

**SCHOOL FEEDING PROGRAM AND PUPILS'
ENROLMENT IN SELECTED PUBLIC PRIMARY SCHOOLS, IN
BUSANZE SECTOR, NYARUGURU DISTRICT, RWANDA.**

BY

Apollinaire NDAYISABA
Reg. N°: MED/ 39409/123/DF

A Dissertation submitted to the School of Education

Kampala International University

Kampala-Uganda


**In Partial Fulfillment of the Requirements for the Award of
Master Degree in Educational Management and Administration**

October, 2014



DECLARATION A

I declare that this piece of work is my original and has never been submitted to any university for any award.

..... Apollinaire NDAYISABA 

Name and signature of the candidate

..... November 4th, 2014

Date

DECLARATION B

This is to certify that the work reported in this dissertation was carried out by the candidate under my supervision

Dr. Kayinda Mlayi

Name and signature of the Supervisor

08/11/2014

Date

DEDICATION

To:

The Almighty God, with his will to me

My parents, with their drive for education they inserted in me

My beloved wife and children for their moral support

And all of you, who will be interested in this work.

ACKNOWLEDGEMENT

My first thanks must go to many people in Nyaruguru district who took part in this study and spent time in answering my questions and sharing insights into their private lives with me.

My special thanks go to Dr.Vincent KAYINDU for his commitment and dedication in supervising me throughout my research. His continuous awareness and encouragement over the whole process of the research was crucial to the completion of this thesis. In addition, I am very grateful to my lecturers, personnel of Kampala International University for their contribution to my intellectual growth up to the level I am today.

I am also very grateful to my wife Liberee BUGENIMANA and my children for their endurance during the time I had been away from home.

Lastly, glory to the Lord for his mercy and grace allowing me to fulfill the dream I never dreamt but hoped to dream one day.

NDAYISABA Apollinaire

ABSTRACT

The purpose of the study was to find out whether or not the School Feeding Programme had enhanced the school enrolment in selected public primary schools located in Busanze sector in Nyaruguru district, Rwanda. The objectives of the study were: to determine the extent of the implementation of school feeding program in public primary schools of Busanze sector in Nyaruguru district, Rwanda; to determine the level of and trend of pupils' enrolment in public primary schools in Busanze sector between the school year 2004 and 2013; to establish whether or not there was a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. This study employed Ex Post Facto research design since the main focus was to find out what the pupils' enrolment was before and after school feeding program in the selected public primary schools. Both quantitative and qualitative approaches were used so as to give meaning to quantitative data. Data were collected through questionnaire and interview guide and were analyzed using SPSS. The study was carried out in six public primary schools. The study sample size was 264 primary six pupils from six public primary schools and six head teachers from six selected public primary schools. Simple random and purposive sampling procedures were used to select the respondents. The findings of the study revealed that the school feeding program was well implemented with (mean = 2.97) interpreted as large. The mean level of pupils' enrolment after school feeding program was higher (mean = 5997.80, Std. D = 746.07) than before (mean = 2888.20, Std. D = 260.196). There was a down trend pattern in pupils' enrolment before the school feeding and an upward trend after the implementation of the program. There is a significant difference between pupils' enrolment before and after the school feeding program implementation. Since (sig. = 0.002 < 0.05), this has led to the rejection of the null hypothesis. Therefore, the study made the following recommendations: i) there is a need for that extent (mean = 2.97) interpreted large to become larger; ii) Government should develop the exit strategies for feeding pupils in the event that World Food Program is no longer able to provide food aid.

LIST OF ABBREVIATIONS AND ACRONYMS

WFP: World Food Program

FAO: Food and Agriculture Organization

UNDP: United Nations Development Fund

WHO: World Health Organization

NIS- Rwanda: National Institute of Statistics -Rwanda

CSO: Central Statistical Office

NAR: Net Attendance Rate

MINEDUC -Rwanda: Ministry of Education- Rwanda

NGOs: Non-Governmental Organizations

PTA: Parents-Teachers' Association

SFP: School Feeding Program

USDA: United States Development Agencies

MDGs: Millennium Development Goals

MINAGRI-Rwanda: Ministry of Agriculture - Rwanda

D.V.: Dependent Variable

I.V.: Independent Variable

U.S.: United States

FFE: Food For Education

IFPRI: International Food Policy Research Institute

SPSS: Statistical Package for Social Sciences

THR: Take – Home Ration

UNESCO: United Nations Educational, Scientific, and Cultural Organization

GER: Gross Enrolment Ratio for Primary Education

MINECOFIN: Ministry of Finance and Economic Planning

EDPRS: Economic Development and Poverty Reduction Strategies

EICV3: 3eme Enquete Integrale Sur les Conditions de Vie des Ménages

NER: Net Enrolment Ratio for Primary Education.

ISCED97: International Standard Classification of Education, 1997(UNESCO)

NEPAD: The New Partnership for Africa's Development

CAADP: Comprehensive Africa Agriculture Development Programme

TABLE OF CONTENTS

DECLARATION A	i
DECLARATION B	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
LIST OF ABBREVIATIONS AND ACRONYMS	vi
TABLE OF CONTENTS	viii
LIST OF TABLES.....	xi
LIST OF FIGURES	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1. Background of the study	1
1.1.1. Historical Perspective.....	1
1.1.2. Theoretical Perspective	3
1.1.3. Conceptual Perspective	4
1.1.4. Contextual Perspective	6
1.2. Statement of the problem	9
1.3. Purpose of the study.....	9
1.4. Objectives of the study.....	10
1.5. Research Questions	10
1.6. Hypothesis.....	10
1.7. Scope of the study.....	10
1.7.1. Geographical scope	10
1.7.2. Theoretical scope.....	11
1.7.3. Content scope	11
1.7.4. Time scope	11
1.8. Significance of the study.....	11
CHAPTER TWO	13
LITERATURE REVIEW	13
2.0. Introduction	13

2.1. Theoretical Review	13
2.2. Conceptual framework.....	19
2.3. Related Literature.....	20
2.3. 1. School Feeding Program	20
2.3. 2. Pupils' Enrolment.....	26
2.3.3. School Feeding Program and Pupils' Enrolment	29
CHAPTER THREE.....	35
METHODOLOGY	35
3.0. Introduction.....	35
3.1. Research Design.....	35
3.2. Research Population.....	35
3.3. Sample size.....	36
3.4. Sampling procedure.....	37
3.3. Data collection instruments.....	38
3.3.1. Questionnaire.....	38
3.3.2. Interview guide.....	38
3.3.3. Documentary review	38
3.4. Validity and reliability of the instrument.....	38
3.5. Data Gathering Procedure.....	40
3.6. Data Analysis	40
3.7. Ethical Considerations	41
3.8. Limitation of the Study	41
CHAPTER FOUR	42
DATA PRESENTATION, ANALYSIS AND INTERPRETATION	42
4.0. Introduction.....	42
4.1. Demographic characteristics of the respondents.....	42
4.2. The extent of School Feeding Program Implementation in public primary schools	44
4.3. Level of Pupils' Enrolment in Public Primary Schools since 2004 to 2013.....	49
4.4. To establish whether there is a significant difference between pupils enrolments.....	51
before and after the implementation of school feeding program	51

CHAPTER FIVE	52
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS.....	52
5.0. Introduction.....	52
5.1. Discussion.....	52
5.1.1. Demographic characteristics of the respondents	52
5.1.2. The extent of the implementation of school feeding program	53
5.1.3. The Level of and Trends of Pupils' Enrolments in Public Primary Schools	55
5.2.4. Difference between pupils enrolments before and after the implementation of	57
school feeding program in public primary schools	57
5.2. Conclusions.....	58
5.3. Recommendations	59
5.4. Suggestion for further research	60
REFERENCES	61
APPENDICES.....	67
Appendix I: Transmittal letter.....	67
Appendix II: Transmittal letter for the respondents.....	68
Appendix III: Informed Consent.....	69
Appendix IV: Questionnaire to determine the extent of school feeding program	70
Appendix IV A: Demographic Characteristics of the respondents (for P6 Pupils)	71
Appendix IVB: Questionnaire on the extent of school feeding program (for P6 Pupils)...	72
Appendix V: Interview guide with Head teachers	73
Appendix VI: Computation of validity of research instruments.....	75
Appendix VII: Record sheet for collecting data on pupils' enrolment from 2004-2013	76
Appendix VIII: Number of Pupils' Enrolments.....	77
Appendix IX: Public primary schools with school feeding program.....	78
Appendix X: Determination of the primary six sample size using the Slovin's formula ...	79

LIST OF TABLES

Table1: Population and sample size for Primary six Pupils	36
Table2: Population and sample size for Head teachers	37
Table 3: Demographic characteristics of the respondents (Primary Six Pupils)	42
Table 4: Demographic characteristics of the respondents (Head teachers).....	43
Table 5: The extent of School Feeding Program Implementation in public primary schools.	45
Table 6: Level of Pupils' Enrolments in Public Primary Schools located in Busanze.....	49

LIST OF FIGURES

Figure 1: Abraham Maslow's Human Needs Hierarchy.....	16
Figure 2: Conceptual Framework of School Feeding Program and Pupils' enrolment	19
Figure 3: Line Graph for the Trend of Pupils' Enrolments in Public Primary schools.....	49

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

The background of the study deals with historical perspective, theoretical perspective, conceptual perspective and contextual perspective.

1.1.1. Historical Perspective

According to the 2007 Food and Agriculture Organization's (FAO) estimate, 923 million people in the world were chronically hungry, which was an increase of about 75 million people from the 2003-05 estimates (FAO, 2008). Feeding programs have also gained popularity among political leaders and policy makers in developing countries in Asia, Africa, and Latin America. The 2011 World Food Prize was shared by John Agyekum Kufuor, former president of Ghana, and Luiz Inácio Lula da Silva, former president of Brazil, for the successful social programs, including school feeding that each nation has established (FAO, 2008). Brazil and India have established school feeding programs by passing legislations. Brazil added school feeding to its constitution (Bundy, et al. 2009) while in 2001 in India, the Supreme Court mandated that all state governments must provide cooked meals in targeted schools (Afridi,2010).

In Rwanda, many families cannot secure access to sufficient food and as a result, 34% of the country's population is undernourished (World Food Program, 2010). Low levels of food consumption are particularly serious for children. Some 23% of children below the age of five are underweight, (UNICEF, 2008) and 52% of them are stunted (WHO, 2008). The prevalence of stunting increases with age, from 8% among children less than 6 months to 55% for children aged 12 months (NIS, 2005, Rwanda Ministry of Health, 2005). Protein-energy malnutrition and micronutrient deficiency – especially iron deficiency are common among children. The Ministry of Health has identified severe protein-energy malnutrition as one of the leading causes of morbidity among children less than five years of age. Food insecurity, large household size, and poor feeding practices are cited by the Ministry of Health as the major causes of malnutrition (Rwanda Ministry of Health, 2005).

The foregoing situation negatively impacts on schools aged children. The areas where food security is not assured have a paltry percentage enrolment compared to the national enrolment rate. With the poor regions suffering the country's lowest primary

education enrolment, only about 30 % of children entering primary school complete all the grades (WFP 2001).

In addressing the low enrolment and educational outcomes, the country has already made incredible progress towards providing free primary education (FPE) to every Rwandan child since 2003. For primary education, the Gross Enrollment rate was 151.9% in 2007 while in 2008 it was 127.9%. This indicates that the over-age students have reduced and more children of appropriate school going age are now attending school. Net enrollment rate was 94.7% in 2007 for girls while 93.3% in 2008. For boys, it was 96.8% in 2007 while in 2008 it was 95.1% (Minecofin, 2008-2010). There was an improvement in Completion Rate Overall which was 52% in 2007 while in 2008 it was 53% however, it did not meet the target of 55%, and forced repetition of pupils to increase school performance is one of the reasons for this in some districts (Minecofin, 2008-2010). Primary school pupil to qualified teacher ratio was one teacher to 74 pupils in 2007, while in 2008 it dropped to one teacher to 66 pupils which is good progress exceeding the target for 2008 of one teacher to 72 pupils (Minecofin, 2008-2010).

Despite that good practice of offering free primary education since 2003, the Rwanda's education sector has continued to experience tremendous disparities in primary pupils 'enrolments. The areas of food insecurity kept on reporting the declining enrolments as the years passed. Nyaruguru district as one of the food insecure areas in Rwanda was identified to have low enrolment. As shown by statistics, children enrolment in that poor rural area had been consistently lagging behind compared with other regions (Mineduc-Rwanda, 2009, WFP, 2010). From 2004 up to 2008 the year before the launch of school meals program in public primary schools located in that poor area, the percentage enrolment was consistently below 70%, which was far below the national average of 94.2%, urban (93.3%) and rural areas over 80% and Kigali City (94.1%), (Mineduc-Rwanda ,2009, WFP,2010).

To attempt to offset the declining pupils' enrolments, the Rwanda's government, in collaboration with WFP, decided on the implementation of school feeding program in areas it has identified as food insecure since 2009. Nyaruguru district was therefore given the first priority due to its higher poverty state which leads to lower enrolment rate of children to school. A bit before the launching of school meals program, the

percentage distribution of individuals aged six and above that has ever attended school, their percentage was below 75% in Nyaruguru district while all other districts it ranged from 80% and above. The program covered 14% of children enrolled in primary schools, located in geographic areas identified as high priority in terms of their degree of poverty (WFP, 2010). World Food Program provides children with one meal a day in Nyaruguru district. Children receive a cooked meal five days a week for 180 school days of the year (WFP, 2010). Studies showed that school feeding program improve children enrolment and test scores (Ahmed, 2004; Taras, 2005).

1.1.2. Theoretical Perspective

This research was guided by the Basic Needs Theory (sometimes known as Maslow's Hierarchical of Needs) developed by Maslow Abraham (1908-70), in which all motives are derived from a hierarchical system of needs, from the 'basic' physiological needs through security and love needs to aesthetic needs and needs for self-actualization," (The Longman Encyclopaedia, 1989:482). People who lack food are unable to express for higher needs, (The Longman Encyclopaedia, 1989:482). According to this theory, there are certain minimum requirements that are essential to a decent standard of living. These are known as physiological needs. This was also the focus of this research entitled, "Implementation of School Feeding Program and Pupils' Enrolment in selected public primary schools of Busanze sector, in Nyaruguru district, Rwanda."

The physiological needs include food, shelter, health and clothing. They are primary needs and have to be catered for before other needs such as love. When this theory was applied to this study, the argument was that, when pupils are served with meals at school, they attract out-of- school age children to enroll, attend and stay in school and improve the attention span by relieving short-term hunger.

There are certain conditions which are immediate prerequisites for the basic needs satisfactions (eprints.utm.my/6091/1/aziziyahbrahamMaslow.pdf). Danger to these is reacted to almost as if it were a direct danger to the basic needs themselves. Physiological needs are the biological needs of the human being for air, water, food, shelter and so on, (eprints.utm.my/6091/1/aziziyahbrahamMaslow.pdf). These are the needs that human being will seek for and satisfy before the other needs in the growth needs will emerge.

Physiological needs are the human instinct to survive. For example, a hungry person will be satisfied with a hearty meal, but will also be thinking of the next meal. A working person will not be satisfied with the present pay check. Instead, he will be focusing on the next pay check in order to satisfy his needs to ensure his income. Human tends to have the hoarding behavior such as eating or drinking too much because they are afraid that they might not have another meal next time,

(eprints.utm.my/6091/1/aziziyahbrahamMaslow.pdf).

1.1.3. Conceptual Perspective

This study was built on two main variables: The school feeding program as independent variable and pupils' enrolments in Busanze sector in Nyaruguru district, Rwanda, as dependent variable.

As defined by Bennet (2003,), School Feeding Programs are interventions that have the twin objectives of addressing medium term nutritional and long term educational needs of school going children. School feeding is defined as the provision of food to school children (Akanbi and Alayande, 2011).

Borne from the understanding of the need to provide nutrition to children as a prerequisite for educational development, UNESCO has been involved in feeding programmes via the World Food Programme and other United Nations organizations since the end of World War II.(see Kennedy & Davis, 1998; Greenhalgh et al, 2007; LSTM/DfID, 2008)).

According to Oyefade (2010), there are as many types of programs as there are countries, but they can be classified into two main groups based on their modalities:

i) In-School feeding, where children are fed in the school, which can be divided into two categories namely; (a) Program that provides meals. (b) Program that provides high energy biscuits or snacks.

ii) Take home rations where families are given food if their children attend school.

According to Kazianga et. al (2009), whatever the kind of intervention, there are three main goals of school feeding program: increasing enrollment rate and attendance, improving nutrition and improving school achievement through a better nutritional status. It is obvious that, the school feeding programs are expected to have a large long-term effect on

human development. The recent prominence of School Feeding Programs has been boosted by the Millennium Development Goals in which the first two goals include the eradication of hunger and the achievement of universal primary education.

The term “School feeding” is defined here as the provision of food (lunch) to school children in public primary schools of Busanze sector in Nyaruguru district, Rwanda.

Enrollment is typically defined as the number of pupils or students registered in a school at a designated time in the school year.

School enrolment is expected to grow in any dynamic situation where the population is continually increasing, or the school system is progressively expanding, or where both developments are taking place. On the contrary, where population growth or school expansion is arrested, in any temporary or local situation, then the number of children attending school may remain unchanged or show signs of decrease. Thus the two factors which basically determine the size of the future school-going population are: (1) the expected growth of the population, or more precisely, of the school-age population; and (2) the anticipated expansion of the school system which may result from other developments than the mere growth of the population.

http://www.un.org/esa/population/techcoop/SocInd/est_schoolenr/chapter2.pdf

In a country where education is not compulsory by law, or where legal provisions for compulsory education are not fully carried out, the number of children attending school will depend, among other things, on the choice and convenience of parents, the availability of school facilities, and the possibilities of employment for children and for adults with varying amounts of schooling.

(http://www.un.org/esa/population/techcoop/SocInd/est_schoolenr/chapter2.pdf).

Any attempt on the part of a government to introduce or more fully to enforce compulsory schooling will obviously bring about a higher level of school enrolment or school attendance. If compulsory schooling were to be extended by raising the legal school-leaving age, or if there were a tendency for children to remain in school longer than they are required by law, the size of school enrolment could change very substantially as a result. In many developing countries the proportion of girls attending school is consistently lower than the proportion of boys. More emphasis on the education of girls would naturally

increase the total number of children enrolled in school. Similarly where school enrolment is markedly lower in rural areas than in urban areas, increased efforts directed towards rural schools could also result in greatly increasing the total school enrolment. (http://www.un.org/esa/population/techcoop/SocInd/est_schoolenr/chapter2.pdf)

In this study, enrollment refers to the number of pupils enrolled in primary one through primary six in the public primary schools of Busanze sector in Nyaruguru district, Rwanda. The pupils' enrolments for both the period before and after the implementation of school feeding program were assessed to establish the difference between the number of pupils' enrolment before and after the provision of food.

1.1.4. Contextual Perspective

The overall goal of the Government of Rwanda is to reduce poverty and in turn to improve the well-being of its population (MINEDUC-Rwanda, 2008). Within this context, the aim of education is to combat ignorance and illiteracy and to provide, through the education system, human resources with the necessary skills to support the socio-economic development of Rwanda (MINEDUC-Rwanda, 2008). This goal is coupled and complements with the mission that was formulated by the Ministry of Education as follows: the mission of the Ministry of Education is to transform the Rwandan citizen into skilled human capital for socio-economic development of the country by ensuring equitable access to quality education focusing on combating illiteracy, promotion of science and technology, critical thinking and positive values (MINEDUC-Rwanda, 2008). It is believed that achieving this mission will surely contribute to the overall goal of the Government of Rwanda of reducing poverty and improving the well-being of the Rwandan population (Vision 2020).

In 2012, WFP Rwanda, in partnership with the NISR and MINAGRI, conducted the Comprehensive Food Security and Vulnerability Assessment and Nutrition Survey, which provides updated information on food security and nutritional status. Food security in Rwanda is often thought of in terms of production, or availability – an area where Rwanda is making great strides forward (Mineduc – Rwanda (2013). The assessment goes beyond this level of analysis and focuses on a household's physical and economic access to food and found 21 percent of households nationally, with the heaviest concentration in the most of districts of Southern Province, Nyaruguru district where this study was carried out is part of this province, have unacceptable food consumption – i.e. they lack the means to

access the food available in the country, and therefore do not consume enough at home to meet their basic dietary and nutritional requirements(Mineduc – Rwanda (2013).

Chronic food insecurity situation in southern province of Rwanda has led to substantial inefficiencies within primary education sector located in this area. According to Mineduc-Rwanda (2012), there were substantial inefficiencies within primary sector. The sector has experienced high levels of dropout (14 %) particularly in early grades and nationally, an estimated 130,000 children remain un-enrolled in primary school. Majority of these children are located in the areas of insecurity food, mainly in the districts of southern and eastern province of Rwanda (Mineduc- Rwanda, 2012).

In Nyaruguru district, it has been reported that the declining enrolment was alarming. Children enrolment in that poor rural area had been consistently lagging behind compared with other regions (Mineduc-Rwanda, 2009, WFP, 2010). From 2004 up to 2008 the year before the launch of school meals program in public primary schools located in that poor area, the percentage enrolment was consistently below 70%, which was far below the national average of 94.2%, urban (93.3%) and rural areas over 80% and Kigali City (94.1%), (Mineduc-Rwanda ,2009, WFP,2010, EICV3 District Profile - South – Nyaruguru,2008).

World Food program has been serving food to pupils in Nyaruguru district since 2009.This district has been identified as the highest food insecure area of Southern Province in Rwanda. The World food program has been assisting 37 public primary schools since 2009. The main objective of the school feeding program implementation in this chronically insecure area was to contribute to Rwanda’ s effort of addressing the issues of low enrolment to education, frequent absence, weak learning ability, poor academic performance. Currently, World Food Program provides nutritious daily cooked meals at school for children in public primary schools of Busanze sector in Nyaruguru district. The types of meal served conform to local conditions, eating habits (Maize, beans, sweet potatoes, cassava, oil and salt). Pupils and the whole community are now very happy of the intervention.

Recently, The New Times (2013) held an interview with pupils’ beneficiaries from Runyombyi primary school on how they appreciate the school feeding program and the pupils told the New Times that the school feeding program is helping pupils to learn.

“We are now very happy of the food given to us, every day we take lunch at school, we leave home without taking something because we know that we will have it at school” said a pupil from Runyombyi primary.

Another pupil from Musebeya primary argued that school feeding program has addressed the issue of hunger among children. They told the New Times that they are now able to follow their teachers in class without sleeping in the afternoon sessions.

“Before the introduction of school feeding program in this school, some pupils slept in class during the teaching session because of hunger. But now, the problem was addressed since the school offers us the food. We are really happy and satisfied with the food ”, said Musebeya primary pupil.

Currently at school level, there is a specific committee of school feeding program made up of school management and Parents- Teachers Association (PTA) members in each school implementing the school feeding programme. In addition to overall management of the programme at school level, the committee has to ensure accountability of the use of all programme funds, supplies, and resources. At a minimum, committee needs to ensure that personnel required such as cooks, cleaners, and watchmen are organized and on board.

The community in that area is glad of the initiative of feeding children at school and parents willingly contribute by providing firewood for cooking the food. During the interview held by New Times with parents on how they evaluate the school feeding program in that area of food insecurity, parents told the New Times that the program is helping them to educate their children.

“Feeding children at school has really released many of parents from the burden of getting food for schoolchildren. In this area of Nyaruguru district, the majority of people are poor and it is hard for them to afford food every day. Some days, food is missing at home and it happens to sleep without eating anything. In this case, many children refuse to go to school because they feel hungry. But, the Government and the World Food Program have already addressed the issue. Children go to school happy and return to home looking happy. So, we are indeed happy of the program” told parents to the New Times.

The purpose of the study was to determine the existed difference between the pupils’ enrolment before and after the school feeding program implementation in public primary schools of Busanze sector in Nyaruguru district, Rwanda.

1.2. Statement of the problem

Nyaruguru district has been witnessing failure to meet the Rwanda's commitment of providing universal primary education to all Rwandan children by 2010, due to consistent low enrolment, completion rate and high dropout rate vis-à-vis the situation in other districts. Its alarming declining situation in pupils' enrolment has been unanimously reported by different institutions, among other Mineduc-Rwanda, (2009), WFP, (2010) and EICV3 District Profile-South-Nyaruguru, (2008) while saying that since 2004 up to 2008, the percentage of pupils' enrolment in Nyaruguru district was consistently below 70%, which was far below the national average of 94.2%, urban (93.3%) and rural areas over 80% and Kigali City (94.1). The Rwanda's government in collaboration with World Food Program (WFP) decided on implementation of school feeding program as social safety nets with the hope of improving children enrolment in public primary school in Nyaruguru district since 2009.

According to the United Nations World Food Program, School Feeding Program is an incentive for vulnerable families to invest in children's education and encourages poor households to send children to school and helps to keep them there (WFP 2008b). Again, empirical studies suggest that SFPs are effective in encouraging school enrollment, enhancing class attendances, and lowering student drop-outs (see for example, Ahmed 2004; WFP 2009). Nonetheless, few other studies reveal that there are no observable impacts of School Feeding Program on school enrolment (see for example, He 2009, Organizacion Panamericana de la Saludm 1990).

Therefore, the study took account of these arguments and sought to determine the effect of the implementation of school feeding program (the independent variable) on pupils' enrolment (dependent variable) in public primary schools of Busanze sector in Nyaruguru district, Rwanda.

1.3. Purpose of the study

This study intended to explore the linkages between the intervention of school feeding program and the level of and trends of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda.

1.4 .Objectives of the study

The study was carried out to;

1. Investigate the extent of the implementation of school feeding program in public primary schools of Busanze sector in Nyaruguru district, Rwanda;
2. Investigate the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda, 2004 to 2013;
3. Establish whether there is a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda.

1.5. Research Questions

1. What is the extent of the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda?
2. What is the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda during the period of 2004 to 2013?
3. Is there a significant difference between pupils'enrolment before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda?

1.6. Hypothesis

Research hypotheses of the study are:

1. There is no significant impact of school feeding program on the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda.

1.7. Scope of the study

1.7.1. Geographical scope

The study targeted the public primary schools that benefited from school feeding program, and located in Nyaruguru district, Southern Province of Rwanda. However, due to time and financial constraints, the study was limited to the six public primary schools of Busanze sector located at the frontier of Rwanda and Burundi in Nyaruguru district. Those

public primary schools are: Gitwe, Kabavomo, Masiga, Musebeya, Runyami and Runyombyi.

1.7.2. Theoretical scope

Theoretically, the study was based on Maslow's theory of needs and its implication for education. Maslow approach to motivation is to consider human behavior as stimulated by the urge to satisfy the needs. Led by this theory, the pupils' enrolment is considered as dependent on school feeding program. This means that the study considers school feeding program as the independent variable and the pupils' enrolment as dependent variable.

1.7.3. Content scope

The study was limited on exploring the effect of school feeding program on pupils' enrolment in public primary schools in Busanze sector in Nyaruguru district. The numbers of pupils' enrolments were collected from each of the six selected public primary schools for both the period before and after school feeding program. Then, the study determined the difference between the periods in terms pupils' enrolment in that poor sector of Nyaruguru district.

1.7.4. Time scope

The school feeding program was implemented in Nyaruguru district in 2009. The study targeted five years before and after this date. This means, the data of pupils' enrolment concerned the school year 2004 to 2008 and the school year 2009 up to 2013, i.e. five years under the intervention of school feeding program in that poor area. Therefore, the study covered the period of consecutive ten years, from 2004 to 2013.

1.8. Significance of the study

The intention of this study was to inform the Rwanda's government, district of Nyaruguru together with other stakeholders in education, mainly the non-government organizations, of which extent the school feeding program contributed to addressing the issues related to pupils' enrolment. This therefore could help in the way forward and further planning.

The study also intended to inform the heads of schools together with the educators/ teachers, and parents of the role of school meals in attracting and enhancing pupils' willingness to education.

Finally, as a practitioner in education sector and future policy maker, this field research helped me to understand how context affects children's access to school and the responses that are being provided by the education and other non-state actors in order to identify ways of overcoming exclusion from education and strengthening equity measures. The findings of this report shed light on the underlying social constraints to education.

CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

This chapter discusses the theory underpinning the study, conceptual framework and literature related to the study.

2.1. Theoretical Review

This study was based on Maslow's theory of needs. Maslow (1943b) proposed a hierarchy of human needs as the first theory of behavior motivation. Within his model, there are at least five sets of needs or goals: physiological, safety, love, esteem, and self-actualization. These basic needs are organized in an order according to relative prepotency. As the basic needs are met, higher needs emerge as primary motivators of behavior. The most salient need dominates the organism and motivates behavior. These needs should not be considered singular or exclusive; when a pre-potent need dominates behavior other needs may continue to influence the person, but certain needs emerge as primary motivating factors that underlie human behavior (Maslow, 1943b).

Gratification of needs is as important as deprivation in Maslow's model, because gratification is the means through which higher needs develop prepotency. Maslow (1943b) proposed that the physiological, safety, love, and esteem needs cease to be primary motivators of behavior once they are satiated. Maslow described how "a hungry man may willingly surrender his need for self-respect in order to stay alive; but once he can feed, shelter, and clothe himself, he becomes likely to seek higher needs" and will not trade his self-respect for food in the absence of extreme circumstances (Hoffman, 1988, p. 154). These four basic needs are considered to be deficiency needs: the individual feels nothing if they are met, but feels anxious if they are not met. When deficiency needs are met, Maslow proposed that they cease to motivate behavior. He offered the following example: "Suppose you like eating a good steak. You may relish the first one and even enjoy eating a second, but eventually you know that too much steak will make you nauseous" (Maslow, 1996, p. 93). Maslow believed that higher needs could be differentiated from deficiency needs because the higher needs continue to motivate behavior when they are satisfied.

Self-actualization, the pinnacle of Maslow's hierarchy, is considered to be a growth need, which continues to motivate behavior after it is satisfied. Self-actualization has been described as reaching one's full potential, and it is self-perpetuating because it has no predetermined end point. Maslow quipped that people never get bored with growth; the thrill never wears off, and satisfaction of the growth needs leads to further pursuit of growth (Maslow, 1996). Maslow described the growth needs in his personal journal, noting that the "process of growing is itself tasty, feels good" (Maslow, 1979, p.1225). The growth or "being" needs feed themselves, and partial satisfaction leads to continued efforts to self-actualize to an even greater extent.

Maslow (1943a) described human beings as "a perpetually wanting animal" because as "one desire is satisfied, another one pops up to take its place" (p.88). When needs are not met, negative consequences can ensue. Threats to the satisfaction of needs can also be damaging to human beings. Maslow (1943a) asserted that thwarting or threatening these basic human goals or the defenses that protect them are perceived as a psychological threat that can harm the individual's ability to function. He differentiated between minor and serious threats to basic needs since frustration of unimportant desires does not usually produce psychopathology, while deprivation of basic needs may lead to psychological damage or the creation of compensatory defense mechanisms.

Nonetheless, this study entitled "Implementation of School Feeding Program in the selected public primary schools located in Busanze sector, in Nyaruguru district, Rwanda", was much interested by the first level in hierarchy of needs, "Physiological Needs" as it has been discussed below.

2.1.1. Physiological Needs

The most basic set of human needs are physiological: eating, drinking, breathing, and excretion (Maslow, 1943b). In Maslow's hierarchy, the basic needs are the most pre-potent and they completely dominate the organism when they are not met (Maslow, 1943b). Human beings strive to achieve a state of homeostasis, which consists of physiological stability and psychological consistency (Maslow, 1943b). Eating, drinking, sleeping, and other activities maintain physical homeostasis, and behaviors that seek satisfaction of physiological needs contribute to a sense of balance and predictability

for human beings. In his unpublished papers, Maslow noted, “To urinate or defecate at the right time can be a great satisfaction, in the sense of culmination, total discharge, and finishing” (Maslow, 1996, p. 41). This is an example of a physiological urge that must be satisfied.

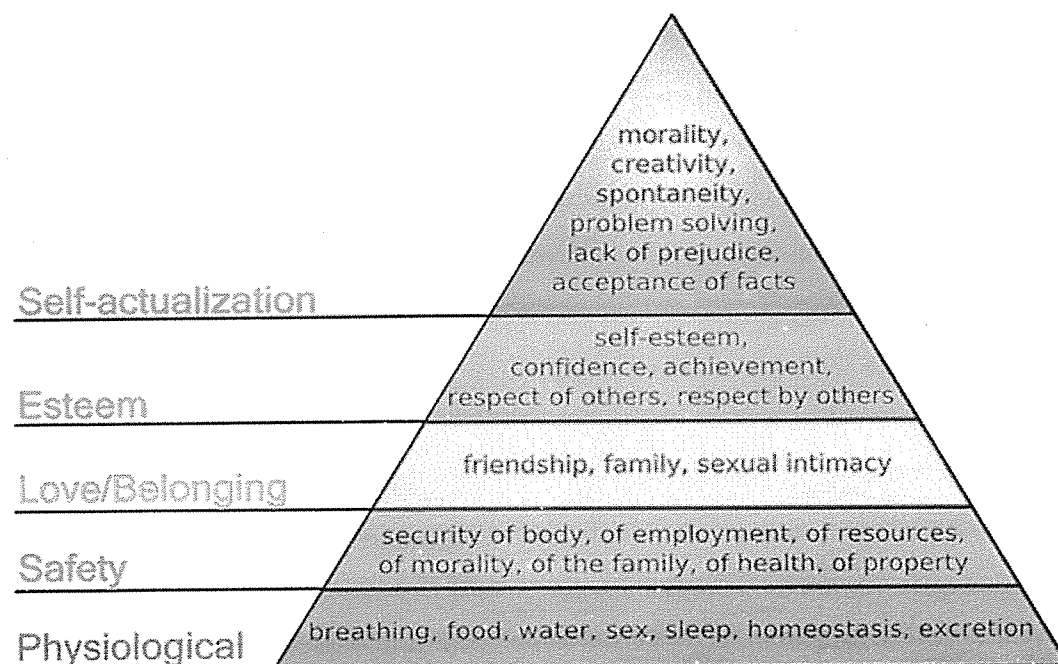
Physiological survival is considered to be the most basic motivator of human behavior. These needs are not separated from the person: “the whole individual is motivated rather than just part of him...For instance; it is John Smith who wants food, not John Smith’s stomach... Food satisfies John Smith’s hunger, not John Smith’s stomach’s hunger” (Maslow, 1943b). When physiological needs dominate the organism, behavior is fundamentally different than when other needs motivate behavior. When John Smith is hungry or exhausted, he will forsake activities that would otherwise be prioritized in order to seek food or sleep. If John Smith is struck with a sudden need to urinate, his behavior will be fully focused on that need, regardless of the relevance of other goals that become temporarily relegated to a secondary status. When physiological needs are unsatisfied, they preoccupy the organism: all of John Smith’s available capacities will be directed towards the most satisfying his physiological needs when they advance to prepotency (Maslow, 1970).

Maslow suggested that the first and most basic need people have is the need for survival: their physiological requirements for food, water, and shelter. People must have food to eat, water to drink, and a place to call home before they can think about anything else (Martin and Joomis, 2007). If any of these physiological necessities is missing, people are motivated above all else to meet the missing needs (Maslow, 1943a). It is obvious that when someone, for example a student or pupil, is hungry, it is often hard to pay attention to what the teacher is saying. Many of children today come to school hungry, without having any breakfast or even dinner the night before. This situation has led many governments to think of free and reduced breakfast and lunch programs and to implement them in schools to help pupils/students meet some of their physiological needs.

Maslow postulates that under different conditions, different classes of needs rise to salience, (Bob, 2001). The classes of needs are arranged hierarchically. The lowest unsatisfied level is the salient level: the level which commands our attention. But as soon as it becomes satisfied it ceases to be important. In its most common formulation the hierarchy contains five levels of needs. From highest to lowest they are: physiological, security,

belonging, esteem, and self-actualization. So if the physiological needs are unsatisfied they are most important and attract most of a person's attention. But as they become satisfied they fade into the background. The next level, comprising the safety or security needs, comes to the fore. The physiological level is usually defined to cover such needs as those for food, clothing and shelter, and those associated with such bodily functions as sex, elimination and the like (Bob, 2001). A need for oxygen is an instructive example. It is a need which is most pressing when it is unsatisfied. We neglect it and take it for granted when it is not at risk (Bob, 2001).

Figure 1: Abraham Maslow's Human Needs Hierarchy



Source: <http://0.tqn.com/d/psychology/1/0/h/5/hierarchy-of-needs.png>

2.1. 2. Deprivation: The Chronically Hungry Person

Maslow (1943b) argues that a person who is lacking in all of the basic needs including physiological, safety, love, and esteem would likely crave food above all else. In the Maslow invoked the example of a chronically hungry person for whom no other interests exist beyond food: “he dreams food, he remembers food, and he thinks about food, he emotes only about food, he perceives only food and he wants only food” (Maslow, 1943b, p. 374). The chronically hungry person's behavior is assumed to be entirely motivated towards the

goal of obtaining food, rather than seeking love, self-esteem, self-actualization or any of the higher needs according to Maslow's theory of motivation Maslow (1943b) asserts that the chronically and dangerously hungry man may be described as living on bread alone— when there is no bread . While he is actively hungry, values such as freedom, love, and community may be “waved aside as fripperies which are useless since they fail to fill the stomach” and utopia is envisioned as a place with plenty of food (Maslow, 1943b, p. 374). This simplified explanation of the motivation of chronically deprived people does not a comprehensive depiction of the experiences of chronically hungry people and it fails to take into account a variety of interactive factors at different levels of the social ecology that impact the motivation and behavior of people under extreme physiological stress.

Maslow argued that a starving person would “willingly surrender his need for self-respect in order to stay alive,” but as soon as he is able to provide for his physiological needs, he will no longer trade his self-respect for food (Hoffman, 1988, p.154). Maslow also argued that people who have been accustomed to prolonged starvation are partially enabled thereby to withstand deprivation (Maslow, 1943b). However, the opposite is also true: deprivation often leads to increased susceptibility to risk factors: chronically starving people are physiologically more vulnerable. The paradigm that considers traumas to be some type of inoculation against future vulnerability must tread cautiously and employ ecological person-centered models that can accommodate the influence of multiple factors interfacing simultaneously on various levels. Maslow (1943b) later asserted that chronic deprivation can lead to increased psychological vulnerability, and in his 1970 version of the theory he made an extremely strong case for the impact of frustration of basic needs particularly during the early years.

Maslow (1943b) acknowledged that the behavior and motivation of individuals with severe and pervasive psychological disorders may not be well explained by this theory. Maslow proposed that people who experienced extreme emotional and/or physical deprivation early in life may be permanently damaged in terms of the social, esteem, and self-actualization needs. Individuals develop coping mechanisms in the face of ongoing stressors: in the context of chronic deprivation of basic needs, the person may disconnect from the higher needs, since they may seem hopelessly out of reach. Adults who were starved for love and care as infants may have lost the desire and ability to give and receive affection. People with a traumatic attachment history may not engage in the same process of moving up the

hierarchy of needs as the lower needs become satisfied (Bowlby, 1988; Maslow, 1943b). These individuals may reach a point in life where the lower needs are satisfied (for example secure access to food and a place to live), but the needs for social contact may not emerge because of the profound early damage in this area. She will not continue to ascend the hierarchy of needs toward self-actualization if she has lost hope. Although Maslow invoked “the chronically hungry man” as his primary illustration of his theory’s utility, he noted that the extreme case is not the ideal model from which to derive general theories of human behavior. Research and theory has tended to generalize to the human experience by looking at emergency situations, which are by their very definition rare events. Maslow asserts that “obviously a good way to obscure the ‘higher’ motivations, and to get a lopsided view of human capacities and human nature, it to make the organism extremely and chronically hungry or thirsty” (Maslow, 1943b, p. 6). Maslow (1943b) criticized theories that rest on observations of human behavior under extraordinary conditions, cautioning against extrapolating from human behavior in emergencies to human behavior in more typical situations. Maslow asserted that those who attempt to measure the goals of humankind based solely upon “behavior during extreme physiological deprivation is certainly being blind to many things”.

In sum, this research entitled “ school feeding program and pupils’ enrolments in public primary schools of Busanze sector in Nyarugururu district , Rwanda” was guided by the Basic Needs Theory (sometimes known as Maslows Hierarchical of Needs) developed by Maslow Abraham (1908-70), in which all motives are derived from a hierarchical system of needs, from the ‘basic’ physiological needs through security and love needs to aesthetic needs and needs for self-actualization,” (The Longman Encyclopaedia, 1989:482). People who lack food are unable to express for higher needs. According to this theory, there are certain minimum requirements that are essential to a decent standard of living. These are known as physiological needs. They include food, shelter, health and clothing. They are primary needs and have to be catered for before other needs such as love.

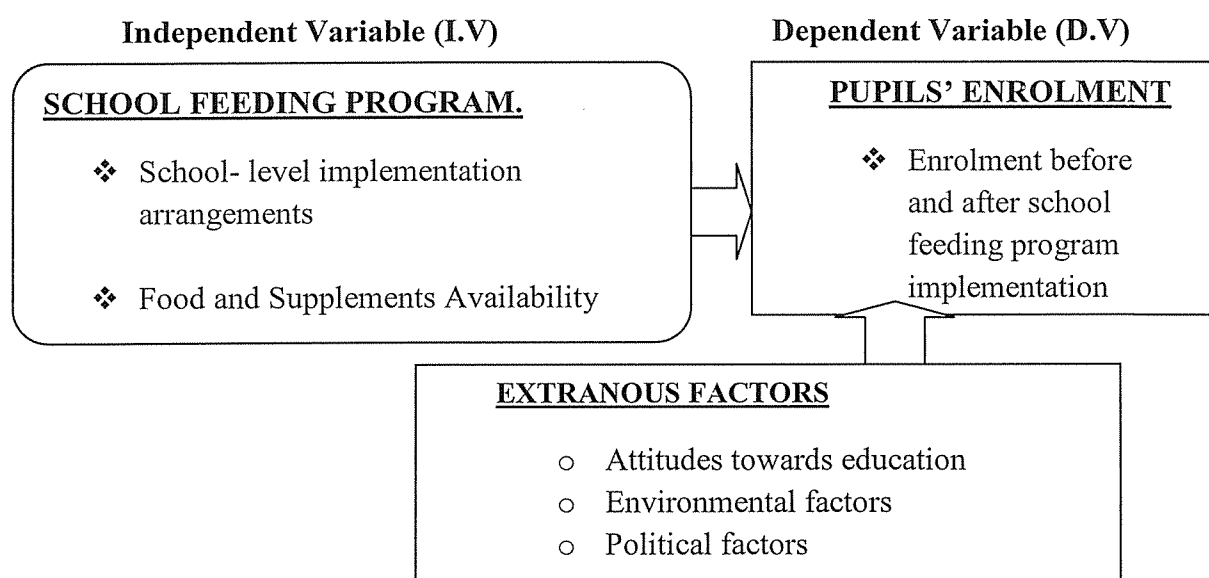
This model highlights the importance of food provision and security. For a developing country like Rwanda, it means that poverty must be prevented by making basic needs like food, clothing and shelter available to all citizens. Since man cannot survive without food, the government should make an effort to reduce food insecurity, especially amongst vulnerable groups like children. Where food aid is available for instance in schools

through school feeding programmes, it encourages enrolment, high motivation, participation, attention in class and obviously reduces hunger. It should be properly planned and monitored to ensure it assists the children (King, 1966).

When this theory is applied to the study, the argument is that, when pupils are served with meals at school, they attract out –of school age children to enroll, attend and stay in school and improve the attention span by relieving short-term hunger. Therefore, the provision of food through the School Feeding Programme by the World Food Programme (WFP) in conjunction with the Rwanda’s Ministry of Education can be considered to address the basic needs requirement hoping, therefore, to enhance school enrolment.

2.2. Conceptual framework

Figure 2: Conceptual Framework of School Feeding Program and Pupils’ enrolment



Source: Researcher’s conceptualization (2014)

This study was led by two main variables. The independent variable was the school feeding program and the pupils’ enrolments was the dependent variable. The conceptual framework in figure two shows the relationship between the two variables. It shows that school feeding program, which in this study has been conceptualized as school level implementation arrangements and food and supplements availability, influences the enrolment of pupils in school. The extraneous variables mean that it is not only school feeding that affect pupils enrolment in schools. Pupils’ enrolment could be influenced by

other factors, such as attitudes towards education, environmental factors, political factors, etc. This study does not address these extraneous variables.

2.3. Related Literature

This section dealt with the literature on school feeding program and pupils' enrolments. The data were drawn from text books of renowned scholars, newspaper articles, organizational and official Government publications, etc. The literature was reviewed based on the objectives of the study.

2.3. 1. School Feeding Program

School feeding programs have been defined by the World Bank as targeted social safety nets that provide both educational and health benefits to the most vulnerable children, thereby increasing enrollment rates, reducing absenteeism, and improving food security at the household level (World Bank, 2012). This definition from World Bank is close to what Ruzky, et. al (2012) said while defining school feeding. According to them, school feeding program is the provision of food on-site or to take home which aims to increase school enrolment, attendance and retention, and exist as a social safety net for households with very low income. As defined above, the authors emphasize that school feeding program is considered as social safety nets for both educational outcomes and health benefits, especially in most vulnerable communities.

2.3. 1.1. Need for school feeding programs

According to the United Nations World Food Programme, 66 million primary school age children go hungry every day, with 23 million hungry children in Africa alone (WFP, 2009). Furthermore, 80% of these 66 million children are concentrated within just 20 countries under development. Additionally, 75 million school-age children (55% of them girls) do not attend school, with 47% of them living in sub-Saharan Africa (WFP, 2013). Thus, the need to reduce hunger while increasing school enrollment in these children is evident, and school feeding programs have been developed to target this multifaceted problem (Ibid).

Schools have become a natural and convenient setting for the implementation of health and education interventions. School feeding is just one facet of school health initiatives, as other programs may include de-worming, HIV/AIDS prevention and education, and life and health

skills education (The World Bank, 2013). Overall, school feeding programs have been shown to directly increase the educational and nutritional status of recipient children, and indirectly impact the economic and social lives of themselves and their family. Additionally, school feeding directly addresses the Millennium Development Goals (MDGs) of reducing hunger by one-half, achieving universal primary education, and achieving gender parity in education by 2015 (Ibid).

The availability of subsidized in-school meals increases school enrollment if the program changes the household's schooling decision for some children who would not have been enrolled in school (Adelman, et al. 2008). And for these households to enroll their children, they need to be convinced that the net benefits of participating in the program exceed the gap between direct and opportunity cost of schooling and the expected benefit of schooling (Ibid). In other words, households usually compare the size of the transfer relative to the size of the cost-benefit gap and these comparisons ultimately determine the magnitude of the increase in enrollment rates. Another important point is about the roles that school meals play in encouraging early enrollment. Even though in-school meals are believed to affect age at entry through an income effect, i.e., by increasing household income and raising the benefit of attending school, yet this income effect should be large enough to make households send their children to school (ibid).

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 programs are in low-income countries that do not have government-provided school meals (Bundy, 2009). School feeding in low-income countries often starts through funding by international organizations such as the United Nations World Food Programme or the World Bank or national governments through programs such as the McGovern-Dole International Food for Education and Child Nutrition Program. However, some governments have first started school-feeding programs and then requested the help of these organizations and programs. Additionally, many countries have graduated from their dependency on foreign assistance by reshaping their school feeding programs to be country-led and self-supported (Ibid).

A study carried out in South Africa primary schools by Wildeman and Mbebetho (2005) on the effect of school feeding targeting approaches where only 20 children were fed, while in others over 1,000 children are fed. The authors concluded that individual targeting is socially undesirable because of the inevitable stigmatization that occurs. In some schools, only 20 children are fed, while in others over 1,000 children are fed.

Likewise, another study was carried out by Louw et al (2001) in South Africa on how teachers viewed individual and school targeting approaches in school feeding programs. From the findings, the researcher stated that teachers' perceptions were that individual targeting leads to intimidation, victimization and stigmatization.

Grantham-McGregoir (2005) in his literature pointed out that there is evidence that the serving of a meal as early as possible is beneficial if the objectives are to meet short term hunger and improve cognitive skills. Therefore, the lowest cost ration and the timing of the meals required to achieve the goals must be determined. In order for this to be achieved the nutritional quality and quantity of the meals, as well as the timing of the meal, should be assessed in combination with the objectives of the programs.

To the contrary, certain other studies are critical to school meals and they doubt if they have any positive impact on school participation whatsoever.

He (2009) for instance found that WFP assisted School Feeding Program (what he calls the standard program) does not increase enrollment at any level compared to control schools (ibid).

Organizacion Panamericana de la Salud. (1990), Evaluacion de un Programa de Alimentacion Escolar: El Caso Argentino. OPS. Based on data collected in 1985-86 a study was designed to assess the impact of the SFP on school outcomes, participation and nutrition status. The study also assessed the operational aspects of the program such as success of decentralized control, costs, and coordination and management. The book outlined a wide range of problems associated with the program at the various levels of operation. At the national level the transfer of resources was inconsistent, there was poor or no supervision and the rations were not based on nutritional necessity. At the provincial level there was an absence of criteria to guide the program effectively, i.e., ration guidance, beneficiary

selection criteria, etc. and, inadequate resources to purchase food. At the local level the major problems related to financial deficiencies including infrastructure and equipment inadequacies as well as ineffective program administration. The results of the evaluation showed that the program had no impact on enrollment, which is already very high, or on dropout rates, already quite low. There was no clear impact on absenteeism except among low socio-economic groups where the program helped to reduce absences. There appeared to be a negative relationship between school feeding and achievement perhaps a reflection of the fact that the program operates in the poorest areas.

2.3. 1.2. Other important Health and Nutrition Interventions with school meals

Basic health interventions can be a cost-effective way to improve the health of school-aged children and thereby reduce illness-related absences from school. De-worming medicine and nutritional supplements are inexpensive to purchase and administer and do not take time away from classroom instruction. Kruger et al. (1996) found de-worming treatment improved iron status and led to increased height and weight in children with low-baseline iron stores after 11 months. Because infections are a leading cause of anemia, this result is not surprising. Miguel and Kremer (2004) also found positive effects of de-worming on school participation rates but not on test scores. Not only did de-worming reduce absenteeism among treated children, but it also improved outcomes for untreated children living nearby, who were also less likely to contract the infections. Supplementation without providing food is another approach to improving child nutritional outcomes and increasing school participation. Bobonis, Miguel, and Sharma (2004) show evidence of large weight gains and reduced absenteeism from iron supplementation and de-worming in 4 to 6 year-olds treated in preschool but not in younger children. In older children, there is also evidence of improved outcomes related to supplementation. A supplementation study in Tanzania showed anthropometric improvements and improvements in iron and vitamin A status among primary-school children consuming fortified beverages (Latham et al. 2003). And in Cambodia, iron and folic acid supplementation was shown to decrease the prevalence of anemia among 5 to 11 year-olds, but was less effective among 12 to 15 year-olds (Longfils et al. 2005).

2.3.1.3. School feeding program in Rwanda

School feeding in Rwanda is not new. The Ministry of Education subsidizes the provision of meals for secondary schools in over 1,100 secondary schools across the country while the Ministry of Agriculture reaches 100 primary schools through its *One Cup of Milk per Child* programme (Mineduc-Rwanda, 2013). Additionally, World Food Program - assisted school feeding has been implemented in over 300 schools in food insecure parts of the country since 2002, when it was begun as a response to a request from the Government of Rwanda in order to address dramatically increased food insecurity as a result of the southern Africa regional drought in that year (Mineduc-Rwanda, 2013). Rwanda has a total of 1,362 secondary schools and 2543 primary schools in the country. As stated by (Mineduc-Rwanda, 2013), these programmes (provision of meals and *One Cup of Milk per Child*) are recognised as having contributed greatly to the substantial achievements in the education sector over the last decade (increasing enrolment, attendance, retention, achievement, etc.).

In Rwanda, the Ministry of Education aims to increase access to education in the short-term and quality of education in the medium-term. (USAD, 2009). According to the Government of Rwanda (GoR) there is 98% enrolment and 90% attendance rates in schools. There has been a 70% increase in enrolment after the removal of school fees. (USAD, 2009). However, chronic malnutrition and food insecurity are impeding progress in Rwanda to achieve its ambitious development goals as set out in its Vision 2020 (USAD, 2009). A chronically malnourished and food insecure population is one that does not have the opportunity to live up to its potential. Academic evidence has shown that children who are chronically malnourished when young have challenges in both physical and mental development that are irreversible, leading to poorer health status, lower educational achievement, and lower productivity throughout their lives. When a significant portion of the population faces these challenges, it has significant long-term economic consequences for a nation (USAD, 2009).

- **School level Implementation Plan of School Feeding Program in Rwanda**

School Feeding Program in Rwanda will provide one meal a day for children in primary schools located in areas that have been targeted a poor (WFP, 2007, 2012). Children will receive cooked meals for five days a week in each week of the school year, which amounts to 180 days in the calendar year (WFP, 2007, 2012). The types of meal served will conform to local conditions, eating habits and preferences. The school

management has to ensure that every child is entitled to a lunch meal served at school and a common meal is recommended among pupils (WFP, 2007, Mineduc –Rwanda, 2013). Exceptions have to be discussed and agreed by the sponsor and implementers. This is to avoid the potential social problem among beneficiaries, like conflicts, hatred, stigmatization etc. (WFP, 2007, Mineduc –Rwanda, 2013). While targeting individual children on the basis of need can have considerable benefits in cost-effectiveness, it has potential social costs from stigmatization. In certain contexts, beneficiaries of targeted school feeding assistance can be marginalized by other children not being assisted (WFP, 2007).

To improve nutritional and learning outcomes, the food will be fortified with vitamins and minerals in which Rwandan children are deficient (WFP, 2007). Professional management will ensure that school meal ingredients continue uninterrupted throughout the school year. The caloric content of the school meal will be 30% to 40% of children's daily requirement (i.e 555 to 830 kilocalories per school meal (Bundy, 2009).

A high degree of community participation and contribution is required in order to implement any sustainable school feeding programme, regardless of the implementation model employed. A school feeding committee, made up of school management and PTA members will need established in each school implementing the programme (WFP, 2007, Mineduc –Rwanda, 2013). In addition to overall management of the programme at school level, they will ensure accountability of the use of all programme funds, supplies, and resources (WFP, 2007, Mineduc –Rwanda, 2013). At a minimum, communities need to ensure that personnel required such as cooks, cleaners, and watchmen are organized and on board. Additionally, fuel will need to be funded/contributed by the community (WFP, 2007, Mineduc –Rwanda, 2013). As mentioned above, communities would also be responsible for augmenting the basic food basket provided by the government with additional fresh foods. Over time, it is also possible that communities share a portion of the cost of supplying the programme through financial contributions. These contributions could be variable based on wealth/poverty status according to household ubudehe classification. The technical committee felt that this aspect of programming could be incorporated as the programme is scaled up, gradually reaching less vulnerable areas where more community contribution can be expected (WFP, 2007, Mineduc –Rwanda, 2013). Mineduc- Rwanda (2013) and WFP- Rwanda (2007) emphasized that school feeding programs that respond to community needs, are locally owned, and incorporate some form of parental or community

contribution, whether cash payment or in-kind, for example, through donated food or labor, tend to be the strongest programs and the ones most likely to make a successful transition from donor assistance. Programs that build this component in from the beginning and consistently maintain it have the most success. Arrangements, however, have to be made to avoid increasing the cost of schooling to parents (WFP, 2007, Mineduc –Rwanda, 2013). Schools normally put in place canteen or food management committees composed of representatives of parents and teachers. The role of the committee is to act as an interface between the community and the school, manages the school feeding program, and ensures good utilization of the food in the school (WFP, 2007, Mineduc –Rwanda, 2013). Strong management committees ensure that teachers do not carry the entire burden of running the program. They should also ensure that children, especially girls, are not engaged in cooking, and that eating times are appropriately scheduled so they do not interfere with teaching and learning schedules (WFP, 2007, Mineduc –Rwanda, 2013).

2.3. 2. Pupils' Enrolment

Education is critical to economic development and social welfare in developing nations. For example, the second Millennium Development Goal adopted by world leaders in 2000 is universal primary education for all boys and girls, while the third called for the elimination of gender disparities in education. Prioritizing education in such a way has several rationales. For one, investments in education are believed to yield returns in poverty reduction, improved health outcomes, and economic growth (Hanuum & Buchmann, 2004; UNESCO, 2007).

In addition, Birdsall (1999) in his literature stated that increased access to education can lead to increased political participation and more equitable sharing of economic and political power. The author continued saying that education for girls is considered particularly critical, as improvements in the infant mortality rate, child nutrition, and school enrollment are closely associated with higher education among mothers. As stated by Birdsall (1999), yet, more than 100 million primary school-aged children are not in school and, of those that are; many 49 percent in Africa, for example, do not complete primary school. These and other data indicate wide variation in enrollment rates across developing country regions and by level of school.

The World Bank (2004) points out that low educational attainment or the inability of pupils to complete their primary and secondary school education in the developing world is the combined result of children who do not enroll, children who do not progress, and children who drop out. Children may not enroll or complete their schooling for a number of reasons.

Findings from various studies indicate that there are economic and other structural forces that determine the schooling of children.

A study carried out by Birdsall and Ibrahim (2005) on factors of low enrolment in rural India, Burkina Faso and Mali. The findings revealed that school enrollment is very low due to the cost of schooling (both direct and opportunity costs), poor school infrastructure, teacher shortages, and safety and sanitation problems.

In other areas, such as several Latin American countries, enrollment may be nearly universal, but retention and completion may be quite low for a myriad of reasons, including those mentioned above, as well as poor health of pupils or members of their households (Glewwe & Miguel, 2007; UNESCO, 2007). Likewise, The World Bank (2004) found out that the pupils low enrolment was due to teacher absenteeism or malfeasance, while curricula which do not match students' needs was also revealed as a major barrier to pupils enrolment in the study conducted by Glewwe and Miguel, (2007). Value systems held within the country may also diminish the importance of enrolling children [particularly girls] in school (Brembeck, 1962), or parents may prioritize their children working to earn much needed immediate funds rather than attending school (Hillman & Jenker, 2004).

The findings from the study conducted in India by Filmer(1999) revealed that the gap in enrollment between boys and girls from the richest households is only 2.5 percent, whereas the gender disparity for children from the poorest households is 24 percent.

In their literature, Fiszbein and Schady, (2009) highlighted the importance of policies to offset inequalities in access to schooling. . Building new schools to increase ease of access in remote areas is one intervention used in developing nations (Filmer, 2004). Other efforts include improving school infrastructure and safety and abolishing school fees, as well as implementing targeted policies to reach the most marginalized children (Filmer, 2004). Initiatives as the Millennium Development Goals and Education for All, governments in developing nations have, to varying degrees, to make efforts to increase enrollment and

equity (UNESCO, 2007). Such policies also include school feeding programs, flexible schooling models for working children, school-based health interventions, and various types of financial subsidies and conditional cash transfer systems (UNESCO, 2007).

For example, several Latin American governments and non-governmental partners have experimented with programs that transfer money directly to disadvantaged households—such as in rural, indigenous, migrant, or slum communities, in exchange for children’s school enrollment and attendance (Fiszbein & Schady, 2009; UNESCO, 2007). In Asia, for example, such stipend programs encourage the transition of girls to secondary school (UNESCO, 2007).

Evaluations of some of these recent policies and programs to increase school enrollment and persistence in developing nations include a number of randomized field trials and rigorous quasi-experimental studies.

Randomized experiments evaluating conditional cash transfer programs in Latin America include the seminal Progresa experiment in Mexico, which gave educational grants to poor mothers in exchange for their children’s good attendance. Communities were randomly assigned to intervention or control conditions, and positive impacts for school enrollment and other factors were demonstrated (Schultz, 2004).

Similarly, in Ecuador, a lottery provided cash vouchers to randomly selected families in exchange for enrolling their children in school; control families were placed in a “wait-list” condition until the study was completed. The early results were positive, increasing school enrollment by 10 percent and reducing child labor by 17 percent (Lopez-Calva, 2008).

Randomized trials of school-based health interventions include a school feeding program in rural Peru, in which schools were randomized to implement a high-quality, ready-to-eat breakfast program or to a control group, with positive results for school enrollment and other outcomes, including test scores (Cueto & Chinen, 2008).

Glewwe and Miguel’s (2007) review randomized evaluations of school-based health interventions such as that of Miguel and Kremer (2004) found that absenteeism in Kenyan schools in which students received de-worming treatment was 25 percent lower than in comparison schools, and that de-worming increased schooling by 0.14 years, but without an accompanying increase in test scores. Recent randomized evaluations of other types of

programs aimed at increasing enrollment, completion, and achievement include that of Glewwe, Kremer, and Moulin (2007), who found that providing textbooks to students in randomly selected rural primary schools in Kenya had no effect on dropout or repetition rate or on test scores.

The Millennium Challenge Corporation funded Mathematica Policy Research to conduct a regression discontinuity study on the impact of school construction and other associated interventions on female student school enrollment in 132 communities in Burkina Faso; they reported positive results on enrollment and test scores when compared to the 161 communities not selected for the treatment (Levy, Sloan, Linden & Kazianga, 2009). All of these studies highlight the increased use of randomization and well-equated quasi-experiments in the developing world context.

A study conducted by Central Statistical Office (CSO) (2003) in Kibera – Kenya showed that poverty was the biggest slum in Nairobi and parents had been unable to enroll their children because many simply could not afford to. What they had must cover rent and food, water and health care, they found it hard to find money for their children's schooling.

2.3.3. School Feeding Program and Pupils' Enrolment

School feeding programmes have been found to be effective in encouraging enrolment, increasing attention span and improving school attendance (Grantham-McGregor *et al.* 1998, UNICEF, 2005). The World Bank Education strategy identifies the following three main objectives for school feeding programme intervention to improve school children's education outcome: first, ensuring children are ready to learn and enroll on time; secondly, keeping children in school and learning by enhancing attendance and reducing drop-out rates and, thirdly, improving learning at school by enhancing cognition and educational achievement (Bundy, 2011).

Adelman et al., (2008) pointed out that the availability of subsidized in-school meals increases school enrollment if the program changes the household's schooling decision for some children who would not have been enrolled in school otherwise. And for these households to enroll their children, they need to be convinced that the net benefits of

participating in the program exceed the gap between direct and opportunity cost of schooling and the expected benefit of schooling (Adelman et al., 2008). In other words, households usually compare the size of the transfer relative to the size of the cost-benefit gap and these comparisons ultimately determine the magnitude of the increase in enrollment rates.

According to Adelman et al. (2008), another important point is about the roles that school meals play in encouraging early enrollment. Even though in-school meals are believed to affect age at entry through an income effect, i.e., by increasing household income and raising the benefit of attending school, yet this income effect should be large enough to make households send their children to school. Adelman *et al* (2008) further noted that school meals affect the age at entry in different ways. First, the provision of food offsets the cost of educating children by making available additional income for households, and consequently raising the benefits of attending school. This is called an income effect of school feeding. When this income effect is large, it can cause households to send their children to school at a relatively younger age thereby minimizing the possibility of late entry. Secondly, the “neighborhood effect” resulting from School Feeding Program 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 Program would create a social pressure and prompt similar action on the part of those who haven’t enrolled their children yet.

Various studies have revealed that School Feeding Program have indeed positive impact on school enrollment and class attendance. However, most of these findings are based on empirical data obtained from schools where the program was popular and has been relatively effectively implemented.

In Bangladesh again, Ahmed and Del Ninno (2002) used a non- experimental design to assess the FFE program set up in Bangladesh designed to transfer food to the poorest households through THR program in Primary schools. In the 110 rural schools sampled, it was found that the program increased enrollment by 35% from the year before the FFE program started, including 44% for girls. Schools where there was no FFE intervention saw increases in enrollment by only 2.5% during the same period (Ahmed and Del Ninno, 2002).

Ahmed (2004) conducted a study in food insecure areas of Bangladesh to see the impact of School Feeding Program on school participation. The data collection took place

in 2003 after children in the treatment schools received a mid-morning snack of fortified wheat biscuits every school day for one year. To determine whether the increases in enrollment (and attendance) were indeed due to the program, he carried out econometric analysis to isolate other potential explanatory factors. Thus Ahmed's study found that School Feeding Program have statistically significant positive impacts on both gross and net enrollment rates with 14.2% and 9.6% increases respectively (ibid).

In south Indian village called "Tamil Nadu", Babu and Hallan, (1998) carried out a study to determine the effect of school meals served at school on parents' attitudes in terms of enrolling their children and keeping them at school. The findings revealed a significant increase in school enrolment and a continuing interest in enrolling children due to a nutritious free meals provided seven days a week throughout the year to children aged 2 -15 whose families have incomes below the poverty line.

In Burkina Faso, Kizianga, de Walque and Alderman (2009) studied the impact of SFP and THR interventions on enrollment. The findings revealed that both THR and SFP interventions had a statistically significant impact on the overall enrollment and the enrollment of girls. Communities were randomly selected as SFP, THR, or control interventions. In THR villages, schools increased new enrollment overall by 6.2%, and girls' enrolment increased by 5.6%; SFP Schools saw an increase of 5% for new girls' enrollment (Kizianga, de Walque and Alderman (2009)).

In Malawi, a study carried out by WFP (1996) to see whether the on-going school feeding program in targeted primary schools meeting or not the intended objectives. The findings showed that school feeding program over a three month period had led to a 5 percent increase in enrollment and up to 36 percent improvement in attendance.

In Western Kenya, Vermeersch and Kremer (2004) conducted a field-study in Kenyan preschools between 2000 and 2002 to evaluate the impacts of School Feeding Program on school enrolment and achievement. Preschoolers, in this context, are defined as children between ages of 4 and 6 who lived within walking distance of school. They found that children in the treatment group participated 35.9 percent of the time compared to 27.4 percent in the comparison (control) group and this difference was statistically significant (Vermeersch and Kremer (2004)). The program increased participation of both children who were previously enrolled and children who would have gone to school in absence of the

program. But, Vermeersch and Kremer (2004) emphasize that any increase in school participation in the absence of qualified teaching falls short of better educational achievement since there are strong complementarities between teacher characteristics and school meals. Nevertheless, their study was on preschools and hence this may not have much relevance for primary school children. Besides, preschoolers are early-age children and may not have family obligations like many primary school age children might have in poor areas. Thus preschoolers are relatively free of duties that could keep them away from school (Vermeersch and Kremer (2004).

In Uganda, Alderman, Gilligan and Lehrer (2010) conducted a study to investigate the impacts of Food For Education (FFE) on children in refugee camps in northern region of Uganda. The World Food Program (WFP) administered FFE programs in refugee camps and each camp had either School Feeding Program (SFP) or Take Home Ration (THR) programs. After analysis, the authors noted that the program was found to generate an 8.9% increase in the probability of enrollment of 6-13 year old children, and slightly more for 6-9 year old children at 9.4% in the camps with SFP (Alderman and Lehrer 2010). The impacts in THR camps were smaller and not significant, while the difference between THR and SFP was also not significant (Alderman and Lehrer 2010). Both treatments were found to significantly increase attendance in morning and afternoon classes, in both genders and for different age groups. Morning attendance improved in for the overall age groups (6-17 years) and especially for older students (10-17 years) when either the SFP or THR programs were implemented (Alderman and Lehrer 2010).

In Rwanda, Bizimana (2004) carried out a study on school feeding program launched by the government of Rwanda with the World Food Program at the beginning of school 2002 in drought areas of Eastern province. World Food Program provided lunch meals to pupils in selected primary schools located in Bugesera district, Eastern province, Rwanda. The intention of the research was to investigate the effect of the program a year after its implementation. The program provided lunch meal to school children in chronically food insecure communities. Five schools were sampled from eight schools. After the analysis, the findings revealed that the enrollment after the School Feeding Program was implemented increased by 53%, while mean attendance per pupil increased 3.34 school days per month.

In Kamonyi district- Rwanda, SEZIKWIYE (2010) conducted a study to determine the effect of school milk program on pre-primary and primary pupils' enrolment and retention. The program is generally known as "One Cup of Milk per Child" and funded by Ministry of Agriculture (MINAGRI)-Rwanda which serves pre-primary and primary school pupils in grades 1 to 3 milk two times per week for both morning and afternoon sessions. The author selected three schools out of five that benefited from the program. Based on the findings, the author concluded that the intervention achieved its objectives by increasing children enrolment by 40% and reducing dropout by 12 % in primary schools and 7 % in pre- primary schools.

In Rwanda, Gasana (2012) carried out a study to see the impact of Food For Education on children in refugees camp from Democratic Republic of Congo (DRC) located in Kigeme sector, Nyamagabe district, southern province, Rwanda. The World Food Program (WFP) provided three boxes of biscuits to each refugee primary pupils a week. The findings revealed that number of pupils increased by 69 % after the intervention has been implementation in the Kigeme refugee camp. As the author said, by that increase, there were more other classrooms and an additional number of teachers to cater for the big number of pupils.

In Rwanda, Karamaga (2009) carried out a study in Bugesera district to establish a comparison between pupils' enrolments in public primary schools that benefited from school feeding program and pupils' enrolments in the schools that school feeding program was not implemented. World Food Program provided pupils with lunch food every school day and take home rations were given once a month to school girls under condition that the beneficiaries maximized attendances as required in the whole month. His study included four public primary schools, two were assisted and located in the same sector and other two not assisted were located in neighboring sector. From the analysis, the author found that programme of school-based food distribution increased enrollment by 74% versus a 29% decline in non-participating schools. This is due to pupils switching schools from those that did not have school feeding programs to those that did. The author also added that there is no gender gap was found in non-assisted primary schools.

Summary of Gaps

Given the earlier discussed studies, none of them was conducted in Busanze sector, in Nyaruguru district, Rwanda. This study was carried out in this geographical insecure food area. This means that there was a geographical gap that the researcher wanted to bridge. There was also a content gap because there was no other study that was conducted to investigate the effect of school feeding program on pupils' enrolment in this insecure food area. Therefore the researcher sought to bridge it by undertaking this study on this content in this area.

CHAPTER THREE

METHODOLOGY

3.0. Introduction

This section dealt with the methodology to be used to complete the study. It specifically includes the research design, sampling procedures, Research population, Sampling Approach, sample size, research instruments, validity and reliability, data gathering procedures, data analysis, ethical considerations and limitations.

3.1. Research Design

The Ex Post Facto research design guided this study using both quantitative and qualitative approaches. This design helped the researcher to examine what was the situation of pupils' enrollment before the implementation of school feeding program and what has been happening from the implementation of school feeding program in selected public primary schools located in Busanze sector, in Nyaruguru district in Rwanda. Quantitative approach was referred to since numerical data on pupils' enrolment were collected and qualitative approach, because of collected categorical data on the extent of the implementation of school feeding program.

3.2. Research Population

This research targeted two categories of population. The first was the primary six pupils and they were 777 in total from six primary schools. They were selected on basis of the time passed benefiting from the school feeding program. These pupils started primary one in 2009, the very year when school feeding program started in those primary schools of Busanze sector in Nyaruguru district, Rwanda. Therefore, they were considered as the right pupils to provide enough information on school feeding program implementation.

The second category comprised of primary school head teachers and these were six head teachers from six public primary schools of Busanze sector in Nyaruguru district. Their selection was based on questions set in record sheet on pupils' enrolment from 2004 to 2013. Due to their leadership position, they were expected to get access to the records of pupils' enrolment which are normally kept in their offices for the period before and after the implementation of school feeding program and again, the interview guide comprised such questions on pupils' enrolment which required the respondents to have much

information on both pupils’ enrolments and school feeding program implementation in the school. These public primary schools are: Gitwe, Kabavomo, Masiga, Musebeya, Runyami and Runyombyi.

3.3. Sample size

Primary six pupils from six public primary schools located in Busanze sector in Nyaruguru district participated in the study. The sample size determination for primary six pupils was reached using the Slovin’s formula for determination of sample size.

The Slovin’s formula for sample size determination is:

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

n= sample size

N= Population

e= Margin of error desired

1= Constant

In this study, the researcher wished to be ‘95% confident’ while testing hypotheses. This therefore corresponds to significance testing at the 5% level ($P < 0.05$) of significance.

The slovin’s formula for sample size determination was applied to get sample size from the population in Busanze sector taking into consideration that the margin of error was set at 0.05. The target population and the sample sizes are described in the following table.

Table1: Population and sample size for Primary six Pupils

NAME OF SCHOOL	Number of P6 pupils	Sample size
1	174	59
2	148	50
3	102	35
4	113	38
5	132	45
6	108	37
Total	777	264

Source: Secondary data (2014)

As described in table 1, the target population was drawn from six public primary schools located in Busanze sector. The total number of primary six pupils from six schools was 777. This number was the total of target population.

Therefore, the study considered the number of **264** as the total of sample size of primary six pupils from six public primary schools of Busanze sector. However, based on that number, the researcher reached the sample size corresponding to each of the target population for every public primary school that benefited from school meals in Busanze. It is from that sample size that the researcher got information needed. For getting the sample size of pupils in every school located in Busanze sector, the following formula is used.

Formula:
$$\frac{\text{Number of population for each school!} \times \text{the total number of sample sizes}}{\text{Number of target population for seven schools}}$$

The results were presented in table 1 above in the 3rd column

Table2: Population and sample size for Head teachers

NAME OF SCHOOL	Number of Head teachers	Sample size
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
Total	6	6

Source: Secondary data (2014)

The study considered six Head teachers as sample size from six public primary schools of Busanze sector. Therefore, all Head teachers were considered for interview.

3.4. Sampling procedure

As earlier mentioned, Nyaruguru district has 37 public primary schools in which the program of in-school meals has been implemented since 2009. These schools are distributed in 10 sectors as described in the appendix 2. However, due to time and financial constraints, all those 10 sectors and 37 schools could not feature in the study. To this end, purposive sampling technique was used and hence, Busanze sector was purposefully selected due to the fact that it has the highest number of public primary schools (6) benefiting from the school feeding. The six public primary schools located in this sector were all taken to

include in the study. Then, simple random sampling technique was employed to get sample size of pupils from each of primary school. The head teachers from six public primary schools were all taken as respondents.

3.3. Data collection instruments

3.3.1. Questionnaire

A questionnaire was used to get views from primary six pupils by asking them the extent to which they agree or disagree with the extent of the implementation of school feeding program in their respective schools located in Busanze sector in Nyaruguru district. The questionnaire comprised of nine questions. Five of them were under the category of school level implementation arrangements and four under food and supplements availability category. These questions were scored on a four-point Likert (1932) scale that ranged from 1 to 4: 1= Strongly Disagree, 2= Disagree, 3= Agree and 4= strongly agree.

3.3.2. Interview guide

The researcher conducted an interview for getting views from six head teachers on school feeding program implementation and pupils' enrolment in their respective primary schools. The head teachers responded questions and their views were used so as to give meaning to quantitative data.

3.3.3. Documentary review

A record sheet was developed to document the enrolment levels for the period 2004 to 2013. The records kept in the District Education Office as well as in the respective schools were therefore accessed and data were recorded and analyzed.

3.4. Validity and reliability of the instrument

In order to validate the instruments, the questionnaire was checked by the supervisor and was again distributed to my colleagues in order to ensure that the items were measuring what they intended to measure.

❖ Validity

As stated by Amin (2005), validity is the ability of producing the findings that are in agreement with theoretical and conceptual values, that is, to produce accurate results and measure what it is supposed to measure. Thus, content validity refers to the degree to which a test measures what was designed to measure. The Content Validity Index (= CVI) formula is calculated as below:

$$\text{CVI} = \frac{\text{Total number of Valid Questions relevant}}{\text{Total number of questions items}}$$

Using this formula, the researcher found that the Content Validity Index for Primary Six Pupils Questions was found to be 0.88. The Content Validity Index for interview questions with head teachers was found to be 0.93.

Therefore, the Content Validity Indexes for both Primary six Questions and interview questions with head teachers were found to be 0.88 and 0.93 respectively and according to Amin (2005), for an instrument to be accepted as valid, the average index should be 0.7 or above.

❖ Reliability

In addition, a pilot study was conducted and then after, Kuder Richardson formula 21 was used to determine the reliability. It means that, after calculating the mean and standard deviation, the researcher used the following formula:

$$\frac{1-M(K-M)}{K(S_2)21}$$

Where:

K= Number of items in the questionnaire

M= the Mean

S= Standard Deviation

When calculating the reliability coefficient, the researcher found that it was 0.78 and 0.79 for primary six pupils and head teachers respectively. Recall that when this formula is used, the instrument is reliable when the reliability coefficient calculated range between 0.60 and 0.80 or above. The nearer the value calculated is to 1.00, the higher the reliability of the instrument: the higher it is consistent in measuring what it is intended to measure. Therefore, the instruments for this study were reliable.

3.5. Data Gathering Procedure

Before the administration of the questionnaire

- ❖ An introduction letter was got from the College of Higher Degrees and Research for the researcher to solicit approval to carry out the study in respective schools;
- ❖ When approved, the researcher secured a list of the respondents from schools. Thus, primary six pupils and head teachers from public primary schools located in Busanze sector in Nyaruguru district, Rwanda were included in the study;
- ❖ The Researcher explained the respondents about the study and hence, they were requested to sign the Informed Consent Form (See Appendix);
- ❖ The researcher produced more than enough copies of questionnaires and distributed them to respondents.

During the administration of the questionnaire

- ❖ The researcher requested the respondents to answer completely all questionnaires without leaving a part a part of questionnaire unanswered
- ❖ The researcher helped with head teachers collected the questionnaires from respective respondents in targeted primary schools;
- ❖ Then, the researcher took time to check if the questionnaires were all returned and answered.

After the administration of the questionnaire

Data were edited, coded and entered into the computer and statistically analyzed using the Statistical Package for Social Sciences (SPSS).

3.6. Data Analysis

The analysis of data collected was done using both descriptive and inferential statistics. The data collected on the extent of the implementation of school feeding program and on the level of pupils' enrolments were analyzed using means and standards deviations as a descriptive statistics. To interpret the data obtained, the numerical values and interpretations were used as follows:

Mean Range	Response mode	Interpretation
3.26-4.00	strongly Agree	Very large
2.51-3.25	Agree	Large
1.76-2.50	Disagree	Small
1.00-1.75	Strongly Disagree	Very small

Then, the trend of pupils' enrolments for the consecutive ten years (2004 to 2013) was plotted on line graph. Finally, inferential statistics was referred to while determining whether there is a significant difference between the pupils' enrolments before and after the implementation the school feeding program in selected public primary schools located in Busanze sector in Nyaruguru district, Rwanda. The researcher used Student's t-Test (For Paired Samples) to determine if the difference is or not significant at $p < 0.05$. All data analysis was done using SPSS.

3.7. Ethical Considerations

Before the commencement of data collection, consent from Nyaruguru District Education Office and from the informants were sought in order to have access to the needed information and documents. In my research, the principle of anonymity was respected and the confidence of the respondents was gained during the data gathering session. Then, authors cited in this study were reflected in the references.

3.8. Limitation of the Study

The enrolment of children to school may also have various other external factors other than only in- school meals opportunity in such remote backwards area, like Nyaruguru region. This research was not much interested in investigating into details of other potential external factors that could affect the enrolment in targeted public primary schools in Busanze sector in Nyaruguru district. Rather, an emphasis was put on investigating the effect of school feeding program implementation on the level of and trends of children's enrolment to education.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0. Introduction

This chapter shows analysis and presentation of data on the profile of the respondents, the extent of the implementation of school feeding program in public primary schools of Busanze sector in Nyaruguru district, Rwanda; the level of and trend of pupils' enrolments in public primary schools located in Busanze sector in Nyaruguru district, Rwanda, as of 2004 to 2013; and the difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda.

4.1. Demographic characteristics of the respondents

Table 3: Demographic characteristics of the respondents (Primary Six Pupils)

Gender		Frequency	Percentage
Boys		149	56
Girls		115	44
Total		264	100
Age by Gender			
Boys	11-13 Yrs	90	60
	14-16 Yrs	53	36
	17 and above Yrs	6	4
	Total	149	100
Girls	11-13 Yrs	79	69
	14-16 Yrs	36	31
	17 and above Yrs	0	0
	Total	115	100

Source: Primary Data (2014)

The data presented in table 3 show that the majority of respondents (primary six pupils) were boys (56 %) against 44 % of girls. This means that the number of boys was

greater than that of girls in primary six levels in the selected public primary schools of Busanze sector in Nyaruguru district, Rwanda.

The majority of primary six pupils were found in the age range of 11-13 years, for both boys (60 %) and girls (69 %) , followed by those of 14-16 years for boys (36 %) and girls (31 %). The least were those of 17 and above years. This latter age range counted 4 % for boys against 0 % for girls.

Table 4: Demographic characteristics of the respondents (Head teachers)

Gender	Frequency	Percentage
Male	4	67
Female	2	33
Total	6	100
Age		
20-25 Yrs	0	0
26- 30 Yrs	0	0
31-35 Yrs	2	33
36-40 Yrs	3	50
41 and above Yrs	1	17
Total	6	100
Level of Experience		
0-5 Yrs	0	0
6-10 Yrs	2	33
11 and above Yrs	4	67
Total	6	100
Level of Education		
A2 (Secondary School teaching Certificate)	4	67
A1 (First Cycle of University)	0	0
A0 or Bachelor's Degree (Second Cycle of University)	2	33
Total	6	100

Source: Primary Data (2014)

As described in table 4, the number of male head teachers (67 %) was greater than that of female head teachers (33%). This shows that the public primary schools of Busanze sector in Nyaruguru district, Rwanda are dominated by male head teachers.

The age range of 36-40 years holds the grand majority of head teachers (50%), followed by that of 31-35 years (33%) and the least were those of the age range of 41 and above years (17 %). This analysis shows that most of head teachers of the selected public primary schools are adults.

The level of experience was assessed and the results showed that 67 % of respondents (head teachers) had spent 11 and above years in teaching profession. The respondents who have spent between 6 -10 years of experience were 33% and 0 % were found for those who were supposed to have between 0-5 years of teaching experience.

The level of education analysis showed that the majority of head teachers (67 %) in the selected public primary schools of Busanze sector in Nyaruguru district hold an “A2 Secondary School Teaching Certificate”. The Bachelor’s Degree or A0 is held by 33 % of respondents and none was found for an “A1” level.

4.2. The extent of School Feeding Program Implementation in public primary schools

To achieve this objective, the researcher used means got from the descriptive analysis of items concerning school feeding program implementation in public primary schools of Busanze sector in Nyaruguru district, Rwanda. The finding on this objective was that the extent of school feeding program implementation was large, as shown by the grand average of 2.97. Table 5 shows the findings on this objective.

Table 5: The extent of School Feeding Program Implementation

Category	Mean	Rank	Interpretation
School Level Implementation Arrangements			
All pupils eat a common meal at school regardless the individual preference and socio-economic situation of family	3.74	1	Very large
The meals served to pupils at school are lunchtime meals only	3.72	2	Very large
Parents contribute to provide the fire wood to use in cooking meals at school	3.17	3	large
Time of taking meals disturbs the teaching and learning time table	1.60	4	Small
School feeding program has targeted particular children to be fed at school rather than all children	1.38	5	Very small
Average	2.72		large
Food and Supplements availability			
Food for pupils has been available in all working school days since the implementation of the program in this school.	3.40	1	Very large
Pupils receive periodic de-worming pills since the existence of school feeding program	3.33	2	Very large
Pupils are satisfied with the quantity of food given to them at school	3.11	3	Large
Providing and drinking potable water is a culture initiated among pupils at school since the beginning of serving food to pupils.	3.09	4	Large
Average	3.23		Large
Grand Average	2.97		Large

Source: Primary Data (2014)

Mean Range	Response	Interpretation
3.26-4.00	Strongly Agree	Very large
2.51-3.25	Agree	Large
1.76-2.50	Disagree	Small
1.00-1.75	Strongly Disagree	Very small

School Level Implementation Arrangements

The first category of items to measure the extent of school feeding program implementation in public primary schools of Busanze sector in Nyaruguru district, Rwanda was in terms of School Level Implementation Arrangements. In this category, the highest rated item was about whether all pupils eat a common meal at school regardless individual preference and socio-economic situation of the family with (mean = 3.74) interpreted as very

large. This means that pupils at school are all treated as equal and therefore discourage some from asking for special food cooked at school or coming to school with special foods for some individuals. This is in accordance with the views from head teachers' interview on whether and why a common meal is served to pupils without taking into consideration individual preference and socio- economic situation of the pupils.

“The food items have to be the same for every schoolchild. Taking into consideration individual preference can bring about various negative consequences. Some pupils can consider it as a kind of segregation among children and this can result in conflict, hatred, stigmatization etc. So, preparing and serving a common meal regardless individual preference and or social economic situation helps avoid the potential social problem among beneficiaries”, argued head teachers

The item about whether the meals served to pupils at school are lunchtime meals, this was ranked second with (mean = 3.72) interpreted as very large. This means that public primary schools of Busanze sector in Nyaruguru district, Rwanda serve pupils with lunch at school. The reason behind this is that Rwanda's public primary education has double shift. There is a morning and afternoon session. By providing lunch, the pupils for both morning and afternoon session benefit easily from the meal at the same time. This was corroborated by the views from head teachers' interview.

“Pupils are served with food at lunch time. Lunch time is deemed fit and appropriate for the continuity of the pupils in the afternoon sessions. Lunch time is also appropriate for both the morning session. Pupils of the morning session have to leave school for home after eating and the afternoon session have to come to eat at school” argued head teachers.

The item concerned with whether parents contribute to provide the fire wood to use in cooking meals at school, this item was ranked 3rd with (mean = 3.17) interpreted as large. This means that the degree of community participation and contribution is satisfactory and this can help implement a sustainable school feeding programme in the area because the community supports the intervention. This community participation and contribution satisfactory extent is consistent with the findings from interview with head teachers on the question about the existent of and role of parents-teachers associations (PTA) committee in those selected public primary schools where school feeding program is operational.

“PTA exists in our school and is fundamental in monitoring the quality of the feeding scheme, consistence of feeding by schools and among others representing other parents in food provision and monitoring. The committee also brings student's suggestions to the schools' committee for improved

educational delivery. This generates the school's performance, hence increased pupils enrolment" contented head teachers.

The item about whether the time of taking food at school sometimes disturbs the teaching and learning timetable was ranked 4th with (mean = 1.60) interpreted as very small. This means that teaching and learning timetable has been taken into consideration while setting up the time table of serving food to pupils at school. This finding was also in line with the respondents' views (head teachers) during interview when they were asked about school level arrangements made so that lunch meal timetable does not interfere with the teaching and learning activities.

"Before starting to feed pupils in our school, we held meetings with World Food Program Officers from Kigali and we discussed on how the implementation of school feeding program should be done without compromising the existing school activities. Among the issues raised, there was obviously that of time of serving food to pupils and we agreed on lunch time when the morning session ends and when pupils are still waiting for the afternoon session to begin. So far, no much interference has occurred between those two activities", argued head teachers.

The last ranked item was concerned with whether the implementation of school feeding program has targeted particular children to be fed at school rather than all children with (mean = 1.38) interpreted as very poor small. This implies that school feeding program is free from segregation of children of who should feed and those who should not. This matches up with the views from head teachers' interview on the question why the program did not select the children to be fed from the most vulnerable families rather than taking all pupils.

"The aim of this feeding program is to assist the schools by providing one meal a day for children in primary schools located in areas that have been targeted as a poor. This region is nationally known as poor, meaning that all pupils in this area are in need of assistance. It is not good at all to serve some children and leave behind others. This can generate problems among children. Some may feel isolated, neglected, stigmatized, etc while others may feel more loved ,etc" said head teachers.

Food and Supplements availability

Under this category, the highest rated item was concerned whether food for pupils has been available in all working school days since the implementation of the program in this school with (mean=3.40) interpreted as very large . This implies that there has been consistence in availability of food since the program begun. The views from the interview held with head teachers support this finding. Asked whether schoolchildren get food every school day, they said:

“Pupils are provided with food from Monday to Friday in all school days. The consistence in food provision is intended to stimulate the student’s concentration in class and also stimulate pupil’s enrolment in the schools of the food insecure region.”

The second ranked item was concerned with whether pupils receive periodic de-worming pills since the existence of school feeding program with (mean = 3.33,) interpreted as very large. This means that de-worming is periodically given to pupils in the schools as prevention from certain diseases attack. This was similar to the views from head teachers on the question of whether and why pupils receive other health and nutrition supplements like de-worming medicine, etc in addition to the food served to them.

“Pupils are given the extra health supplements such as de-worming medicines. The de-worming is intended to ensure that there is a health living as it neutralizes any potential complications associated with negative impact of food including preventing attack of diseases This will ensure that pupils enroll, attend and concentrate more in class that will improve on their knowledge acquisition hence improved performance” said head teachers.

Another item about whether pupils are satisfied with the quantity of food given to them at school was ranked 3rd with (mean = 3.11) interpreted as large. Given this extent of appreciation from pupils, it is to not that the quantity of food served to them is deemed satisfactory. This means the majority of pupils are satisfied with the quantity of food given to them at school. In terms of whether providing and drinking potable water is a culture initiated among pupils at school since the beginning of serving food to pupils, this was ranked 4th with (mean = 3.09) interpreted as large. This means that, most pupils are happy with this culture of providing them with water at school, because water is part of what the human organism daily needs. This was confirmed by the findings from interview held with head teachers on the question how they evaluate the quantity served at school to pupils and how the appreciate the culture of initiating schoolchildren to drink potable water at school.

“As we see, the quantity planned and provided to each individual is enough, although there may not miss some young children who can say that they are not satisfied with the quantity given to them. It is not surprising for young teenagers! But in general, according to the information from pupils, they get satisfied with the quantity. Then, we appreciate much the assistance from World Food Program and Nyaruguru district for providing schools with potable water where it did not exist before. Where pipes of water were damaged, are now repaired. Water is health! Now our children eat and drink potable water. Thing that is much appreciated by everyone in this area” unanimously contented head teachers.

4.3. Level of Pupils’ Enrolment in Public Primary Schools since 2004 to 2013

To achieve this objective, the researcher applied descriptive statistics (means and Standard deviations) to the numerical data on pupils’ enrolments before and after school feeding program collected from each of targeted public primary schools and then, a line graph was constructed to show enrolment trend. The results from the analysis show that the level of pupils ‘enrolment after the implementation of School Feeding Program was higher than before the implementation of the program. This is shown in table 6.

Table 6: Level of Pupils’ Enrolments in Public Primary

Enrolment	Mean	Std. Deviation
Before school feeding implementation	2888.20	260.196
After school feeding implementation	5997.80	746.073
Enrolment (Before and After)	4443.00	1721.477

Source: Secondary Data (2014) (See Appendix,

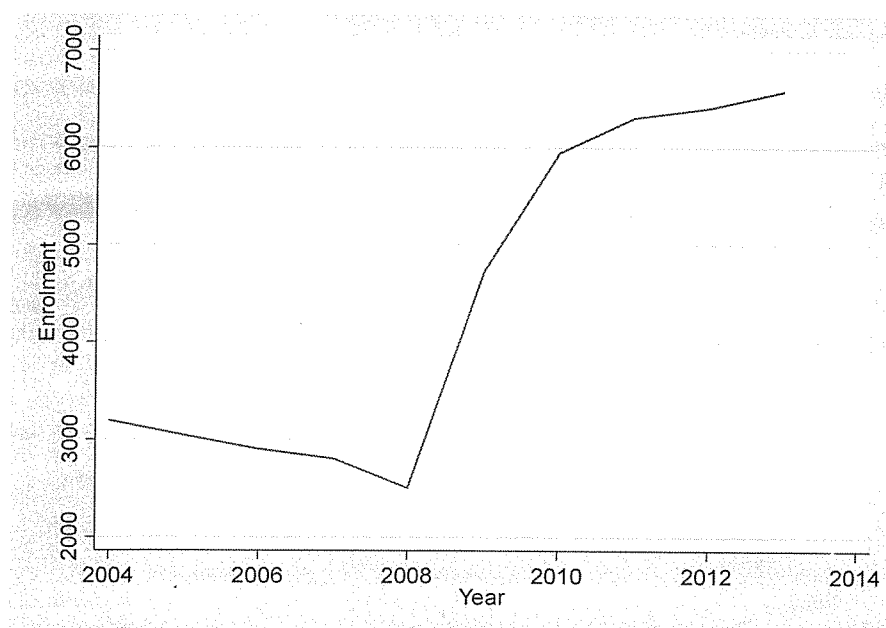
The results in table 6 show the means of pupils’ enrolment. The overall level of pupils’ enrolment (before and after the implementation of school feeding program) was (mean = 4443, Std. D = 1721.477). The mean level of before the implementation of school feeding program was (mean = 2888.20, Std. D = 260.196) and the mean level of after the implementation of school feeding program was (mean = 5997.80, Std. D = 746.073). It should be noted that, the results indicate that the mean after the implementation of school feeding program was higher than the mean before implementation of school feeding program.

The interview was held with head teachers of the schools about whether or not there is an improvement in pupils’ enrolment, attendance and dropout reduction since the introduction of school feeding program in the schools. The respondents told the researcher

that the introduction of school feeding scheme made difference compared with the school years before. They said:

“Since the school feeding implementation, the number of pupil’s enrolment has kept on increasing; this is attributable to the provision of food which attracts pupils from the food insecure areas to go to schools. Parents send their pupils to schools as a way of reducing the cost of feeding, hence increased pupils’ enrolment. The school attendance has improved due to the daily provision of food to the pupils. Several parents send their children to school hence attendance. The school feeding program in school has led to reduction of drop-out of pupils. Those that are accommodated in the school with food are never leaving school hence reduced dropout. There is a sustainability of these pupils at school.”

Figure 3: Line Graph for the Trend of Pupils’ Enrolments in Public Primary Schools



Source: Secondary Data (2014)

Figure 3 shows the Line Graph showing the Trend of Pupils’ Enrolments in Public Primary Schools located in Busanze sector in Nyaruguru district, Rwanda (2004 – 2013). The line graph shows that from 2004 to 2008, there has been a decreasing trend. However, from 2009 – 2013, the trend of Pupils’ Enrolments in Public Primary Schools located in Busanze sector in Nyaruguru district, Rwanda has been increasing. This means that the number of pupils had kept a decreasing pattern as the years passed before the implementation of school feeding program. Nonetheless, with the beginning of the implementation of school feeding program in 2009 onwards, the number of pupils sharply

rose. It should be noted however that from 2010 to 2013, the increase in pupil's enrolment was increasing in decreasing rate.

4.4. To establish whether there is a significant difference between pupils enrolments before and after the implementation of school feeding program

The findings on this objective were that there was a significance difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. This is shown by the sig. value of 0.002 which is below 0.05, the level of significance commonly used in social sciences.

Table 7: Pupils' Enrolments in Public Primary using Paired sample tests.

Paired Samples	Mean	Std. D.	t-value	Sig.	Interpretation	Decision on H0
Before enrolment	2888.20	260.196	-7.129	0.002	Significant difference	Rejected
After enrolment	5997.80	746.073				

Source: Secondary Data (2014)

The results in table 7 show that there is a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. Since (sig. = 0.002 < 0.05), then the results show that there is a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. Thus, this has led to the rejection of the null hypothesis that "there is no significant impact of school feeding program on the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda". The results show that (t = -7.129, Sig. = 0.002); this justifies that there is a significant impact of the implementation of school feeding program on pupils' enrolments in public primary schools located in Busanze sector in Nyaruguru district, Rwanda.

An oral interview was held with head teachers to know whether the school feeding program can be a stimulus for poor families to enroll their children to school. Responding to this question most of the interviewees said:

"The in- school meal is really a stimulus for parents to enroll their children and attract school age children to school. Our schools are even receiving children from Burundi and when we ask them why they choose to come to study in Rwanda, the main reason behind is not only by the proximity but also the feeding programs which are none prevalent in Burundi".

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0. Introduction

This chapter deals with discussion based on the study objectives, conclusions and recommendations of the findings. The researcher also highlights the areas for further research.

5.1. Discussion

The purpose of the study was to explore the linkages between the intervention of school feeding program and the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. It was guided by three objectives, these are; to determine the extent of the implementation of school feeding program in public primary schools of Busanze sector in Nyaruguru district, Rwanda; to determine the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda, as of 2004 to 2013; and to establish whether there is a significant difference between pupils' enrolment before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. After demographic characteristics of the respondents, the researcher discussed the findings of the study objective by objective.

5.1.1. Demographic characteristics of the respondents

For primary six pupils of respondents, the age group of 11-13 years held the majority of respondents. Given that the age of beginning public primary one education in Rwanda is officially seven years, this finding shows that the grand majority of these pupils who are in primary six in 2014 while collecting data started primary one in 2009 when they were seven years old, the very year of the commencement of the implementation of school feeding program in the selected public primary schools located in Busanze sector in Nyaruguru district, Rwanda. This can mean that those selected public primary schools started to experience the contribution of school feeding program by attracting many children of official age for beginning primary education to enroll at time, without delay.

These findings are in support with the views from Adelman et al (2008) about the importance of school meals on pupils' enrolment. The authors noted that school meals

affect the age at entry in different ways. First, the provision of food offsets the cost of educating children by making available additional income for households, and consequently raising the benefits of attending school. This is called an income effect of school feeding. When this income effect is large, it can cause households to send their children to school at a relatively exact age thereby minimizing the possibility of late entry. Secondly, the “neighborhood effect” resulting from School Feeding Program 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 Program would create a social pressure and prompt similar action on the part of those who haven’t enrolled their children yet (Adelman, et al. 2008)

For head teachers respondents, the findings show that the majority (67 %) of respondents had spent 11 and above years in teaching profession. This indicates that the majority of head teachers who participated in this research are steady and permanent with their job and could have enough knowledge and information, hence making them viable for research. Their level of education analysis showed that the majority of head teachers (67 %) in the selected public primary schools of Busanze sector in Nyaruguru district hold an “A2 Secondary School teaching Certificate”. This could mean that, in Rwanda, people who hold an A2 Secondary School Teaching Certificate are generally given the first priority in primary education level, whether teaching or leading a primary school

5.1.2. The extent of the implementation of school feeding program

The researcher found out that the overall extent of the implementation of school feeding program implementation in public primary schools of Busanze sector in Nyaruguru district, Rwanda was large with (mean = 2.97) . This means to a large extent, the school feeding program is implemented in public primary schools in Nyaruguru district. This means that the Ministry of Education -Rwanda in collaboration with World Food Program-Rwanda and other partners and stakeholders put enough effort in the implementation of school feeding program in the selected public primary schools located in Nyaruguru district, Rwanda.

Under the school level arrangements category, the overall extent was large with (mean= 2.72) and the largest ranked item for this category with (3.74) was about whether all pupils eat a common meal at school regardless the individual preference and socio-economic situation of family. This means that pupils at school are all treated as equal and therefore this

food provision methodology is meant for avoiding potential food serving disorder that may result in conflict among schoolchildren. Serving common meal to all pupils regardless any criterion of difference has been emphasized during interview held with head teachers. They argued:

“The food items have to be the same for every schoolchild. Taking into consideration individual preference can bring about various negative consequences. Some pupils can consider it as a kind of segregation among children and this can result in conflict, hatred, stigmatization etc. So, preparing and serving a common meal regardless individual preference and or social economic situation helps avoid the potential social problems among beneficiaries”.

The last ranked item in school level arrangements category was concerned with whether the implementation of school feeding program has targeted particular children to be fed at school rather than all children with (mean = 1.38) interpreted as very small. This implies that school feeding program is free from segregation of children of who should feed and those who should not. Choosing a certain partition from pupils to feed was negatively criticized by three respondents during the oral interview.

“The Government of Rwanda seems to be very much determined to make Rwanda achieve the Millennium Development Goal on Free Primary Education. This free program therefore is meant to attract all school going children to schools and to make them complete the primary education cycle. Therefore, no particularity in targeting beneficiaries of the program. Every schoolchild is entitled to the food” argued head teachers.

These findings on targeted beneficiaries to feed at school were in fact in line with the guidelines from WFP-Rwanda (2007 and MINEDUC- Rwanda (2013) while emphasizing that the school management committee has to ensure that every child is entitled to a lunch meal served at school. This is to allow both the morning and afternoon sessions to equally benefit from the lunch meals and a common meal is recommended among pupils (WFP, 2007, Mineduc –Rwanda, 2013). Exceptions have to be discussed and agreed by the sponsor and implementers. This is also to avoid the potential social problem among beneficiaries, like conflicts, hatred, stigmatization etc. (WFP, 2007, Mineduc –Rwanda, 2013).

Under the category of food and supplements availability, the overall extent was large with (mean= 3.23). This implies that there has been consistence in availability of food

since the program begun. The views from the interview held with head teachers also support this finding. Asked whether schoolchildren get food every school day, they said:

“Pupils are provided with food from Monday to Friday in all school days. The consistence in food provision is intended to stimulate the student’s concentration in class and also stimulate pupil’s enrolment in the schools of the food insecure region.”

This was again confirmed by the findings from interview held with head teachers on the question how they evaluate the quantity served at school to pupils and how they appreciate the culture of initiating schoolchildren to drink potable water at school.

“As we see, the quantity planned and provided to each individual is enough, although there may not miss some young children who can say that they are not satisfied with the quantity given to them. It is not surprising for young teenagers! But in general, according to the information from pupils, they get satisfied with the quantity. Then, we appreciate much the assistance from World Food Program and Nyaruguru district for providing schools with potable water where it did not exist before. Where pipes of water were damaged, are now repaired. Water is health! Now our children eat and drink potable water. Thing that is much appreciated by everyone in this area” unanimously contented head teachers.

5.1.3. The Level of and Trends of Pupils’ Enrolments in Public Primary Schools

From data on pupils’ enrolment before and after school feeding program, the researcher found out that the overall level of pupils enrolment (before and after the implementation of school feeding program) was (mean = 4443, Std. D = 1721.477). The mean level of before the implementation of school feeding program was (mean = 2888.20, Std. D = 260.196) and the mean level of after the implementation of school feeding program was (mean = 5997.80, Std. D = 746.073). The researcher noted that, the results indicate that the mean after the implementation of school feeding program was higher than the mean before implementation of school feeding program. The trend graph shows that, before the implementation of school feeding program, the levels of school enrolment were reducing. The implementation of school feeding program was in 2009, and it is evident that the implementation led to the continuous increase in the numbers of pupil enrolment. It should be noted however that from 2010 to 2013, the increase in pupil’s enrolment was increasing in decreasing rate. This finding is in accordance with the views got from the oral informants about why there was an increase in pupils’ enrolment.

“The increase was due to School Feeding Program, the Government’s seriousness on children’ education to the point that those who refuse to take their children to school are condemned strongly. In addition, the public is strongly sensitized on the importance of educating children. This is usually done in churches, mosques and through the mass media” argued the interviewees.

These findings are also not far from the findings from the study conducted by Karamaga (2009) in Bugesera district, Rwanda. The objective of his study was to establish a comparison between pupils’ enrolments in public primary schools that benefited from school feeding program and pupils’ enrolments in the schools where school feeding program was not implemented. From the analysis, the author found that programme of school-based food distribution increased enrollment by 74% versus a 29% decline in non-participating schools. Thus, he concluded that the decline in non-participating schools was due to pupils switching from those that did not have school feeding programs to those that did.

The similar results were also found by WFP (1996) in Malawi. In this country, a study carried out by WFP (1996) to see whether the on-going school feeding program in targeted primary schools meeting or not the intended objectives. The findings showed that school feeding program over a three month period had led to a 5 percent increase in enrollment and up to 36 percent improvement in attendance. At this point, it is clear that school feeding program can be considered as a powerful instrument to boost the pupils’ enrolment when facing the problem of low enrolments in education sector. This means that the school feeding program does not only attract ton school those children of exact age of being at school, but also .those overage and can also stimulate early entry in school as was said by Adelman *et al* (2008). They noted that school meals affect the age at entry in different ways. First, the provision of food offsets the cost of educating children by making available additional income for households, and consequently raising the benefits of attending school. This is called an income effect of school feeding. When this income effect is large, it can cause households to send their children to school at a relatively younger age thereby minimizing the possibility of late entry. Secondly, the “neighborhood effect” resulting from School Feeding Program 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 Program would create a social pressure and prompt similar action on the part of those who haven’t enrolled their children yet

5.2.4. Difference between pupils enrolments before and after the implementation of school feeding program in public primary schools

The researcher found out that there is a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda since ($t = -7.129$, $\text{sig.} = 0.002 < 0.05$). The researcher rejected the null hypothesis that "there is no significant impact of school feeding program on the level of and trend of pupils' enrolment in public primary schools located in Busanze sector in Nyaruguru district, Rwanda. The researcher therefore concluded that the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda has significant impact on pupils' enrolment.

This finding was in disagreement with what He (2009) found in his study. His study was critical to school meals and there was a doubt if school feeding program has any positive impact on school participation whatsoever. He (2009) for instance found that WFP assisted School Feeding Program (what he calls the standard program) does not increase enrollment at any level compared to control schools (ibid).

In addition, this finding is not in accordance with the findings of the Organizacion Panamericana de la Salud. (1990) in Argentina. Based on data collected in 1985-86, a study was designed to assess the impact of the SFP on school outcomes, participation and nutrition status. The study also assessed the operational aspects of the program such as success of decentralized control, costs, and coordination and management. The book outlined a wide range of problems associated with the program at the various levels of operation. At the national level the transfer of resources was inconsistent, there was poor or no supervision and the rations were not based on nutritional necessity. At the provincial level there was an absence of criteria to guide the program effectively, i.e., ration guidance, beneficiary selection criteria, etc. and, inadequate resources to purchase food. At the local level the major problems related to financial deficiencies including infrastructure and equipment inadequacies as well as ineffective program administration. The results of the evaluation showed that the program had no impact on enrollment, which is already very high, or on dropout rates, already quite low. There was no clear impact on absenteeism except among low socio-economic groups where the program helped to reduce absences. There

appeared to be a negative relationship between school feeding and achievement perhaps a reflection of the fact that the program operates in the poorest areas.

However, this finding is in agreement with many other studies. The findings of this study concur with the findings from the study carried out in Kamonyi district-Rwanda, by Sezikwiye (2006) to determine the effect of school milk program on pre-primary and primary pupils' enrolment and retention. The author selected three schools out of five that benefited from the program. Based on the findings, the author concluded that the intervention achieved its objectives by increasing children enrolment by 40% and reducing dropout by 12 % in primary schools and 7 % in pre- primary schools.

Similarly, these findings are in support with the findings from the study carried out by Babu and Hallan (1998) in south Indian village. The research aimed to determine the effect of school meals served at school in terms of enrolling children and keeping them at school. The findings revealed a significant increase in school enrolment and a continuing interest in enrolling children due to a nutritious free meals provided seven days a week throughout the year to children aged 2 -15 whose families have incomes below the poverty line.

In support of the foregoing findings, Grantham-McGregor et al., UNESCEF (2005) in their literature noted that School Feeding Programs have been found to be effective in encouraging enrolment, increasing attention span and improving school attendance.

5.2. Conclusions

1. For first objective, the researcher found out that the overall extent of the implementation of school feeding program implementation in public primary schools of Busanze sector in Nyaruguru district, Rwanda was large with (2.97). This shows that the Government of Rwanda in collaboration with World Food Programme had made a tremendous effort in making the implementation of school feeding programme successful however, there is a need to make it more successful and hence becomes larger.

2. For the second objective, the researcher found out that the mean level of pupils' enrolment after the implementation of school feeding program was higher than the mean before the implementation of the program. And a down trend in pupils' enrolment was observed before the school feeding program whereas an uptrend was seen since the

implementation of school feeding program. This shows that the implementation of school feeding programme has increased the level of pupils' enrollments a year after a year so that the trend of pupils enrollment has kept an upward trend.

3. In terms of whether there is a significant difference between pupils' enrolments before and after the implementation of school feeding program in public primary schools located in Busanze sector in Nyaruguru district, Rwanda, the results indicate that there is a significant difference. Since ($t = -7.129$, sig. = $0.002 < 0.05$), therefore the null hypothesis of the current research was rejected. These results shows the intervention of feeding pupils at school made a difference between the enrollment before and after this good practice in these primary schools.

5.3. Recommendations

Based on the findings of the study, a number of recommendations are suggested for the Government, Ministry of education and other stakeholders:

1. Although the extent of School Feeding Program was found large, there is a need for that extent to become larger. Therefore the Government should inject more money in the school feeding program.

2. Given the growing number of pupils due to the school feeding program in the selected public primary schools of Busanze sector, the Government of Rwanda should think of more strategies to cater for the rapid increase of pupils' enrolment by additional school facilities and staff recruitment accordingly for the achievement of educational quality.

3. Seen the force that school feeding program has to make difference by attracting school aged children to school, the Government of Rwanda should:

3.1. Develop exist strategies for feeding pupils in the event that World Food Program is no longer able to provide food aid; for instance, by increasing contributions of food by parents, over a period of several years

3.2. Revamp production units in schools so that schools can have extra resources and part of this to be consumed as a school and sell some to meet other school needs

3.3. The government and non-governmental organizations should continue to assist parents through provision of farm input or increase grants for them to start small income generating activities 'IGA' and thus, try to overcome the chronic hunger in the area

- 3.4. The government of Rwanda should work on improving the livelihood of poor people as the results indicated that one of the causes of poor enrolment of pupils in schools is associated with lack of food at home.

5.4. Suggestion for further research

Because of the wide nature of the topic, ‘School Feeding Programme and Pupils’ Enrolment in public primary schools of Busanze sector in Nyaruguru district, Rwanda’, it was not possible to exhaust all its various angles in a single study. Therefore, the following are the suggested areas for further research:

1. Impact assessment of the implementation of school feeding program on the Agricultural development in the region.
2. A comparative study of pupils’ performance with school feeding programme.
3. The implementation of in-school meals and the pupils’ punctuality to school.
4. School Feeding Program Implementation and Community employability.

REFERENCES

- Adelman, S.W., Gilligan, D.O. and Lehrer, K. (2008), *How effective are food for education programs? A Critical Assessment of the Evidence from Developing Countries* International Food Policy Research Institute.
- Afridi, F., (2007). *The impact of school meals on school participation: Evidence from Rural India*, Working Paper, Syracuse University.
- Ahmed, A. U., and del Ninno, C., (2002), *The Food for Education Program in Bangladesh: an Evaluation of its Impact on Educational Attainment and Food Security*, FCND Discussion Paper, No. 138, International Food and Policy Research Institute, Washington, DC.
- Ahmed, A.U. (2004). *The impact of feeding children in school: Evidence from Bangladesh*. Washington, DC.
- Akanbi, G.O.& Alayande, E. (2011). Home grown school feeding and health program in nigeria: an innovative approach to boosting enrolment in public primary schools – a study of Osun State 2002 – 2010. *The African Symposium: An online journal of the African Educational Research Network.*, 11(2): 20-28.
- Alderman, H, Gilligan, D.O., and Lehrer, K. (2010). The impact of food for education programs on school participation in northern uganda. *International Food Policy Research Institute .Washington DC*.
- Amin, E. M. (2005). *Social Sciences Research: Conception, Methodology and Analysis*. Makerere University, Kampala, Uganda
- Babu Sc. & Hallam, JA. (1998). *Socio-economic Impact of School feeding programs: empirical evidence from a South Indian Village*. *Food Policy*: 58-66.
- Bennet, J. (2003) .*Review of school feeding projects*. London: Department for International Affairs.
- Birdsall, N. (1999). Comment: A vicious cycle. In V. Tanzi, K. Chu, & S. Gupta (Eds.), *Economic policy and inquiry*. Washington, D.C.: International Monetary Fund.
- Birdsall, N., Levine, R., & Ibrahim, A. (2005). *Toward universal primary education: Investments, incentives, and institutions*. London: United Nations Development Programme.
- Bizimana, E. (2004). The contribution of School Feeding Program implementation to pupils' enrolment. Case study of primary schools of Nyamata sector, Bugesera district, Rwanda.
- Bob, D. (2001). *Maslow revis(it)ed: Maslow's hierarchy of needs examined and*

reformulated. A discussion paper originally written in the 1980s, revised 1990, 1993. This version 2001.

Bobonis, G., E. Miguel, and C. Sharma (2004). Iron deficiency anemia and school participation. University of California, Berkeley, Calif., U.S.A... Mimeo.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human development: New York: Basic Books.

Brembeck, C.S. (1962). Education for national development. *Comparative Education Review* 5 (3), 223-231

Bundy D, et al (2009). *Rethinking School Feeding: Social Safety Nets, Child Development and the Education Sector*. Directions in Development. Human Development. Washington, DC. USA.

Bundy, D. (2009). Rethinking School Feeding-Directions in Development Paper. International Food Policy Research Institute.

Bundy, D. (2011), *Rethinking School Health: A Key Component of Education for All*, The World Bank. Washington, DC. USA.

CSO (2003). *2000 population and housing: Zambia Analytical Report*. volume 10, Lusaka

Cueto, S. & Chinen, M. (2008). Educational impact of a school breakfast programme in rural Peru. *International Journal of Educational Development*, 28(2), 132-148.

EICV3 (2008). District Profile - South – Nyaruguru, Rwanda

Filmer, D. (1999). *The structure of social disparities in education: Gender and wealth*. Policy Research Report on Gender and Development, Working Paper Series, No. 5. Washington, D.C.: The World Bank.

Filmer, D. (2004). *If you build it, will they come? School availability and school enrollment in 21 poor countries*. World Bank Policy Research Working Paper 3340. Washington, D.C.: The World Bank.

Fiszbein, A. & Schady, N. (2009). *Conditional Cash Transfers. Reducing Present and Future Poverty*. Washington, DC: World Bank.

Food and Agriculture Organization (FAO) (2008) of the United Nations (2008), *The State of Food Insecurity in the World*. Rome: FAO.

Gasana, F. (2012). The impact of Food For Education on Refugees' Education in Kigeme refugee camp, Nyamagabe district, Rwanda.

Glewwe, P., Kremer, M., & Moulin, S. (2007). Many children left behind? Textbooks and test scores in Kenya. *American Economic Journal: Applied Economics*.

- Glewwe and E.A. Miguel. The impact of child health and nutrition on education in Less developed countries. *Handbook of development economics*, 4:3561–3606,
- Glewwe, P., & Miguel, E. (2008). *The impact of child health and nutrition on education in less developed countries*. In T.P. Schultz & J. Strauss (Eds.), *Handbook of development economics*, vol. 4. Amsterdam: North-Holland.
- Grantham- McGregor, S. M., S. Chang, & S. P. Walker (1998). Evaluation of school feeding programs: Some Jamaican examples. *American Journal of Clinical Nutrition* 67 (suppl): 785S–789S.
- Grantham-McGregor ,S. (2005) 'Can the provision of breakfast benefit school performance?' *Food and Nutrition Bulletin* (26) Supplement 2, S144–S158.
- Greenhalgh, T., Kristjansson, E., & Robinson, V. (2007). *Realist review to understand the efficacy of school feeding programmes*. *BMJ*, 335(7625).
- Greenhalgh, T., Kristjansson, E. & Robinson, V. (2007) 'Realist review to understand the efficacy of school feeding programmes' *British Medical Journal* (335) pp 858 – 861
- Hanuom, E., & Buchmann, C. (2004). Global educational expansion and socio-economic development: an assessment of findings from the social sciences. *World Development*, 33(3), 1-22.
- Hillman, A.L. & Jenkner, E. (2004). Educating Children in Poor Countries. *Economic Issues* No. 33. Washington, DC: International Monetary Fund.
- Karamaga, P.(2009). Impact of School- Based Food Distribution on pupils' enrolment and retention in primary schools of Bugesera district, Rwanda.
- Kazianga, H. et al, (2009), *Educational and Health Impacts of Two School Feeding Schemes: Evidence from a Randomized Trial in Rural Burkina Faso*. Working Paper, World Bank, Washington, DC.
- Kazianga,H , De Walque, D, and Alderman, H. (2009). *Educational and health impacts of two school feeding schemes: Evidence from a randomized trial in rural burkina faso*. World Bank.
- Kennedy, E & Davis, C. (1998) 'US Dept of Agriculture, School Breakfast Program', *American Journal of Clinical Nutrition*, 67(4) pp798S-803S
- King, M. (1966). *Medical Care in Developing Countries* .London, Oxford University Press, London
- Kruger, M., C. J. Badenhorst, E. P. G. Mansvelt, J. A. Laubscher, and Benadé. (1996). Effects of iron fortification in a school feeding scheme and anthelmintic

therapy on the iron status and growth of six- to eight-year-old schoolchildren.

Food and Nutrition Bulletin 17 (1): 11–21.

Latham, M. C., D. M. Ash, D. Makola, S. R. Tatale,(2003). Efficacy trials of a micronutrient dietary supplement in schoolchildren and pregnant women in Tanzania. *Food and Nutrition Bulletin* 24 (4):s120–s128.

Levy, D., Sloan, M., Linden, L., and Kazianga, H. (2009). *Impact Evaluation of Burkina Faso's BRIGT Program* (MPR 6275-003). Princeton, NJ: Mathematica Policy Research.

Likert, R. (1932). *A Technique for the Measurement of Attitudes*. Archives of Psychology 14

López-Calva, L. (2008). Cash transfers, conditions, and school enrollment in Ecuador.

Economía 8 (2), 71-77.

Longfils, P., U. K. Heang, H. Soeng, and M. Sinuon.(2005). Weekly iron and folic acid supplementation as a tool to reduce anemia among primary school children in Cambodia. *Nutrition Reviews* 63 (12): s139–s145.

Longman Encyclopaedia (1989). Chicago. Longman Group

López-Calva, L. (2008). Cash transfers, conditions, and school enrollment in Ecuador.

Economía 8 (2), 71-77.

Louw R, Bekker E and Wentzel-Viljoen E (2001). 'External evaluation of certain aspects of primary school feeding.' A report submitted to the Department of Health.

LSTM/DFID (2008) . 'Does the provision of school meals or snacks to children improve their nutritional status and educational achievement,' Evidence Update, Child Health Series, August 2008

Maslow, A. H. (1943a). A Preface to Motivation Theory. *Psychosomatic Medicine*, 5, 85-92.

Maslow, A. H. (1943b). A theory of human motivation. *Psychological Review*, 50, 370-396.

Maslow, A. H. (1943), A Theory of Human Motivation, *Psychological Review*, 50 (4): 370-396

Maslow, A.H. (1970). *Motivation and personality*. New York: Harper & Row.

Maslow, A.H. (1979). *Self-actualization psychology*. Personality and Personal Growth. New York: Harper Collins.

Maslow, A. H. (1996). *Future visions: The unpublished papers of Abraham Maslow*. Ed. Edward Hoffman. Thousand Oaks, CA: SAGE Publications Inc.

Martin, D. and Joomis, K (2007). *Building Teachers: A Constructivist Approach to*

Introducing Education, (Belmont, CA: Wadsworth, 2007), pp. 72–75.

Miguel, E., and M. Kremer. 2004. Worms: Identifying impacts on education and health in the presence of treatment externalities. *Econometrica* 72 (1): 159–217.

Minecofin , (2011) . The 3-years of the economic development and poverty reduction Strategy (EDPRS). A summary implementation report

Mineduc, Rwanda (2008). *Education Sector Policy*, Kigali. Rwanda.

Mineduc-Rwanda (2009). *Education Statistics*, Kigali, Rwanda

Mineduc- Rwanda (2012). *Education Statistics*, Kigali, Rwanda

Mineduc-Rwanda (2013) .National Consultation on School Feeding in Rwanda, Kigali, Rwanda.

NIS-Rwanda (2005). *Macro International Inc. Rwanda Demographic and Health Survey*.

Kigali, Rwanda. New Ancylopaedia Britannica (2005).Vol.7. Chicag

Kigali, Rwanda. New Ancylopaedia Britannica (2005).Vol.7. Chicag

Organizacion Panamericana de la Salud. (1990). Evaluacion de un Programa de Alimentacion Escolar: El Caso Argentino.

Oyefade, S.A. (2010). Administration of home grown school feeding and health program in Osun State. *An unpublished MPA Thesis*. Ile-Ife: Obafemi Awolowo University.

Ruzky, et. al (2012) . A review of nutritional guidelines and menu compositions for School feeding programs in 12 countries. (Rwanda, Kenya, Mali, Ghana, South Africa, India, Brazil, England, france, USA , Italy, Finland)

Rwanda Ministry of Health (2005). *National Nutrition Policy*. Kigali, Rwanda:

Schultz, T.P. (2004). School subsidies for the poor. Evaluating the Mexican PROGRESA poverty program. *Journal of Development Economics*, 74(1), 199-250.

Sezikwiye, P. (2010). One Cup Per Child and Children Enrolment, Attendance. Case study of Primary Schools of Nyarubaka sector in Kamonyi district, Rwanda.

Taras H. (2005). Nutrition and student performance at school. *Journal of School Health*.

UNESCO, (2007). *Education for all global monitoring report: Education for all by 2015: Will we make it?* Paris: UNESCO.

UNICEF. (2008). *State of the World's Children 2009: Maternal and Newborn Health*. New York, NY: UNICEF.

USDA (2009). *Assessment of Local Production for School Feeding in Rwanda*. USDA Office of Capacity Building and Development; Kigali, Rwanda.

- Vermeersch, C. and M. Kremer (2004). *"School Meals, Educational Achievement and School Competition: Evidence from a Randomized Evaluation."*
- WFP (1996). *Report on pilot school feeding program evaluation report. WFP.* Malawi (Unpublished).
- WFP (2001). *School Feeding Works for Girls? Education.* Rome, Italy.
- WFP, (2007). *Budget Review for the Approval of Regional Director. Rwanda Development Project 10677.0. Budget Revision No. 08.* Rome, Italy.
- WFP, (2007). *Food Assistance Support for Education. Rwanda Development Project 10677.0.* Rome, Italy..
- WFP (2008b). *Draft School Feeding Policy - A hunger safety net that supports learning, health and community development,* Rome, Italy, World Food Programme.
- WFP (2009). *School Meals.*
- WFP, (2010). *The State of Food Insecurity in the World: Addressing Food Insecurity in Pro tracked Crises.* Rome, Italy
- W F P (2010). School meals. Available at http://www.wfp.org/schools_meals
- WFP (2013). *New Approach and Quality Standards.*
- WHO, (2008) . *WHO Statistical Information System: Rwanda.* Geneva, Switzerland:
- World Bank (2004). *World development report 2004: Making services work for poor people.* Washington, D.C.: World Bank.
- World Bank (2012). *Scaling up School Feeding.*
- World Bank (2013). *Education.*
- Wildeman RA and Mbebetho N (2005) 'Reviewing ten years of the school nutrition programme.' IDASA: Occasional papers. Budget Information Service. Retrieved from www.idasa.org.za

ELECTRONIC SOURCES

<http://eprints.utm.my/6091/1/aziziyahbrahamMaslow.pdf>

<http://0.tqn.com/d/psychology/1/0/h/5/hierarchy-of-needs.png>

<http://www.uis.unesco.org>

http://www.un.org/esa/population/techcoop/SocInd/est_schoolenr/

http://www.un.org/esa/population/techcoop/SocInd/est_schoolenr/chapter2.pdf

New Times (2013) web: <http://www.newtimes.co.rw/news/index.php?i=15373&a=67388>

APPENDICES

Appendix I: Transmittal letter



Ggaba Road - Kansanga,
P.O. Box 20000, Kampala, Uganda
Tel: +256 - 414 - 266813, +256 - 41 - 267634,
Fax: +256 - 414 - 501 974
E-mail: admin@kiu.ac.ug
Website: www.kiu.ac.ug

**OFFICE OF THE HEAD OF DEPARTMENT, EDUCATION, OPEN AND
DISTANCE LEARNING
COLLEGE OF HIGHER DEGREES AND RESEARCH (CHDR)**

Date: 18th June, 2013

**RE: REQUEST OF NDAYISABA APOLLINAIRE MED/39409/123/DF
TO CONDUCT RESEARCH IN YOUR ORGANIZATION.**

The above mentioned is a bonafide student of Kampaia International University pursuing Masters in Educational Management and Administration.

He is currently conducting a research entitled "**School Feeding Program and Pupil's Enrolment in Public Primary Schools in Nyaruguru District, Rwanda**".

You organization has been identified as a valuable source of information pertaining to his research project. The purpose of this letter is to request you to avail him with the pertinent information he may need.

Any information shared with him from your organization shall be treated with utmost confidentiality.

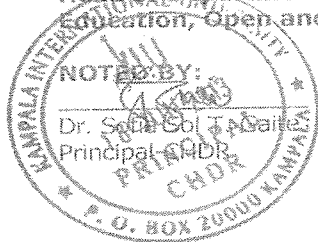
Any assistance rendered to him will be highly appreciated.

Yours truly,


Dr. Ssemugenyi Fred
Head of Department,
Education, Open and Distance Learning (CHDR)

NOTED BY:


Dr. Ssemu Col T. Baite
Principal CHDR



"Exploring the Heights"

Appendix II: Transmittal letter for the respondents

Dear Sir/ Madam

Greetings

I am a student of Masters of Education management and administration at Kampala International University- Uganda. Part of the requirements for the award is thesis. My study is entitled “School Feeding Program and Pupils’ Enrolment in Public Primary Schools of Busanze sector in Nyaruguru district, Rwanda”. With this context I would like to request you to participate in this study by answering the questionnaire.

Kindly do not leave any option unanswered.

Any data you will provide shall be for academic purposes only and no information of such kind shall be disclosed to others.

Yours faithfully,

Apollinaire NDAYISABA

Appendix III: Informed Consent

I am giving consent to be part of the research study for Apollinaire NDAYISABA that will focus on School Feeding Program and Pupils' Enrolment in Public Primary Schools of Busanze Sector in Nyaruguru District, Rwanda. I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse to participate and the right to withdraw my participation any time.

I have been informed that the research is voluntary and that the results will be given to me if I ask them.

Initials.....Date.....

Appendix IV: Questionnaire to determine the extent of school feeding program

Dear pupils,

You have been selected to participate in this study on the topic: School feeding program and pupils' enrolment in public primary schools of Busanze sector in Nyaruguru district, Rwanda. All the answers will be treated with confidentiality. Thank you.

Instructions:

- For demographic characteristics, please tick (V) where appropriate
- Please rate the items in the space provided for each option using the scoring system below (4-1).

Score	Response mode	Interpretation
4	Strongly Agree	Agree with no doubt
3	Agree	Agree with some doubt
2	Disagree	Disagree with some doubt
1	Strongly Disagree	Disagree with no doubt

Appendix IV A: Demographic Characteristics of the respondents (for P6 Pupils)

Please tick (V) where appropriate

Gender	Age	Response
Boys	11-13 Yrs	
	14-16 Yrs	
	17 and above Yrs	
Girls	11-13 Yrs	
	14-16 Yrs	
	17 and above Yrs	

Appendix IV B: Questionnaire on the extent of school feeding program (for P6 Pupils)

Category	Score
Items about School Level Implementation Arrangements	
1.All pupils eat a common meal at school regardless the individual preference and socio-economic situation of family	
2.The meals served to pupils at school are lunchtime meals only	
3.Parents contribute to provide the fire wood to use in cooking meals at school	
4.Time of taking meals disturbs the teaching and learning time table	
5.School feeding program has targeted particular children to be fed at school rather than all children	
Items about Food and Supplements availability	
1. Food for pupils has been available in all working school days since the implementation of the program in this school.	
2.Pupils receive periodic de-worming pills since the existence of school feeding program	
3.Pupils are satisfied with the quantity of food given to them at school	
4. Providing and drinking potable water is a culture initiated among pupils at school since the beginning of serving food to pupils.	

Appendix IV B: Questionnaire on the extent of school feeding program (for P6 Pupils)

Category	Mean	Rank	Interpretation
School Level Implementation Arrangements			
All pupils eat a common meal at school regardless the individual preference and socio-economic situation of family	3.74	1	Very large
The meals served to pupils at school are lunchtime meals only	3.72	2	Very large
Parents contribute to provide the fire wood to use in cooking meals at school	3.17	3	large
Time of taking meals disturbs the teaching and learning time table	1.60	4	Small
School feeding program has targeted particular children to be fed at school rather than all children	1.38	5	Very small
Average	2.72		large
Food and Supplements availability			
Food for pupils has been available in all working school days since the implementation of the program in this school.	3.40	1	Very large
Pupils receive periodic de-worming pills since the existence of school feeding program	3.33	2	Very large
Pupils are satisfied with the quantity of food given to them at school	3.11	3	Large
Providing and drinking potable water is a culture initiated among pupils at school since the beginning of serving food to pupils.	3.09	4	Large
Average	3.23		Large
Grand Average	2.97		Large

Appendix V: Interview guide with Head teachers

Dear Respondent

My name is **NDAYISABA Apollinaire**, a graduate student of Educational Management and Administration at Kampala International University (KIU) - Uganda. The purpose of this questionnaire is to collect data for my master's thesis about the impact of School Feeding Program on pupils' enrolment among primary schools in Busanze sector in Nyaruguru district-Rwanda. The information gathered in this questionnaire will be used only for academic purposes and that they are strictly confidential. However, I hope that the study will benefit your community by helping me understand the impact of School Feeding Program and recommending what should be done to improve school participation in our country. Thank you in advance

THANK YOU FOR YOUR CONTRIBUTION AND COOPERATION

PROFILE OF THE RESPONDENTS

1. What is your gender? Male ☐ Female ☐

2. What is your age?

20- 25 years old ☐ 26-30 Years old ☐ 31-35 Years old ☐

36-40 Years old ☐ 41 and above years old ☐

3. What is your level of experience?

0- 5 years ☐ 6-10 Years ☐ 11 and above years ☐

4. What is your level of education?

A2 (Secondary School Teaching Certificate) ☐

A1 (First Cycle of University) ☐

A0 or Bachelor's Degree (Second cycle of University) ☐

5. Are all pupils served a common meal at school? Why does the provision of food not consider individual preference and socio-economic family of the pupils?

6. Is there a parent –teachers association (PTA) committee in the school? What is its role in terms of school feeding program management in the school?

7. Does the time of taking lunch not disturb the teaching and learning time table at school?

If no, explain which arrangements did you make to avoid this?

If yes, what recommendations can you make to the Government of Rwanda and WFP?

8. Did the feeding program select individuals children to feed basing on vulnerable families?

Is every child in the school entitled to the feeding scheme? Why? Explain.

9. How do you evaluate/ appreciate the quantity served at school to pupils and the culture of initiating schoolchildren to drink potable water at school?

10. Do pupils get food from school every day? What is the reason behind?

11. Do pupils receive other health and nutrition supplements like de-worming medicine, etc in addition to the food served to them? If yes, why?

12. Based on your records, has school participation (enrollment, attendance and drop-out) improved following the school feeding program in this school? Why do you think is that?

13. How did the completion rate stand before the feeding program and how does it stand under the school feeding program?

14. Do you think that the school feeding program can be a stimulus for poor families to enroll their children? Why?

15. Does the school have any foreign schoolchildren who came to study in this school? Why do they prefer here?

THANK YOU FOR YOUR CONTRIBUTION AND COOPERATION

Appendix VI: Computation of validity of research instruments

Computation of Content Validity Index (CVI)

$$\text{CVI} = \frac{\text{Total number of Valid Questions Relevant}}{\text{Total number of Questions in the set}}$$

- ❖ The Content Validity Index for Primary Six Questions:

$$\frac{8}{9} = 0.88$$

- ❖ The Content Validity Index for Interview guide Questions with head teachers:

$$\frac{14}{15} = 0.93$$

The average CVI is therefore: 0.905

The research instruments were found valid as the average Content Validity exceeds 0.7.

Appendix VII: Record sheet for collecting data on pupils' enrolment from 2004-2013

Dear Respondent (HEAD OF SCHOOL),

My name is **NDAYISABA Apollinaire**, a graduate student of Educational Management and Administration at Kampala International University (KIU) - Uganda. The purpose of this questionnaire is to collect data for my master's thesis about the impact of School Feeding Program on pupils' enrolment among primary schools located in Busanze sector in Nyaruguru district-Rwanda. The information gathered in this questionnaire will be used only for academic purposes and that they are strictly confidential. However, I hope that the study will benefit your community by helping me understand the impacts of School Feeding Program and recommending what should be done to improve school participation in our country.

THANK YOU FOR YOUR CONTRIBUTION AND COOPERATION

Pupils' enrolment by school year, from 2004-2013

Name of institution:.....

Year	1	2	3	4	5	6	Total
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
Total							

1 = Gitwe Primary school

2 = Kabavomo Primary school

3=Masiga Primary school

4=Musebeya Primary School

5=Runyami Primary school

6= Runyombyi Primary school

Appendix VIII: Number of Pupils' Enrolments

	School Year	Number of Pupils' Enrolments						Total
		1	2	3	4	5	6	
Before School Feeding Program	2004	525	368	418	709	496	679	3195
	2005	499	361	348	725	384	721	3038
	2006	507	372	341	668	416	596	2900
	2007	448	366	355	628	394	612	2803
	2008	422	323	279	526	381	574	2505
After School Feeding Program	2009	730	742	483	1044	827	904	4730
	2010	1145	976	675	1159	928	1067	5950
	2011	1282	989	828	1137	1016	1058	6310
	2012	1263	1007	912	1164	1025	1039	6410
	2013	1336	1024	916	1247	1054	1012	6589

Source: Secondary Data, 2014

1 = Gitwe Primary school, 2 = Kabavomo Primary school, 3=Masiga Primary school ,
4=Musebeya Primary School , 5=Runyami Primary school , 6= Runyombyi Primary school

Appendix IX: PUBLIC PRIMARY SCHOOLS WITH SCHOOL FEEDING PROGRAM

Sector	Number of Schools	Name of School
BUSANZE	6	Gitwe Primary
		Kabavomo Primary
		Masiga Primary
		Musebeya Primary
		Runyami Primary
		Runyombyi Primary
MUGANZA	5	MUGANZA Primary
		MUBAZI Primary
		SEKERA Primary
		RWISHYWA Primary
		BIGUGU Primary
KIVU	5	RUGERERO Primary
		RUSUZUMIRO Primary
		KIMINA Primary
		GAHULIZO Primary
		RUGANZA Primary
RUHERO	5	RUHERU Primary
		ZIRAMBI Primary
		GAKARANKA Primary
		REMERU Primary
		GAHOTORA Primary
NYAGISOZI	4	NKAKWA Primary
		NYANTANGA Primary
		KAGARAMA Primary
		MWOYA Primary
KIBEHO	3	MPANDA Primary
		MBASA Primary
		MUNEGE Primary
MUNINI	3	MUNINI Primary
		KAMANA Primary
		GIHETA Primary
RUSENGE	2	RUNYINYA Primary
		RASANIRO Primary
NGOMA	2	KIBANGU Primary
		RUBONA II Primary
CYAHINDA	2	MUHAMBARA Primary
		RUTOBWE Primary
TOTAL	37	

Source: Nyaruguru district Education of Office

Appendix X: Determination of the primary six sample size using the Slovin's formula

$$n = \frac{777}{1 + 777(0.05)^2}$$

$$n = \frac{777}{1 + 777(0.0025)}$$

$$n = \frac{777}{1 + 1.285}$$

$$n = \frac{777}{2.9425}$$

$$n = 264.06117247 = 264$$

