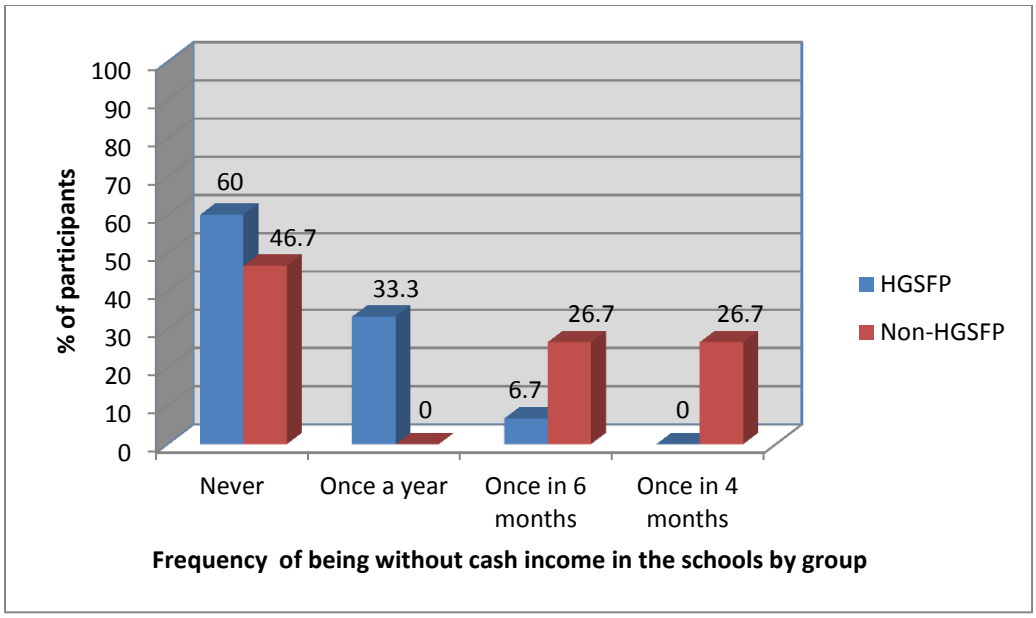


Figure 4.36: Responses of the school principals on the frequency of being without cash income in their schools in 2012 by group (N=30)

The school principals' responses indicated that there was a marginal difference between the two groups on the frequency of being without water in their schools (p=0.074). A larger percentage of the school principals in the HGSFP group (73.3%) stated that their schools had never gone without water versus the majority of the school principals' responses in the non-HGSFP group (65.7%) that ranged between once a year (26.7%), once in six months (13.3%), once in four months (13.3%) and every month (13.3%) without water in their schools over a year period (Figure 4.37).

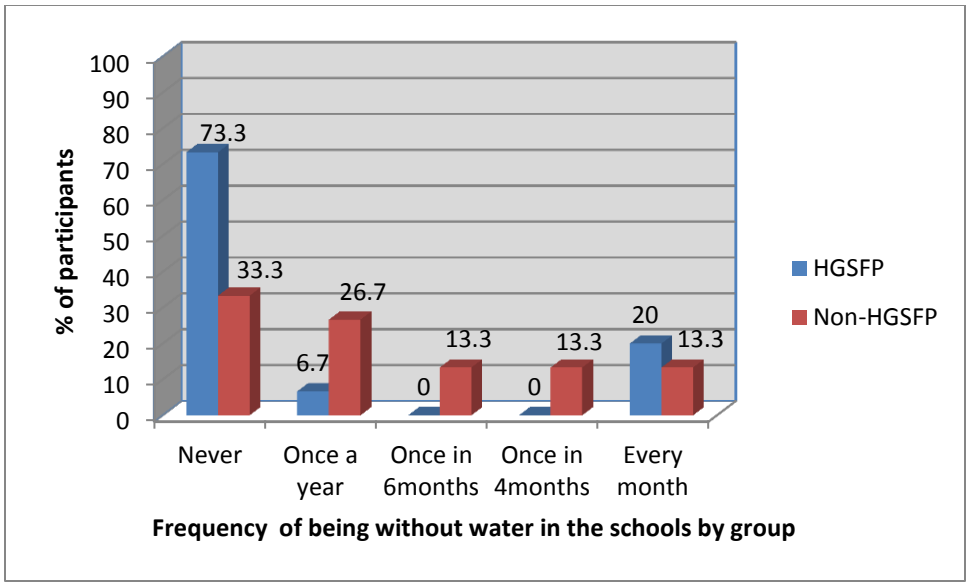


Figure 4.37: Responses of the school principals on the frequency of being without water in their schools in 2012 by group (N=30)

The heads' of the households responses indicated that there were no significant differences in the frequency of being without food, cash income, water, electricity in their households between the groups in 2012. However, there was a statistically significant difference between the two groups in the frequency of not having enough money for medical treatment in their households (p=0.004). The majority of the heads of the households in the HGSFP group (77%) indicated that their households had never gone without medical treatment versus 64% of the heads of the households in the non-HGSFP group, but with 28.8% who indicated that their households varied between every month (16%) and once a year (12.8%) without medical treatment in a year period (Figure 4.38). Almost all the farmers' responses indicated that their households had never gone without the mentioned variables in 2012.

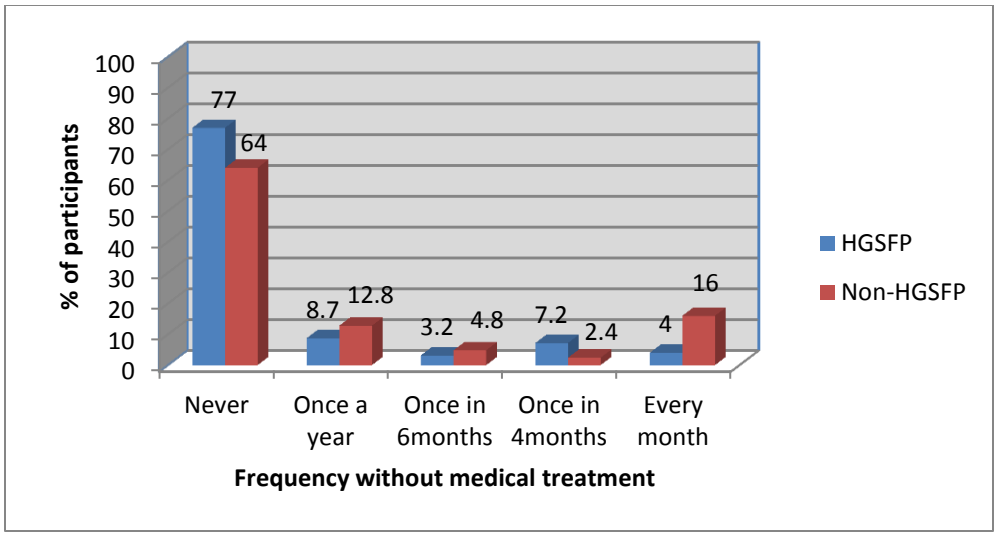


Figure 4.38: Responses of the heads of the households on the frequency of being without medical treatment in their households in 2012 by group (N=30)

The heads of the households and farmers were asked about their household food consumption patterns. The majority of heads of the households in both groups (43.7%: HGSFP versus 48%: non-HGSFP) indicated that they had meals cooked and served three times a day. The farmers' responses (85.7%) indicated that their households had meals cooked and served three times a day before they started selling to schools. However, about 95% of the farmers had meals served three times a day after they had started selling to schools with a number of farmers (4.7%) who indicated that their households had meals served more than three times a day due to improved food security.

The study further sought information from heads of the households and farmers on their households' dietary intake. The consumed foods were allocated to the following food groups: cereals, grains, legumes, meats, fish, fruits and vegetables. As shown in Table 4.8, the heads' of the households responses indicated that the HGSFP and non-HGSFP groups differed significantly on their households' dietary intake regarding the consumption of grains (p=0.005), cereals (p=0.001) and vegetables (p=0.05) in a week. A larger number of the heads of the households in the HGSFP group (96.8%) mentioned that they consumed grains four days or more in a week as opposed to the majority of heads of the households in the non-HGSFP group (83.2%). All the heads' of the households responses in the HGSFP group indicated that they

consumed cereals three days or less in a week versus the majority of heads of the households in the non-HGSFP group (97.6%) who also consumed cereals three days or less in a week. On the consumption of vegetables, the majority of heads' of the households responses in the HGSFP group (58.7%) indicated that they consumed vegetables four days or more in a week while heads of the households in the non-HGSFP groups (52.8%) mentioned that they consumed vegetables three days or less in a week.

Table 4.13: Frequency of dietary intake of the heads of the households in a week in 2012 by group (N=251)

Number of days per week	% of participants													
	Grains		Cereals		Legumes		Meat		Fish		Fruits		Vegetables	
	HG	Non	HG	Non	HG	Non	HG	Non	HG	Non	HG	Non	HG	Non
0-3 days	3.2	16.8	100	97.6	96.8	88.8	97.6	92.8	100	100	97	99.2	41.3	52.8
4-7 days	96.8	83.2	0	2.4	3.2	11.2	2.4	7.2	0	0	2.4	0.8	58.7	47.2

Key: HG: HGSFP
Non: non-HGSFP

The farmers' responses on the dietary intake in their households indicated that more than 66% of the farmers consumed cereals, meat, fish, legumes and fruits for three days or less in a week before they had started selling food products to the schools. The responses of the farmers indicated that the dietary intake in their households changed after they had started selling food products to the schools especially with the consumption of meat, vegetables and fruits. The majority of the farmers (more than 76%) indicated that their households consumed meat, vegetables and fruits four days or more in a week after they had started selling the food products to the schools (see Figure 4.39).

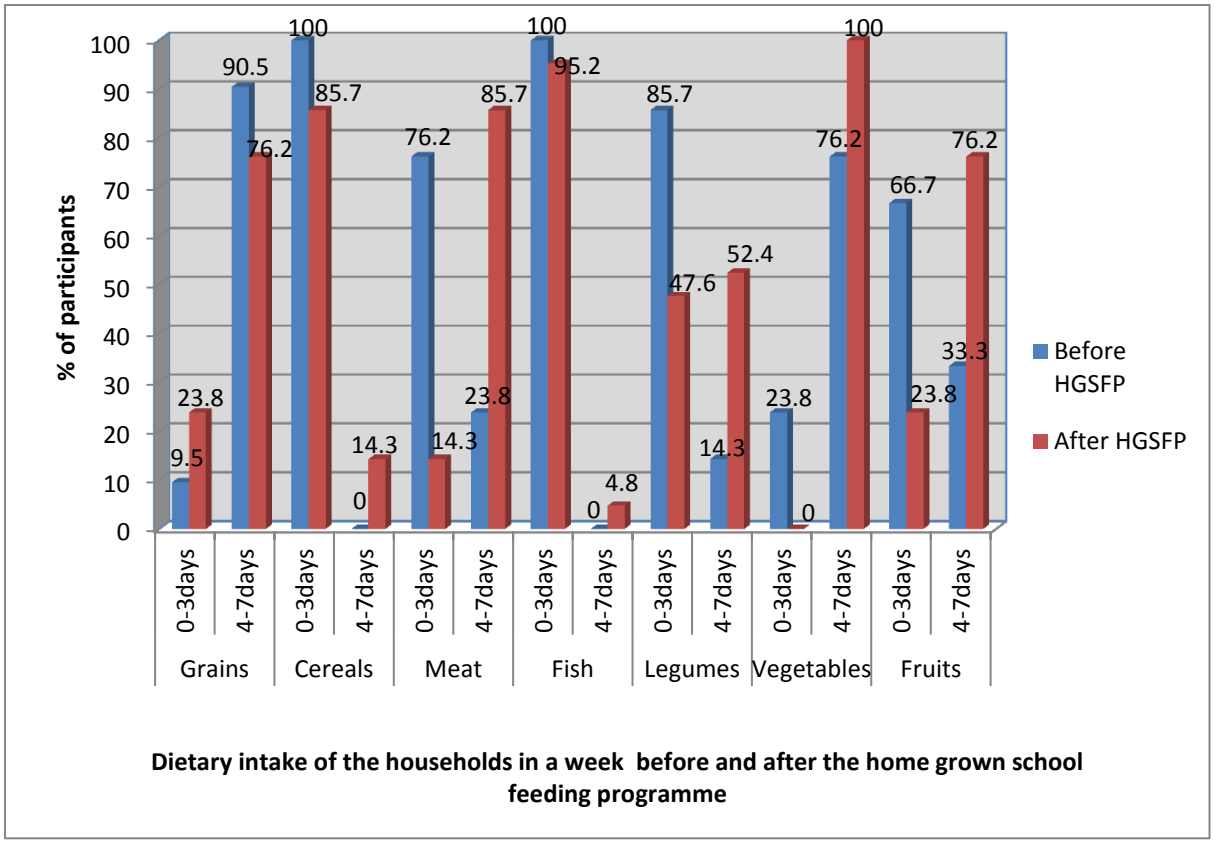


Figure 4.39: Responses of the farmers on the dietary intake of their households in a week before and after the home grown school feeding programme in 2012 (N=21)

4.3 Results in the qualitative domain

4.3.1 Food security and production

Sources of earning a living

The participants (the heads of the households, the farmers and learners) mentioned that there were a number of activities in which they were engaged in to earn a living and as their source of income in their areas (Box1). Mostly, their views indicated that the majority of them were earning a living through agriculture, that is crop production and livestock farming. Some of the participants indicated that they were self-employed which helped them to earn income. A few of them indicated that wage employment was also their source of earning a living. A few of the participants were also earning a living through being hired on the farms.

Box 1

What the participants said on the sources of earning a living

- ‘‘In this area my sister, majority of us earn a living through crop production and livestock farming as you can see that we have plenty of land around.’’
- ‘‘Sometimes we go search for jobs in sugar mines or coal mines so that we can have something to eat with our families.’’
- ‘‘I cannot even leave my children at home in search for a job as I am the only parent left, so I just sell some fruits, vegetables, handwork and sometimes clothing.’’
- ‘‘During weekends and school holidays we move from one home to the other selling fruits and vegetables to community members and we normally sell sweets at school to generate income.’’

The farming activities in the area

The heads of the households, the farmers and the learners from both groups mentioned that they were growing mostly maize, beans and a wide range of vegetables, including cabbages, tomatoes, onions, green peppers, beetroots, spinach and lettuce (Box 2). The participants, especially a majority of the farmers, stated that climatic conditions were one of the major factors

in determining of what to be planted. Some of the heads of the households on the other hand, added that apart from climatic conditions, land and money availability were also great determinants of what and how much to be planted. The majority of the heads of the households mentioned that they had family gardens where they grew vegetables and maize for household consumption and sometimes for selling. All the farmers stated that they grew crops for household consumption, selling to schools, shops and sometimes to community members. The majority of the farmers and the heads of the households mentioned that they cultivated at least three hectares of land. Very few of the heads of the households mentioned that they could not grow crops and vegetables because they did not have land and money.

Box 2

What the participants had to say about the farming activities in the area

- ‘‘We used to grow a wide variety of crops, but mainly maize, vegetables, legumes (beans, jugo beans, to mention but a few). Currently, due to climate change, it is very difficult to predict climate which has so much influence on what is to be planted.’’
- ‘‘As a result of the climatic conditions, some of us are now even reluctant to grow a variety of crops as before. We now try to grow maize and vegetables in our family gardens because at least most of our gardens are near the source of water.’’
- ‘‘I grow crops to sell to schools, supermarkets, to mention a few. Also, in this area we have learnt that one has to plant more beans as they somewhat withstand hot climatic conditions unlike maize.’’

4.3.2 Poverty reduction potential of the school feeding programmes

The impact of the school feeding programmes on hunger and poverty reduction

The majority of the farmers, the heads of the households, teachers and the learners in both groups indicated that the SFP had positive impact with respect to hunger reduction amongst learners (Box 3). All the participants highlighted that the SFP had provided learners with at least one meal a day which helped them to concentrate, become attentive and eager to learn. They added that some learners travelled long distances to school and as a result they arrived hungry, and thus the provision of school meals enabled them to learn effectively. Some of the heads of the

households and learners in both groups believed that the SFP had reduced the learners' consumption rate at their households thereby saving family meals for other household members. The majority of the farmers, the heads of the households, the teachers in the HGSFP groups and learners in both groups stated that the SFP had reduced the level of poverty in their areas. They further mentioned that the SFP had created job opportunities, especially for the farmers supplying schools with food products and the cooks preparing food for the learners. Some of the heads of the households in the non-HGSFP stated that sometimes the learners attended school because they wanted food; through the SFP they gained access to education. A few of the heads of the households and teachers in the non-HGSFP group stated that the SFP had not helped in any way in their area. However, it had promoted poverty as a majority of people had become more dependent on food handouts rather than growing crops for their households.

Box 3

What the participants said on the impact of the school feeding programmes on hunger and poverty reduction

- ''My daughter, in some of our households, there is not enough food. Children sometimes go to school on empty stomachs.''
- ''I am a product of the SFP. I attended school regularly due to food shortages at home where we could go for a day or two without anything to eat. The main reason for my attendance was the food and in that process getting access to education.''
- ''Some of us as learners travel long distances to school even if we had eaten at home. By the time we arrive at school we tend to be hungry and loose focus in our school work**.**
- ''In my point of view, the SFP has encouraged laziness and poverty amongst household members because they no longer bother to work for their household members' food due to 'free' meals in schools,'' a teacher and a head of the household (non-HGSFP group) said.

4.3.3 Awareness of the school feeding programmes

All the participants mentioned that they were aware of the free meals given to school children (Box 4). Some of the farmers and the heads of the households in both groups stated that they were once learners themselves so they also received meals through a SFP while others mentioned that they heard about the SFPs from their children who were attending school. They all stated that the food products prepared for the learners were supplied by the Government of Swaziland, non-governmental organisations and sometimes bought by the schools from supermarkets or farmers.

Box 4

What the participants said on the awareness of the school feeding programmes

- ‘‘Oh yes, we know that an SFP is a programme whereby free meals are given to learners at school.’’
- ‘‘This is a programme which has been done for years now, where learners are provided with meals at school. In the past, the learners used to come with take home rations through the SFP which is no longer the case. The food given to the children is supplied by government, NGOs and also the schools buy for the SFP.’’

4.3.4 Health benefits of the school feeding programmes

Health benefits associated with the school feeding programmes to the learners

All the participants mentioned that the SFPs were associated with a number of health benefits on learners (Box 5). Most of their views indicated that there was reduction of hunger related symptoms such as headaches and stomach aches in learners. Some of the teachers, heads of the households and learners in the HGFSP group further cited that the learners were no longer complaining of such hunger related symptoms as a result of the SFP. The majority of the participants in both groups mentioned that the health benefits of the SFPs were also emphasised by the point that the learners looked physically better when they were at school than when they came back from school vacations. A few of the teachers and the heads of the households in the non-HGSFP group mentioned that the SFP had not brought any health benefits to the learners. They elaborated that this was because of the poor quality food usually served in the SFP.

Box 5

What the participants said on the health benefits associated with the school feeding programmes to the learners

- A head of the household (HGSFP group) answered, ‘‘laugh. My grandson looks so fat and healthy during school days because they are provided with good and well balanced quality meal which I sometimes do not offer to him.’’
- ‘‘Some learners leave for school hungry and after a few hours they used to complain of stomach aches and headaches but those complaints were reduced and/or ceased after the introduction of the SFP.’’
- ‘‘The schools sometimes receive spoiled food from the government or NGO as a result our children frequently complain of stomach aches and even have round worms on their heads which might be due to the poor quality of the food served at the school.’’

4.3.5 School attendance and academic performance

Impact of the school feeding programmes on attendance and academic performance

All the participants mentioned that the SFPs were very much associated with better attendance (Box 6). They stated that these SFPs had positive impacts on attendance. The majority of the participants in both groups highlighted that the SFPs had contributed to regular attendance of learners. Some of the participants in both groups mentioned that the SFPs promoted punctuality of the learners at school. From the academic perspective, all the participants mentioned that the SFPs had positive effects on learners’ academic performance. Various responses were given by the participants in support of the impact of the SFPs on academic performance. The majority of the participants in both groups stated that learners’ cognitive functions were enhanced. They added that learners were attentive, concentrated and were no longer feeling sleepy in class after a meal. The majority of the participants mentioned that due to the improved concentration of the learners, teacher-learner interaction and active participation of learners were enhanced which resulted in increased pass rates.

Box 6

What the participants said on the impact of the school feeding programmes on attendance and academic performance

- ‘‘Oh yes, the SFP has so much influence on attendance. When there is no food at the school, they are reluctant to go to school and sometimes they voice it out that they will not go to school as there is no food cooked for them.’’
- ‘‘Yes sister, ever since the school started serving meals in the morning, every learner tries by all means to be on time at school. These days almost every learner attends the morning assembly as they are served with food before going for assembly,’’one teacher answered.
- ‘‘Yes madam, our academic performance is greatly improved by the SFPs since our cognitive functions are enhanced and become even more alert at school,’’ one learner said.
- ‘‘No one can be active and concentrate when hungry. After the learners have eaten, there is renewed vitality of the mind and they become active and listen to every concept taught,’’ says one head of the household.
- ‘‘Definitely sister, the SFPs help the learners to cope with the hours of school work especially as most of the learners have insufficient food at their homes,’’a farmer replied.

4.3.6 Benefits, problems and suggestions on the sustainability of the school feeding programmes

Benefits of the school feeding programmes

The participants mentioned a number of benefits associated with the SFPs (Box 7). All the participants’ responses indicated that providing learners with a meal a day was the first priority benefit of the SFPs in both groups. From the teachers in both groups it emerged that SFPs had helped schools and learners to achieve educational objectives. Schools enrolments, attendance, retention together with the learners’ academic performances were enhanced through the SFP. The majority of the teachers and the heads of the households mostly in the HGSFP group stated that learners were physically healthier during school days than when they came back from school holidays. Some teachers and heads of the households in the HGSFP group and the majority of

the farmers highlighted that the HGSFP provided community members with jobs opportunities. Some of the teachers, the heads of the households and learners in both groups added that these programmes prevented learners' theft due to hunger. A few of the teachers and the heads of the households mentioned that the SFPs had helped as food within the household was saved for other household members as most of the learners did not eat when they came back from school. Very few of the heads of the households in both groups stated that in most child headed families, the provision of meals at school somehow reduced a burden from the older children who were responsible for their siblings. The majority of the teachers, the learners and the farmers in the HGSFP group mentioned that meals were varied and of good quality through the use of fresh food produce.

Box 7

What the participants said on the benefits of the school feeding programmes

- A household member responded,''yeah, if there were no SFPs in the schools, our children would have been dead by now because they sometimes get a meal the next day in their schools as you can see that we are from such rural and poor communities.''
- ''Without the provision of meals at the schools, the teaching-learning process would have been very difficult in this area because of so many hunger symptoms among the learners,'' a teacher replied.
- ''Having school meals has helped my family a lot because my elder sister gets relieved during school days as we do not bother her with food when we are from school, '' says a learner.
- ''I am what I am today because of the HGSFP. I am now able to pay all the fees at school and manage my family through the income from the HGSFP.''

Problems of the school feeding programmes

From all the participants' responses in both groups, it transpired that the major concerns were the insufficiency and inconsistency in the delivery of the food products by the government and the poor quality food supplied to schools (Box 8). Some of the teachers and the heads of the

households in the non-HGSFP group mentioned that SFPs had encouraged poverty and laziness amongst household members.

Box 8

What the participants said on the problems of the school feeding programmes

- ‘‘Madam, sometimes we go for days without food at school and when we enquire about that we are told that the food supplied by government had all been used up.’’
- ‘‘My grandchild brought me a share of his meal from school only to discover that the food was spoiled and no longer safe for consumption.’’
- ‘‘You know what, there is inconsistency in the delivery of food to schools by the government. Sometimes the school runs without food for the whole school term,’’ a teacher responded.

Sustainability of the school feeding programmes

All the participants’ views in the HGSFP group showed that the SFP could be better sustained if schools bought from local farmers and if schools had and used school gardens and schools fields to run the SFP and in supplementing their meals (Box 9). The majority of the participants in both groups stated that community involvement and participation should be promoted so that the SFPs were community owned. Some of the teachers, heads of the household and learners, especially in the non-HGSFP group indicated that the SFP could be sustained if the Government of Swaziland could constantly supply schools with food for the SFP.

Box 9

What the participants said on the sustainability of the school feeding programmes

- ‘‘I suggest that each school should be allocated some fields where they can plant their own crops and have school gardens to grow vegetables solely for the FP.’’
- ‘‘Oh! I am afraid if we do not take the SFPs upon ourselves as community members and the heads of the households, these programmes will cease because I suppose the SFPs costs government a lot of money.’’
- ‘‘Buying from local farmers would sustain the FP because sometimes some farmers give extra produce to the schools in support of the SFP.’’
- ‘‘Since there has been an introduction of the free primary education (FPE) programme in schools, the government has to constantly supply food for the learners so that the school principals runs the schools without difficulties,’’ one head of the household (non-HGSFP group) answered.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter gives an in-depth discussion of the findings of this research study which studied and compared the HGSFP and the non-HGSFP and their impact on school enrolment, attendance and retention; academic performance; sustaining the FPs, the food security and poverty reduction potential of the SFPs at households and community level in the Lubombo region, Swaziland.

5.2 Enrolment, attendance and retention

Enrolment

The school principals were asked about the enrolment trend in 2012 when considering the past few years. The majority of the school principals in the HGSFP and non-HGSFP groups (53.3% and 46.7% respectively) noted an increase in the enrolment trend. The results of the study showed that both types of SFPs had a positive influence on school enrolment. This is consistent with the findings by Ahmed (2004), Allen and Gillespie (2001), Bennett and Strevens (2003) and Hall et al (2007) who argued that SFPs generally had positive effects on school enrolments. The two groups of SFPs in this study did not differ significantly on their impact on the enrolment in 2012. Some factors could have contributed to that. In 2009 the Government of Swaziland introduced the Free Primary Education (FPE) programme in schools which could have resulted in the insignificant difference in school enrolment in both groups as the learners enrolled in any school at close proximity.

Additionally, the provision of meals to the learners through the SFPs contributed to the enrolment in the schools as indicated by the findings from the school principals (66.7%: HGSFP and 83.3%: non-HGSFP) that SFPs resulted in increased enrolment in schools. This could be that these schools were located in rural and food insecure areas of the Lubombo region. The fact that the learners would be provided with at least one meal a day, could lead to the enrolment increase. This was supported by the WFP (2004) that one of the positive effects associated with serving meals at school is the increase in enrolment rate in schools of the undernourished and underprivileged children. On the contrary, a number of the school principals in both groups (40%) noted a decrease in the enrolment, which they accounted for as a result of the

establishment of new schools required to meet the increased learner population due to the free primary education programme.

Attendance

The results of the study found that both the HGSFP and non-HGSFP had impact on attendance as the majority of the school principals and teachers in both groups (more than 53.3%) recorded either excellent or good school attendance of learners in their schools. This is in agreement with the findings by the WFP (2004) that SFPs are considered as instruments which powerfully motivate even the poor children to attend school in different countries as they are guaranteed a meal at school. In addition to that, according to Donald (2005), Beryl (2005), Schools and Health (2011) SFPs have positive impact on time management in schools through enhanced punctuality and attendance. Their findings were consistent with the results of this study as the school principals, teachers, heads of the households and farmers in both groups indicated that both the HGSFP and non-HGSFP promoted punctuality and attendance rates in the schools. The results from the FGD (Box 6) also confirmed that the SFPs promoted regular attendance and punctuality.

However, it is worth noting that the HGSFP improved school attendance significantly compared to the non-HGSFP ($p=0.007$) as the majority of the school principals in the HGSFP group (86.6%) recorded good and excellent attendance rates of learners with very few poor attendance rates as opposed to the non-HGSFP group (66.6%). The findings from the teachers further demonstrated a significant difference between the two groups ($p=0.003$) as they emphasised that the HGSFP group had good and excellent attendance rates of learners versus the non-HGSFP group (100% versus 66.7% respectively). The findings between the school principals and the teachers differed probably because of two reasons. Firstly, the class teachers closely monitored the learners in schools; therefore they were in a better position to report on attendance and absenteeism when compared to the school principals. Secondly, the class teachers' findings were based on the attendance for the grade 6 classes whereas the school principals' results were based on the entire school. The difference between the two groups of schools on attendance could probably be explained by the fact that food products in the HGSFP are sourced locally and are cost effective thus schools tend to buy more food for the learners which could last for more days and/or months. This eventually encourages learners to regularly attend school since they are

assured of a meal at the schools. In the non-HGSFP group, on the other hand, the food products are bought at retail prices and they tend to be expensive; forcing the schools to afford limited food quantities which could even last for only a few days therefore discouraging learners to attend school if no meals are served for them. This is in agreement with the observation by the USGAO (2009) and USDA (2009) that the HGSFPs promote the procurement of food locally at cost effective prices.

Based on the absenteeism records taken at the end of the first and second school terms, the results indicated that the SFPs had impacted on the rate of learners' absenteeism in both groups as the school principals and teachers indicated either low or average rates of learners' absenteeism in 2012 when considering the past few years. The findings from the school principals did not differ significantly between the groups, though the majority in the HGSFP group (60%) observed low rates of learners' absenteeism versus 66.7% of the school principals in the non-HGSFP group who rated learners' absenteeism to be average in their schools compared to few years before. However, it is important to note that findings from the teachers showed a statistically significant difference on the rate of learners' absenteeism between the HGSFP and the non-HGSFP groups in their schools in 2012 ($p=0.03$). A large number of the teachers in the HGSFP group (73.3%) indicated to have low rates of learners' absenteeism versus only 26.7% in the non-HGSFP group which supported the findings on the learners' attendance between the two groups of schools as absenteeism and attendance are interlinked educational aspects.

The low rates of learners' absenteeism in the HGSFP group could probably be due to the FP that indicated to improve adequate access to food therefore learners were encouraged to attend school. The non-HGSFP group had inadequate food access which could result in learners being absent from school. The majority of the heads of the households in the HGSFP group (68.3%) indicated that learners in their households did not absent themselves from school versus 52% of the heads of the households in the non-HGSFP group ($p=0.01$). The results from the heads of the households further revealed that sickness was cited as the major cause for the learners' absenteeism in both groups, but with a majority in the non-HGSFP group (65%) versus 52.5% in the HGSFP group. This could be that if no meals were served in schools, may be due to food shortages, learners tend to frequently absent themselves from school and sometimes citing

sicknesses as the major cause for their absenteeism. A response of one head of the household from the FGD (Box 6) also confirmed that once the schools failed to serve meals to the learners, they absent themselves from school.

Retention

The findings of the study indicated that the SFPs had impact on retention in both groups as the dropout records taken at the end of the first and second school terms indicated that the school principals and teachers had either low or average rates of learners' dropouts in 2012 when considering the past few years. According to the WFP (2009), short-term hunger alleviation through the SFPs enabled learners to have access to education. Furthermore, learners suffering from short-term hunger and increased levels of malnutrition are said to be retained in school when provided with meals at school (WFP, 2009). These findings were also reported by Gougeon et al (2011), Briggs et al (2003) and ADA (2003) that SFPs intervention promoted retention, among other things. However, it is important to note that the school principals' results indicated that the two groups differed with respect to the dropout rates ($p=0.07$). The majority of the school principals in the HGSFP group (73.3%) indicated that their schools had low rates of learners' dropouts as opposed to only 40% in the non-HGSFP group considering few years before. This was in agreement with the report by the GSFP (2011) that the HGSFP enhances educational objectives which includes retention.

The school principals, teachers, heads of the households and farmers also mentioned that the SFPs helped with hunger alleviation and in accomplishing educational objectives. The findings were confirmed by the FGD (Box 3) that the SFPs indeed helped in the eradication of hunger, while achieving educational objectives. However, it is important to note that findings from the school principals showed a statistically significant difference between the two groups on how the SFPs helped ($p=0.022$). The school principals in the HGSFP group indicated that the FP helped the learners in hunger alleviation (53.3%) and meeting educational objectives (46.7%), while in the non-HGSFP group, the majority of the school principals indicated that the FP helped in hunger alleviation (80%). The same trend was observed from the findings of the heads of the households where a statistically significant difference between the groups was shown on how the SFPs helped ($p=0.012$). The heads of the households in the HGSFP group indicated that the FP helped the learners in hunger alleviation (70.9%) and meeting educational objectives (29.1%),

while in the non-HGSFP group, 77% of the heads of the households indicated hunger alleviation and only 23% that cited that the FP helped with meeting educational objectives. From these findings, it can be concluded that apart from hunger alleviation, the HGSFP also helped in achieving educational objectives better than the non-HGSFP. This was in agreement with the report by the GSFP (2011) that the far-reaching objective of the HGSFP is to boost access to adequate food and enhancing educational objectives, among other things.

5.3 Health benefits of the school feeding programmes

On health benefits, the results of the study indicated that the HGSFP and non-HGSFP had health benefits which included reduction and/or alleviation of hunger symptoms in the learners and helped them to be physically better during school days than when back from vacations. This is in agreement with the WFP (2004) that a SFP is a mechanism that provides health benefits to the vulnerable population found in areas and communities with severe food shortages. The findings from the FGD (Box5) also established that the SFPs had health benefits for the learners which included the decrease and/or alleviation of hunger symptoms in the learners and helped them to be physically better during school days. When comparing the HGSFP and non-HGSFP groups on the health benefits, the school principals' findings showed a marginal difference between the groups ($p=0.074$). The results indicated that the school principals in the HGSFP group recorded the highest number of participants (53.3%) who mentioned that the FP helped learners to be physically better during school days than when they came back from school vacations as opposed to the non-HGSFP group (33.3%) who only cited a reduction in hunger related symptoms in the learners.

The findings from the teachers indicated a significant difference between the two groups on the health benefits of the SFPs on the learners ($p=0.007$). The majority of the teachers in the HGSFP group (53.3%) indicated that the learners had no hunger related complaints, while 46.7% of the teachers' findings agreed with the school principals' opinion that learners looked physically better during school days. On the contrary, the teachers in the non-HGSFP group (40%) emphasised only the reduction of hunger related symptoms amongst the learners. Moreover, the heads' of the households findings differed significantly on the benefits associated with the SFPs ($p=0.001$). It is interesting to note that the heads of the households in the HGSFP group (55.6%) also concurred that the learners looked physically healthy during school days than when they

came back from school vacations versus 37.6% in the non-HGSFP group who observed a reduction in the hunger related complaints. The majority of the farmers (61.9%) indicated that there were no hunger related complaints amongst learners in their households. As previously mentioned, the teachers' findings were grounded on the grade 6 classes in each SFP group while the findings of the school principals gave their observation for the entire schools. From these findings, it can be reasoned that the HGSFP had a positive impact on the health status of learners compared to the non-HGSFP. It could probably be that the HGSFP group procured fresh, good quality food products for the learners and also served more meals per day which improved their health status. This is in agreement with the findings by Kumar (2011) that the HGSFP offers children safe, wholesome and good quality food stuffs. Gross et al (2000) established that the close link between food intake and health status explains an individual's nutritional status.

The results of the study further showed that the school principals' and teachers' responses indicated that the HGSFP and the non-HGSFP groups differed with respect to the presence of illness among the learners over a year period ($p=0.06$). The majority of the school principals (73.3%) and teachers (53.3%) in the HGSFP group indicated that they did not experience any illness among their learners as opposed to 66.7% of the school principals and 80% of the teachers in the non-HGSFP group, who experienced illnesses with their school learners. This was supported by the heads' of the households responses which differed significantly on the presence of illness among the learners in their households between the two groups ($p=0.001$). The heads of the households in the HGSFP group (81.7%) indicated that their learners were hardly experiencing illnesses versus 54.4% in the non-HGSFP group. This could be that the non-HGSFP group of schools might sometimes be experiencing food shortages due to their inability to afford the expensive food prices at retail stores. Ncube et al (2012) suggest that food insecurity results in hunger which is evidenced by poor health and weakness such as pain, or illnesses due to the extended food shortages. Gross et al (2000) found that being more susceptible to illnesses is an outcome of a poor health status due to undernourishment.

The results of the study from the school principals and teachers in the non-HGSFP group (more than 40%) indicated that intestinal worm infestation was the most common illness among the learners in 2009. One of the reasons cited for such a situation was the insufficiency of the school-based deworming treatment. This situation was observed at the time when the Government of

Swaziland introduced the FPE in schools which probably drained the financial power of the country and as a result the country did not have enough money to buy adequate school-based deworming treatments as part of a proper SFP. The WFP (2004) reports that a SFP provides a platform for directly addressing children's health and nutrition, for example through deworming schemes. Moreover, the intestinal worm epidemic could also be due to the poor quality food products supplied by the government in the schools as mentioned by the majority of the school principals (66.7%) in both groups which was further confirmed by the findings from the FGD (Box 8) that learners were sometimes served with poor quality food.

5.4 Academic performance

Assessing the impact of the SFPs on the academic performance was also an objective of the study. The findings of the study indicated that the SFPs had positive effects towards learners' performances as the two groups of SFPs were cited by all the participants in both groups to boost concentration, cognitive functions and made learners not to be sleepy in class, while also promoting teacher-learner interaction hence pass rate increases. This is similar to the observation by the WFP (2010) that SFPs reduce hunger amongst learners which improves their ability to concentrate in the classroom. Del Rosso (1999) argued that attending to temporary hunger during school hours plays a crucial role in improving school results as learners' concentration span and their performance are slowed down if they go without food for longer periods. The results from the FDG (Box 6) gave similar findings on the impact of SFPs on the academic performance. To further ascertain the impact of the SFPs on the academic performances, scores of the learners for the first and second term examination results were used. According to Briggs (2008), examination scores, among other indicators, could be used as some educational baseline data when assessing a SFP.

The results on the academic performances of the learners indicated that there were significant differences between the HGSFP and non-HGSFP groups based on highest, average and lowest recorded class performance scores ($p=022$, $p=0.001$, $p=0.003$ respectively). The HGSFP group had higher mean scores in all the mentioned categories compared to the non-HGSFP group. The higher mean scores could probably be related to the learners in the HGSFP group who received good quality food, and with some schools, where the learners received more than one meal per day, improved health status. Cueto and Chinen (2008) observed a close link between a learner's

performance and his/her nutritional and health status. Gougeon et al (2011) and Briggs et al (2003) also established that an intervention of a SFP to underfed and hungry learners resulted in improved nutrition and health; hence better performances. On the same note, Briggs et al (2003) suggested that the intake of a high quality diet is vital for improved memory functions which results in enhanced educational effects. However, it has to be admitted that so many factors could influence the academic performance of learners in schools, but the SFP seems to play a major role towards academic performance.

5.5 Experiences on the school feeding programmes (two groups)

The study also explored some other aspects of the SFPs which might and/or might not influence the differences between the two groups of schools. One of these aspects included the duration of the SFPs in the schools. The school principals' findings indicated that the period of the SFPs in both HGSFP and non-HGSFP groups differed significantly between the groups (p=0.01). A large number of the school principals in the HGSFP group (53.3%) indicated that their schools had spent five years and less in the FP compared to 73.3% of the school principals in the non-HGSFP group that had spent ten years and more in the FP.

The delivery of food products to the two groups of schools by the government gave significant differences between the groups (p=0.001). About 67% of the schools in the HGSFP group received food products from government between the first and third school terms compared to 93.3% of the schools in the non-HGSFP group that received food products from government for all three of the school terms. Inconsistency in the delivery of the food products by the government indicated the lack of set guidelines to follow during the distribution of food to schools. This situation could probably, at some point, affect especially the non-HGSFP group due to the ever rising food prices at retail markets as these schools are not guaranteed that they will always receive food products for all three of the school terms. Additionally, the study found that the government delivered almost the same quantity and type of food products to the two groups of schools which were mainly grains, legumes and vegetable oils. These findings were in agreement with MoET (2009) that the Government of Swaziland supplied the schools with grains, legumes and vegetable oils. The results from this study indicated that there were inconsistencies in the food distribution as well as persistent receipt of insufficient food products from the government. As a result, the school principals in the HGSFP group had explored a way

in which to guarantee improved food security levels in their schools and embarked on the HGSFP. Both groups of schools used the SF fund paid in by every learner to supplement the food products received from the government and/or WFP and no differences existed between the groups on the SF fund paid by the learners. The reason for the insignificant difference between the two groups on the SF fund could be that all government schools had regulated fees to be paid by each learner per grade in every school academic year.

However, when supplementing the government's food supply, differences existed between the two groups of schools (p=0.001). The school principals in the HGSFP group had local farmers as their secondary food sources as opposed to the non-HGSFP group that had supermarkets as their secondary food sources. Besides that, the findings of the study revealed that school gardens used exclusively for the two SFPs were significantly different (p=0.001). The majority of the school principals in the HGSFP group (86.7%) had school gardens used essentially for the FP in their schools versus none in the non-HGSFP group. This could add to the improved food security status of the HGSFP group of schools. This is in agreement with the MoET (2009) document that for a better and sustainable programme, every school should have gardens for complementing the government's food supply, while concurrently providing variety in the school meals at minimum food costs.

5.5.1 Benefits and suggestions for sustaining the school feeding programmes

The analysis of the data indicated that the school principals, teachers, heads of the households and farmers concurred that the SFPs were acknowledged for providing meals to learners and meeting educational objectives; probably due to the fact that these schools were found in food insecure areas where poverty and hunger were life threatening as confirmed by the findings from the FGD (Box 7). These findings are in agreement with Walingo and Musamali (2008) that SF mitigates hunger and malnutrition, while the World Bank (2011) and Gelli (2010) advocated that SFPs promote educational objectives, health and community development. It is interesting that although only 6.7% of the school principals and 13.3% of the teachers acknowledged that this programme provided learners with good quality, varied and fresh food produce, 52.4% of the farmers in the HGSFP group indicated in the positive. This was in line with the findings by Morgan et al (2007) that the HGSFP provides better quality food. The produce are very fresh

thus promoting a more variety of locally grown foods, resulting in a healthy meal with reduced monotony.

The participants' (school principals, teachers and heads of the households) views on the sustainability of the HGSFP indicated that the FP could be better sustained through buying from local farmers (more than 20%) as proposed by the GSFP (2011) that the HGSFP guarantees an on-going FP with cheap and affordable food products procured in the neighbourhoods. Secondly, schools should practise agriculture either in school gardens meant for the SFP or school fields to ensure improved food security (more than 20%). These findings are similar to those by Ncube et al (2012) that agriculture enhances the availability and accessibility of food, thus creating the correct food combination for complete eradication of malnutrition and rural poverty. Lastly, community involvement and participation should be promoted (more than 13%) as the WFP (2009) argues that community involvement encourages members to be part and parcel of their children's education. The findings from the FGD (Box 9) further confirmed some of the suggestions as cited above on how the HGSFP could be better sustained in the schools. On the contrary, the school principals, teachers, heads of the households in the non-HGSFP group, among other views, indicated that government should constantly supply the schools with food (more than 20%). However, no significant differences were observed between the groups on the benefits and views on the SFPs' sustainability. The results from the FGD (Box 9) were in support of the findings from the participants on the views of the SFPs' sustainability.

5.6 Sustainability of the home grown school feeding programmes

According to the WFP (2010), the sustainability of FPs is enhanced through the inclusion of a number of small-scale farmers in food-deficit areas through the HGSFP, which is aimed at hunger and poverty reduction. The results of the study indicated that the majority of the farmers (76.2%) were the key role players in the growing, monitoring and evaluation of the programme which possibly promoted a more stable production and a better sustained FP. Over and above that, the farmers (52.4%) also indicated that they used family members and even hired community members (47.6%) when running the SFP which promoted individual empowerment. Gladwin et al (2001) argued that agriculture, through labour provision, created considerable job opportunities and profits for the rural area. The farmers mostly produced maize, beans, vegetables and reared livestock for the HGSFP which were the basic food products demanded by

schools for any FP. This was also confirmed by the findings from the FGD (Box 2) that they mostly grew maize, vegetables, legumes and raised livestock as farming activities in their areas.

The results of the study also indicated that the farmers maintained constant communication with the schools through personal visits (38.1%) and telephoning the schools (61.9%). Concerning the sustainability of the HGSFPs, the farmer stated different views. Firstly, the schools should buy from local farmers due to cost effectiveness (more than 20%). These finding are in agreement with Kumar (2011) who stated that the WFP favours a more straight association and relatively shorter distances between the small scale farmers and the school to cut out the expensive intermediaries and have food available at a cost-effective price. Secondly, the government should decentralise the FPs so that they become community owned as the WFP (2013) argued that a successful HGSFP should have a strong commitment and involvement from community members. Thirdly, schools should plant their own crops for the programme' sustainability as advocated by the MoE.

5.7 Poverty reduction potential of the school feeding programmes

As far as poverty reduction is concerned, the findings of the school principals, teachers and heads of the households showed that the HGSFP and the non-HGSFP differed on the SFPs' contribution towards poverty reduction in the area (p=0.001; p=0.07; p=0.025 respectively). The school principals' opinion in both the HGSFP and non-HGSFP (100% versus 40%), the teachers (60% versus 26.7%) and the heads of the households (66.7% versus 20%) indicated that the HGSFP contributed more to poverty reduction than the non-HGSFP. To further ascertain the findings on poverty reduction, the mentioned participants were asked to state the impact of the SFPs on poverty reduction. From the findings of the school principals, teachers and the heads of the households, it was clear that the HGSFP and the non-HGSFP differed significantly on their impact on poverty reduction (p=0.005; p=0.005; p=0.002). About 33% of the school principals and 46.7% of the teachers in the HGSFP group indicated that the FP created job opportunities for community members, while 40.5% of the heads of the households noted a reduction in food consumption of learners at their homes. The majority of the farmers (more than 40%) also supported that the HGSFP created jobs. The WFP (2010) established that the active participation and full involvement of small scale farmers eradicate hunger and poverty through involving and empowering the marginalised and vulnerable populations.

Contrary to that, 46.7% of the school principals and 33.3% of the teachers in the non-HGSFP group indicated that the programme had not much empowering of community members. Some heads of the households in the non-HGSFP group (26.4%) stated that the FP encouraged community members to be more reliant on food aids. These findings of the non-HGSFP group indicated that the FP promoted more dependence on food aid which could result in the low levels of food access by most schools. The findings from the FGD (Box 3) had some participants who argued that any form of SFP promoted laziness as heads of the households were no longer responsible for their households' food production due to the 'free' meals in schools. According to Barret (2006) food aids, such as SFP are food assistance programmes in cases of emergencies, however such food programmes have coincidentally made head of the households to be more reliant on them than working for their household members.

5.8 Food security

The school principals' findings indicated that the HGSFP and the non-HGSFP groups differed on their perception in respect to the food security levels in their schools (p=0.006). The school principals in the HGSFP group (60%) indicated that their schools were food secured versus 53.3% of the school principals in the non-HGSFP group, who stated that their schools were slightly food secured, and with a number of school principals (33.4%) who indicated their schools being moderately food insecured. These findings of the study revealed that the HGSFP enhanced food security status at the school level better than the non-HGSFP. The food security status between the HGSFP and non-HGSFP groups was further confirmed by the significant difference between the two groups of SFPs based on the school principals' responses on the months with insufficient food for the learners (p=0.022). Only 33.3% of the school principals in the HGSFP group reported that their schools had three months or less with insufficient food for the learners as opposed to 53.3% of the school principals in the non-HGSFP group who had four months or more with insufficient food for their learners in 2012. This could be due to the fact that the HGSFP group sourced food products locally which was cost effective thus enabling the procurement of adequate food for at least more than one meal a day. This is in agreement with Upton and Lentz (2011) who observed that purchasing locally saves food costs between 13% - 50%.

Briggs (2008) established that the most excellent SFP should provide learners with meals before the commencement of lessons which was the case with the HGFSP group compared to the non-HGSFP group (p=0.025). The majority of the school principals in the HGSFP group (66.7%) had school meals served twice a day; the first meal was served in the morning hours between 6.00am and 7.30am and the second meal was served between 10.00am and 12.00pm. This is probably because children are vulnerable and quickly get hungry due to their higher metabolism rate, activity level and rapid growth so they need food frequently to cope at school (Afoakwa, 2010; Walker et al, 2007). The findings of the study revealed that the age of the learners ranged between six years and 18.4 ± 1.5years in the HGSFP group versus the age range between 5.3 ± 0.3years and 17.4 ± 2.4years in the non-HGSFP group which necessitated a SFP. On the other hand, the majority of the school principals in the non-HGSFP group (80%) indicated that their schools served meals once a day between 10.00am and 12.00pm which could be due to inadequate access to food.

The HGSFP and the non-HGSFP groups differed marginally in respect to the school menu management (p=0.061). The HGSFP group managed the school menu through the contributions from the ministry of education's workshop (40%), the SFP committees (33.3%) and parents' involvement (26.7%) as opposed to the non-HGSFP group which relied mostly on the contributions from the ministry of education's workshop (53.3%) and the SFP committees (26.7%) only. According to the WFP (2009), parents' involvement in a SFP gave them the opportunity to become more aware of what goes on in the schools and helps build love, appreciation and the value for education. The HGSFP group (20%) had more nutritious foods as their meals were varied and included meat, sour milk and beans as their protein sources compared to the non-HGSFP group, which had only beans as their protein source. Morgan et al (2007) established that the HGSFP improved variety in school meals.

On the economic status of the two groups of schools, the findings indicated that the HGSFP and the non-HGSFP groups differed significantly in their schools in 2012 compared to a year before (p=0.016). The results indicated that the HGSFP group (73.3%) had an improved economic status compared to the non-HGSFP group as 33% of the schools indicated to have a worse economic status. To further explore this situation, the school principals from both groups were asked if they experienced times where their schools were without cash income. The school

principals' responses indicated that the two groups differed significantly on the frequency of being without cash income in their schools (p=0.007). Sixty percent of the school principals in the HGSFP group mentioned that their schools had never gone without cash income over the year period versus 53.4% of the school principals in the non-HGSFP groups who experienced times without cash income in their schools more frequently. This could be due to the fact that the HGSFP group procured food products from local farmers which has been cited earlier as a cost effective way due to 13% - 50% savings made. The non-HGSFP group probably had to spend more money when purchasing food from supermarkets and/or wholesalers for the programme. It is therefore not surprising to observe the significant difference on the food security status between the two groups of schools as purchasing power is the key determinant of food availability and accessibility.

The importance of food aid was also determined within the schools and the households from the school principals, the heads of households and the farmers. The results from the school principals and heads of the households indicated that food aid was important to the two groups of schools though the results gave a significant difference (p=0.014; p=0.001). More than 90% of the school principals in the non-HGSFP group indicated that food aid was very important in their schools versus only 47% of the school principals in the HGSFP group. This could be that the non-HGSFP group purchased food products, such as maize and beans at retail prices, thereby affording limited quantities while the HGSFP group purchased these food products at relatively low prices from local farmers.

The majority of the heads of the households in the non-HGSFP group (64.8%) indicated food aid to be very important to them versus only 46% of the heads of the houselds in the HGSFP group. This could be that the HGSFP seemed to impact on improved food security, also even in households where the schools with this FP were found. This is similar to the report by the WFP (2003) and the GSFP (2011) that the HGSFP benefited not only the children in the schools but also the entire community. The heads' of the households responses in the HGSFP group indicated to have a better household food security status in the food secured and slightly food secured category (refer to Figure 4.27). However, it could be admitted that the differences in food security status of the heads of the households between the two groups could probably be attributable to the significant differences in employment status (p=0.001), education level

(p=0.001) and source of earning a living (p=0.002) as these factors are interconnected when it comes to an individual's food access (Figure 4.1).

The results of the study also gave information on the impact of the SFPs on food utilisation through assessing the dietary intake of the heads of the households and the farmers. The dietary intake of the farmers indicated to have improved after being involved in the HGSFP. The frequency of eating foods such as cereals, legumes, vegetables and fruits increased within a week after starting to sell food products to schools, which could be due to improved food security and income. This is in agreement with the observations by the USAID (2011) that a majority of agricultural production programmes within the households, even though they were meant for earning income, improved the farmer's household dietary intake as a fraction of the food produced is consumed by the family members. Ackello et al (2012) established that agriculture also plays a vital role in enhancing the revenue of small scale farmers.

5.9 Conclusion

The core of this study was to explore and describe the HGSFP at school and community levels; how it was perceived within schools, households, and communities and how it might have affected education, well-being and its sustainability in the schools under investigation. Based on the findings of this study, it could be concluded that both the HGSFP group and non-HGSFP group had impacted on school enrolment, attendance and retention. The HGSFP and non-HGSFP groups of schools had increased enrolment in their schools in 2012. However, the HGSFP group of schools had improved school attendance rates of learners as opposed to the non-HGSFP group. The HGSFP group had good and excellent attendance rates of learners versus the non-HGSFP group who reported good attendance rates. Concerning retention, the schools in the HGSFP group reported enhanced retention of learners compared to the non-HGSFP group. The HGSFP group of schools had low rates of learners' dropouts versus the non-HGSFP group. The HGSFP and non-HGSFP were associated with health benefits amongst the learners. However, the HGSFP group of schools seemed to have learners with a better health status compared to the non-HGSFP schools. The participants in the HGSFP group indicated that learners looked physically better during school days as opposed to the non-HGSFP group who mentioned only a reduction in hunger related symptoms amongst the learners. In addition, both the HGSFP and non-HGSFP had a positive impact on the learners' academic performance, though the HGSFP

group of schools had learners with better academic performance as opposed to learners from the non-HGSFP schools. Scores of the learners for the first and second school term examination results indicated that the HGSFP group had higher mean scores based on highest, average and lowest recorded class performance scores compared to the non-HGSFP group. The HGSFP group of schools had a better sustained FP than the non-HGSFP schools through the inclusion of a number of small-scale farmers. As the majority of the farmers indicated that they were the key role players in the growing, monitoring and evaluation of the programme, this could possibly enhance a more stable agricultural production, and thus a better sustained FP as opposed to the non-HGSFP group that bought from the retailers. Moreover, perceptions on the food security status between the two groups of schools indicated that the HGSFP schools had enhanced food security status compared to the non-HGSFP schools. Majority of the HGSFP schools were food secured versus the non-HGSFP group that had their schools ranging between slightly food secured and moderately food insecured. The HGSFP group of schools had an impact on food security and poverty reduction within households where these schools were found compared to the non-HGSFP group. The HGSFP group indicated that the FP created job opportunities for community members, and the heads of the households observed reduction of food consumption frequencies of learners at their homes versus the non-HGSFP group. Some participants in the non-HGSFP group indicated that the FP did not empower community members as heads of the households became more dependent on food aids.

CHAPTER SIX

EXECUTIVE SUMMARY AND RECOMMENDATIONS

6.1 Executive summary

The study was aimed at exploring and describing the HGSFP in the Lubombo region of Swaziland and assessing its association with school enrolment, attendance and retention; health status of learners; academic performance of learners; its sustainability, its impact on food security and poverty reduction in households where this FP was implemented in comparison with the non-HGSFP. A cross-sectional descriptive survey, using a comparative approach in the quantitative and qualitative domains, was done. Structured interview schedules were used to gather the information from the school principals, the teachers, the heads of the households, learners and the farmers. School registers, school academic record books and stock books were also used as secondary data collection sources.

Two groups of schools were compared: schools with a HGSFP (n=15) with non-HGSFP schools (with ordinary SFP, n=15). MS Excel 2007 and SPSS 20 (Statistical Package for Social Science) programmes were used for statistical analysis, including descriptive statistics, the Fisher's test, independent-samples t-test and Mann-Whitney U tests (quantitative data). All tests were carried out with a significance level of 0.05 ($p<0.05$) and a confidence interval of 95%. Four FGDs were conducted with a group of the heads of the households, the farmers, grade 6 learners and teachers, who were at every school sampled in the HGSFP group. In the non-HGSFP group three FGDs in each school were conducted. Qualitative data collected were transcribed and analysed with a few ethnographical quotes to illustrate and provide insight for the interpretation of the findings. Ethical approval was obtained from the Ethics Committee of the Faculty of Natural and Agricultural Sciences, University of Pretoria (*Ref no EC 130110-102)* and research permission was also granted by the Ministry of Education in Swaziland through the Regional Education Office. All participants gave informed consent. This study was conducted by the researcher, with the help of three research assistants who were from Swaziland; in 30 government primary schools in the Lubombo region, Swaziland in October 2012.

The study found that:

- Both the HGSFP and non-HGSFP had a positive influence on school enrolment. This was illustrated by the results from the school principals in the HGSFP and non-HGSFP groups (66.7% and 83.3%) that these SFPs contributed to the enrolment increase in their schools. This could be that these schools that were located in rural and food insecure areas of the Lubombo region attracted learners as provision with a meal a day was offered by the schools. However, the HGSFP group of schools had better school attendance rates of learners compared to the non-HGSFP schools based on the school principals and teachers' responses (p=0.007; p=0.003 respectively). This was illustrated by the majority of the school principals (86.6%) and all the teachers the HGSFP group recorded good and excellent attendance rates of learners in their schools. The school principals and teachers in the non-HGSFP group (66.6%) reported good attendance rates of the learners. This was further indicated by the majority of participants in the HGSFP group who had low rates of learners' absenteeism compared to the non-HGSFP group. The HGSFP improved access to food thereby encouraging learners to attend school.

  The two groups of schools also differed with respect to retention of learners in their schools (p=0.07). The HGSFP group of schools (73.3%) indicated that their schools had low rates of learners' dropouts as opposed to only 40% in the non-HGSFP group. The HGSFP enhanced retention of learners at schools probably due to the guaranteed provision of meals at schools.

- Learners from the HGSFP schools had a better health status compared to learners from the non-HGSFP schools. The school principals in the HGSFP group (53.3%) mentioned that the FP helped learners to be physically better during school days as opposed to 33% of the school principals in the non-HGSFP who mentioned only a reduction in hunger related symptoms from the learners (p=0.074). The teachers' findings in the HGSFP (53.3%) further illustrated that the learners had no hunger related complaints, and 46.7% of the teachers' responses also agreed that learners looked physically better during school days. On the contrary, only 40% of the teachers in the non-HGSFP group mentioned the reduction of hunger related symptoms amongst the learners (0.007). The heads of the

households in the HGSFP group (55.6%) also concurred that the learners looked physically more healthy during school days than when they came back from school vacations versus 37.6% of the heads of the households in the non-HGSFP group, who observed a reduction in the hunger related complaints (p=0.001). The HGSFP group procured fresh and good quality products which improved the learners' health status.

- All the participants in both groups indicated that the SFPs boosted concentration, cognitive functions and made learners not to be sleepy in class while promoting teacher-learner interaction. However, the impact of the SFPs on the academic performances through the scores of the learners for the first and second term examination results in the study period gave significant findings. The HGSFP group had higher mean scores based on highest, average and lowest recorded class performance scores compared to the non-HGSFP group (p=0.022, p=0.001, p=0.003 respectively). This could probably be linked to the intake of high quality meals in the HGSFP group that could improve memory functions and enhance educational effects.

- The schools with the HGSFP had a better sustained FP than the non-HGSFP schools. Sustainability of FPs is enhanced through the inclusion of a number of small-scale farmers in food-deficit areas. The HGSFP schools bought from the local farmers to supplement the government's food supply versus the non-HGSFP group that bought from the retailers. The majority of the farmers (76.2%) further indicated that they were the key role players in the growing, monitoring and evaluation of the programme, which possibly promoted a more stable production with a better sustained FP. In addition to that, the farmers (52.4%) also indicated that they used family members and even hired community members (47.6%) when running the SFP which promoted individual empowerment.

- The HGSFP group of schools had enhanced food security status compared to the non-HGSFP schools (p=0.006). The majority of the school principals in the HGSFP group (60%) indicated their schools to be food secured versus 53.3% of school principals in the non-HGSFP group who stated that their schools were slightly food secured, but with 33.4% who had moderately food insecured schools. Additionally, the school principals in the HGSFP group (33.3%) reported that there were three months or less with insufficient food for the learners compared to 53.3% of the school principals in the non-HGSFP group who had four months or more with insufficient food (p=0.066). The improved food security status in the HGSFP group versus the non-HGSFP group was illustrated by the serving of school meals in a day (p=0.025). The majority of schools in the HGSFP group (66.7%) had meals served twice a day as opposed to the majority of schools in the non-HGSFP group (80%) where meals were served once a day. Furthermore, the HGSFP group of schools (20%) had more varied meals as learners sometimes had meat, sour milk and beans as their protein sources than the non-HGSFP group of schools, that only had beans as their protein source. The HGSFP schools procured food locally at cost effective prices thereby enabling improved food accessibility and availability.

The HGSFP had a poverty reduction potential within households. Firstly, the HGSFP created job opportunities for household members. Secondly, food consumptions frequencies of learners were reduced in the households of HGSFP schools versus the non-HGSFP schools as the children arrived home from school less hungry. The results from the school principals (100% versus 40%), the teachers (60% versus 26.7%) and the heads of the households (66.7% versus 20%) indicated that the HGSFP contributed to poverty reduction when compared to the non-HGSFP (p=0.001; p=0.07; p=0.025 respectively). To further confirm these results, the impact of the SFPs as far as poverty reduction is concerned also gave significant differences between the two groups based on the responses of the school principals (p=0.005), teachers (p=0.005) and heads of the households (p=0.002). More than 30% of the school principals and 46.7% of the teachers in the HGSFP group indicated that the FP created job opportunities for community members, while 40.5% of the heads of the households in the HGSFP group observed

reduction of food consumption of learners at their homes. Research has established that the active participation and full involvement of small scale farmers eradicate hunger and poverty through involving and empowering the marginalised and vulnerable populations. In the non-HGSFP group, 46.7% of the school principals and 33.3% of the teachers indicated that the FP had not much empowering of community members, while 26.4% of the heads of the households stated that the FP promoted poverty as most heads of the households became more dependent on food aids. The findings in the non-HGSFP group indicated that there was not much empowering of community members which could result in the low levels of food access by most households.

6.2 Recommendations

All investigations carried out should add to the existing information on SFPs; be it supporting the findings of former research or by turning out innovative data that challenge existing hypotheses. Due to limited resources available to conduct the study, the researcher was constrained to have a smaller population size. The findings can therefore not be generalised. However, the results from the study permitted the researcher to make several recommendations as drawn below:

- The findings of the study indicate that the FP should be decentralised to the school and community levels with more support from regional officers to ensure a more effective and sustained FP. Community participation is also key in the proper implementation and the sustainability of the FP.

- For experiencing the efficiency of a SFP, the household and community settings should be accommodating, have a common goal and value education as an unsupportive environment weakens the benefits associated with the SFPs. Therefore, complementary involvements that effectively deal with restrictions in the family unit, school, and community environments are essential if full potential of the SFP is to be attained and sustained.

- Learners should be served at least two meals in a day with one meal in the morning before the commencement of classes. This is to improve the learners' ability to

concentrate in the classroom, while at the same time adding to improvement in the nutritional status of the learners, and thus contributing to educated and healthy society members.

- The HGSFP should be implemented in a poverty stricken country, such as Swaziland, as it has been found to be a multi-advantageous programme. It breaks down the cycle that exists between rural household or community poverty and food insecurity. Hence a continually improved local economy at affordable costs, which in turn boosts up the country as a whole socio-economically can be established.

- The use of school gardens and school fields to grow vegetables and/or crops should be encouraged to assure a more sustained school feeding programme which can also help as means to combat food price hikes experienced nationally. The teachers in collaboration with community members should be involved in the proper maintenance of the school gardens for better yields.

- Policies which are currently in place concerning the SFP in Swaziland should be revised and amended towards the adoption of the HGSFP approach. A more open and clearer upgrading process in the SFP policies should be done to ensure that the benefits of the HGSFP, as determined by this study, are experienced within schools, communities, regions and countrywide. The policy amendment should include the creation of proper policies that would link local farmers to the FP in schools.

- The MoH and MoE should conduct regular monitoring visits to assess the meals served to learners in schools and to provide technical assistance on the FP so that better health can be obtained amongst learners.

- The MoE, MoA, MoH, academic institutions and NGOs in Swaziland should team up to conduct more studies on the HGSFP with a larger population size to obtain more insight in this FP and to further establish ways in which the SFP in schools could be improved.

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APPENDICES

APPENDIX A

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

INTERVIEW QUESTIONNAIRE to be used with school principals from HGSFP (Please answer all questions)

Name of school: ……..……..…… Date of interview……

Name of respondent:……..……..…..… Gender: Male ☐ Female ☐

Name of interviewer: ……..……...

Please tick (✓) in the boxes provided.

SECTION A: DEMOGRAPHIC INFORMATION

A1. Indicate how long have you been in the school and work experience in current position

	Period of work at present school	Tick	Work experience in current position	Tick
1.1	Less than a year		Less than a year	
1.2	1-5 years		1-5 years	
1.3	5-10 years		6-10 years	
1.4	More than 10 years		More than 10 years	

A2. Social status of principal

Position held within community	Position held outside the community	Position held in the past
1.	1.	1.
2.	2.	2.
3. None	3. None	3. None

SECTION B: SCHOOL ENROLMENT AND ATTENDANCE

B1. How old is the school (in years)?

1. 1-5 ☐ 2. 5-10 ☐ 3. 10-15 ☐ 4. More than 15 ☐

B2. How many learners does the school has (enrolment)?

Grade 1……..…….. Grade 2……..... Grade 3……. Grade 4……

Grade 5……..... Grade 6……. Grade 7…… TOTAL…….…..

B3. What is the age range of learners at the school?.....to……years.

B4. How many villages or localities does the school serve?

1. 1-5 ☐ 2. 5-10 ☐ 3. 10-15 ☐ 4. More than 15 ☐

B5. How has been the enrolment trend considering the past few years?

1. Dropped ☐ 2. Increased ☐ 3. Not changed ☐

B6.If there has been a change, in which year has it been noticed?.....

B7. If increased, what do you consider to be the causes? Indicate in order of priority.

1. HGSFP ☐
2. Free primary education ☐
3. Parents understand importance of education ☐
4. Community motivation ☐
5. Don't know ☐
6. Other (specify)……

B8. If decreased, what do you think is the cause? Indicate in order of priority.

1. HGSFP ☐
2. Lack of value for education ☐
3. Lack of money for school fees ☐
4. Parents understanding the importance of education ☐
5. Establishment of new primary schools ☐
6. Don't know ☐
7. Other (specify)……

B9. How is the attendance at the school?

1. Excellent ☐ 2. Good ☐ 3. Poor ☐ Very Poor ☐

B10. If the attendance at the school is bad/very bad, what is/are the possible cause(s)?

……

……

……

B11. Do you consider the cause to be related to the HGSFP?

1. Very much so ☐ 2. Somewhat ☐ 3. Not at all ☐ 4. Don't know ☐

B12. Do you have any cases of absenteeism in your school?

1. Yes ☐ 2. No ☐

B13. How would you rate the absenteeism in the school considering the past few years?

1. Very high ☐ 2. High ☐ 3. Average ☐ 4. Low ☐

B14. What are the main causes for absenteeism?

1. Sickness ☐ 2. Home chores ☐ 3. Habit ☐
4. Other (specify)…… 5. Don't know ☐

B15. Are there any dropouts usually experienced in the school?

1. Yes ☐ 2. No ☐

B16. What are the main reasons for girls drop-out? Indicate in order of priority.

1. Pregnancy ☐
2. Got married (girl) ☐

3. Lack of school fees ☐
4. Lack of motivation and desire to learn ☐
5. Don't know ☐
6. Other (specify)……..

B17. What are the main reasons for boys drop-out? Indicate in order of priority.

1. Lack of school fees ☐
2. Lack of motivation and desire to learn ☐
3. Parents separation ☐
4. Child headed family ☐
5. Don't know ☐
6. Other (specify)……

B18. How would you rate the drop-out in the school considering the past few years?

1. Very high 2. High 3. Average 4. Low

B19. Is HGSFP perceived as particularly having an impact on the drop-out rate?

1. Yes ☐ 2. No ☐

B20. If yes, please explain: …….

……..……

SECTIONC: SOURCE OF FOOD, HEALTH STATUS AND ACADEMICPERFOMANCE

C1. SOURCE OF FOOD

C1.1. How many years has the HGSFP been in the school?

1. Less than a year ☐ 2. 1-5 years ☐
3. 5-10 years ☐ 4. More than 10 years ☐

C1.2. How essential is it?

1. Essential to all learners ☐ 2. Important to most learners ☐
3 Fairly useful ☐ 4. Useful to only a few learners ☐

C1.3. Give a specific example of how it has helped……

……

……

……..

C1.4. Where does the school get food for the FP? Indicate in order of priority if more than one source

1. Government ☐
2. Farmers ☐
3. Donation from NGO ☐ (Name of NGO(s) ……..……)
4. Other (specify)……..

C1.5. For how long has the school been receivingthe food?

1.Less than a year ☐ 2. 1-5 years ☐

3. 5-10 years ☐ 4. More than 10 years ☐

C1.6. How frequent do you receive food from government and/ or NGO?

1. Daily ☐ 4. Quarterly ☐
2. Weekly ☐ 5. Every beginning of school term ☐
3. Monthly ☐ 6. Other (Specify)…….

C1.7. For each food used, indicate the food type, quantity and source of food used.

Type of food (Received)	Quantities received (50kgs, litres, etc)	Source of food (Govt, purchase, NGO)
1.		
2.		
3.		
4.		
5.		
6.		
7.		

C1.8.Is the food from government and/ or NGO enough to sustain the school until end of year?

1. Yes ☐ 2. No ☐

C1.9. If no, how do you compensate for the shortfall?.....

C1.10. How frequent does the school buy food?

1. Daily ☐ 2. Weekly ☐ 3. Monthly ☐
4. Quarterly ☐ 5. Every beginning of school term ☐

6. Other (Specify)…….……

C1.11.Please indicate the type of food purchased, amount, source of income

Type of food (purchased)	Quantities purchased (50kgs, litres, etc)	Source of income (Zondle fund, school fund)
1. Maize		
2. Beans		
3. Potatoes		
4. Milk/Sour milk		
5. Meat (cattle, goats, chickens)		
6. Sorghum		
7. Sweet potatoes		
8. Others…….		

C1.12. Does the school has a school garden specifically for the feeding programme?

1. Yes ☐ 2. No ☐

C1.13. If there is no school garden, where does the school get vegetables?.....

……

C1.14. In terms of poverty in the area, would you say the HGSFP has reduced the level of poverty in the area?

1. Yes ☐ 2. No ☐

C1.15. Why do you think so? ……

……..……...

……

C1.17. Food utilisation and effects

C1.17.1. How many times is food cooked and served in the school?

1. Once ☐ 2. Twice ☐

3. Three times ☐ 4. More than three times ☐

C1.17.2.Specify the time at which the food is served.

Meals	Type of food served	Quantity of food served	Time in which meals are served
1. Meal 1			
2. Meal 2			
3. Meal 3			

C1.17.3. Why is the food served at the time stated above (state in order of priority)?

1. Most learners leave home too early ☐
2. Most learners don't have enough to eat at home ☐
3. Learners travel long distances and arrive hungry ☐
4. The time was just chosen looking at the age of the learners ☐
5. Don't know, I found it done this way ☐
6. Other (specify)……

C1.17.4. How does the school decides what the composition of the food to be eaten by the learners should be? Indicate in order of priority.

1. School discusses with parents ☐
2. Decided by the school feeding committee ☐
2. Involve the learners ☐
3. Workshops conducted by the ministry of education ☐
4. Decided by the cook ☐
5. Other (specify)……

C1.17.5. Do all learners benefit from the HGSFP?

1. Yes ☐ 2. No ☐

C1.17.6. If not, how does the school select those to benefit?.....

……..

……

C2. HEALTH STATUS

C2.1. In your view, has the programme brought any health benefits to learners at the school?

☐ ☐

1. Yes 2. No

C2.2. Please elaborate on your answer ……..……...……..……

……

C2.3. Are there any illnesses usually observed amongst learners at the school?

1. Yes ☐ 2. No ☐

C2.4.Which types of illnesses are usually common (state in order of priority)?

1. Common cold ☐ 2. Diarrhoea ☐
3. Intestinal worms ☐ 4. Stomach ache ☐
5. Headache ☐ 6. Others (specify)…….

C2.5. Does the HGSFP has any positive/negative effects on learners' performance in class?

1. Positive ☐ 2. Negative ☐

C2.6. What effects does it has (state the effects)?.....

……..……..……

……

C3. ACADEMIC PERFORMANCE

C3.1. Does the HGSFP has an effect on academic performance?

1. Yes ☐ 2. No ☐

C3.2.As far as academic performance is concerned, how would you evaluate the effects of HGSFP?

1. Improves the learner's ability to study, remember facts and communicate any acquired knowledge ☐
2. Worsen the learner's ability to study, remember facts and communicate any acquired knowledge ☐
3. No effect ☐
4. Other (specify)……

C3.3. What makes you think it has improved/worsened/or has not effects on performance?

……..……

……...……

……..……...……

C3.4. As principal, how important do you think the HGSFP is for the education of the learners in the school?

1. Essential to the learners ☐
2. Of some value to the learners ☐
3. No value to the learners ☐

C3.5. If of any value, explain the value…….

……

……

SECTION D. FOOD SECURITY

D1. Food security at school level

D1.1. How is the economic condition of the school today compared to a year ago? (Tick one answer)

Economic Conditions	Code
Much worse	1
Worse	2
The same	3
Better	4
Much better	5

D1.2. How important is food aid to this school? (tick only one)

Importance of food aid	Code
Very important	1
Important	2
Neutral	3
Not important	4
Not important at all	5

D1.3. If important, state the kind of food aid you receive and the source of the food aid.

Type of food aid	Code	Source of food aid	Code
Food	1	Government	1
Cash	2	NGO	2
Vouchers	3	UN agency	3
Other (specify)	4	Other (specify)	4

D1.4.Food insecurity scale

How would you rate this school in terms of food security (tick one)

Level of food security	Code
Food secure	1
Slightly food secure	2
Moderately food insecure	3
Severely food insecure	4

D1.5. Months of Adequate Household Provisioning (MAHP)

1.5.1. In the past 12 months, were there months in which the school did not have enough food to meet the learners' needs?

1. Yes ☐ ☐ 2. No ☐ ☐

1.5.2. If yes, which were the months (in the past twelve months) in which the school did not have enough food to meet the learners' needs?

Months in which the school did not have enough food to meet	Yes	No
a. January	1	2
b. February	1	2
c. March	1	2
d. April	1	2
e. May	1	2
f. June	1	2
g. July	1	2
h. August	1	2
i. September	1	2
j. October	1	2
k. November	1	2
l. December	1	2

D1.6. Lived poverty index

Over the past year, how often, if ever, has the school gone without:

Conditions	Never	Just once in a	Once in six	Once in four	Every month
a. Enough food to eat?	1	2	3	4	5
b. Enough clean water for school	1	2	3	4	5
c. Medical treatment for learners	1	2	3	4	5
d. Electricity in the school	1	2	3	4	5
e. Enough fuel to cook your food?	1	2	3	4	5
f. A cash income?	1	2	3	4	5

D2. Does the school has anyone trained on nutrition that helps in the HGSFP?

1. Yes ☐ 2. No ☐

D3. If yes, what is his/her position?

1. Principal ☐ 2. HE teacher ☐ 3.Community member ☐
4. Teacher ☐ 5. No advice ☐

D4. If answer to D2 is no, where does the school normally gets nutritional advice on the food to be eaten in the school? ……

SECTION E: PARENTS/COMMUNITY PARTICIPATION:

E1. Do parents support the HGSFP?

1. Most do ☐ 2. Some do ☐ 3. Most do not ☐

E2. Do parents make financial contributions to the school towards the feeding programme?

1. Yes ☐ 2. No ☐

E3. If yes, how much per child and per term? E…….

E4. Do all parents pay? 1. Yes ☐ 2. No ☐

E5. What is the proportion of those who pay?

1. ¼ ☐ 2. ½ ☐ 3. ¾ ☐

E6. If answer to E4 is no, on average, how many did not pay last term? ……%

E7. What are normally the main causes/reasons for not paying? ……..

……..

E8. Is payment of a contribution a precondition for benefitting from the feeding programme?

1. Yes ☐ 2. No ☐

E9. How many of the staff members are involved in the administration of the programme?

1. 1 ☐ 2. 2. ☐

3. 3. ☐ 4. None ☐

E110. Is there a parent/teacher association to discuss the programme?

1. Yes ☐ 2. No ☐

E11. If so, please tell us about it……..

……

……..

E12. Any other benefits of the HGSFP you can recall?

……..……

……...……

……..…

E13. What problems have you encountered in running the HGSFP?.....

……

……

……

E14. Any further comments, suggestions or opinions about the programme.

……

……

……

Thank you for your assistance

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

INTERVIEW QUESTIONNAIRE to be used with school principals from non-HGSFP (Please answer all questions)

Name of school: ……..……..…… Date of interview……

Name of respondent:……..……..…..… Gender: Male ☐ Female ☐

Name of interviewer: ……..……...

Please tick (✓) in the boxes provided.

SECTION A: DEMOGRAPHIC INFORMATION

A1. Indicate how long have you been in the school and work experience in current position

	Period of work at present school	Tick	Work experience in current position	Tick
1.1	Less than a year		Less than a year	
1.2	1-5 years		1-5 years	
1.3	5-10 years		6-10 years	
1.4	More than 10 years		More than 10 years	

.A2. Social status of principal

Position held within community	Position held outside the community	Position held in the past
1.	1.	1.
2.	2.	2.
3. None	3. None	3. None

SECTION B: SCHOOL ENROLMENT AND ATTENDANCE

B1. How old is the school (in years)?

1. 1-5 ☐ 2. 5-10 ☐ 3. 10-15 ☐ 4. More than 15 ☐

B2. How many learners does the school has (enrolment)?

Grade 1……..…….. Grade 2…….... Grade 3……. Grade 4……

Grade 5……..... Grade 6……. Grade 7…… TOTAL……..…..

B3. What is the age range of learners at the school?.....to……years.

B4. How many villages or localities does the school serve?

1. 1-5 ☐ 2. 5-10 ☐ 3. 10-15 ☐ 4. More than 15 ☐

B5. How has been the enrolment trend considering the past few years?

1. Dropped ☐ 2. Increased ☐ 3. Not changed ☐

B6.If there has been a change, in which year has it been noticed?.....

B7. If increased, what do you consider to be the causes? Indicate in order of priority.

1. SFP ☐
2. Free primary education ☐
3. Parents understand importance of education ☐
4. Community motivation ☐
5. Don't know ☐
6. Other (specify)……

B8. If decreased, what do you think is the cause? Indicate in order of priority.

1. SFP ☐
2. Lack of value for education ☐
3. Lack of money for school fees ☐
4. Don't know ☐
5. Other (specify)……

B9. How is the attendance at the school?

1. Excellent ☐ 2. Good ☐ 3. Poor ☐ 4. Very poor ☐

B10. If the attendance at the school is bad/very bad, what is/are the possible cause(s)?

……

……

……

B11. Do you consider the cause to be related to the SFP?

1. Very much so ☐ 2. Somewhat ☐ 3. Not at all ☐ 4. Don't know ☐

B12. Do you have any cases of absenteeism in your school?

1. Yes ☐ 2. No ☐

B13. How would you rate the absenteeism in the school considering the past few years?

1. Very high ☐ 2. High ☐ 3. Average ☐ 4. Low ☐

B14. What are the main causes for absenteeism?

1. Sickness ☐ 2. Home chores ☐ 3. Habit ☐
4. Other (specify)…… 5. Don't know ☐

B15. Are there any dropouts usually experienced in the school?

1. Yes ☐ 2. No ☐

B16. What are the main reasons for girls drop-out? Indicate in order of priority.

1. Pregnancy ☐
2. Got married (girl) ☐
3. Lack of school fees ☐
4. Lack of motivation and desire to learn ☐
5. Don't know ☐
6. Other (specify)……..

B17. What are the main reasons for boys drop-out? Indicate in order of priority.

1. Lack of school fees ☐
2. Lack of motivation and desire to learn ☐
3. Don't know ☐
4. Other (specify)……

B18. How would you rate the drop-out in the school considering the past few years?

2. Very high 2. High 3. Average 4. Low

B19. Is SFP perceived as particularly having an impact on the drop-out rate?

1. Yes ☐ 2. No ☐

B20. If yes, please explain: …….

……..……

SECTIONC: SOURCE OF FOOD, HEALTH STATUS AND ACADEMICPERFOMANCE

C1. SOURCE OF FOOD

C1.1.How many years has the SFP been in the school?

1. Less than a year ☐ 2. 1-5 years ☐
3. 5-10 years ☐ 4. More than 10 years ☐

C1.2.How essential is it?

1. Essential to all learners ☐ 2. Important to most learners ☐
3.Fairly useful ☐ 4. Useful to only a few learners ☐

C1.3.Give a specific example of how it has helped……

……

……

……..

C1.4. Where does the school get food for the FP? Indicate in order of priority if more than one source

1. Government ☐
2. Farmers ☐
3. Donation from NGO ☐ (Name of NGO(s) ……..……)

4. Other (specify)……..

C1.5.For how long has the school been receiving the food?

1. Less than a year ☐ 2. 1-5 years ☐
3. 5-10 years ☐ 4. More than 10 years ☐

C1.6.How frequent do you receive food from government and/ or NGO?

1. Daily ☐
2. Weekly ☐
3. Monthly ☐
4. Quarterly ☐
5. Every beginning of school term ☐
6. Other (Specify)…….

C1.7.For each food used, indicate the food type, quantity and source of food used.

Type of food (Received)	Quantities received (50kgs, litres, etc)	Source of food (Govt, purchase, NGO)
1.		
2.		
3.		
4.		
5.		
6.		
7.		

C1.8. Is the food from government and/ or NGO enough to sustain the school until end of year?

1. Yes ☐ 2. No ☐

C1.9. If no, how do you compensate for the shortfall?.....

C1.10. Do you sometimes buy food from local farmers?

1. Yes ☐ 2. No ☐

C1.11. If Yes, please indicate the type of food purchased, amount, source of income

Type of food (purchased)	Quantities purchased (50kgs, litres, etc)	Source of income (Zondle fund, school fund)
1. Maize		
2. Beans		
3. Potatoes		
4. Milk/Sour milk		
5. Meat (cattle, goats, chickens)		
6. Sorghum		
7. Sweet potatoes		
8. Others……		

C1.12.How frequent does the school buy food?

1. Daily ☐ 2. Weekly ☐ 3. Monthly ☐
4. Quarterly ☐ 5. Every beginning of school term ☐

6. Other (Specify)……

C1.13. Does the school has a school garden specifically for the feeding programme?

1. Yes ☐ 2. No ☐

C1.15.If there is no school garden, where does the school get vegetables for the feeding programme?.....

……

C1.16.In terms of poverty in the area, would you say the SFP has reduced the level of poverty in the area?

1. Yes ☐ 2. No ☐

C1.17.Why do you think so? ……

……...

……

C1.18.As the school buys food but not from local farmers, why is it so?

……

……

C1.19.Food utilisation and effects

C1.19.1. How many times is food cooked and served in the school?

1. Once ☐ 2. Twice ☐
3. Three times ☐ 4. More than three times ☐

C1.19.2.Specify the time at which the food is served.

Meals	Type of food served	Quantity of food served	Time in which meals are served
1. Meal 1			
2. Meal 2			
3. Meal 3			

C1.19.3. Why is the food served at the time stated above (state in order of priority)?

1. Most learners leave home too early ☐
2. Most learners don't have enough to eat at home ☐
3. Learners travel long distances and arrive hungry ☐

4. The time was just chosen looking at the age of the learners ☐
5. Don't know, I found it done this way ☐
6. Other (specify)……

C1.19.4.How does the school decides what the composition of the food to be eaten by the learners should be? Indicate in order of priority.

1. Discuss it with parents ☐
2. Involve the learners ☐
3. Add vegetables from the school garden ☐
4. Other (specify)……

C1.19.5. Do all learners benefit from the SFP?

1. Yes ☐ 2. No ☐

C1.19.6. If not, how does the school select those to benefit?.....

……..

……

C2. HEALTH STATUS

C2.1. In your view, has the programme brought any health benefits to learners at the school?

1. Yes ☐ 2. No ☐

C2.2.Please elaborate on your answer ……..……..……..……

……

C2.3. Are there any hunger related illnesses usually observed amongst learners at the school?

1. Yes ☐ 2. No ☐

C2.4.Which types of illnesses are usually common (state in order of priority)?

1. Common cold ☐ 2. Diarrhoea ☐
3. Intestinal worms ☐ 4. Others (specify)…….

C2.5. Does the SFP has any positive/negative effects on learners' performance in class?

1. Positive ☐ 2. Negative ☐

C2.6. What effects does it has (state the effects)?.....

……..……..……

……

C3. ACADEMIC PERFORMANCE

C3.1. Does the SFP has an effect on academic performance?

1. Yes ☐ 2. No ☐

C3.2.As far as academic performance is concerned, how would you evaluate the effects of SFP?

1. Improves the learner's ability to study, remember facts and communicate any acquired knowledge ☐
2. Worsen the learner's ability to study, remember facts and communicate any acquired knowledge ☐
3. No effect ☐
4. Other (specify)……

C3.3.What makes you think it has improved/worsened/or has not effects on academic performance?

……

……

……

C3.4.As principal, how important do you think the SFP is for the education of the learners in the school?

1. Essential to the learners ☐
2. Of some value to the learners ☐
3. No value to the learners ☐

C3.5. If of any value, explain the value…….

……

……

SECTION D. FOOD SECURITY

D1.Food security at school level

D1.1. How is the economic condition of the school today compared to a year ago? (Tick one answer)

Economic Conditions	Code
Much worse	1
Worse	2
The same	3
Better	4
Much better	5

D1.2. How important is food aid to this school? (tick only one)

Importance of food aid	Code
Very important	1
Important	2
Neutral	3
Not important	4
Not important at all	5

D1.3. If important, state the kind of food aid you receive and the source of the food aid.

Type of food aid	Code	Source of food aid	Code
Food	1	Government	1
Cash	2	NGO	2
Vouchers	3	UN agency	3
Other (specify)	4	Other (specify)	4

D1.4.Food security scale

How would you rate this school in terms of food security (tick one)

Level of food security	Code
Food secure	1
Slightly food secure	2
Moderately food insecure	3
Severely food insecure	4

D1.5. Months of Adequate Household Provisioning (MAHP)

1.5.1. In the past 12 months, were there months in which the school did not have enough food to meet the learners' needs?

1. Yes ☐ ☐ 2. No ☐ ☐

1.5.2. If yes, which were the months (in the past twelve months) in which the school did not have enough food to meet the learners' needs?

Months in which the school did not have enough food to meet	**Yes**	**No**
a. January	1	2
b. February	1	2
c. March	1	2
d. April	1	2
e. May	1	2
f. June	1	2
g. July	1	2
h. August	1	2
i. September	1	2
j. October	1	2
k. November	1	2
l. December	1	2

D1.6. Lived poverty index

Over the past year, how often, if ever, has the school gone without:

Conditions	**Never**	**Just once in a**	**Once in six**	**Once in four**	**Every month**
a. Enough food to eat?	1	2	3	4	5
b. Enough clean water for school use?	1	2	3	4	5
c. Medical treatment for learners	1	2	3	4	5
d. Electricity in the school	1	2	3	4	5
e. Enough fuel to cook your food?	1	2	3	4	5
f. A cash income?	1	2	3	4	5

D2. Does the school has anyone trained on nutrition that helps in the SFP?

1. Yes ☐ 2. No ☐

D3. If yes, what is his/her position?

1. Principal ☐ 2. HE teacher ☐ 3.Community member ☐
4. Teacher ☐ 5. No advice ☐

D4. If answer to D2 is no, where does the school normally gets nutritional advice on the food to be eaten in the school? ……

SECTION E: PARENTS/COMMUNITY PARTICIPATION:

E1. Do parents support the SFP?

2. Most do ☐ 2. Some do ☐ 3. Most do not ☐

E2. Do parents make financial contributions to the school towards the feeding programme?

1. Yes ☐ 2. No ☐

E3. If yes, how much per child and per term? E…….

E4. Do all parents pay? 1. Yes ☐ 2. No ☐

E5. What is the proportion of those who pay?

1. ¼ ☐ 2. ½ ☐ 3. ¾ ☐

E6. If answer to E4 is no, on average, how many did not pay last term? ……%

E7. What are normally the main causes/reasons for not paying? ……..

……..

E8. Is payment of a contribution a precondition for benefitting from the feeding programme?

1. Yes ☐ 2. No ☐

E9. How many of the staff members are involved in the administration of the programme?

2. 1 ☐ 2. 2. ☐
3. 3. ☐ 4. None ☐

E110. Is there a parent/teacher association to discuss the programme?

1. Yes ☐ 2. No ☐

E11. If so, please tell us about it……..

……

……..

E12. Any other benefits of the SFP you can recall?

……..……

……..……

……..…

E13. What problems have you encountered in running the SFP?.....

……

……

……

E14. Any further comments, suggestions or opinions about the programme.

……

……

…….

Thank you for your assistance

APPENDIX B

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

INTERVIEW QUESTIONNAIRE to be used with teachers (Please answer all questions)

Name of school: ……..……..…… Date of interview……

Name of respondent:……..……..…..… Gender: Male ☐ Female ☐

Name of interviewer: ……..……...

Please tick (✓) in the boxes provided.

SECTION A: DEMOGRAPHIC INFORMATION

A1. Indicate how long have you been in the school and work experience in current position.

	Period of work at present school	Tick	Work experience in current position	Tick
1.1	Less than a year		Less than a year	
1.2	1-5 years		1-5 years	
1.3	5-10 years		6-10 years	
1.4	More than 10 years		More than 10 years	

SECTION B: SCHOOL ENROLMENT AND ATTENDANCE

B1. How many learners are in the grade 6class?.....

B2. How is the attendance in your class?

1. Excellent ☐ 2. Good ☐ 3. Poor ☐ 4. Very poor ☐

B3. Do you consider the cause to be related to the SFP?

1.Very much so ☐ 2. Somewhat ☐ 3.Not at all ☐ 4. Don't know ☐

B4. Do you have any cases of absenteeism in the grade 6 class?

1. Yes ☐ 2. No ☐

B8. How would you rate the absenteeism considering the past few years?

1. Very high ☐ 2. High ☐ 3.Average ☐ 4. Low ☐

B9. What are the main causes for absenteeism?

1. Sickness ☐ 2. Home chores 3. Habit ☐
4. Other (specify)…… 5. Don't know ☐

B10. Are there any dropouts usually experienced in the class?

1. Yes ☐ 2. No ☐

B11. What are the main reasons for dropping out? Indicate in order of priority.

1. Pregnancy ☐
2. Lack of school fees ☐
3. Lack of motivation and desire to learn ☐
4. Don't know ☐
5. Other (specify)……..

B12. How would you rate the drop-out in the class considering the past few years?

1. Very high 2. High 3. Average 4. Low

B13. Is the SFP perceived as particularly having an impact on the drop-out rate?

1. Yes ☐ 2. No ☐

B14. If yes, please explain: …….

……..……

SECTIONC: SOURCE OF FOOD, HEALTH STATUS AND ACADEMIC PERFOMANCE

C1. SOURCE OF FOOD

C1.1. Based on your observation in the class, would you say the FP has reduced the level of hunger in the learners?

1. Yes ☐ 2. No ☐

C1.2. Why do you say so? Please explain……..…….....

……..

C1.3. In terms of poverty in the area, would you say the FP has reduced the level of poverty in the area?

1. Yes ☐ 2. No ☐

C1.4. Why do you think so? …….

……..……...

C1.5. Do all learners in your class benefit from the FP?

1. Yes ☐ 2. No ☐

C2. HEALTH STATUS

C2.1. In your view, has the programme brought any health benefits to school learners?

1. Yes ☐ 2. No ☐

C2.2.Please elaborate on your answer…….……

……

……..….

C2.3. Are there any illnesses usually observed amongst the learners?

1. Yes ☐ 2. No ☐

C2.4.Which types of illnesses are usually common (state in order of priority)?

1. Common cold ☐
2. Diarrhoea ☐
3. Intestinal worms ☐
4. Others (specify)……..……

C2.5. Does the FP has any positive/negative effects on learners' performance in the class?

1. Positive ☐ 2. Negative ☐

C2.6. What effects does it has (state the effects)?.....

……..……

……..……

C3. ACADEMIC PERFORMANCE

C3.1. Does the FP has effects on academic performance in your class?

1. Yes ☐ 2. No ☐

C3.2. Explain your answer to C3.1……..

…….

C3.3. As far as academic performance is concerned, how would you evaluate the effects of the FP.

1. Improves the learner's ability to study, remember facts and communicate any acquired knowledge ☐
2. Worsen the learner's ability to study, remember facts and communicate any acquired knowledge ☐
3. No effect ☐
4. Other (specify)……

C3.4. What makes you think it has improved/worsened/or has no effects on academic performance?

……

……

……

C3.5. As teachers, how important do you think the FP is for the education of the learners in the school?

1. Essential to the learners ☐
2. Of some value to the learners ☐
3. No value to the learners ☐

C3.6. If of any value, explain the value…….

……

……

SECTION D: PARENTS/COMMUNITY PARTICIPATION

D1 Have you ever heard about a parent/teacher association?

1. Yes ☐ 2. No ☐

D2. Does the school have the parent/teacher association?

1. Yes ☐ 2. No ☐

D3. If the school has one, are you a member of the association?

1. Yes ☐ 2. No ☐

D4. Is it optional to be a member?

1. Yes ☐ 2. No ☐

D5. If there is the association in this school, what is its role? (Specify)……..……

……

……

D6. Any other benefits of the programme you can recall?.....

……

……

……..

D7. Any further comments, suggestions or opinions about the programme.

……

……

……

Thank you for your assistance.

APPENDIX C

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

INTERVIEW QUESTIONNAIRE to be used with heads of the households (Please answer all questions)

Name of school: ……..……..…… Date of interview……

Name of interviewee:……..……..…..… Name of interviewer: ……

Name of child:……

Relationship of interviewee to child (mother, grandparent, uncle, etc.)……

Age ……

Please tick (✓) in the boxes provided.

SECTION A: DEMOGRAPHIC INFORMATION

A1. How long have you been in the community and position you occupy in the area if any.

	Period of residence in the area	Tick	Position occupied in the area	Tick
1.1	Less than a year		Community motivator	
1.2	1-5 years		Community police	
1.3	5-10 years		Community leader	
1.4	More than 10 years		Other (specify)……	
			No position held	

A2. Indicate your gender, marital status and education level

Male.....		Female.....			
Marital Status	Tick	Marital Status	Tick	Education level	Tick
1. Single		Single		1. No formal education	
2. Married		Married		2. Primary education	
3. Widowed		Widowed		3. Secondary Education	
4. Divorced		Divorced		4. Skill training	
5. Still young		Still young		5. Tertiary Education	

A3. Household size……..…

SECTIONB: SCHOOL ATTENDANCE

B1. Do you have children who dropped out of school?

1. Yes ☐ 2. No ☐

B2. What is the major cause of your girl child dropping out of school?

1. Poverty/Lack of money ☐
2. Pregnancy ☐
3. lack of commitment ☐
4. Lack of food at school ☐
5. Don't know ☐
6. Other (specify)……

B3. What is the major cause of your boy child dropping out of school?

1. Poverty/Lack of money ☐
2. lack of commitment ☐
3. Lack of food at school ☐
4. Don't know ☐
5. Other (specify)……

B4. Do you have children who absent themselves from school in your household?

1. Yes ☐ 2. No ☐

B5. What is the main cause for their absenteeism?

1. Lack of commitment ☐ 2. Lack of bus fare ☐

3. Don't know ☐ 4. Other (specify)……

B6. Is the SFP perceived as having an impact on your children's drop out?

1. Yes ☐ 2. No ☐

B7. Please explain how……

……

……

B8. Do you think it is a good idea for the school to cook and serve food to learners?

1. Yes ☐ 2. No ☐

B9. Please tell us more……

……

……

SECTION C: SOURCE OF FOOD, HEALTH STATUS AND ACADEMIC PERFOMANCE

C1. SOURCE OF FOOD

C1.1. How do you earn a living? Indicate in order of priority.

1. Agriculture or crop production ☐
2. Wage employment ☐
3. livestock farming ☐
4. Self-employed ☐
5. On-farm employment ☐
6. Other (specify)……

C1.2. If engaged in agriculture (crop production, or livestock), indicate how you dispose your products? Indicate in order of priority.

1. Sell to schools ☐ 2. Sell to shops ☐ 3. Sell to community members ☐

4.Consume ☐ 5. Other (Specify)……

C1.3. Would you say that selling your products to schools also improves the nutritional status of your household?

1. Very much so ☐ 2. Somewhat ☐ 3. Not at all ☐

C1.4. Why? Explain...……

……

……

C1.5. What would you say about the level of benefit from SFP?

1. Highly beneficial ☐ 2. Beneficial ☐
3. Somewhat beneficial ☐ 4. Not beneficial ☐

C1.6. Could you explain your answer.

……

……

C2. HEALTH STATUS

C2.1. In your view, has the programme brought any health benefits to your school going children?

1. Yes ☐ 2. No ☐

C2.2.Please elaborate on your answer……

……

……

C2.3. Are there any illnesses usually observed among your school going children?

1. Yes ☐ 2. No ☐

C2.4.Which types of illnesses are usually common (state in order of priority)?

1. Common cold ☐
2. Diarrhoea ☐
3. Intestinal worms ☐
4. Others (specify)……..……

C2.5. Does the SFP has any positive/negative effects on your child's performance at school?

1. Positive ☐ 2. Negative ☐

C2.6. What effects does it has (state the effects)?.....

……

..……

C3. ACADEMIC PERFORMANCE

C3.1. Does the SFP has effects on academic performance of your child?

1. Yes ☐ 2. No ☐

C3.2. Explain your answer to C3.1……..

…….

C3.3. As far as academic performance is concerned, how would you evaluate the effects of the FP?

1. Improves the learner's ability to concentrate and understand facts ☐
2. Worsen the learner's ability to concentrate and understand facts ☐
3. No effect ☐
4. Other (specify)……

C3.4. What makes you think it has improved/worsened/or has no effects on academic performance?

……

……

……

C3.5. As a parent, how important do you think the FP is for the education your child at school?

1. Essential to the learners ☐
2. Of some value to the learners ☐
3. No value to the learners ☐

C3.6. If of any value, explain the value…….

……

……

SECTION D. FOOD SECURITY

D1. Food security at household level

D1.1. How is the economic condition at your household today compared to a year ago? (Tick one answer).

Economic Conditions	Code
Much worse	1
Worse	2
The same	3
Better	4
Much better	5

D1.2. How important is food aid to your household? (Tick only one)

Importance of food aid	Code
Very important	1
Important	2
Neutral	3
Not important	4
Not important at all	5

D1.3. If important, state the kind of food aid you receive and the source of the food aid.

Type of food aid	Code	Source of food aid	Code
Food	1	Government	1
Cash	2	NGO	2
Vouchers	3	UN agency	3
Other (specify)	4	Other (specify)	4

D1.4. Household food security scale

How would you rate this household in terms of food security (tick one)

Level of food security	Code
Food secure	1
Slightly food secure	2
Moderately food insecure	3
Severely food insecure	4

D1.5. Months of Adequate Household Provisioning (MAHP)

D1.5.1. In the past 12 months, were there months in which you did not have enough food to meet your family's needs?

1. Yes ☐ ☐ 2. No ☐ ☐

D1.5.2. If yes, which were the months (in the past twelve months) in which you did not have enough food to meet you family needs?

Months in which the household did not have enough food to meet	Yes	No
a. January	1	2
b. February	1	2
c. March	1	2
d. April	1	2
e. May	1	2
f. June	1	2
g. July	1	2
h. August	1	2
i. September	1	2
j. October	1	2
k. November	1	2
l. December	1	2

D1.6. Lived poverty index

Over the past year, how often, if ever, have you household gone without:

Conditions	Never	Just once in a	Once in six	Once in four	Every month
a. Enough food to eat?	1	2	3	4	5
b. Enough clean water for school	1	2	3	4	5
c. Medical treatment for learners	1	2	3	4	5
d. Electricity in the school	1	2	3	4	5
e. Enough fuel to cook your food?	1	2	3	4	5
f. A cash income?	1	2	3	4	5

D2. FOOD CONSUMPTION

D2.1.How many times do you have food cooked and served per day in your household?

1. Once ☐ 2. Twice ☐
3. Three times ☐ 4. More than three times ☐

D2.2. Indicate the food consumed and number of times each food product is consumed in your household

Food products	Number of times used in a week/month
1.Grains	
2. Cereals	
3. Meat	
4. Fish	
5. Legumes	
6. Vegetables	
7. Fruits	

D3. Any other benefits of the FP you can recall?

……

……

D4. Any further comments, suggestions or opinions about the programme.

……

……

……

……

Thank you for your assistance.

APPENDIX D

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

INTERVIEW QUESTIONNAIRE to be used with farmers (Please answer all questions)

Name of school: ……..……..…… Date of interview……

Name of respondent:……..……..…..… Name of interviewer: ……

Age ……..

Please tick (✓) in the boxes provided.

SECTION A: DEMOGRAPHIC INFORMATION

A1. How long have you been in the community and position you occupy in the area if any.

	Period of residence in the area	tick	Position occupied in the area	tick
1.1	Less than a year		Community motivator	
1.2	1-5 years		Community police	
1.3	5-10 years		Community leader	
1.4	More than 10 years		Other (specify)……..	
			No position held	

A2. Indicate your gender, marital status and education level

Male.....		Female.....			
Marital Status	Tick	Marital Status	Tick	Education level	Tick
1. Single		Single		1. No formal education	
2. Married		Married		2. Primary education	
3. Widowed		Widowed		3. Secondary Education	
4. Divorced		Divorced		4. Skill training	
5. Still young		Still young		5. Tertiary Education	

A3. Household size……..…

SECTIONB: SCHOOL ATTENDANCE

B1. Do you have children who dropped out of school in your household?

1. Yes ☐ 2. No ☐

B2. What is the major cause of your girl child dropping out of school?

1. Poverty/Lack of money ☐
2. Pregnancy ☐
3. lack of commitment ☐
4. Lack of food at school ☐
5. Don't know ☐
6. Other (specify)……

B3. What is the major cause of your boy child dropping out of school?

1. Poverty/Lack of money ☐
2. lack of commitment ☐
3. Lack of food at school ☐
4. Don't know ☐
5. Other (specify)……

B4. Do you have children who absent themselves from school in your household?

1. Yes ☐ 2. No

B5. What is the main cause for their absenteeism? ☐

1. Lack of commitment ☐ 2. Lack of bus fare ☐

3. Don't know ☐ 4. Other (specify)……

B6. Is the FP perceived as having an impact on your children's drop out?

1. Yes ☐ 2. No ☐

B7. Please explain how……

……

……

B8. Do you think it is a good idea for the school to cook and serve food to the learners?

1. Yes ☐ 2. No ☐

B9. Please tell us more……...

……

SECTION C: SOURCE OF FOOD, HEALTH STATUS AND ACADEMIC PERFOMANCE

C1. SOURCE OF FOOD

C1.1. How do you earn a living? Indicate in order of priority.

1. Agriculture or crop production ☐
2. Wage employment ☐
3. livestock farming ☐
4. Self-employed ☐
5. On-farm employment ☐
6. Other (specify)……

C1.2. As you are engaged in agriculture (crop production, or livestock), indicate how you dispose your products? Indicate in order of priority.

1. Sell to schools ☐ 2. Sell to shops ☐ 3. Sell to community members ☐

4.Consume ☐ 5. Other (Specify)……

C1.3. As you are engaged in agriculture, indicate the crops grown and/or animals reared? Indicate in order of priority.

Crops or Fruitsgrown/ Animal reared
Crops Grown
1.
2.
3.
4.
5.
6.
7.
Fruits Grown
1.
2.
3.
4.
Livestock reared
1.
2.
3.

C1.4. Please indicate the products sold, school(s) that purchase and disposal of the income. Indicate in order of priority.

Crops grown	School(s)	Use of income
1. Maize		
2. Beans		
3. Sorghum		
4. Sweet potatoes		
5. Potatoes		
6. Groundnuts		
7. Jugo beans		
8. Soya beans		
9. Other (specify)……		

C1.5. How long have you been selling your products to the schools?

1.Less than a year ☐ 2. 1-5 years ☐

3. 5-10 years ☐ 4. More than 10 years ☐

C1.6. Has selling your products to school(s) improved your household food security?

1. Yes ☐ 2. No ☐

C1.7. Please elaborate on your answer……

…..……

……..

C1.8. What would you say about the level of benefit of the HGSFP?

1. Highly beneficial ☐ 2. Beneficial ☐
3. Somewhat beneficial ☐ 4. Not beneficial ☐

C1.9. Why do you say so……..……

…..……

……..

C2. HEALTH STATUS

C2.1. In your view, has the HGSFP brought any health benefits to your school going children?

1. Yes ☐ 2. No ☐

C2.2.Please elaborate on your answer……..……

……

……..…….

C2.3. Are there any illnesses usually observed among your school going children?

1. Yes ☐ 2. No ☐

C2.4. Which types of illnesses are usually common (state in order of priority)?

1. Common cold ☐
2. Diarrhoea ☐
3. Intestinal worms ☐
4. Others (specify)……..……

C2.5. Does the HGSFP has any positive/negative effects on your child's performance at school?

1. Positive ☐ 2. Negative ☐

C2.6.What effects does it have? (State the effects).....

……

..……..……

C3. ACADEMIC PERFORMANCE

C3.1. Does the HGSFP has effects on academic performance of your child?

1. Yes ☐ 2. No ☐

C3.2. Explain your answer to C3.1……..

…….

C3.3. As far as academic performance is concerned, how would you evaluate the effects of the FP?

1. Improves the learner's ability to concentrate and understand facts ☐
2. Worsen the learner's ability to concentrate and understand facts ☐
3. No effect ☐

Other (specify)……

C3.4. What makes you think it has improved/worsened/or has no effects on academic performance?

……..……

……..……

……..……

C3.5. As a farmer, how important do you think the FP is for the education of your child at school?

1. Essential to the learners ☐
2. Of some value to the learners ☐
3. No value to the learners ☐

C3.6. If of any value, explain the value…….

……

……

SECTION D. FOOD SECURITY

D1. Food security at household level

D1.1. How is the economic condition at your household today compared to a year ago? (Tick one answer only).

Economic Conditions	Code
Much worse	1
Worse	2
The same	3
Better	4
Much better	5

D1.2. How important is food aid to your household? (Tick only one)

Importance of food aid	Code
Very important	1
Important	2
Neutral	3
Not important	4
Not important at all	5

D1.3. If important, tick the type of food aid you receive and the source of the food aid.

Type of food aid	Code	Source of food aid	Code
Food	1	Government	1
Cash	2	NGO	2
Vouchers	3	UN agency	3
Other (specify)	4	Other (specify)	4

D1.4. Household food security scale

How would you rate this household in terms of food security (tick one).

Level of food security	Code
Food secure	1
Slightly food secure	2
Moderately food insecure	3
Severely food insecure	4

D1.5. Months of Adequate Household Provisioning (MAHP)

D1.5.1. In the past 12 months, were there months in which you did not have enough food to meet your family's needs?

1. Yes ☐ ☐ 2. No ☐ ☐

D1.5.2. If yes, which were the months (in the past twelve months) in which you did not have enough food to meet you family needs?

Months in which the household did not have enough food to meet needs	Yes	No
a. January	1	2
b. February	1	2
c. March	1	2
d. April	1	2
e. May	1	2
f. June	1	2
g. July	1	2
h. August	1	2
i. September	1	2
j. October	1	2
k. November	1	2
l. December	1	2

D1.6. Lived poverty index

Over the past year, how often, if ever, have your household gone without:

Conditions	Never	Just once in a year	Once in six months	Once in four months	Every month
a. Enough food to eat?	1	2	3	4	5
b. Enough clean water for school use?	1	2	3	4	5
c. Medical treatment for learners	1	2	3	4	5
d. Electricity in the school	1	2	3	4	5
e. Enough fuel to cook your food?	1	2	3	4	5
f. A cash income?	1	2	3	4	5

D2. FOOD CONSUMPTION

D2.1. How many times did you have food served per day before you started selling to schools?

1. Once ☐ 2. Twice ☐
3. Three time ☐ 4. More than three times ☐

D2.2. After you started selling your products to schools, how many times do you have food served per day?

1. Once ☐ 2. Twice ☐

3. Three time ☐ 4. More than three times ☐

D2.3. What do you think causes the change in the number of times food is served per day?

……..

……..

……

D2.4. Indicate the food consumed and the number of times these foods are consumed in your household.

Before you stated selling your products to schools

Food products	Number of times used in a week/month	Source of income for purchasing foods
1.Grains		
2. Cereals		
3. Meat		
4. Fish		
5. Legumes		
6. Vegetables		
7. Fruits		

After you started selling your products to schools

Food products	Number of times used in a week/month	Source of income for purchasing foods
1.Grains		
2. Cereals		
3. Meat		
4. Fish		
5. Legumes		
6. Vegetables		
7. Fruits		

D3. HOME GROWN SCHOOL FEEDING PROGRAMME

D3.1. Who is responsible for the HGSFP?

……..

……..

……..

D3.2. How is the HGSFP managed?

……..

……..

……..

D3.3. What is usually produced? Please indicate in order of priority

……..

……..

……..

D3.4. Who decides what is to be planted?

……..

……..

……..

D3.5 Sustainability of the programme

D3.5.1. How is the program financed……

……..

……..

D3.5.2. Is programme monitoring and evaluation done?

1. Yes ☐ ☐ 2. No ☐ ☐

D3.5.3. How is it done? Please, explain……

……..

……..

D3.5.4 How frequent is programme monitoring and evaluation done?

1. Once a month ☐ 2. At the end of a school term ☐ .

3. Every beginning of school term ☐ 4. Once a year ☐

5. Other (specify)…….

D3.5.5. What is done to maintain constant communication between the farmers and the school?

……..

……..

……..

D3.5.6. Is there evidence that monitoring results have had an impact on changing the programme design and/or implementation,

1. Yes ☐ ☐ 2. No ☐ ☐

D3.5.7. Please explain further……..……..……..

……..……..

……..……..

D3.5.8. Is there evidence that participation in the programme has led to empowerment of individuals within the community?

1. Yes ☐ ☐ 2. No ☐ ☐

D3.5.9. If so, who has benefited?

……..……..

……..……..

D3.5.10. In what ways, please explain?

……..……..

……..……..

D3.5.11. What can further be done to make sure that this feeding programme last for many years?

……..……..

……..……..

……..……..

D3.5.12.Any other benefits of the HGSFP you can recall?

……

……

……

D3.5.13. Any further comments, suggestions or opinions about the programme.

……..……..

……..……

……..

Thank you for your assistance.

APPENDIX E

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

Focus Group Guide for the parents/farmers

A) Food security and production

First, I would like to know something about how you earn a living in this area.

Probe: Could you please explain.

What do you use as a source of income?

Probe: Explain further.

I would like to know the farming activities in this area that you are engaged in.

Probes: What do you cultivate/grow?

How much do you grow?

How do you dispose your products?

In terms of poverty in the area, would you say the SFP has reduced the level of poverty in the area?

Probe: In what ways,explain further?

Would you say the SFP has reduced the level of hunger in the school?

B) Awareness about School Feeding Programme

Are you aware of the free meals programme to schools?

Probes: Can you tell me what you know about it?

How did you hear about it?

C) General Benefits and perceived problems

What do you perceive as the benefits of the programme if any?

Probe: In what ways?

What do you consider to be problems if any?

Probe: Could you please explain.

D) Nutritional and health benefits

I would like us to talk about SFP's influence on well-being of learners. In your views, has the programme brought any health benefits to the learners?

Probe: In what way, explain further?

E) School attendance and academic performance

In your views, has the introduction of the scheme influenced learners' attendance and academic performance in school?

Probes: Why or why not

F) Closing

Any other benefits of the SFP you can recall?

Probes? Whydo you say so?

In your opinion, what can you say about the current programme?

Probes? Whydo you say so?

Are there any suggestions or comments about the programme?

Focus Group Guide for teachers

A) Food security

First, I would like us to talk about poverty in the area, would you say the SFP has reduced the level of poverty in the area?

Probe: In what ways, explain further?

Would you say the SFP has reduced the level of hunger in the school?

Probe: Could you please explain.

B) School attendance and academic performance

In your views, has the introduction of the scheme influenced learners' attendance in the school?

Probes: Why or why not

As far as academic performance is concerned, how would you evaluate the effects of SFP?

Probe: Could you please explain.

C) Nutritional and health benefits

I would like us to talk about SFP's influence on well-being of learners. In your views, has the programme brought any health benefits to the learners?

Probe: In what way, explain further?

D) General Benefits and perceived problems

What do you perceive as the benefits of the programme if any?

Probe: In what ways?

What do you consider to be problems if any?

Probe: Could you please explain.

E) Closing

In your opinion, what can you say about the current programme?

Probes? Why do you say so?

Are there any suggestions or comments about the programme?

Focus Group Guide for learners

A) Food security

First, I would like to know something about how you earn a living in this area.

Probe: Could you please explain.

What do you use as a source of income?

Probe: Explain further.

In terms of poverty in the area, would you say the SFP has reduced the level of poverty in the area?

Probe: In what ways, explain further?

Would you say the SFP has reduced the level of hunger in the school?

Probe: Could you please explain

B) School attendance and academic performance

In your views, has the introduction of the scheme influenced learners' attendance in the school?

Probes: Why or why not

As far as academic performance is concerned, how would you evaluate the effects of SFP?

Probe: Could you please explain.

C) Nutritional and health benefits

I would like us to talk about SFP's influence on well-being of learners. In your views, has the programme brought any health benefits to the learners?

Probe: In what way, explain further?

D) General Benefits and perceived problems

What do you perceive as the benefits of the programme if any?

Probe: In what ways?

What do you consider to be problems if any?

Probe: Could you please explain.

E) Closing

Any other benefits of the SFP you can recall?

Probes? Why do you say so?

In your opinion, what can you say about the current programme?

Probes? Whydo you say so?

Are there any suggestions or comments about the programme?

APPENDIX F

CONSENT FORM

COMPARATIVE PERCEPTIONS OF THE HOME-GROWN SCHOOL FEEDING PROGRAMME VERSUS THE NON-HOME GROWN SCHOOLFEEDING PROGRAMME ON ASPECTS OF LEARNERS' PERFOMANCES AND FOOD SECURITY IN THE LUBOMBO REGION, SWAZILAND

ETHICS COMMITTEE REFERENCE NUMBER **EC130110-102**

DECLARATION BY PARTICIPANT

I, the undersigned ……hereby give my permission to take part in the above mentioned research study. I understand that the aim of the study is to and describe and explore the HGSF programme in the Lubombo region of Swaziland. Advantages for my participation in the study include my contributions to the exploration and functioning of the HGSFP in the Lubombo region of Swaziland at school and community levels; how it is perceived within schools, households, and communities and how it probably affects education, well being, its sustainability in the schools, its impact on household food security and its poverty reduction potential within households where this feeding programme is implemented. I understand that I have agreed to take part in the study on a voluntary basis. I understand that I may withdraw from the study at any time without any consequences. I understand that I cannot hold the University of Pretoria for any inconvenience that I may experience because of the study.

Signature …… Date……

DECLARATION BY THE RESEARCHER

I, ……declare that I have explained the information about this study to the participant named above and I asked her to ask any questions for clarification if something was not clear to him/her.

Signature …… Date……
(Researcher)

Signature …… Date……
(Witness)

APPENDIX G

100
1908 - 2008

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UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Denkleiers • Leading Minds • Dikgopolo tša Dihlalefi

Faculty of Natural and Agricultural Sciences

CENTRE FOR NUTRITION

11 June 2011

To whom it may concern

Dear Sir/Madam

Home grown school feeding programme: Sustaining the feeding programme and reducing poverty in Swaziland: MSc Ms Philisiwe Mamba

Ms Mamaba is a registered MSc Nutrition student with the Centre for Nutrition, University of Pretoria. She would like to pursue her research topic as stated above. We herewith kindly request your permission and support to conduct this cross sectional study in the Lubombo region of Swaziland. The study is questionnaire based. It does not include any invasive measurements. Ms Mamba will seek ethical clearance for this study from the ethics committee of the University of Pretoria.

We trust you will be in support of this study. If you need any further information please feel free to contact Prof A Oelofse, Director: Centre for Nutrition at +27 12 4206017 or andre.oelofse@up.ac.za.

Yours sincerely

Prof A Oelofse PhD (Wageneningen)
Director: Centre for Nutrition

University of Pretoria
PRETORIA 0002
Republic of South Africa

Tel: +27 (0)12 420 6030
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E-mail: andre.oelofse@up.ac.za

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APPENDIX H

MINISTRY OF EDUCATION & TRAINING:

Kingdom of Swaziland

The Regional Education Office,
P.O. Box 104,
SITEKI:
L 300
SWAZILAND

Phone (09268) 3434127/9
Fax: (09268) 3434507

Ref: 18th June, 2012.

The Headteacher,
.....

Dear Sir/Madam,

REQUEST FOR ALLOWING PHILSIWE MAMBA A STUDENT AT PRETORIA UNIVERSITY TO COLLECT INFORMATION FOR A STUDY ON HOME GROWN SCHOOL FEEDING PROGRAMME.

May I kindly request your office to allow the above named person to collect information at your school regarding the study mentioned above.

I hope your assistance will be of great value to the study.

Thank you.

Yours Faithfully,

Ministry of Education
P. O. Box 104
Siteki
18 JUN 2012
R E O Lubombo

W.S. MDLULI:
R.E.O/LUBOMBO.