

**DETERMINANTS OF THE PUBLIC PRIMARY SCHOOL FEEDING PROJECT  
SUSTAINABILITY IN NORTH-HORR SUB COUNTY IN MARSABIT COUNTY,  
KENYA**

**BARILLE KIMANZI GODANA**

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## DECLARATION

This is my original work and has not been presented for examination in any other university.

Signature \_\_\_\_\_ Date \_\_\_\_\_

**BARILLE KIMANZI GODANA**

**L50/30693/2019**

Declaration by the supervisor

This project report has been submitted with my approval as university supervisor.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Dr. ANTHONY NDUNGU (PH. D)

Lecturer and Coordinator Open. Distance eLearning Campus-Nyeri Branch (University of Nairobi)

## **DEDICATION**

I dedicate this special piece of my work to my lovely Parents Okotu and Godana Barille. For having given me opportunity to get education which is the goal of Success.

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## ABBREVIATIONS AND ACRONYMS

<b>ASAL</b>	Arid and Semi-Arid Lands
<b>BECE</b>	Basic Education Certificate Examination
<b>BSFP</b>	Blanket Supplementary Feeding Project
<b>ECE</b>	Early Childhood Education
<b>EEPCT</b>	Education in Emergencies and Post-Crisis Transition
<b>FAO</b>	Food and Agriculture Organization
<b>FFE</b>	Foundation for Excellence
<b>FPE</b>	Free Primary Education
<b>GER</b>	Gross Enrolment Rate
<b>HGSFP</b>	Homegrown School Feeding Project
<b>ICS</b>	International Christelijk Steunfonds
<b>KENPRO</b>	Kenya Projects Organization
<b>KESSP</b>	Kenya Education Sector Support Project
<b>MVC</b>	Most Vulnerable Child
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NESP</b>	National Education Sector Plan
<b>NGOs</b>	Nongovernmental Organizations
<b>NSNP</b>	National School Nutrition Project
<b>PTAs</b>	Parent-Teacher Association
<b>SFPs</b>	School Feeding Projects
<b>BOM</b>	Board of Management
<b>SPSS</b>	Statistical Package for Social Sciences
<b>SWAP</b>	Sector Wide Approach
<b>UN</b>	United Nations
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNICEF</b>	United Nations Children's Fund
<b>UPE</b>	Universal Primary Education
<b>USA</b>	United States of America
<b>USDA</b>	United States Department of Agriculture
<b>WFP</b>	World Food Project

## ABSTRACT

Hunger and poverty directly correlate to both educational attendance and performance. Children from poor rural communities of such as North-Horr Sub County in Marsabit County suffer a lack of access to schools, as they are required to walk long distances to school many a times on empty stomachs without surety of lunch. The School Feeding Projects have the prospective to upsurge access to primary education, decrease dropout rates and boost academic achievement of pupils. The purpose of this study was to determine the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. Specifically, the study sought to determine the influence of resource availability, parental involvement, infrastructure and school management practices on the sustainability of public primary school feeding project. The study was based on Abraham Maslow's Theory of Hierarchy of Needs and Epstein's Theory. Descriptive survey research design was applied to undertake the study of the research problem. The total target population consisted of 15 public primary schools in North Horr District. The unit of analysis comprise of 150 teachers, 15 head teachers and 4 Area Education Officers. Stratified proportionate random sampling technique was used to get a sample size of 119. Primary data was obtained using self-administered questionnaires. The questionnaires were given to the respondents through the drop and pick method. Data was analysed using Statistical Package for Social Sciences (SPSS Version 25.0). Referencing of all received questionnaires was done and coding of questionnaire items was done for facilitating data entry. After data cleaning which entailed checking for errors in entry, descriptive statistics such as frequencies, percentages, mean score and standard deviation was estimated for all the quantitative variables. The qualitative data from the open-ended questions was analysed using thematic content analysis and presented in narrative form. Inferential data analysis was done using multiple regression analysis and Pearson correlation analysis. Information was presented in form of tables. The findings of the study were that there is capacity to plan and manage budget needs. The study also found that parents are consulted when designing the project. Further, it was found that the watering taps were not plenty in the school; and the kitchen equipment was not well maintained. The research found that the management maintains personnel records and data. The conclusions of the were that parental involvement had the greatest influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, followed by infrastructure, then resource availability while school management practices had the least influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. The study recommended that governments should create dedicated funds with a mandate to provide financing for storage infrastructure projects. The study also recommended that the programme managers and policy makers should build a consensus on policies and objectives that focus on how SFP can effectively contribute to improving education and meet the nutrition and health needs of school age children.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Early Childhood Education (ECE) is fundamental level of learning since it provides children with a firm foundation in learning. Further, it prepares children for primary learning as well as other levels of learning and to become healthy individuals for social life (Murungi, 2012). This call for ensuring that every child participates in ECE and this can be ensured through provision of School Feeding Projects (SFPs) in schools. School feeding project is a tool, which today successfully enables hundreds of millions of poor children worldwide to go to school in developed and developing countries alike. School Feeding Projects (SFPs) aims objectives to improve children's capability to think and understand information by lessening short-term hunger, improve turnout rates and reducing afternoon absenteeism. The long-term objective of the SFP is to assist in the promotion of Universal Primary Education (UPE) to the socio-economically destitute and nutritionally susceptible children especially girls in the pre-primary and primary schools in targeted areas (Khatete, Pendo & Oyabi, 2013). The short-term objectives are to offer meals or snacks to reduce short-term hunger so that the pupils can fully participate in class and learn better and to encourage children to school and have them be consistent in school.

Frequent and severe droughts in the historically precarious Arid and Semi-Arid Lands (ASALs) and scarce water shortages have greatly affected food production. The ASAL, home to roughly 30 percent of the Kenyan population, has suffered through the perennial crippling social effects of recently intensifying droughts and food shortages. Kenya's school-aged population is among the groups most negatively impacted by harsh climatic and social-economic factors, which contribute not only to high rates of food insecurity and malnutrition but also to school dropout (Republic of Kenya (ROK), 2017). The childhood subjected malnutrition imposes significant economic costs on individuals and nations, and by improving children's diets and nutrition can we have positive effects on their academic performance and behaviors at school as well as their long-term productivity as adults (Republic of Kenya (ROK), 2016).

Under feeding has been found to be one of the factors that contribute to delay to entry in school and less overall schooling. To alleviate health and developmental consequences of childhood malnutrition, increase primary school enrolment and combat social pressures that limit

educational opportunities for girls, the Kenyan government began school-feeding programme in 1980 (World Bank, 2012). The initiative, significantly backed by World Food Programme (WFP) funds and management, is one of the largest and longest-standing school feeding partnerships of its kind. In 2008, the programme served 1.2 million children in 3,600 schools nearly 21.3 percent of all primary school pupils in Kenya. School Feeding Programmes have continued to play an integral part in realizing Kenya's goal of attaining universal primary education (Kibet, 2017).

### **1.1.1 Global Perspective**

Virtually every country in the world today, whether high or low income pursues to feed at least some of its children through federal assistance. Yet, despite the popularity, people still ask questions about the indication of its effectiveness, and there is still struggle to establish what makes for a successful project (Moucheraud et al., 2020). In the United States of America (USA), the Lunch Act was passed with the aim of improving the health and well-being of the school children. At the national level, the United States Department of Agriculture (USDA) gives the National School Breakfast Project and National Lunch Project at the locally. State education agencies operate the projects (Aliyar, Aulo & Hamdani, 2015).

The Government of Bangladesh and the UN World Food Project launched the school feeding project in July 2002 in order to lower hunger in the classroom and to realize higher enrollment and to ensure they don't dropout. This was done in areas with food insecurity of Bangladesh. School Feeding Project (SFP) was a motivational factor to primary school children which is opposed to giving money and food to their parents in order to send their children to school (Sedro, 2019). In the United Kingdom, all primary and middle schools provide a midday meal for any pupil who wants one. School meals are prepared freshly everyday on the same premises using high quality, locally sourced food. Each school has an individual menu that is designed in consultation with Head Teachers, pupils and parents. The catering teams are on hand throughout the lunch to encourage children to choose a healthy meal. Primary and middle schools serve a fully inclusive two course meal at a cost of 1.95 pounds (Zoeller, 2020).

### **1.1.2 Continental Perspective**

In Africa, South Africa established a National School Nutrition Project (NSNP) that aimed to provide meals to the neediest learners. The meals which were provided in school were therefore,

intended to give energy for mental and physical activities for the body and brain to function and to make the learners alert and receptive during lessons. Children were fed before 10:00 hours so as to give them the energy to concentrate and be alert in class (Borish, King & Dewey, 2017). Over the past four decades, World Food Project (WFP) became the world's foremost provider of school meals to poor children especially in Tanzania. In addition to providing free midday meals, WFP provided pupils with take-home rations for the family, which encouraged parents to send their boys and girls to class. School feeding initiatives target the most food-insecure areas of Tanzania with low school enrolment, irregular school attendance, and high primary school drop-out rates. Tanzanian schools distribute nutritious food primarily to school children, particularly girls, as a means of increasing enrolment and attendance rates, decreasing drop-out rates, as well as improving children's concentration, learning and academic performance (Zenebe, Gebremedhin, Henry & Regassa, 2018).

According to Akanbi and Alayande (2011), Nigeria launched a home-grown school feeding project aimed at improving the nutritional intake by at least 25 million children of school age in Africa's most populous country. A total of 2.5 million children or 10 percent of the total population of primary school children are expected to take part in the pilot phase of the project aimed at providing one meal per school day for every child in Nigerian schools. The project could not only increase school enrollment and completion rates particularly of children in rural communities and poor urban neighborhoods, but also stimulate local food production and boost the income of farmers. Nigeria had launched the free universal basic education in 1999 to ensure all children have an opportunity to be educated but poverty such as hungry children have become part of the problems for the execution. The school feeding project aimed at achieving access to the free universal education by children who would otherwise miss school due to hunger.

### **1.1.3 Regional Perspective**

A school feeding programme was first implemented in Uganda after the 1979 war, covering all schools. Recognising that Karamoja had the worst social indicators of any district in Uganda, Government and the World Food Programme started a school feeding Project 2417 in 1983, to be followed by Project 2642 between 1993 and 1998. Just how bad these indicators were being shown by the fact that in 1977 adult literacy rate was 12% for males and 6% for females. Another study from Northern Uganda also finds beneficial effects of school feeding on

enrolment and attendance rates for two types of interventions, school meals and take-home rations (Alderman, Gillian, & Lehrer, 2010). A further study shows significant enrolment improvements for girls of the treatment group. However, attendance rates were lower in the same group. The authors explain this by the varying need for child labour, depending on the family size and the availability of non-schooled children available to support their parents at work.

Belachew et al. (2011) analyzed the relationship of food insecurity, school participation and educational achievements of students aged 13 to 17 in the Jimma zone in South West Ethiopia. The study uses results from two consecutive surveys from 2009 with stratified random sampling. The results show significantly higher absenteeism and lower performance in the indicator “highest grade attained” for students and households with food insecurity. The authors therefore recommend integrating food interventions in programmes aimed at achieving universal access to primary education in food-insecure regions (Belachew, et al., 2011). Poppe et al. (2017) investigated the impact of school feeding programmes on different school catchment areas across rural Ethiopia, focusing on programme modality and implementation. The authors conclude that in-school meals combined with take-home rations can be beneficial for concentration and learning outcome, measured through reading, writing and arithmetic skills.

#### **1.1.4 Local Perspective**

The National Education Sector Plan (NESP, 2013- 2018) stated that Free Primary Education (FPE) was adopted as a country’s policy towards achieving vision 2030 by building human capital through quality education. The plan indicated that, despite the big strides made by the government, education still faces regional disparities. Children in the pocket of poverty in rural areas, arid and semiarid lands lag behind owing to a number of challenges such as conflicts, lack of school models, food insecurity and high malnutrition that lead to stunted growth.

A report by Kenya Projects Organization (KENPRO) (2016) contended that the implementation of SFP in Kenya could be traced way back to 1980s although with varying degrees of success and failure. They were used to incentivize the enrolment and retention of rural children especially girls. SFPs have for many years played a significant role in realizing Kenya’s goal of attaining Universal Primary Education (UPE) (UNESCO,2017). The benefits of SFPs are far reaching in ensuring economic development. Wanjohi (2010) posited that, despite the benefits of SFP, many school-going children especially from poor backgrounds were not able to enjoy the



fruits of such projects and if they did, the very projects were not sustainable owing to a number of challenges including poverty, management issues, food shortage factors and poor climatic conditions. The children in the pocket of poverty in rural areas, arid and semiarid lands lag behind owing to a number of challenges such as conflicts, lack of school models, food insecurity and high malnutrition that lead to stunted growth.

The World Feeding Project has assisted the children by introducing School Feeding Projects in schools located in Arid and Semi-Arid areas as well as schools whose catchment areas are pockets of poverty including schools which cater for Most Vulnerable Child. (MVC). The main objective of the school feeding project is to increase enrolment in schools, prevent school dropouts hence retention increase level, minimize truancy, reduce disparities and increase level of participation of pupils in schools and alleviate short term hunger. In collaboration with Development Partners, Civil Society, NGOs and other well-wishers, the GoK has undertaken deliberate efforts to address the needs of marginalized groups with a view to bring them into the mainstream education system for sustainable development. Resource availability from the Government of Netherlands has enabled UNICEF to achieve significant results in the provision of essential education supplies, water and sanitation, feeding projects, capacity building and advocacy. Among the project run by UNICEF in public primary schools in Kenya include: WASH in Schools project, the Kenya Education Sector Support Project (KESSP), the KESSP II project, the school feeding project all under the UNICEFs' Education in Emergencies and Post-Crisis Transition (EEPCT) project with an overall goal to support countries facing emergencies and post-crisis transitions as they sought to establish a viable path of sustainable progress towards quality basic education for all (Ministry of Education, 2015).

Malnutrition experienced during childhood imposes significant economic costs on the nation. Improving the children nutrition is critical on their academic performance hence their long-term productivity as adults. Wanjohi (2010) continues to postulate that, while various international organizations such as WFP, UNESCO, UNICEF and World Bank have remained supportive to SFPs in Kenya, there are still evident food gaps especially in the schools in ASAL. He further reported that, SFP in Kenya dedicated 32USD per child per week (WFP, 2014), which is just but a fraction compared with the food requirements in Kenyan schools. Wangari et al. (2020) gives five quality standards to measure the effectiveness of school feeding projects and that include:

Presence of a national policy framework; sufficient institutional implementation and coordination personnel; sustainable sources of resource availability; appropriate design for implementation.

### **1.1.5 School Feeding Projects in North-Horr Sub County in Marsabit County**

The literature reviewed indicated that SFP faces challenges ranging from planning, resource availability, and monitoring to management challenges. Marsabit County experiences poor health and nutrition outcomes which are mainly related to house hold food insecurity as a result of recurrent drought. After a period of almost a year when a drought emergency was declared by the Government of Kenya in February 2017, North Horr Sub County was really affected.

North Horr Sub County recorded the highest level of malnutrition of 21.8 percent. Robust emergency response strategy mounted by partners led by Ministry of Health through Blanket Supplementary Feeding Project (BSFP) and integrated health and nutrition outreaches started almost immediately. Research indicates that the implementation of the initiative increased access and promoted retention at both pre-primary and primary school levels (RoK, 2015). Despite the vital role played by school feeding projects, there is dearth of information on the current status of the public primary school feeding project sustainability. The study set out to assess the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya.

### **1.2 Statement of the Problem**

Despite the successes of School Feeding Programs in relation to influencing the policy agenda and making both access to education for nomadic children as well as quality education issues priorities in the sector strategic plan, serious challenges have bedevilled their implementation (Olubayo, Amisialuvi & Namusonge, 2013). They include Government bureaucratic processes, limited storage facilities, lack of experience and knowledge among school management staff, inadequate donor support funds and monitoring and evaluation (Ministry of Education, 2015).

Children from poor rural communities of such as North-Horr Sub County in Marsabit County find it challenging to access schools and worse without surety of a decent meal. The public primary school feeding projects in the area are faced with a lot of issues that has seen some fading away owing to mismanagement of resources, poor stakeholder involvement, inadequate funding, poor management practices, and lack of infrastructure (Kiilu & Mugambi,

2019). These practices have hindered the sustainability of SFP especially in an area such as North-Horr Sub County that has the lowest primary school enrollment and attendance in the area. Kibet (2017) stated that the pupil completion rates in primary school is 83% which is less than the sustainable development goals vision for access to education for all children. Although existing literature indicate a positive effects of provision of meals to children in schools on school enrollments (Akanbi & Alayande, 2011), little has been done to establish the key determinants of the public primary school feeding project sustainability in North-Horr Sub County.

Empirical studies done on school feeding projects include Olubayo (2015) in Emuhaya who focused on the factors influencing implementation of school feeding project and found out that managerial incompetency, resource availability, accountability and lack of adequate planning were the major constraints that inhibited the implementation of SFP in the area. He further outlined lack of parental involvement, monitoring and evaluation systems that affected the implementation of feeding project. Munuhe (2014) in her study on challenges facing SFP in Kajiado County found out that, poor management, resource availability, lack of political will and harsh climatic conditions influenced the implementation of SFP. The study further revealed that poor management, poor coordination and mismanagement of funds impacted negatively on the implementation of SFP. Awuor (2016) in her study in Machakos County argued that resource availability, monitoring and evaluation and utilization of funds inhibited the successful implementation of SFP. The studies however, did not focus on the aspect of project sustainability. Thus, this research focused on the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya.

### **1.3 Purpose of the Study**

The purpose of this study was to determine the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya.

### **1.4 Objectives of the Study**

This study sought to achieve the following objectives;

- i. To determine the influence of resource availability on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

- ii. To establish the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.
- iii. To evaluate the influence of infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.
- iv. To assess the influence of school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

### **1.5 Research Questions**

The study sought to answer the following questions;

- i. To what extent does resource availability influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?
- ii. What is the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?
- iii. How does infrastructure influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?
- iv. To what extent do school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

### **1.6 Research Hypothesis**

This study's hypotheses were;

**H<sub>01</sub>:** There is no significant relationship between resource availability and sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

**H<sub>02</sub>:** There is no significant relationship between parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

**H<sub>03</sub>:** There is no significant relationship between infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

**H<sub>04</sub>:** There is no significant relationship between school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

### **1.7 Significance of the Study**

The findings of the study provided information to feeding program managers or sponsors on effective implementation and management of school feeding program. The findings might serve as reference points for head teachers of public primary schools with school feeding projects on management skills. The findings might be used by parents to understand the importance of SFP and hence will participate in contribution of food and preparation of meals in schools; they might also encourage their children to attend school. Teachers might use the results to educate parents and community at large on importance of SFP.

Further, the study findings might provide critical information to the Ministry of Education and curriculum planners to develop a framework towards sustainability of school feeding projects. This information would also help in replication of other projects in other areas.

Further, the research might add value to the knowledge on sustainability of SFP. It would also be important to the researchers and academicians as it would be a useful guide for future researchers interested in undertaking a study on the key determinants of the public primary school feeding project sustainability in other parts of Kenya.

### **1.8 Delimitation of the Study**

The study focused on key determinants of the public primary school feeding project sustainability. The study was limited to determining the influence of resource availability, parental involvement, infrastructure and school management practices on the sustainability of public primary school feeding project. The research was carried out in public primary schools in North-Horr Sub County in Marsabit County, Kenya. The research targeted 15 public primary schools in North Horr District. The unit of analysis comprised of 150 teachers, 15 head teachers and 4 Area Education Officers. The study took a period of 4 months.

### **1.9 Limitation of the Study**

The study relied on the questionnaire which meant that the respondents might have failed to disclose sensitive information that was used in the study. The researcher handled this by

thoroughly clarifying that the data the respondents gave was confidential and was only used for research purposes.

The results of the sample taken in this study were not generalized to cover other counties in the country since the study did not include all the schools such as the private schools and the schools not under Feeding Project. The researcher handled this by recommending other studies to be done covering all the primary schools.

The study involved different categories of respondents who were required to give the required information through answering the set questions, availing the required documents and answering the set questions. The researcher handled this by encouraging the respondents, creating rapport and simplifying the research instruments.

### **1.10 Assumptions of the Study**

The study assumed that the respondents would deliver truthful responses to the information in the questionnaires to help in founding the gaps between actual feeding projects, endowment and estimated levels of feeding project. The study also assumed that all the respondents selected would be willing to participate. Further, it was also assumed that the factors discussed in this paper actually influenced the sustainability of SFP in North-Horr Sub County. This study also assumed that the management of the schools that run the feeding projects would readily allow the research to be conducted in their institutions.

### **1.11 Definition of Significant Terms Used in the Study**

**Parental involvement:** the participation of caregivers in the school feeding programme in North Horr District to solve problems facing schools as a result of drought, famine and conflict. It is a process by which the parents are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies in planning, developing and delivering services and taking action to achieve a change in the feeding projects.

**Resource availability:** is the ability to access resources to finance school feeding project in North-Horr Sub County. While this is usually in the form of money, it can also take the form of effort or time from a donor and manpower.

**Infrastructure:** this refers to the structure and interior surfaces of school feeding projects, including accessories, such as stores, kitchen, personnel, toilets and watering taps.

**Public primary schools:** In this study it refers to institutions owned by the Kenyan government in which children receive the first stage of compulsory education known as primary or elementary education, usually attended by children aged 4-12 years.

**School Feeding Project:** this is an arrangement made in schools to provide children with food to supplement what they may have eaten at home to help them remain in school as a measure to reduce temporary hunger while in school.

**School management practices:** these are working methods and innovations that managers use to improve the effectiveness of work systems in public primary school education system in North-Horr Sub County. This includes combination of human and material resources to supervise, plan, strategize, and implement structures to execute public primary school education system.

### **1.12 Organization of the Study**

The study was organized in five Chapters. Chapter one introduces the study in the context while defining the problem under investigation. The objectives are stated and the significance of the study outlined. The limitations as well as the scope of the study are described and further, the key assumptions and the key terms are defined.

Chapter two reviews the related studies with a view to generate the relational aspects of the concepts. The school feeding project sustainability concept is discussed and the theoretical framework given with the relevant theories explained. The relationship between the variables is conceptualized and the summary of the literature given.

Chapter three contains the research methodology. This includes the research design, the target population, the sample and sampling procedures, the data collection procedures as well as the instruments used to collect the data. The data analysis techniques are explained with ethical considerations given.

Chapter four covers the data analysis, presentation and interpretation. The data is presented using tables and a thematic approach focusing on the study variables used. Chapter five contains the

summary of findings, discussion of the findings based on the themes from the study variables, conclusions and recommendations. The suggestions for further research are outlined.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter presents literature review on the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. It summarizes what other researchers have done on the field. The review includes both the review of the theories and literature review. The review of the theories helped in comprehending the current knowledge on the area. The review helped in coming up with the conceptual framework.

#### 2.2 School Feeding Project Sustainability

Sustainability is the continuation of benefit flows to the local community without the help of the initiators who stimulated those benefits in the first place. Several projects stall after the withdrawal of the county resource availability. Counties play a significant role in the social development process in all regions of the world. They are particularly critical in circumstances where State funds are limited, political situations are fluid, natural disasters resulting from both predictable and unpredictable environmental circumstances occur, ethical strife is rampant and the level of per capital income severely restricts the ability to purchase needed goods and services- social, education and economic (Kathini, Koome & Gitahi, 2020).

The introduction of school feeding project can be traced back to the mid nineteenth century (19th century) when the Paris guards in France established a fund for providing needy children with the school lunches. Most of the early feeding activities were privately financed, for example, in Japan in 1889, a Buddhist priest initiated it with food as alms and later a nationally funded project was started. In the U.S. SFP was started in 1946 under the national school lunch Act (Kokwee, 2014). International organization such as UNICEF, WFP and FAO have been involved in the SFP showing that school feeding project is a major concern worldwide (Lawson, 2012).

In the 1990s in the Ethiopian regions of Amhara and Tigray the government started to distribute food to pupils with the help of WFP. This increased enrolment by 50 percent between 1994 and 1995. It has been noted that in many developing countries, SFPs have led to an increase in the number of those enrolled in school (Chelengat, 2016). It is therefore vital that SFP be provided in school so as to retain and enroll schools. Schools that depend on the community to organize and

implement school feeding projects offer certain advantages. These advantages include: increasing the contact, and hence communication, between parents and teachers, officials and others; giving parents the opportunity to become more aware of what goes on at schools; and serving to raise the value of education the school for parents and the whole community. For example, school canteens are viewed as an important feature of education policy in Nigeria. Since 1978 WFP and the government have supported school feeding. The projects have strong government and community support and are viewed as part of a necessary package of inputs for improving education (Peel, 2016).

Food for Education projects are typically targeted towards populations that are food insecure, reside in areas with high concentrations of low socioeconomic status families, or that face poor attendance and enrollment. In developing countries, SFP is usually not set up to target specific children at a school, but rather all students attending a school are recipients of the project. This may reduce the cost effectiveness of the project if not all students receiving the food from the project belong to families who are food insecure or of low socioeconomic status (Drake, Woolnough, Burbano & Bundy, 2016). The take home ration projects, on the other hand can be more easily targeted to specific families, such as those of lower socioeconomic or food security status or to families with girls. Both projects, however, may not be able to target all the children who are facing food insecurity.

Since school children are the target of these types of interventions, children who are younger than five years old are left out. This is considered one of the limitations of FFE projects as a nutritional safety net. It is now well established that the first one thousand days of a child 's life, from conception until the second birthday, is the most vital period during which under nutrition may have its largest impact. Nutritional interventions that occur within this time line are much more powerful in impacting upon a child's survival, health and development (Mohamed,2015). Due to the greater impact that pre-natal and pre-school projects may play, and due to their higher cost-benefit ratios, it has been pointed out that FFE projects should be considered (and categorized) as educational interventions and not as nutritional interventions, so as to not undermine budgetary resource allocations for nutritional interventions (HGSF-Global, 2017).

The potential impact goal of targeting children through Food for Education projects is to increase their educational achievement so as to improve their potential future productivity and earnings.

However, improvement in educational achievement due to serving food in SFPs is thought to occur through three pathways. First, FFE projects increase school attendance by lowering the opportunity costs of attending school and providing additional incentives to engage in formal education. This leads to more time spent in school and more time spent towards learning. The second is through the alleviation of short-term hunger which improves children's cognitive functioning and attention span. The third path is through the improved nutritional status of children by providing them calories and nutrients in addition to their regular diet. This leads to better health and better resistance to infectious diseases and illnesses that would keep children from attending school (Buttenheim Alderman, Friedman & Arnold, 2011). Thus, better nutrition indirectly improves educational achievement by increasing school attendance by children. In stable situations, school feeding projects are often designed to enhance academic performance and cognitive development. Improved nutritional status of school-age children leads to better attention and cognition, and thus, better educational outcomes (Yande, 2015).

The objectives of school feeding have also been expanded to include food security, providing an income transfer to caregivers and reducing the opportunity cost for parents of sending children to school (Dheressa, 2011). Improved nutrition and school attendance, however, present particular challenges in the context of crisis and conflict. School feeding can improve attentiveness in class by reducing short-term hunger many children come to school on an empty stomach, yet they remain surrounded by the distracting and disturbing facets of the crisis. Although school feeding can provide an incentive for increased school attendance, such crises also tend to pull children into the workforce either as formal labor or as child soldiers. In the case of formal labor, successful school feeding projects in emergency situations should constitute an income transfer sufficiently large enough to outweigh an alternative income that children might earn elsewhere (Langinger, 2011).

Project sustainability is the ability of a system of any type to remain in good condition and to continue providing services over the long term. Project sustainability ensures that resources are managed in a way that ensures the current generation enjoys the benefits that accrue from the project without denying future generations the enjoyment of similar benefits (Martin, 2019). The ability of a population to sustain itself will depend on the level of resource extraction, the growth and maintenance or its degradation. Resources exist in different forms and can either be natural

or manmade. These may include physical, human, financial, technical and other social systems. For a water supply system to be sustainable, it must continuously maintain and deliver the desired amount of water as per the design of the project during its lifespan (Ndung'u, 2014).

Immediately the project is completed, the community usually assumes management and ownership responsibility. Observations from previously implemented school feeding projects indicate an increasingly high rate of failure, even without any noticeable technical defects, whereas some were successful and realized their intended objectives with less difficulty. Of significance is the identification of underneath explanations for poor project performance for this will enhance the sustainable management of existing as well as new projects (Martin, 2019). Water is a limited natural resource that supports life and is required for proper functioning of all flora and fauna and a very important natural resource for socio-economic development. Most dry lands of the world and especially ASALs experience serious food scarcity due to the effect's drought and climate change. According to Coghlan(2019), the ASALs bear the brunt of food scarcity due to the effects of climate change, environmental degradation and unreliable rainfall and increased water demand, particularly among African communities living in rural areas.

According to Hazelton(2015), project sustainability is the degree to which a water project functions for a long period of time while benefiting end users. Determinants of school feeding projectsustainability as stipulated by Gebrehiwot (2015) depends on both pre- and post-implementation factors. Factors in pre-implementation stage comprises of demand responsiveness, parental involvement, site selection, construction quality, existing population, technology selected and community training. Factors in post-implementation stage comprise of community satisfaction, financial and institutional management, technical support and willingness to support, maintain and sustain the project. Sustainability of school feeding project is a key desire for government, nongovernment and communities at large since a sustained project ensures continuous deliverance of benefits to the target beneficiaries for a long time (Kemuma, 2015).

### **2.3 Resource Availability and Public Primary School Feeding Project Sustainability**

Resource availability is vital to every project. Moucheraud et al. (2020) assert that as the project becomes national, it requires stable and autonomous resource availability source. This can be through government resources or development resource availability. According to Jomaa,

McDonnell and Probart (2011), stable resource availability is a prerequisite for sustainability and implementation of every project. Government support to feeding projects can be achieved through budget allocation. Jimoh, Abdullahi and Hadiza (2020) ascertain that government plan and budget for their priorities on an annual basis based on national planning process. Further, the degree to which SFP is included in the planning and budgeting process can determine whether the project get resources from the national budget and whether it benefits from general budget support allocation.

School feeding projects, by virtue of the fact that they include food, are expensive. Beyond the cost of food itself, the costs associated with food management, logistics and control can represent a significant financial burden for governments. On-site feeding is costly as it requires daily preparation and delivery of food, but is also a model that can invite, or require, parental involvement. In response to the difficulties of on-site feeding and a new focus on delivering an appropriately-timed (with regard to effecting improvements in learning capacity) and high quality, consistent ration, some countries are developing project models that include less costly commodities and more efficient systems for delivery to schools (Gaddis & Jeon, 2020).

Projects which make good use of educational infrastructure for delivery and logistics was most efficient. The very fact that SFPs do not require for the most part, additional infrastructure means that they can be less costly than the other types of feeding projects which distribute benefits to groups that are not in one location. Projects that finance expensive kitchen equipment and supplies or build new infrastructure/canteens, however will significantly raise the costs and lower the relative cost effectiveness of projects. Finding ways of to minimize implementation problems, particularly food losses, either to spoilage, to the black market or leakage, will help to ensure the financial feasibility of projects. Some SFP are intentionally designed as an income-transfer for families, especially those that are trying to help attract girls to schools (Yusuf & Mande, 2019).

Accountability and transparency of finances in a project can only be done if there is capacity to plan and manage budget needs, if there is budget plan in place, if there are plans to finance the project in future and if a good percentage of finances can be sourced from small scale farmers. From a study carried out by Olubayo, Amisialuvi and Namusonge (2013) in Emuhaya County, it was found that there was a budget in place and that good percentage of the finances was sourced

from small scale farmers, but there was no capacity to plan and budget needs. When free primary education was introduced, there was an immediate financial vacuum, as Schools' income from fees was abruptly cut off.

The Government of Kenya called on the donor community to respond and agencies reacted quickly and effectively. UNICEF immediately gave US\$2.5 million and the World Bank gave a grant of US\$700,000. Other donors also contributed generously, with development partners committing to the measure for a five-year period. The inflow of funds enabled the ministry of education to give each school an immediate grant of 28,000 Kenyan shillings (US\$400). Schools subsequently received a capitation from ministry of education of 1,020 Kenyan shillings (US\$14) per child per annum to cover all learning costs (World Bank, 2012). An important part of the measure was the demand for a substantial increase in the financial accountability of schools. In exchange for receipt of capitation fees, headteachers and Parent-Teacher Associations PTAs had to undertake training in financial management. Since the measure, school budgets have been published and accounts audited. Local communities can see how much schools receive and the ways in which the school committee decides to spend the money. Such measures have acted to increase the confidence of parents, tax payers and donors. However, some government officials are corrupt and hence they mismanage or do misallocation of funds that are allocated to them, (UNESCO, 2017). For instance, the sponsor's funds; this makes some children who are poor miss the opportune moments of schooling.

Senior officials in the Ministry of Education, in Kenya have been accused of protecting corrupt head teachers and members of PTA (Parents Teacher Association) suspected of embezzling funds because they are also indirectly benefiting from incentives that are being paid by parents, disgruntled senior education officials have revealed (UNESCO, 2017). They allege that several internal audit reports as well as complaints by parents and teachers to the ministry against certain school heads and PTAs have been swept under the carpet. Many officials say the payment of incentives to teachers had resulted in an upsurge of fraud by school heads that are now exposed to huge amounts of money which they were not used to handling.

Poverty hinders many parents from supporting school feeding projects (UNESCO, 2017). Sixty percent of Kenyans live under poverty line (Constitution of Kenya, 2010). Challenges for school feeding projects can range from high operational costs to the need to build the capacity to procure

the food locally. In order for a country to have an effective school feeding project that focuses their resources on most needy children, countries must determine if school feeding is the most effective social safety net option, set project objectives and predicted outcomes, and determine administrative costs, establish a system of targeting, select the type of food to be provided in school, explore opportunities for local procurement and feasibility of offering take home rations through the project, plan for school level management, implementation and monitoring of ongoing activities, and determine complementary health and nutrition activities such as deworming, supplementation, or fortification can be incorporated into the project to achieve additional benefits (McEwan, 2012).

Gaddis and Coplen (2018) did a study on the capitation grant on Education outcome in Ghana. The objective was to assess how the capitation grant has impacted on Basic Education Certificate Examination (BECE) pass rates, gross enrolment ratios and gender difference in pass rates. The study used data from the Ghana Education Service for all 138 educational districts in Ghana between 2003 and 2007. Using regression analysis, the study found that; the capitation has not had significant impact on BECE pass rates in Ghana, no significant relationships existed between capitation grant and gross enrollment, and capitation grant has not impacted on bridging the gap between the BECE pass rates for male and female.

Many studies have been carried out to show the impact of various interventions on educational outcomes. For example, Uzoka, Nwaizugbo and Uzoka (2016) used randomized order of project phase-in to examine the impact of progress project in Mexico, which provided cash grants to families conditional on their sending their children to school. He found an increase in enrollment of all students in grades 1 through 8, especially, among girls who had completed grade 6. Tagoe (2018) examined the effect of school meals on school participation in Kenya and found out that school participation went up in Kenyan preschools where a free breakfast was introduced than in comparison to schools where there were none. In many countries, parents face significant private costs of education, either for school fees or for other inputs such as uniforms. While school meals are provided by the governments of most high and middle income countries around the globe, the children who may benefit most from school feeding projects are in low-income countries that do not have government provided school meals. School feeding in low-income countries often starts through resource availability

by international organizations such as United Nations World Food Project or the World Bank or National governments through projects such as the McGovern-Dole International Food for Education and Child Nutrition Project. However, some governments have first started school feeding projects and then requested the help of these organizations and projects. Additionally many countries have graduated from their dependency on foreign assistance by reshaping their school feeding projects to be country-led and self-supported (Sekiyama et al., 2018).

According to the International Food Policy Research Institute, there are five stages of school feeding. The first stage includes school feeding projects that rely on external resource availability and implementation, while the last stage includes school feeding projects that rely mostly on internal governments resource availability and implementation. Countries that are in the first stage include Afghanistan and Sudan, where country governments are unable to lead school feeding projects. Countries that are within the fifth stage include Chile India which has functional, country-led school feeding projects. For example the government of Chile has provided a school feeding project for over 40 years through the La Junta Nacional de Auxilio Escolar Becas (National Board of School Assistance and Scholarships) through a public-private partnership. This project involves technology that allows food to be centrally mass produced and then distributed across the country (McEwan, 2013).

#### **2.4 Parental involvement and Public Primary School Feeding Project Sustainability**

Parental involvement is an affinity of feeling to belonging to a community. This includes a free flow of information of happiness, sadness, development and draw backs of a societal set up. Otieno, Wandabi and Dixon (2020) defined parental involvement as a sociological process by which residents living within an area or neighborhood organize themselves to improve the conditions of daily life. This involves access to water supply, health and sanitation, education and access to food supply through small scale farming project. Parental involvement comprises various degrees of individual or collective involvement through financial contributions, resources contribution; social and political commitment at different stages of project implementation. According to Iddrisu (2018), parental involvement is the capability of parents to actively participate in varied school-based and home-based activities to enrich their children's education. A study in Ethiopia by Olusanya (2010) revealed that it is vital to strengthen parental involvement in organizing and implementing SFPs. This is because the schools which are



assisted by community assisted have certain advantages such as working for more hours, and hence good liaison between parents and teachers, officials and others; giving them the chance to know better what goes on at school; in addition, serving to increase the value of education, and the community at large including the parents school.

Communities around the school play an important role in the implementation and process of school feeding projects. Lack of parental involvement may lead to a failed project for the case of Afghanistan where the school based bakery failed due to lack of management capacity and parental involvement (Mhurchu, Gorton, Turley, Jiang, Michie, Maddison & Hattie, 2012). The school feeding projects that respond to community needs are locally owned, and that incorporate some form of parental or community contribution, whether cash payment or in kind. Through donated food or labour, the projects tend to be stronger and most likely to make a successful transition from donor assistance. Edoardo and Aulo (2013) study indicates that community effect resulting from School Feeding Project may also influence the age at entry. That means the act of households to send their children to school earlier with the commencement of School Feeding Project would create a social pressure and prompt similar action on the part of those who haven't enrolled their children yet.

Yunusaet al. (2012) shows that properly designed and effectively implemented SFPs can increase parental involvement in schools, particularly where projects depend on the community to prepare and serve meals to children. Schools with their communities behind them are more effective than schools with less parental involvement. Yendaw and Dayour (2015) study discovered that the GSFP has contributed significantly to pupils' enrolment, attendance and retention compared to the period before the project's implementation. There was a statistically significant relationship was established between school meals quality/quantity and school attendance among pupils and two, a strong linkage was found between the implementation of school feeding projects and pupils' retention in schools. What this means is that the strategic policy direction of stakeholders involved in running the project needs to take into account the above key findings contained in the current investigation. The study, therefore, recommends that government and other stakeholders' in-charge of the project should remain committed to providing the needed resources for the smooth running of the project so as to improve the educational infrastructure of rural communities.

In Malawi, the community is responsible for cooking, bring firewood, store keeping and serving of meals. While in Namibia the community members prepare meals at school, construct cooking shelters, construct store rooms, protect the school premises, organize at least three meetings per annum to discuss the activities in connection to national school feeding projects, organize fundraising activities, assist with the school vegetable gardens and parents provide plates and spoons (WFP, 2013). According to King, Dewey and Borish (2018), meals prepared and served on time was able to alleviate short term hunger and increase concentration of pupils. Thus the school feeding project brings about harmony among the community, teachers and pupils hence smooth learning. Therefore, parent would retain their children in a school whose relationship is good with them.

A study by Olubayo, Aluvi and Namusonge (2013) in Emuhaya sub-county, Kenya revealed that parental involvement in the school feeding project enhances the implementation. Public primary school offer certain advantages like increasing the contact, leading to better rapport between the stakeholders such as parents and teachers, officials and others, making the parents to know much about what is happening in their schools. Another study on parental involvement was by Kirianiki (2013) in Embakasi, Nairobi found that participation takes place as a community arranges and becomes responsible for managing the problems that come up. Being responsible means recognizing problems, taking actions, putting them in place and following through (Khatete, Pendo & Oyabi, 2013). Parental involvement helps in ensuring success in the project and cost of the project reduced. However, involving a community is a technique to guarantee that benefits brought by the SFPs would be maintained even after the external interventions are stopped. Parental involvement in education can support and uphold local culture, tradition, knowledge and skills and create pride in community heritage. The studies on parental involvement have been explored in other areas from the reviewed literatures.

## **2.5 Infrastructure and Public Primary School Feeding Project Sustainability**

There is the issue of inadequate infrastructure with the introduction of FPE. It emerged that most schools did not have adequate classroom to accommodate the large number of pupils enrolled under the FPE project. For instance, classrooms appeared to be generally congested and there was hardly any space for free movement during lessons. Also, a number of classroom conditions were poor, for instance, lighting depended only on sunlight, which was sometimes inadequate. Also, in

some schools they had introduced school mats for children to sit on since there were no sufficient desks. But a majority of the teachers felt that the sitting on the mats affected the children's writing skills and general physical development (Moucheraud et al., 2020).

Sedro (2019) in a study on Access and Retention in Secondary School Education in Kenya found that in most schools, many facilities, basic equipment and materials are in a sorry state, a condition that has forced them to turn to parents and communities for alternative financing and provisioning. They noted that students from low-income households are most affected by impact of constraints in financing and supply of learning materials. Grounds for sports and games are facilities of attraction to children. Such facilities will increase their participation in school and therefore will perform better. In most cases books, charts and other teaching and learning materials are not adequate. In some cases, they are not available at all. The issue of adequacy of materials is a serious one especially in countries where allocation of financial resources for education is very low. Such a situation usually co-exists with other related problems such as adequacy of furniture, classrooms and other practical and visual equipment. Where there are such shortfalls, learners have to stretch themselves to have access to a class reader shared by five learners. This situation paves way for students' low participation leading to low performance, particularly in mathematics and sciences (Aliyar, Aulo & Hamdani, 2015).

The quality of learning materials is also an issue. In many cases materials are not attractive and learner friendly. They are full of stereotyping, and at times gender biased a fact that discourages students from effective learning. The school environment has also been found to cause gender inequity in learning (Borish, King & Dewey, 2017). Poor infrastructure affects learners. However, girls have special needs, especially during puberty period, which if not provided; the girls' attendance was poor. Such facilities include; toilets/ latrines with enough privacy, water and proper desks/ benches, which are considered essential for girls' comfortable stay in school and learning. Grounds for school sports and games are facilities of attraction to children. Availability of protective equipment for sports and physical education helps to avoid accidents during these activity times. Such facilities will increase their participation in school and therefore will perform better. Teachers have a very big role to play in teaching and learning process (Zenebe, Gebremedhin, Henry & Regassa, 2018).

An NGO International Christelijk Steunfonds Africa (ICS), provided uniforms, and classroom construction to seven schools, randomly selected from a pool of poorly performing candidate schools in Kenya. They found out that dropout rates fell considerably in treatment schools, and after five years pupils in treatment schools had completed about 15 percent more schooling (Olubayo, Amisialuvi & Namusonge, 2013). The physical and learning environments of the school are critical compliments to the school meal. They are frequently deficient thus reducing the health and learning outcomes.

Key elements of the WFP/UNICEF essential package address the school physical environment facilities which are widely absent. There is widespread lack of portable water, washing facilities and adequate latrines. Food is prepared where there is adequate water. A second priority is the use of fuel-efficient cooking facilities in sheltered structures. Currently, the provision of water has fallen to students and parents. The integration of these elements of essential package requires a much greater level of institutional collaboration that WFP has been able to mobilize in the past (WFP, 2014).

Provision of adequate sanitation facilities creates a friendly school environment. Irresponsible disposal of human excreta is the biggest source of disease. Proper disposal of fecal materials in schools is dependent on: informed and responsible students; supervision of young students; a fence or structure to stop animals from defecating in areas where children play; convenient location of clean toilets and separate toilets facilities for girls. Clean and well-maintained buildings and ground, free of dangerous materials such as asbestos should be a priority at all times for the success of any project implementation. Classrooms and dormitories need adequate light and ventilation. Lack of proper ventilation may lead to diseases like tuberculosis and asthma which may hinder participation of students. School facilities catering for the disabled students also assist students to perform well. Facilities like pocket desks for the low vision, Brailles for the totally blind students help them to perform better (Murungi, 2012).

Facilities for social interactions such as halls should be available. This gives students a chance to interact with each other. They can share experiences as they come together and encourage each other. This helps in boosting their morale which they may lack from the teachers. Libraries help the students carry out their private studies well as they are quiet places. They should be

constructed far from noisy places or sound proof materials can be used to limit the noise (Borish, King & Dewey, 2017).

## **2.6 School management practices and Public Primary School Feeding Project Sustainability**

Effective and efficient managers must possess the technical, human and conceptual skills in order to be a good organizer (Zenebe, Gebremedhin, Henry & Regassa, 2018). Technical knowledge and skills include understanding and being proficient in using specific activity such as a process, technique, or procedure.

The implementation of free primary education in Kenya however, found school managers off guard; they had not been prepared for the change and so they found it challenging. Many schools had an overwhelming increase in enrollment while others witnessed mass exodus. Average class sizes rose from 40 to 70 while the facilities remained the same. It is notable that in Kenya today, approximately 50% of all the country's primary schools are housed in temporary and/or semi-permanent buildings; others are on split sites. The declaration of free primary education witnessed the rise in student enrollment which in turn led to strain in the existing physical resources. These changes required changes in the managerial skills of school managers. WFP (2014) points out that a change agent is a person who attempts to influence proposed change and its adoption as well as decisions in a direction which beneficiaries have indicated desirable. An advisory committee on supply and education of teachers observe that education service has been operating in a climate of rapid change and that this climate is likely to continue to the foreseeable future (Akanbi & Alayande, 2011). Such a rapid change requires a continuous process of adjustment on the part of all those involved in the education system.

This view is supported by Kathini, Koome and Gitahi (2020) pointed out that teachers need continued professional growth and development in order to be competent to handle changes. School managers are judged with the responsibility of interpreting educational policies to the parents and other stakeholders; they are also responsible for obtaining, directing and utilizing resources available for successful implementation of education policies and projects. Also, when fees were charged, schools relied heavily on the financial and practical support of parents. Parents who paid for their children's education tended to be highly committed to the support of schools and worked hard to ensure their success (Kokwee, 2014). The introduction of FPE took

responsibility from parents into the hands of the state. In addition, the measure saw the influx of many new children whose parents tended to see education as their children's right, but not something to which they bore a responsibility. Together, these consequences of FPE have led to a reduction in parents' perception of 'old' – previously fee-paying parents and 'new' – parents of newly entered children (Lawson, 2012).

The quality of learning environment and the inadequate level of parental involvement are also key constraints. In schools with meals, lack of teacher time, study space and school materials are exacerbated by the higher student population class size and low student-teacher ratio. The school management committees should systematically promote parental involvement other than to exact contributions (water, labor, money) from parents. According to WFP the benefits of school feeding are limited if separated from the larger context of learning, health and livelihoods. School feeding projects in isolation without an appropriate learning environment and family or community support is insufficient to achieve the objectives of WFP of healthy educated children. In order to justify investments and meet objectives, the school feeding project must take better account of social, economic and cultural constraints (WFP, 2014).

Cooperation between sectors between institutions across sectors is necessary to maximize the gains achieved through school meals and increase the value of food provided. Integration of improved health practices into school context and the introduction of Home-Grown School feeding are major steps in the direction of successful school feeding projects (Chelangat, 2016). Teachers have a big role to play in teaching and learning process. They are chief facilitators for learning to take place. Two main factors about teachers that seriously affect performance are adequacy and quality. Inadequacy of teachers in a school causes idleness, boredom in the learners and wastage of time. Overload for the few teachers results into a low delivery rate.

In countries like Kenya and Tanzania, an uneven distribution of teachers is a factor which causes shortages, especially in rural areas. The shortage of teachers contributes to low performance and dropouts (Peel, 2016). Quality of teachers is another contributing factor in the African region. In most of the Sub-Saharan African countries, a situation exists in which teachers are not adequately trained. Retraining projects are not well established and teachers are not adequately motivated. As a result they underperform. Learners therefore run away from school or just decide

to lie low (Mohamed, 2015). Rights-based social systems can be based on different kinds with different sources. For example, in a local school, students, teachers and school administrators could work out their rights that are to be applied jointly, with no reference with any outsiders view of what rights ought to be in place. The discussion about what rights ought to prevail can provide an important teaching moment for learning about nutrition and also about rules, guidelines and laws that apply to particular schools. The duty bearers include a broad range of people including cooks, servers, cleaners, the school principal and the government agencies that fund and oversee the school feeding projects (Drake, Woolnough, Burbano & Bundy, 2016).

There is need to clarify the roles and responsibilities of the different parties not only within the schools but also throughout the entire support system. Under normal condition the support staff should not feed the students directly, but instead they should help those who are close to the students in carrying out their functions. For example, national and international agencies could provide guidance to schools on how to organize their projects, and they could collect and analyze reports on their projects to help individual schools to see how they fare in the bigger picture. To the extent feasible, the food and the money should come from local sources and more distant agencies should provide information and technical assistance (Buttenheim Alderman, Friedman & Arnold, 2011).

The recurring mismanagement of funds in the education sector is well documented and defined in comprehensive studies. Resource availability is channeled through the Education system, municipal offices to the respective schools. The established system of capitation grants, a yearly allocation per student per school, geared towards transparently resource availability all classroom activities including providing for salaries and administrative costs guarantees universal primary education. Yet the administration in charge continues to badly manage and weakly control the funds allotted, leading to substantial waste of public resources and substandard education outcomes. Resource availability for capitation grants lacks transparency, and the management involvement and meaningful participation by civil society actors. The process and timing are not laid out clearly, and thus facilitate leakage and corruption (Yande, 2015).

Advocacy, networking and collaboration are paramount for the success of projects. Advocacy involves analysis and presentation of information on the linkages between the projects and

education in the school setting. This also includes policy development, commitment of all the stake holders and allocation of adequate resources for implementation of the projects. Networking fosters exchange of information and enhances cooperation between the players at different levels. Networks can be achieved through and not limited to consultative meetings, conferences, exchange of materials and visits as per evaluations (Dheressa, 2011). School feeding may be even more important in emergency situations than in normal situations. There is certainly a need for school feeding in emergencies. In some emergency situations, administrators have gone so far as to call on schools to provide three meals a day. That might seem implausible, but it could make sense if it is coupled together with projects of assistance and with a clear phase-out plan. It could make sense for emergency school feeding to be rights-based (World Bank, 2012).

A study by Jomaa, McDonnell and Probart (2011), in a case of Afghanistan found that when parents are not directly involved in the Parent Teacher Association and management, negatively affect the community ownership of the SFP since direct support leads to better learning outcomes. Coghlan (2019) found that school management roles of purchasing of teaching and learning aids and mobilizing parents and community members on sourcing funds from the donors in Kasarani positively influenced the implementation of educational projects SFP being one of them. Langer (2012) revealed that to avoid many costs related to management and dissemination expenses, The Government of Kenya has shifted the logistics of implementation of SFPs to school management including parents, teachers and community members whose roles are to procure the food from local farmers. This study sought to find whether the school management in North-Horr zone are working properly or not in the implementing the feeding projects in the area.

## **2.7 Theoretical Review**

The study was based on various theoretical foundations. The theories included Abraham Maslow's Theory of Hierarchy of Needs and Epstein's Theory.

### **2.7.1 Abraham Maslow's Theory of Hierarchy of Needs**

This theory was posited by Abraham Maslow in 1971. The theory states that a human being is naturally good and that healthy development is likely to occur in a healthy society. He further placed needs in ascending order of importance starting from physiological needs to need for self-actualization. An individual who gets adequate physiological needs like food, water,



warmth, shelter and sleep can sought for security needs which involve being free from physical danger and of the fear of losing loved ones, job, property, food or shelter. If one access these needs to a level the life is maintained, he can further sought for affiliation or acceptance needs, which include need to belong or being accepted by others then to esteem needs that leads to the satisfactions like power, prestige, and self-confidence and finally can become self-actualized which is the desire to become capable of what one can become.

This study has purposefully singled out food, which is a basic need under physiological needs. The theory contemplates that unless the need for food is met together with other needs the child cannot sought for the growth needs. Provision of food through SFP and especially to the disadvantaged child is one way of meeting this need. This facilitates healthy growth, which enables the child to sought other needs like: safety, love and belongingness, self-esteem, aesthetic and cognitive needs and even self-actualization. Consistent provision of SFP with correct quantities of calories can enhance learning in a big way. Lack of SFP in schools may disadvantage vulnerable children who get little or no food at their homes. This study therefore contends that lack of SFP in school can lead to low enrolment and school attendance in public primary schools. This theory was useful for both personal development and workplace growth. By identifying what the needs for the public primary school feeding projects and what drives and motivates parents, school staff and management can develop mutually beneficial relationships and positive environments conducive to work and hence enhance sustainability.

### **2.7.2 Epstein's Theory**

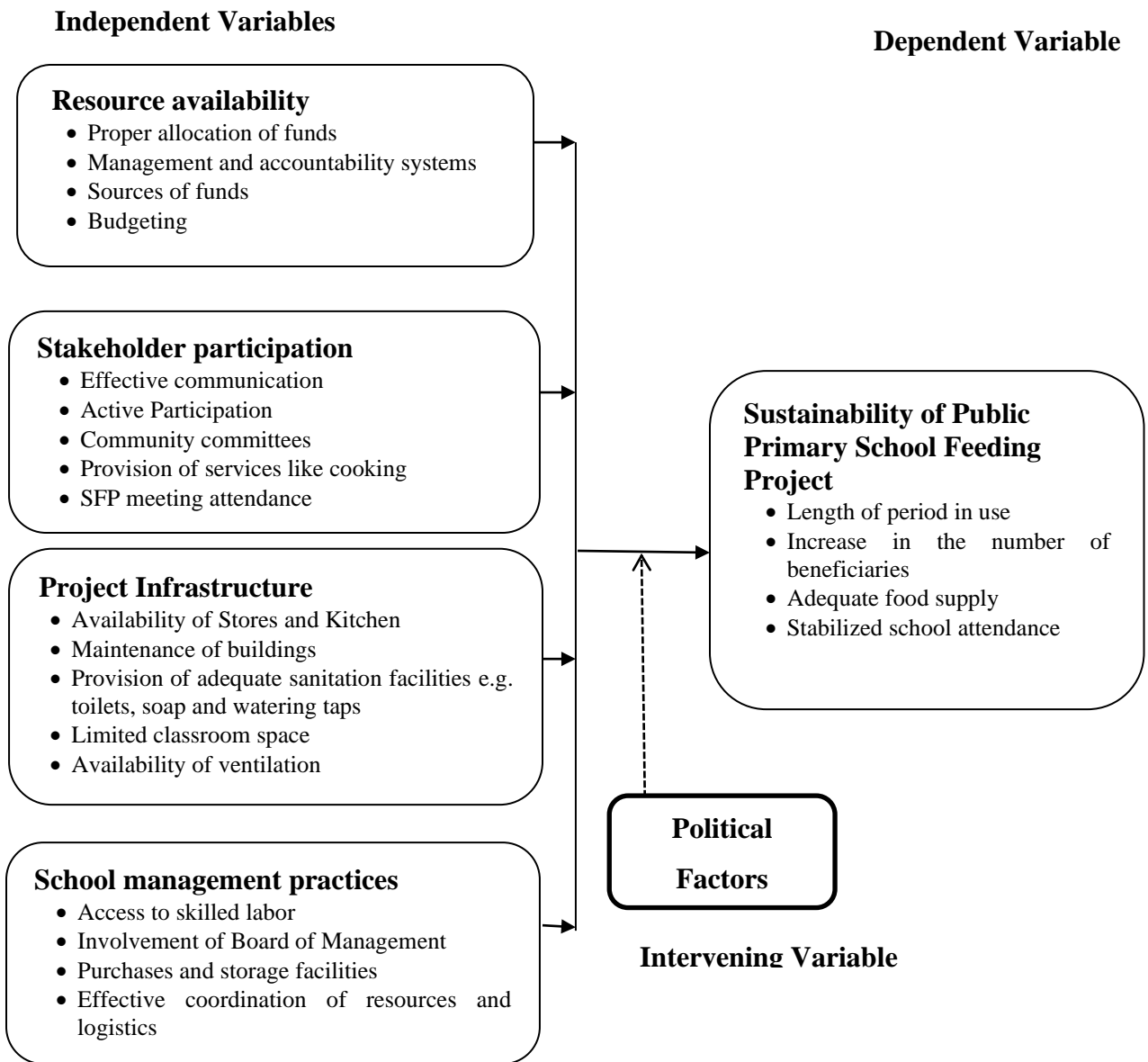
This theory was developed by Epstein in 1995. The theory states that there are three spheres of influence including school, family, and community and emphasizes building partnerships, relatedness/connections and the recognition of the overlapping of these spheres. The theory identifies these three as major contexts in which children learn and grow. Schools can either communicate very effectively to reach out to both the families and the community separately or could establish high-quality communications and interaction systems to bring the spheres closer together.

Epstein generated two models for this theory namely the external and internal. In the external model, she argues that school, family and community have practices where each could remain separate and influence children's learning and growing separately. On the other hand, the

internal interaction model functions when the interaction takes place within each of the spheres. For example, at family levels, there is interaction between individuals which affect the child. The same occurs at school and at community levels. It is, however, fundamental in this theory that a child (who is learning and growing) remains at the center of school, family and community relationship. These spherical relationships could be defined in terms of their social, economic and emotional characteristics. For example, issues of poverty, parenting, and culture will always affect the child. This theory was really important for the study because of its discussion on involvement. This was a crucial part in this study as it has looked at the influence of resource availability, parental involvement, infrastructure and school management practices on public primary school feeding project sustainability. This majorly involves positive home conditions, communication, involvement at school, home learning activities, shared decision making within the school, and community partnerships. The theory formed a basis on this research.

## **2.8 Conceptual Framework**

This section relates to various independent variables that is, resource availability, parental involvement, infrastructure and school management practices and dependent variable that is sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Figure 1 shows the conceptual framework.



**Figure 1: Conceptual Framework**

The research sought to determine the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. The independent variables of the study were resource availability, parental involvement, infrastructure and school management practices while the dependent variable was the sustainability of public primary school feeding project. The study measured resource availability by establishing whether there is

proper allocation of funds, management and accountability systems, sources of funds and budgeting. On parental involvement, the research looked at the influence of effective communication, active participation, community committees, provision of services like cooking and SFP meeting attendance. In regards to infrastructure, the availability of stores and kitchen, maintenance of buildings, provision of adequate sanitation facilities e.g. toilets, soap and watering taps, limited classroom space and availability of ventilation were assessed. The school management practices was measured using access to skilled labor, involvement of board of management, purchases and storage facilities and effective coordination of resources and logistics. The dependent variable was assessed by the length of period in use, project dependency ratio, increase in the number of beneficiaries, adequate food supply and stabilized school attendance.

## **2.9 Summary of Literature Review and Research Gaps**

The research focuses on resource availability, parental involvement, infrastructure and school management practices and the sustainability of public primary school feeding project. One of the major factors to ensure sustainability of projects is the availability of funds, whether from governments, private institutions, or donor organizations. In this regard, parental involvement in feeding projects cannot ensure its sustainability by itself when there is lack of infrastructure and poor school management practices to keep the project sustained. Abraham Maslow's Theory of Hierarchy of Needs and Epstein's Theory have been used as theoretical foundations in this study.

Various studies done globally, regionally and nationally had displayed the picture that school feeding project increases pupils' participation in learning and the factors that influence it. Jerono and Nzuki (2019) looked at factors influencing sustainability of school feeding project: a case of public primary schools in Kajiado Central Sub-County, Kenya; Kirianki (2013) looks at an assessment of parental involvement in the sustainability of school feeding project in primary schools: a case of Embakasi, Kenya; Munuhe (2014) focused on the challenges facing school feeding project in Isinya division, Kajiado County; Olubayo (2015) focused on the factors influencing implementation of school feeding project in Emuhaya; Awuor (2016) studied the institutional factors influencing implementation of school feeding project in public primary schools in Matungulu Subcounty, Machakos County, Kenya; Osiemo (2014) determined the factors influencing the success of school feeding projects in public primary schools in Dagoretti

North Constituency, Nairobi County, Kenya; Wanjala (2016) established the impact of school feeding project on primary day school attendance in Turkana Central Division, Central District, Turkana County. The studies however, did not analyze the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya.

**Table 2. 1: Research Gaps**

<b>Variable</b>	<b>Author/Year</b>	<b>Focus of study</b>	<b>Research Design</b>	<b>Findings</b>	<b>Research Gaps</b>	<b>Focus of current study</b>
Resource availability	Jerono and Nzuki (2019)	Factors influencing sustainability of school feeding project: a case of public primary schools in Kajiado Central Sub-County, Kenya	Descriptive research design	The findings showed that there was a strong positive correlation between parental involvement, resource availability, Board of Management, monitoring and evaluation and sustainability of the school feeding project.	The study did not focus much on the sustainability part.	This study looked into the key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya
	Kirianki (2013)	An assessment of parental involvement in the sustainability of school feeding project in primary schools: a case of Embakasi, Kenya	Descriptive survey design was adopted	The study found that sustainability was achieved given the adequate involvement of the community.	The study was done in Embakasi public schools	The research established the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya
Parental involvement	Munuhe (2014)	Challenges facing school feeding project in Isinya division, Kajiado County	Descriptive research design	The study found that the current state of infrastructure within and outside the beneficiary schools has hindered the extent to which the beneficiaries are able to access the benefits of the SFP. The other findings showed that ranking top on hinderance to accessibility is: lack of tarmacked roads; inaccessibility to clean	The study did not have all the aspects considered in this current study	This study sought to evaluate the influence of infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya.

				drinking water sources; and lack of permanent dwelling structures within the schools.		
	Olubayo (2015)	Factors Affecting Implementation of School Feeding Project in Public Primary Schools in Kenya: A Survey of Emuhaya Sub-County, Kenya	Descriptive survey research design	The study concluded that parental involvement enhances the implementation of school feeding project to a greater extent. Needs Assessment of SFP project in public primary schools should be carried out to establish the needs for a particular for the projects by systematically examining stakeholder's interest and knowledge, agency mission, authorities and capability, and its significance of particular environmental conditions or issues. Financial management is an important component of project design.	The study looks into an implementation aspect.	The study looked at the key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya
Infrastructure	Awuor (2016)	Institutional factors influencing implementation of school feeding project in public primary schools in Matungulu Subcounty, Machakos County,	Descriptive research design	It was also clear from the study that the school management practices committees and the local communities had vital roles to play in the successful implementation of the school feeding project.	The study focuses on institutional factors alone.	The research looked into key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya.

		Kenya		Altogether, the study also established that the challenges facing the implementation of the SFP needed to be solved through the active involvement of all the stakeholders.		
	Osiemo (2014)	Factors influencing the success of school feeding projects in public primary schools in Dagoretti North Constituency, Nairobi County, Kenya	Descriptive research design	The study found that funds, infrastructure, proper school management practices and monitoring and evaluation were very paramount for the success of School feeding project.	The research looked at Nairobi County which is not an ASAL area.	This study looked into key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya.
School management practices	Wanjala (2016)	Impact of school feeding project on primary day school attendance in Turkana Central Division, Central District, Turkana County	Descriptive research design	The study found that school feeding project influenced the enrolment of pupils as lack of food in schools was number one reason for dropouts.	The research does not look into the sustainability of public primary school feeding project	The study sought to establish key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya.
	Kibet, (2017).	Factors Influencing Implementation of School feeding project in Public Primary Schools in Baringo Central Sub-County, Baringo County, Kenya		The study found that management and accountability of allocated funds is critical towards successful implementation of SFP programme	The research does not look into the sustainability of public primary school feeding project	The study sought to establish key determinants of the public primary school feeding project sustainability in North-Horr Sub County In Marsabit County, Kenya.



## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter is presented in the following sub-headings; research design, target population, sample size and sampling procedure, research instruments, pilot testing, validity and reliability of the research instruments, data collection procedures, data analysis techniques and ethical considerations. The chapter then summarizes with operationalization of variables.

#### 3.2 Research Design

A research design is a plan showing how the problem under investigation was solved. The function of a research design is to ensure that the evidence obtained enables the study to answer the research question as unambiguously as possible (Mohajan, 2018). Descriptive survey research design was applied to undertake the study of the research problem. Given the objective of the research, the design is found to be suitable. This particular design is ideal since the research entailed collecting and comparing data from the phenomenon at the same time of study. According to Dodds and Hess(2020), descriptive research design is an organized, empirical inquiry where the researcher lacks a direct control of independent variable since their manifestation has already taken place or because they cannot be manipulated. Thus, a description of state of affairs as they currently exist without manipulation of variables under study is possible. This study design focused on obtaining qualitative and quantitative data from county representatives, management and project management committee members. Qualitative data from key respondents will also be facilitated by the research design.

#### 3.3 Target Population

According to Taherdoost(2016), a population is the total collection of elements about which we wish to make inferences. The total target population consisted of 15 public primary schools in North Horr District. The unit of analysis comprised of 150teachers, 15 head teachers and 4 Area Education Officers as per the Marsabit County Director of Education office (2020).Table 3.1 shows the target population.

**Table 3. 1: Target Population**

Category	Target population	Percentage
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Head teachers	150	88.7
Teachers	15	8.9
Area Education Officers	4	2.4
<b>Total</b>	<b>169</b>	<b>100</b>

**Source: Marsabit County Director of Education office (2020)**

### 3.4 Sample Size and Sampling Procedures

Sampling frame is the listing of all elements of the population from which a sample was drawn. It is a complete and correct listing of population members only (Fletcher, 2017). A sample is a set of entities drawn from a population with the aim of estimating characteristic of the population (Aithal, 2017). The section focused on the sampling size and sampling procedures.

#### 3.4.1 Sampling Size

Sample is a finite part of a statistical population whose properties are studied to gain information about the whole (Park & Park, 2016). The sample size was calculated at 95% level of confidence level using the Yamane (1967) formula indicated below;

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = sample size,

N = Population size

e = margin of error set at 5%

$$n = \frac{169}{(0.6 + 169(0.05)^2)} = 119$$

The sample size was 119. To determine how the sample was distributed among the targeted respondents including staff working with teachers, head teachers and Area Education Officers, the sampling ratio was calculated and then multiplied with target population for targeted group. The ratio was  $119/169=0.704$ , which was used as shown in Table 3.2.

**Table 3. 2: Sampling Frame**

<b>Category</b>	<b>Target Population</b>	<b>Ratio</b>	<b>Sample size</b>
Head teachers	150	0.704	106
Teachers	15	0.704	11
Area Education Officers	4	0.704	3
<b>Total</b>	<b>169</b>		<b>119</b>

### **3.4.2 Sampling Procedures**

Sampling is a process or technique of choosing a sub-group from a population to participate in the study; it is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected. The respondents for this study were selected using stratified proportionate random sampling technique. Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling or stratification, the strata are formed based on members' shared attributes or characteristics such as income or educational attainment (Allen, 2017). The respondents were grouped into strata which included staff working with teachers, head teachers and Area Education Officers. The study then used simple random sampling to pick the respondents in each stratum.

### **3.5 Research Instruments**

Primary data was obtained using self-administered questionnaires. The questionnaire was made up of both open ended and closed ended questions. The open-ended questions was used so as to encourage the respondent to give an in-depth and felt response without feeling held back in illuminating of any information and the closed ended questions allow respondent to respond from limited options that had been stated. The questionnaire was made up of two sections. Section A had questions regarding background information while Section B had questions on resource availability, parental involvement, infrastructure, school management practices and public primary school feeding project sustainability. According to Mohajan (2018), the open ended or unstructured questions allow profound response from the respondents while the closed or structured questions are generally easier to evaluate. The study used questionnaires so as to conserve time and money and also facilitate an easier analysis as they are in immediate usable form.

### 3.6 Pilot Testing

Pilot study is the measurement of a dependent variable among subjects. Its purpose is to ensure that items in the instrument are stated clearly and have the same meaning to all respondents. The purpose of pre-testing the data instrument was to ensure that the items in the instrument are stated clearly and have the same meaning to all respondents. In this study, this involved checking whether the questions are clear and revoking any positive or negative response (Dikko, 2016). Pilot testing of the research instruments was conducted using teachers from the in North-Horr Sub County in Marsabit County, since it had a similar setting. A total of 12 questionnaires were administered to the pilot survey respondents who was chosen at random. This was very important in the research process because it assisted in identification and correction of vague questions and unclear instructions. It was also a great opportunity to capture the important comments and suggestions from the participants. This helped to improve on the efficiency of the instrument. This process was repeated until the researcher is satisfied that the instrument does not have variations or vagueness.

Pilot study results for reliability analysis was subsequently done using Cronbach's Alpha which measures the internal consistency by establishing if certain items within a scale measure the same construct. The findings for reliability test were as shown in Table 3.3.

**Table 3. 3: Reliability Analysis**

	<b>Cronbach's Alpha</b>
Resource availability	.817
Parental involvement	.831
Infrastructure	.746
School management practices	.718
Sustainability of public primary school feeding project	.848

Cronbach Alpha was established for every objective which formed a scale. Sustainability of public primary school feeding project was the most reliable with an alpha value of 0.848, followed by parental involvement had an alpha value of 0.831, then resource availability with an alpha value of 0.817 then infrastructure with an alpha value of 0.746 while school management practices was the least reliable with an alpha value of 0.718. This illustrates that all the five variables were reliable as their reliability values exceeded the prescribed threshold of 0.7

(Mohajan, 2018). This, therefore, depicts that the research instrument was reliable and therefore required no amendments.

### **3.7 Validity of Research Instruments**

Validity is defined as the degree to which the instrument used in research collects the data desired for study. Content validity was used by the researcher to check whether the items in the questionnaire answered the research objectives. The instrument in this study was reviewed by supervisors who were the experts in the area of research and their comments and observations were integrated in the instruments before they were used to collect data from the field. Prior to visiting the schools for data collection, the researcher conducted a pilot study in two schools whose respondents were changed in the final sample. The purpose of the pilot study was to inspect the instrument for research for appropriateness of items so as to identify any vague and indistinct items, such items were restated to ensure the interviewee clearly understood them.

### **3.8 Reliability of Research Instruments**

Instrument reliability on the other hand is the extent to which a research instrument produces similar results on different occasions under similar conditions. It's the degree of consistency with which it measures whatever it is meant to measure (Cho, 2016). Reliability is concerned with the question of whether the results of a study are repeatable. The questionnaire was administered to a pilot group of 12 randomly selected respondents from the target population and their responses used to check the reliability of the tool. A construct composite reliability co-efficient (Cronbach's alpha ( $\alpha$ )) of 0.6 or above is generally acceptable. A co-efficient of 0.7 or above for all the constructs was considered adequate in this study. Reliability coefficient of the research instrument was assessed using Cronbach's alpha ( $\alpha$ ) which was computed as follows:

$$\alpha = \frac{k}{k-1} \times \left[ 1 - \frac{\sum (S^2)}{\sum S^2_{\text{sum}}} \right]$$

Where: A = Cronbach's alpha

k = Number of responses

$\sum (S^2)$  = Variance of individual items summed up

$\sum S^2_{\text{sum}}$  = Variance of summed up scores.

### **3.9 Data Collection Procedures**

A research permit was obtained from the National Commissions of Science, Technology, and Innovation. The researcher will report to Sub-county Education office (SCDE) of in North-Horr

Sub County to get authority to proceed with research. Data was collected through administration of questionnaires cases for clarity. The questionnaires were given to the respondents through the drop and pick method so as to obtain well thorough answers from the respondents. An appointment was booked by the researcher with the respondent's firms two days before dropping the questionnaires. The researcher administered the research instruments to the respondents. The researcher delivered the questionnaire and gave the selected respondent a maximum of 3 days after which the researcher collected the completed questionnaire for analysis. An envelope marked questionnaire and thesis topic was provided so that once the employee completes the questionnaire, they sealed it to ensure confidentiality is maintained within the organization and guarded against potential victimization by the human resource division or the person designated by the company to co-ordinate the process. The researcher then proceeded to administer the questionnaires through the designated officers and co-ordinate with them to ensure respondents have adequate time to complete them. This enabled create conducive environment for the distribution and administration of the questionnaire. Administration of the questionnaire followed the agreed schedule.

### **3.10 Data Analysis Techniques**

Data was analysed using Statistical Package for Social Sciences (SPSS Version 25.0). Referencing of all received questionnaires was done and coding of questionnaire items was done for facilitating data entry. After data cleaning which entails checking for errors in entry, descriptive statistics such as frequencies, percentages, mean score and standard deviation was estimated for all the quantitative variables and information presented inform of tables. The qualitative data from the open-ended questions was analysed using thematic content analysis and presented in narrative form.

Inferential data analysis was done using multiple regression analysis and Pearson correlation analysis. Multiple regression analysis was used to establish the relations between the independent and dependent variables. Since there are four independent variables in this study the multiple regression model generally assumed the following equation;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y= Sustainability of Public Primary School Feeding Project in North-Horr Sub County

$\beta_0$ =constant

$\beta_1, \beta_2, \beta_3$  and  $\beta_4$  = regression coefficients

X<sub>1</sub>= Resource availability

X<sub>2</sub>= Parental involvement

X<sub>3</sub>= Infrastructure

X<sub>4</sub>= School management practices

$\varepsilon$ =Error Term

### 3.11 Ethical Considerations

During the research period, the researcher ensured confidentiality of responses; this was guaranteed before the start data collection. This was necessary because it stimulated the respondents to be honest. The permission to visit the schools was sought from the North-Horr Sub County education office. Further, all participants were assured of voluntary participation and their liberty to withdraw from the study at whatever stage without penalty. A summary of final report on the study was also available to the institutions and participants upon request. Throughout the research exercise, ethical principles were observed in the constitutional rights of every person and as such informed consent was sought from the respondents and was assured of confidentiality of the data and information to be collected. At completion, the findings were shared with stakeholders through feedback sessions and through publications in journals for wider academic sharing.

### 3.12 Operationalization of Variables

The operational definition is drawn to ensure consistent data collection that eliminates ambiguity. To operationalize the questionnaire on factors influencing the performance of rural electrification projects, each critical variable is expounded as indicated in Table 3.4.

**Table 3. 4: Operationalization of Variables**

Objectives	Type of Indicator Variable	Measuring of Indicators	Tools of analysis	Type of analysis
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To determine the influence of resource availability on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya	Independent	Resource availability	Proper allocation of funds Management and accountability systems Sources of funds Budgeting	Percentages Mean score	Descriptive statistics Regression analysis
To assess the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya	Independent	Parental involvement	Effective communication Active Participation Community committees Provision of services like cooking SFP meeting attendance	Percentages Mean score	Descriptive statistics Regression analysis
To examine the influence of infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya	Independent	Infrastructure	Availability of Stores and Kitchen Maintenance of buildings Provision of adequate sanitation facilities e.g. toilets, soap and watering taps Limited classroom space Availability of ventilation	Percentages Mean score	Descriptive statistics Regression analysis

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To evaluate the influence of school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya	Independent	School management practices	Access to skilled labor Involvement of Board of Management Purchases and storage facilities Effective coordination of resources and logistics	Percentages Mean score	Descriptive statistics Regression analysis
	Dependent	Sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya	Length of period in use Project dependency ratio Increase in the number of beneficiaries Adequate food supply Stabilized school attendance	Mean score	Descriptive statistics Regression analysis

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

#### 4.1 Introduction

This chapter discusses the findings obtained from the primary instrument used in the study. It discusses the characteristics of the respondents, their opinions on key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. In order to simplify the discussions, the researcher provided tables that summarize the collective reactions of the respondents.

#### 4.2 Questionnaire Return Rate

The study aimed at collecting primary data from the respondents. To achieve this, questionnaires were issued to 119 respondents out of which 94 questionnaires were completed and submitted back. This represents a response rate of 78.6%. This implies that the response rate obtained was good and enabled generalization of the findings as it is in line with Dodds and Hess (2020) who prescribed that a response rate above 50% is good for data analysis to be done. The response rate is as shown on Table 4.1.

**Table 4. 1: Response Rate**

	Frequency	Percentage
Response	74	78.6
Non-response	20	21.4
<b>Total</b>	<b>94</b>	<b>100.0</b>

#### 4.3 Background Information

The study sought to enquire on the respondents' general information including gender, level of education and age bracket. This information would ascertain the eligibility of the respondents to

participate in the study. It also helped in assessing the reliability of the information they provided in relation to the study.

#### 4.3.1 Gender of the Respondents

The researcher sought to know the respondents' gender. The results were as shown on Table 4.2.

**Table 4. 2: Gender of the Respondents**

	Frequency	Percent
Male	43	45.3
Female	51	54.7
<b>Total</b>	<b>94</b>	<b>100.0</b>

From the findings, majority of the respondents indicated that they were female as shown by 54.7% while the rest indicated that they were male as shown by 45.3%. This implies that the researcher collected data from both genders and therefore obtained the required and reliable information for the study.

#### 4.3.2 Age Bracket of the Respondents

The respondents age bracket was also explored in this study where the respondents indicated to which age bracket do they belong. Table 4.3 shows the results.

**Table 4. 3: Age Bracket of the Respondents**

	Frequency	Percent
18-25 years	13	13.6
26-35 years	34	36.4
36-45 years	28	29.5
46 and above years	19	20.5
<b>Total</b>	<b>94</b>	<b>100</b>

Table 4.4 reveals that majority of the respondents were between 26-35 years as shown by 36.4%, 29.5% were aged between 36-45 years, 20.5% were aged between 46 and above years while 13.6% were aged between 18-25 years. This implies that the respondents were from across all

the required age groups. This shows that the information given was from a wide scope making it reliable.

### 4.3.3 Level of Education of the Respondents

Additionally, the respondents were required to indicate their level of education. The responses were indicated in Table 4.4.

**Table 4. 4: Level of Education of the Respondents**

	<b>Frequency</b>	<b>Percent</b>
‘O’ Level	2	2.4
Certificate/Diploma	19	20.6
Degree	33	34.7
Masters	24	25.9
PhD	15	16.5
<b>Total</b>	<b>94</b>	<b>100.0</b>

The findings reveal that 34.7% of the respondents had reached the degree level, 25.9% had reached the masters level, 20.6% had reached the Certificate/Diploma, 16.5% had reached the PhD level, 2.4% had reached the ‘O’ Level. This implies that the respondents were learnt enough to comprehend the subject under study and hence they gave correct information.

### 4.4 Resource Availability

The study sought to determine the influence of resource availability on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The respondents were asked to indicate the extent to which resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their findings were as shown in Table 4.5.

**Table 4. 5: Influence of Resource Availability on Sustainability of Public Primary School Feeding Projects**

	<b>Frequency</b>	<b>Percent</b>
Little extent	13	13.6
Moderate extent	14	14.8
Great extent	46	48.9
Very great extent	21	22.7
<b>Total</b>	<b>94</b>	<b>100</b>

From the findings, 48.9% of the respondents indicated that resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent, 22.7% indicated to a very great extent, 14.8% indicated to a moderate extent and 13.6% indicated that resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a little extent. This implies that resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent.

Further, the respondents were requested to indicate their level of agreement with statements on the influence of the aspects of resource availability on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their responses were as shown in Table 4.6.

**Table 4. 6: Influence of Aspects of Resource Availability on Sustainability of Public Primary School Feeding Projects**

	<b>Mean</b>	<b>Std. Dev.</b>
There is capacity to plan and manage budget needs	4.220	0.601
There exist budget plans for implementing SFP	3.559	0.607
There is capacity to plan and budget needs	2.042	0.982
There is a budget plan in place	1.966	0.784
There are plans to finance the project in future	3.983	0.613
A good percentage of the finances can be sourced from the community	3.644	0.647

From the findings, the respondents agreed that there is capacity to plan and manage budget needs as illustrated by a mean score of 4.220; there are plans to finance the project in future as illustrated by a mean score of 3.983; a good percentage of the finances can be sourced from the community as illustrated by a mean score of 3.644; and there exist budget plans for implementing SFP as illustrated by a mean score of 3.559. Moreover, the respondents disagreed

that there is capacity to plan and budget needs as illustrated by a mean score of 2.042 and that there is a budget plan in place as illustrated by a mean score of 1.966.

The respondents were also asked to indicate the ways that resource availability influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study reveals that by having the right set of people, skills and technology for a specific undertaking; knowing the resources that can be spared for the project and knowing the gap difference in the capacity needed.

#### **4.5 Parental Involvement**

The study further sought to establish the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The respondents were asked to indicate the extent to which parental involvement influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their replies were as shown in Table 4.7.

**Table 4. 7: Influence of Parental Involvement on Sustainability of Public Primary School Feeding Project**

	<b>Frequency</b>	<b>Percent</b>
Moderate extent	22	23.9
Great extent	50	53.4
Very great extent	21	22.7
<b>Total</b>	<b>94</b>	<b>100</b>

As per the findings, 53.4% of the respondents indicated that parental involvement influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent, 23.9% indicated to a moderate extent and 22.7% indicated that parental involvement influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a very great extent. This implies that parental involvement influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent.

Further, the respondents were asked to indicate their level of agreement with statements on the influence of parental involvement on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their responses were as shown in Table 4.8.

**Table 4. 8: Influence of Aspects of Parental Involvement on Sustainability of Public Primary School Feeding Projects**

	<b>Mean</b>	<b>Std. Dev.</b>
Parents are consulted when designing the project	3.831	0.890
There are parent level structures to establish communication	2.780	0.916
There exist a committee that comprise representation of parents and teachers	4.000	0.847
The parents contribute to pay the cooks or firewood	4.144	0.603
Increased parental involvement in school’s activities reduces dropout rate	3.983	0.762
Increased parental involvement in schools’ activities and advocacy on school feeding project encourages all pupils to remain in school until they complete school	2.229	0.922

The findings reveal that the respondents agreed that the parents contribute to pay the cooks or firewood as shown by a mean score of 4.144; there exist a committee that comprise representation of parents and teachers as shown by a mean score of 4.000; increased parental involvement in school’s activities reduces dropout rate as shown by a mean score of 3.983; and parents are consulted when designing the project as shown by a mean score of 3.831. However, the respondents were neutral that there are parents level structures to establish communication as shown by a mean score of 2.780 and disagreed that increased parental involvement in schools activities and advocacy on school feeding project encourages all pupils to remain in school until they complete school as shown by a mean score of 2.229.

The respondents were also required to indicate the ways that parental involvement influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. They indicated that by the parents joining the local school/parent organizations (PTA/ PTO); supporting the school extra-curricular activities; volunteering at the school; attending parent –teacher conferences; and communication with the teacher regularly, by writing notes, telephoning the school, or using email.

#### 4.6 Infrastructure

The research sought to evaluate the influence of infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The respondents were also asked to indicate the extent to which infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study results were as shown in Table 4.19.

**Table 4. 9: Influence of Infrastructure on Sustainability of Public Primary School Feeding Project**

	Frequency	Percent
Little extent	6	6.8
Moderate extent	36	38.6
Great extent	34	36.4
Very great extent	17	18.2
<b>Total</b>	<b>94</b>	<b>100</b>

From the findings, 38.6% of the respondents indicated that infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a moderate extent, 36.4% indicated to a great extent, 18.2% indicated to a very great extent and 6.8% of the respondents indicated that infrastructure influences the sustainability of Public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a little extent. This means that infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a moderate extent.

The researcher also required the respondents to indicate their level of their agreement with statements on the influence of aspects of infrastructure on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their responses were as shown in Table 4.10.

**Table 4. 10: Influence of Aspects of Infrastructure on Sustainability of Public Primary School Feeding Project**

	Mean	Std. Dev.
There are proper equipment available for service	3.975	0.562



There are well maintained kitchen equipment	2.127	0.835
The cafeteria facilities are inviting to students	3.966	0.762
Kitchen facilities are up-to-date	3.153	0.854
The school buildings are frequently maintained	3.720	0.846
There is adequate ventilation in the classrooms	3.771	0.919
There are plenty watering taps in the school	2.339	0.669
The school has a good stores and kitchen.	3.585	0.631

From the findings, the respondents agreed that there are proper equipment available for service as shown by a mean of 3.975; the cafeteria facilities are inviting to students as shown by a mean of 3.966, that There is adequate ventilation in the classrooms as shown by a mean of 3.771; the school buildings are frequently maintained as shown by a mean of 3.720; and the school has a good stores and kitchen as shown by a mean of 3.585. However, the respondents were neutral that kitchen facilities are up-to-date as shown by a mean of 3.153 but disagreed that there are plenty watering taps in the school as shown by a mean of 2.339; and there is well maintained kitchen equipment as shown by a mean of 2.127.

In addition, the ways that infrastructure influences sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya were sought. The respondents indicated that infrastructure ensures resilience to climate and natural disaster risks; enables sound economic development, job creation and the purchase of local goods and services; it also enhances quality of life for school children; increases positive impacts (benefits); and promotes a more effective and efficient learning.

#### **4.7 School Management Practices**

The study sought to assess the influence of school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The researcher asked the respondents to indicate the extent to which school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their replies were as shown in Table 4.11.

**Table 4. 11: Influence of School Management Practices on the Sustainability of Public Primary School Feeding Project**

	Frequency	Percent
Little extent	4	4.5
Moderate extent	27	28.4
Great extent	42	44.3
Very great extent	21	22.7
<b>Total</b>	<b>94</b>	<b>100</b>

As per the findings, 44.3% of the respondents indicated that school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent, 28.4% indicated to a moderate extent, 22.7% indicated to a very great extent, and 4.5% indicated that school management practices influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a little extent. This implies that school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent.

The respondents were also asked to indicate the level of agreement with statements on the influence of the aspects of school management practices sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. Their responses were as shown in Table 4.12.

**Table 4. 12: Influence of Aspects of School Management Practices on the Sustainability of Public Primary School Feeding Project**

	Mean	Std. Dev.
School management practices encourage teamwork of employees	3.686	0.748
The school heads share ideas with other district school food service directors	3.915	0.635
The school head ensures employees participate in professional development activities	2.144	0.899
The management maintains personnel records and data	4.492	0.725
The management hires qualified employees	3.280	0.905
The management maintains meals per labor hour guidelines	4.220	0.509

The findings revealed that the respondents agreed that the management maintains personnel records and data as illustrated by a mean of 4.492; the management maintains meals per labor

hour guidelines as illustrated by a mean of 4.220; the school heads share ideas with other district school food service directors as illustrated by a mean of 3.915; and school management practices encourage teamwork of employees as illustrated by a mean of 3.686. However, the respondents were neutral that the management hires qualified employees as illustrated by a mean of 3.280 and disagreed that the school head ensures employees participate in professional development activities as illustrated by a mean of 2.144.

In regards to the what ways that school management practices influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya, the respondents indicated that the management could choose sustainable food by purchasing from local, sustainable farms; supporting the right to farm in the community and educating the community at large.

#### **4.8 Sustainability of Public Primary School Feeding Project in North-Horr Sub County**

The respondents were required to indicate the trend of aspects of sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya for the period of the last five years. Their responses were as shown in Table 4.13.

**Table 4. 13: Trend of Aspects of Sustainability of Public Primary School Feeding Project in North-Horr Sub County**

	<b>Mean</b>	<b>Std. Dev.</b>
Length of period in use	3.171	0.834
Project dependency ratio	4.173	0.784
Increase in the number of beneficiaries	1.955	0.757
Adequate food supply	3.948	0.583
Stabilized school attendance	2.909	0.789

As per the findings, the respondents indicated that project dependency ratio as illustrated by a mean score of 4.173; and adequate food supply as illustrated by a mean score of 3.948 have improved over the last five years. Further, the respondents indicated that the length of period in use as illustrated by a mean score of 3.171; and the stabilized school attendance as illustrated by

a mean score of 2.909 have been constant. The respondents also indicated that the number of beneficiaries as illustrated by a mean score of 1.955 had decreased over the last five years.

#### 4.9 Inferential Statistics

The researcher conducted both the Pearson correlation analysis and the regression analysis. The regression analysis was used to establish the relations between the independent and dependent variables while correlation was conducted to assess the degrees of association between the variables. The findings were as shown in the subsections that follow.

##### 4.9.1 Pearson Moment Correlation Results

Pearson correlation coefficient was used to determine the strength and the direction of the relationship between the dependent variable and the independent variable. The analysis using Pearson’s product moment correlation was based on the assumption that the data is normally distributed and also because the variables are continuous. Table 4.14 shows the results for the Pearson moment correlation.

**Table 4. 14: Pearson Moment Correlation Results**

		<b>Sustainability of Public Primary School Feeding Project</b>	<b>Resource availability</b>	<b>Parental involvement</b>	<b>Infrastructure</b>	<b>School management practices</b>
<b>Sustainability of Public Primary School Feeding Project</b>	Pearson Correlation	1				
	Sig. (2-tailed)	.				
<b>Resource availability</b>	Pearson Correlation	.744	1			
	Sig. (2-tailed)	.041				
<b>Parental involvement</b>	Pearson Correlation	.992	.755	1		
	Sig. (2-tailed)	.009	.023			
<b>Infrastructure</b>	Pearson Correlation	.965	.707	.963	1	
	Sig. (2-tailed)	.013	.034	.006		
<b>School management practices</b>	Pearson Correlation	.537	.947	.547	.491	1
	Sig. (2-tailed)	.027	.008	.021	.004	

Correlation is significant at the 0.05 level (2-tailed).

The analysis of correlation results between the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County and resource availability shows a positive association where the correlation coefficient is .744, with p-value of .041 which was significant at  $\alpha = 5\%$ . The correlation results between parental involvement and sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County also indicates the same type of result where the correlation coefficient is .992 with a p-value of .009 which was significant at  $\alpha = 5\%$ .

The results also show that there is a positive association between infrastructure and sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County where the correlation coefficient is .965, with a p-value of .013. Further, the result shows that there is a positive association between School management practices and Sustainability of Public Primary School Feeding Project in North-Horr Sub County in Marsabit County where the correlation coefficient is .537, with a p-value of .027. Nevertheless, the positive associations indicate that when the practice of the afore-mentioned factors is in place the levels of sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County increases.

Overall, parental involvement had the greatest influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, followed by infrastructure, then resource availability while school management practices had the least influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. All the variables were significant since p-values were less than 0.05.

#### 4.9.2 Regression Analysis

This was conducted to determine the relationship between resource availability, parental involvement, infrastructure, and school management practices as the independent variables against the dependent variable sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. The results were as presented in Table 4.15, Table 4.16 and Table 4.17.

**Table 4. 15: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.896	0.804	0.795	1.281

Table 4.19 is a model fit which establishes how fit the model equation fits the data. The adjusted  $R^2$  was used to establish the predictive power of the study model and it was found to be 0.795 implying that 79.5% of the variations in sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County are explained by changes in resource availability, parental involvement, infrastructure, and school management practices.

**Table 4. 16: Analysis of Variance (ANOVA)**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	618.032	4	154.508	91.034	1.29E-30
1 Residual	151.056	89	1.697		
<b>Total</b>	<b>769.088</b>	<b>93</b>			

The probability value of 1.29E-30 indicates that the regression relationship was highly significant in predicting how the resource availability, parental involvement, infrastructure, and school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. The F calculated at 5 per cent level of significance was 91.034. Since F calculated is greater than the F-critical (value = 2.4741) and p-value was less than 0.05, the overall model was significant.

**Table 4. 17: Regression Coefficients**

	<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig</b>
	<b>Coefficients</b>		<b>Coefficients</b>		
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	0.864	0.412		2.097	0.039
Resource availability	0.705	0.293	0.721	2.406	0.018
Parental involvement	0.817	0.244	0.664	3.348	0.001
Infrastructure	0.775	0.339	0.718	2.286	0.025
School management practices	0.679	0.278	0.629	2.442	0.017

The regression equation obtained from this outcome was: -

$$Y = 0.864 + 0.705X_1 + 0.817X_2 + 0.775X_3 + 0.679X_4$$

The findings revealed that if all independent variables were held constant at zero, then the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County will be 0.864. The study also revealed that a unit increase in resource availability would lead to a 0.705 increase in sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. This variable was significant since  $p=0.018$  is less than 0.05 and the null hypothesis that there is no significant relationship between resource availability and sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

The study further revealed that a unit change in parental involvement would lead to a 0.817-unit change in sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. The variable was significant since  $p\text{-value}=0.001 < 0.05$  and the null hypothesis that there is no significant relationship between parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

Moreover, the study showed that if all other variables are held constant, a unit change in the score of infrastructures would lead to a 0.775 change in sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. This variable was significant since  $p=0.025$  was less than 0.05 and the null hypothesis that there is no significant relationship between infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

The study also revealed that a unit change in school management practices would change the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County by 0.679. This variable was significant since  $p\text{-value}=0.017$  was less than 0.005 and the null hypothesis that there is no significant relationship between school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was also rejected.

Overall, parental involvement had the greatest influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, followed by infrastructure, then resource availability while school management practices had the least influence on sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County. All the variables were significant since p-values were less than 0.05.



## CHAPTER FIVE

### SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the major findings summary, discussions, conclusions and the essential recommendations. The study sought to examine the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. The following are the specific breakdown of the summaries of the major findings based on the output of the descriptive and inferential statistical analyses guided to answer the four research questions of the study.

#### 5.2 Summary of Findings

The study sought to determine the influence of resource availability on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study found resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. The research also found that there is capacity to plan and manage budget needs; there are plans to finance the project in future; a good percentage of the finances can be sourced from the community; and there exist budget plans for implementing SFP. Moreover, the research found that there was no capacity to plan and budget needs and that there was no budget plan in place. The study also found that resource availability had an  $r = 0.705$  and was significant since  $p = 0.018$  is less than  $0.05$ . Further, the null hypothesis that there is no significant relationship between resource availability and sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

Further, the study sought to establish the influence of parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study established that parental involvement influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. The study found that the parents contribute to pay the cooks or firewood; there exist a committee

that comprises representation of parents and teachers; increased parental involvement in school's activities reduces dropout rate; and parents are consulted when designing the project. However, the research found that there was uncertainty to whether there are community level structures to establish communication and further that increased parental involvement in schools activities and advocacy on school feeding project did not encourage all pupils to remain in school until they complete school. The study further established that parental involvement had an  $r=0.817$  and was significant since  $p\text{-value}=0.001<0.05$ . The null hypothesis that there is no significant relationship between parental involvement on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

The study evaluated the influence of infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study established that infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a moderate extent. The study found that there are proper equipment available for service; the cafeteria facilities are inviting to students; there is adequate ventilation in the classrooms; the school buildings are frequently maintained; and the school has a good stores and kitchen. However the research found that there was uncertainty that kitchen facilities are up-to-date. Further, it was found that the watering taps were not plenty in the school; and the kitchen equipment was not well maintained. The research found that infrastructure had an  $r= 0.775$  and was significant since  $p=0.025$  was less than  $0.05$ . The null hypothesis that there is no significant relationship between infrastructure on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was rejected.

The study assessed the influence of school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya. The study established that school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. The research found that the management maintains personnel records and data; the management maintains meals per labor hour guidelines; the school heads share ideas with other district school food service directors; and school management practices encourage teamwork of employees. However, the research was uncertain that the management hires qualified employees and found

that the school head did not ensure employees participate in professional development activities. School management practices was found to have an  $r=0.679$  and was significant since  $p\text{-value}=0.017$  was less than  $0.005$ . The null hypothesis that there is no significant relationship between school management practices on the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya was also rejected.

The research also found that project dependency ratio; and adequate food supply has improved over the last five years. Further, the study found that the length of period in use; and the stabilized school attendance have been constant. The research also established that the number of beneficiaries had decreased over the last five years.

### **5.3 Discussion of the Findings**

The following subsections entail the discussions of findings per objective linked to the literature. The objectives discussed were resource availability, parental involvement, infrastructure and school management practices.

#### **5.3.1 Resource Availability and Sustainability of Public Primary School Feeding Project**

The study found resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. These results are in agreement with Moucheraud et al. (2020) who stated that resource availability is vital to every project. They also assert that as the project becomes national, it requires stable and autonomous resource availability source. This can be through government resources or development resource availability. This is also in accordance with Jomaa, McDonnell and Probart (2011) who note that stable resource availability is a prerequisite for sustainability and implementation of every project.

The research also found that there is capacity to plan and manage budget needs; there are plans to finance the project in future; a good percentage of the finances can be sourced from the community; and there exist budget plans for implementing SFP. In relation to these findings, Tagoe (2018) examined the effect of school meals on school participation in Kenya and found out that school participation went up in Kenyan preschools where a free breakfast was introduced than in comparison to schools where there were none. In many countries, parents face significant private costs of education, either for school fees or for other inputs such as uniforms. While

school meals are provided by the governments of most high- and middle-income countries around the globe, the children who may benefit most from school feeding projects are in low – income countries that do not have government provided school meals. School feeding in low-income countries often starts through resource availability by international organizations such as United Nations World Food Project or the World Bank or National governments through projects such as the McGovern-Dole International Food for Education and Child Nutrition Project. However, some governments have first started school feeding projects and then requested the help of these organizations and projects. Additionally many countries have graduated from their dependency on foreign assistance by reshaping their school feeding projects to be country-led and self-supported (Sekiyama et al., 2018).

Moreover, the research found that there was no capacity to plan and budget needs and that there was no budget plan in place. The findings differ from Jimoh, Abdullahi and Hadiza (2020) results that the government plan and budget for their priorities on an annual basis based on national planning process. Further, the degree to which SFP is included in the planning and budgeting process can determine whether the project get resources from the national budget and whether it benefits from general budget support allocation. Further, it also disagrees with Olubayo, Amisialuvi and Namusonge (2013) in Emuhaya County who found that there was a budget in place and that good percentage of the finances was sourced from small scale farmers, but there was no capacity to plan and budget needs. When free primary education was introduced, there was an immediate financial vacuum, as Schools' income from fees was abruptly cut off.

### **5.3.2 Parental Involvement and Sustainability of Public Primary School Feeding Project**

Further, the study found that parental involvement influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. This is in agreement with a study in Ethiopia by Olusanya (2010) revealed that it is vital to strengthen parental involvement in organizing and implementing SFPs. This is because the schools which are assisted by community assisted have certain advantages such as working for more hours, and hence good liaison between parents and teachers, officials and others; giving them the chance to know better what goes on at school; in addition, serving to increase the value of education, and the community at large including the parents school.

The study found that the parents contribute to pay the cooks or firewood; there exist a committee that comprises representation of parents and teachers; increased parental involvement in school's activities reduces dropout rate; and parents are consulted when designing the project. Parental involvement comprises various degrees of individual or collective involvement through financial contributions, resources contribution; social and political commitment at different stages of project implementation. This relates to Iddrisu (2018) who stated that parental involvement is the capability of parents to actively participate in varied school-based and home-based activities to enrich their children's education. Yendaw and Dayour (2015) study discovered that the GSFP has contributed significantly to pupils' enrolment, attendance and retention compared to the period before the project's implementation. There was a statistically significant relationship was established between school meals quality/quantity and school attendance among pupils and two, a strong linkage was found between the implementation of school feeding projects and pupils' retention in schools.

However, the research found that there was uncertainty to whether there are parent level structures to establish communication and further that increased parental involvement in schools activities and advocacy on school feeding project did not encourage all pupils to remain in school until they complete school. The results disagreed with the findings that the lack of parental involvement may lead to a failed project for the case of Afghanistan where the school based bakery failed due to lack of management capacity and parental involvement (Mhurchu, Gorton, Turley, Jiang, Michie, Maddison & Hattie, 2012). The school feeding projects that respond to community needs are locally owned, and that incorporate some form of parental or community contribution, whether cash payment or in kind. Through donated food or labour, the projects tend to be stronger and most likely to make a successful transition from donor assistance.

### **5.3.3 Infrastructure and Sustainability of Public Primary School Feeding Project**

The study established that infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a moderate extent. The outcome conformed to An NGO International Christelijk Steunfonds Africa (ICS) that provided uniforms, and classroom construction to seven schools, randomly selected from a pool of poorly performing candidate schools in Kenya. They found out that dropout rates fell considerably in treatment schools, and after five years pupils in treatment schools had completed about 15

percent more schooling (Olubayo, Amisialuvi & Namusonge, 2013). The physical and learning environments of the school are critical compliments to the school meal. They are frequently deficient thus reducing the health and learning outcomes.

The study found that there is proper equipment available for service; the cafeteria facilities are inviting to students; there is adequate ventilation in the classrooms; the school buildings are frequently maintained; and the school has a good stores and kitchen. The results are in line with the statements that there is the issue of inadequate infrastructure with the introduction of FPE. It emerged that most schools did not have adequate classroom to accommodate the large number of pupils enrolled under the FPE project. For instance, classrooms appeared to be generally congested and there was hardly any space for free movement during lessons. Also, a number of classroom conditions were poor, for instance, lighting depended only on sunlight, which was sometimes inadequate. Also, in some schools they had introduced school mats for children to sit on since there were no sufficient desks. But a majority of the teachers felt that the sitting on the mats affected the children's writing skills and general physical development (Moucheraud et al., 2020).

However the research found that there was uncertainty that kitchen facilities are up-to-date. Further, it was found that the watering taps were not plenty in the school; and the kitchen equipment was not well maintained. Sedro (2019) in a study on Access and Retention in Secondary School Education in Kenya found that in most schools, many facilities, basic equipment and materials are in a sorry state, a condition that has forced them to turn to parents and communities for alternative financing and provisioning. They noted that students from low-income households are most affected by impact of constraints in financing and supply of learning materials.

#### **5.3.4 School Management Practices and Sustainability of Public Primary School Feeding Project**

The study established that school management practices influence the sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya to a great extent. The results correlate with Jimoh, Abdullahi and Hadiza (2020) who stated that school managers should be equipped with relevant knowledge and skill to perform administrative duties which include planning daily routine, among other duties. This implies that school managers

need to be trained to equip them with the relevant skills and techniques to prepare them to be effective in implementation of educational policies. A school manager, who accepts that people are the key to successful implementation of policies and changes, is cognizant of the barriers that people place between themselves and the changes required.

The research found that the management maintains personnel records and data; the management maintains meals per labor hour guidelines; the school heads share ideas with other district school food service directors; and school management practices encourage teamwork of employees. The declaration of free primary education witnessed the rise in student enrollment which in turn led to strain in the existing physical resources. These changes required changes in the managerial skills of school managers. WFP (2014) points out that a change agent is a person who attempts to influence proposed change and its adoption as well as decisions in a direction which beneficiaries have indicated desirable. An advisory committee on supply and education of teachers observe that education service has been operating in a climate of rapid change and that this climate is likely to continue to the foreseeable future (Akanbi & Alayande, 2011).

However, the research was uncertain that the management hires qualified employees and found that the school head did not ensure employees participate in professional development activities. The school management committees should systematically promote parental involvement other than to exact contributions (water, labor, money) from parents. According to WFP the benefits of school feeding are limited if separated from the larger context of learning, health and livelihoods. School feeding projects in isolation without an appropriate learning environment and family or community support is insufficient to achieve the objectives of WFP of healthy educated children. In order to justify investments and meet objectives, the school feeding project must take better account of social, economic and cultural constraints (WFP, 2014).

#### **5.4 Conclusion**

The study concluded that resource availability influences the sustainability of public primary school feeding project in North-Horr Sub County significantly. The research concluded that the when the county allocates enough funds for maintenance of school feeding project as well as allocation of a technical team to offer technical support, the public primary school feeding projects have high possibility of sustainability. Further, availability of equipment and periodic

training on maintenance of the public primary school feeding project by the county government ensures that the costs are met.

Further, the study concluded that parental involvement has a significant influence on sustainability of public primary school feeding project in North-Horr Sub County. The research deduced that the programme is a vehicle through which parents are motivated to take active roles in the school's management and development. It is therefore clear that sound management and sustainability of the School Feeding Programme would contribute to the education development geared toward universal primary education in North-Horr Sub County.

The study concluded that infrastructure influences the sustainability of public primary school feeding project in North-Horr Sub County significantly. The research concluded that a significant lack of equipment such as stores, freezers, stoves and basic cooking utensils, mainly in rural areas, and where they do exist, they are in precarious conditions. Utensils used by students are generally plastic and provided by their families, aid agencies or operators. In many cases there are no specific areas for food preparation, washing cooking utensils or hand washing, and where they do exist they are considered inadequate from the point of view of health and hygiene. Water, electricity and toilets are not present in all schools, especially in those located in rural areas. Sometimes these services are installed, but are not available year-round or are not in good working condition.

The study further concluded that school management practices influences the sustainability of public primary school feeding project in North-Horr Sub County significantly. The research concluded that the school management forms the heart of administrative support towards project sustainability. When top management is unfavorable, the intention to leave increases and when it is favorable, intention to leave decreases. Hence, increasing chances of a sustainable project.

## **5.5 Recommendations**

On the basis of the conclusions obtained, it is recommended that the programme managers and policy makers should build a consensus on policies and objectives that focus on how SFP can effectively contribute to improving education and meet the nutrition and health needs of school age children. The government and all partners in support of the SFP including NGOs should



develop a targeting criteria and mechanisms that would ensure effective sustainability of the school feeding programme.

Governments should create dedicated funds with a mandate to provide financing for storage infrastructure projects. Loans with preferential terms, either through a dedicated infrastructure scheme or partner bank, can also be provided to farmers or cooperatives for investment in agricultural storage. Furthermore, the government must ensure that there is a timely distribution of funds to schools to carry out the program in a timely manner. An adequate and timely distribution of funds would help ensure schoolchildren are provided with adequate nutritious meals needed for child growth and development. To accomplish this, the government must put in place proper planning and all stakeholders of the program must be involved in the decision-making process.

In addition, the Board of Management and the head teachers should strengthen the parental involvement in organizing and sustaining the SFP. This is because community assisted schools give parents the opportunity to become more aware of what goes on in the school. Furthermore, through proper integration, the parents could support the SFP by helping to pay cooks as well as providing fuel and water thus accept it as their own responsibility. The Board of Management should analyze and identify alternative financing and cost options, this could be achieved by starting income generating activities to raise funds to supplement the funds issued by government. In addition, initiate advocacy campaigns in which well-wishers from the community, political leaders, NGOs and church organizations contribute funds to support the SFP. They should also provide funds in good time for the feeding programme and ensure it is adequate for the schools according to the pupil population.

Infrastructure should be improved especially in the remote areas. This will ease communication in these areas thus improving the, implementation and management of the SFP. School feeding program (SFP) and other boarding facilities such as beds, nets, and sanitary pads to be made available by government, religious organization, NGOs for example UNICEF and WFP in public primary schools in drought affected zones as food supplies and other basic needs affect pupils participation in schools such as retention, enrollment and completion.

## **5.6 Suggestions for Future Studies**

Since the factors such as resource availability, parental involvement, infrastructure and school management practices, the study recommends that another study should be conducted to cover other factors influencing the sustainability of public primary school feeding projects.

It will also be important that a study is undertaken to establish the level of community participation on the School Feeding Programme initiatives as well as its implication on future sustainability of the SFP. The study was conducted in North-Horr Sub County, which was a very small representative of the entire Marsabit County.

Therefore, other studies should be conducted to investigate the key determinants of the public primary school feeding project sustainability in North-Horr Sub County in Marsabit County, Kenya. Another study should also be considered on the influence of school feeding programs on pupil retention as well as the entire Kenyan Republic.

The researcher further suggested that the study should be conducted on both primary and secondary data collected and analyzed on implementation of school feeding programmes in Kenya.

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## APPENDICES

### **Appendix I: Letter of Transmittal**

Dear Sir/ Madam,

#### **RE: ACADEMIC RESEARCH PROJECT**

I am a student of Masters of Arts in project planning and Management at University of Nairobi. I wish to conduct a research entitled **KEY DETERMINANTS OF THE PUBLIC PRIMARY SCHOOL FEEDING PROJECT SUSTAINABILITY IN NORTH-HORR SUB COUNTY IN MARSABIT COUNTY, KENYA**. A questionnaire has been designed and was used to gather relevant information to address the research objective of the study. The purpose of writing to you is to kindly request you to grant me permission to collect information on this important subject from your organization.

Please note that the study was conducted as an academic research and the information provided was treated in strict confidence. Strict ethical principles were observed to ensure confidentiality and the study outcomes and reports will not include reference to any individuals.

Your acceptance was highly appreciated.

Yours faithfully,

**Barille Kimanzi Godana**

**Appendix II: Research Questionnaire**

You are requested to fill out your personal information in the spaces below. Please tick only one response. The study sought to establish **KEY DETERMINANTS OF THE PUBLIC PRIMARY SCHOOL FEEDING PROJECT SUSTAINABILITY IN NORTH-HORR SUB COUNTY IN MARSABIT COUNTY, KENYA.**

**SECTION A: Background Information**

1. What is your gender  
 Male:  Female:
2. Indicate your age bracket  
 18-25 yrs.  26-35yrs.   
 36-45yrs.  46 and above yrs.
3. State your highest level of education  
 ‘O’ Level  Certificate/Diploma  Degree  Masters  PHD

**SECTION B: FACTORS THAT INFLUENCE THE PUBLIC PRIMARY SCHOOL FEEDING PROJECT SUSTAINABILITY IN NORTH-HORR SUB COUNTY IN MARSABIT COUNTY, KENYA.**

**Resource availability**

4. To what extent does resource availability influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?  
 Very great extent  Great extent  Moderate extent   
 Little extent  No extent
5. Please indicate the extent that the following aspects of resource availability influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya? Where: 5- strongly agree;4- agree; 3- Neutral; 2- Disagree; 1- strongly disagree

	1	2	3	4	5
There is capacity to plan and manage budget needs					
There exist budget plans for implementing SFP					
There is capacity to plan and budget needs					

There is a budget plan in place					
There are plans to finance the project in future					
A good percentage of the finances can be sourced from the community					

6. In what ways does resource availability influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

.....  
 .....

**Parental involvement**

7. To what extent does parental involvement influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

Very great extent [ ] Great extent [ ] Moderate extent [ ]  
 Little extent [ ] No extent [ ]

8. Please indicate the extent that the following aspects of parental involvement influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya? Where: 5- strongly agree; 4- agree; 3- Neutral; 2- Disagree; 1- strongly disagree

	1	2	3	4	5
Parents are consulted when designing the project					
There are parent level structures to establish communication					
There exist a committee that comprise representation of parents and teachers					
The parents contribute to pay the cooks or firewood					
Increased parental involvement in school's activities reduces dropout rate					
Increased parental involvement in schools activities and advocacy on school feeding project encourages all pupils to remain in school until they complete school					

9. In what ways does parental involvement influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

.....

.....

**Infrastructure**

10. To what extent do infrastructure influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

Very great extent [ ] Great extent [ ] Moderate extent [ ]  
 Little extent [ ] No extent [ ]

11. Please indicate the extent that the following aspects of infrastructure influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya? Where: 5- strongly agree; 4- agree; 3- Neutral; 2- Disagree; 1- strongly disagree

	1	2	3	4	5
There are proper equipment available for service					
There are well maintained kitchen equipment					
The cafeteria facilities are inviting to students					
Kitchen facilities are up-to-date					
The school buildings are frequently maintained					
There is adequate ventilation in the classrooms					
There are plenty watering taps in the school					
The school has a good stores and kitchen					

12. In what ways do infrastructure influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

.....

.....

**School management practices**

13. To what extent do school management practices influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

Very great extent [ ] Great extent [ ] Moderate extent [ ]

Little extent [ ] No extent [ ]

14. Please indicate the extent that the following aspects of school management practices influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya? Where: 5- strongly agree; 4- agree; 3- Neutral; 2- Disagree; 1- strongly disagree

	1	2	3	4	5
School management practices encourage teamwork of employees					
The school heads share ideas with other district school food service directors					
The school head ensures employees participate in professional development activities					
The management maintains personnel records and data					
The management hires qualified employees					
The management maintains meals per labor hour guidelines					

15. In what ways does school management practices influence sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya?

.....  
 .....

**SECTION C: Sustainability of Public Primary School Feeding Project in North-Horr Sub County**

16. What has been the trend of aspects of sustainability of public primary school feeding project in North-Horr Sub County in Marsabit County, Kenya for the period of the last five years? Where, 5 = greatly improved, 4= improved, 3= constant, 2= decreased, 1 = greatly decreased

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Length of period in use					
Project dependency ratio					
Increase in the number of beneficiaries					
Adequate food supply					
Stabilized school attendance					

**Thank you for Participation**

### Appendix III: Work Plan

Activity	September				October				November				December			
	Week				Week				Week				Week			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Topic selection & approval	■															
Supervisor appointment		■														
Produce draft proposal			■	■												
Incorporate supervisors reviews				■	■	■										
Proposal ready for presentation					■	■	■									
Incorporation of panel comments						■	■									
Pilot testing of questionnaire							■									
Data collection								■	■							
Data processing and analysis									■	■						
Review of draft by supervisor										■	■					
Incorporate supervisor comments											■					
Submit project to board of postgraduate studies												■				



**Appendix IV: Budget**

<b>ITEM</b>	<b>QUANTITY</b>	<b>UNIT COST (KSHS)</b>	<b>TOTAL COST (KSHS)</b>
Stationary	3 reams	500	1500
Transport cost	7 trips	2000	14,000
Binding	84 pages (8 copies)	100	10,100
Hard cover binding	5	600	3,000
Photocopying services	84 pages (7 copies)	5	3000
Miscellaneous Expenses	Various	10,000	10,000
<b>Total</b>			<b>41,600</b>

**Appendix V: List of Public Primary Schools in North Horr**

- 1) Balesa Primary School
- 2) Chalbi Muslim Primary School
- 3) Dukana Nomadic Girls Primary School
- 4) El-beso Primary School
- 5) El-hadi Primary School
- 6) El Isackomala Primary School
- 7) Ririba Primary School
- 8) Helmer Memorial Girls Primary School
- 9) Illeret Primary School
- 10) Gas Primary School
- 11) Malabot Primary School
- 12) North Horr Primary School
- 13) Qorqa Primary School
- 14) Russo Primary School
- 15) Telesgaye Primary School

## Appendix VI: Map of Marsabit County

