

**INFLUENCE OF NUTRITION ON LEARNERS ACADEMIC PERFORMANCE
IN PRESCHOOLS OF RUIRU ZONE, JUJA DIVISION,
THIKA DISTRICT KENYA**

**BY
KIMANI SUSAN KAGURE
BED/21560/81/DF**

**A RESEARCH REPORT SUBMITTED TO INSTITUTE OF OPEN AND
DISTANCE LEARNING IN PARTIAL FULFILLMENT OF
REQUIREMENT FOR THE AWARD OF BACHELOR
OF EDUCATION DEGREE OF KAMPALA
INTERNATIONAL UNIVERSITY**

NOVEMBER, 2009

DECLARATION

I Kimani Susan Kagure, declare that this project is my original work and has never been presented to any other University for the award of any academic certificate or anything similar to such. I solemnly bear and stand any inconsistency

Signature  Date..... 28/08/09.

KIMANI SUSAN KAGURE

BED/21560/81/DF

APPROVAL

This report is resulting from the researcher's efforts on **influence of nutrition on learner's academic performance in preschools of Ruiru Zone, Juja division**, was conducted under my supervision with my approval; it is now ready for submission to the academic board for the award of a bachelor's degree in education with Arts of Kampala International University.

Signature .....

Date 28/08/09.....

Mrs. TALIGoola DEBORAH NABUSETA

DEDICATION

This research project is dedicated to my dear father also my dear husband for their moral and financial support while I undertook my studies.

ACKNOWLEDGEMENT

First of all I give thanks to the Almighty God for his mercy and grace he granted me during my degree course and through this research project.

I would also like to extend my gratitude to my supervisor Mrs. Taligoola Deborah Nabuseeta for the great support she provided during the time of this research and her professional advice she accorded to me.

Am also grateful to the full faculty of Education of Kampala International University for mounting all directions, procedures and methods of carrying out this research project.

I would also like to thank the respondents who returned the questionnaires and those who were cooperative to me.

May God bless for all.

TABLE OF CONTENTS

DECLARATION	i
APPROVAL	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES	vii
ABSTRACT	viii
CHAPTER ONE	1
1.0 Introduction.....	1
1.1 Background to the study	1
1.2 Statement of the problem	3
1.3 Purpose	3
1.4 Specific objective	3
1.7 Scope.....	4
1.8 Operational definitions of terms.....	5
CHAPTER TWO	6
LITERATURE REVIEW	6
CHAPTER THREE	11
RESEARCH METHODOLOGY	11
3.0 Introduction	11
3.1 Research Design	11
3.2 Research Area and Population.....	11
3.3 Target population	12
3.4 Sample techniques and sample size	12

3.5	Researcher instrument.....	12
3.6	Data collection procedure.....	13
3.7	Data analysis	13
CHAPTER FOUR		14
DATA PRESENTATION ANALYSIS AND INTERPRETATION		14
4.0	Introduction	14
4.1	Nutrition and enrollment of children in pre-school.....	14
4.1.1	Enrollment of children and presence of a school feeding program in the selected PFCDE centers	15
4.1.2	Enrollment of children in schools without feeding programs.....	16
4.2	Quality of food served in pre – school	17
4.2.1	Feeding routines for the pre schools.....	18
4.3	Nutrition and school preface.....	18
4.3.1	Nutrition and learners’ performance in school	19
4.4	Nutrition and Absenteeism	19
CHAPTER FIVE		21
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION		21
5.0	Introduction	21
5.1	Summary of findings	21
5.1.1	The effect of nutrition on enrollment of learners in ECD centers...	21
5.1.2	The quality and quantity of school feeding programs	21
5.1.3	Feeding and learner’s academic performance.....	22
5.1.4	Nutrition and learners’ absenteeism	22
5.2	Conclusion.....	23
5.3	Recommendation	23
REFERENCES		25

LIST OF TABLES

Table 1: Showing the relationship between child enrollment and school feeding	14
Table 2: Summarized data on enrollment and school	16
Table 3: Showing the components a balanced diet and the deficiency that could be experienced as a result of not eating foods containing the required nutrients	17
Table 4: Showing feeding routines for the pre-schoolers	18
Table 5: Showing the teachers view whether learners who perform well look nourished	19

LIST OF FIGURES

Figure 1: showing learners' absentees in the four ECD centers 20

ABSTRACT

This study was intended to investigate on the influence of nutrition on learners academic performance in pre schools of Ruiru zone Juja division in Thika district. Questionnaires, interviews and observation guides were used to facilitate data collection. Findings in the study established that three ECD centers had partially implemented the school feeding programs to centers for the Nutrition needs of learners, while only two had a balance one. It was revealed that the three centers which had partial feeding program, enrolled fewer children complemented it. This finding highlights the relationship between food and enrollment of children in schools. The finding is in agreement with that of Bundy

According to thirteen teachers, it was established that children perform better when they are well nourished. Pre – scholars who carry packed lunch from homes have many problems and may not enjoy school life. Pre – scholars who learn in schools with feeding programmers don't encounter many problems. They enjoy being at school and they perform well academically. Also recommendations were made like Schools can become one of the nations; most weapons in the fight against nutrition by creating an environment that is conducive healthful eating and physical activity. Assess the schools health policies and programmers and develop a plan for improvement. Strengthen the schools nutrition and physical policies. Implement a high quality health promotion programmed for school staff. Carry out a high quality course of study in health education. Implement a high quality physical education course.

CHAPTER ONE

1.0 Introduction

This chapter introduces the research study by giving the reader a background of the research study, and the associated objectives. The reader will encounter terms in this research that may have meaning beyond the box, and these have been subjectively defined as used in this research only.

1.1 Background to the study

It has been resolved that growth and development of an individual is greatly affected by nutrition a person gets right from conception. A person with health, physical and mental capability depends on his / her nutrition. If proper diet is provided right from conception a child grows and develops properly; so poor diet to children inhibits proper growth and development. International organization e.g. world food program (W.F.P) have already advocated for the above.

In African countries, government and NGOs have tirelessly tried to provide proper nutrition to their citizens through the enhancement of food farming methods for enough food production.

In Kenya the government is very much concerned with the provision of proper nutrition and good health through its various ministries e.g. ministry of health

and ministry of agriculture. In the ministry of education the how put various programs in place to enhance the health and education the health and education of children. It has stressed the need for starting feeding programs in school and all over the country. However it has not been achieved due to various economic problems and negative attitudes by the people in the government.

In central Kenya population is very high and land is scarce. Economic activities like farming have not been doing well. As a result families have not been able to provide well balanced diet to the young children.

In Ruiru Division of Thika District the problem is acute. The residents of this area depend on the little income that they get from their small farms. Most of them especially in Kia – ora location in Ruiru Division depend on low wages that they get from horticultural, floricultural and coffee plantations where they are employed. Due to this parents have not been able to provide the terms of food nutrition. Some E.C.D. centers have tried to start feeding programs but they have failed due to lack of enough incomes.

In most E.C.D. centers most children carry packed lunch which is not balanced according to their nutritional needs. This resulted to poor growth and development of the pre- scholars and poor academic performance in the area.

1.2 Statement of the problem

Proper nutrition to the pre – scholars is paramount for their holistic growth and development in all aspects e.g. physically and mentally. It's therefore important for all care givers e.g. maids, parents, teachers to be well equipped with information on how to acquire and provide food with the required nutrients. Due to lack of awareness many pre-scholars continue to suffer from malnutrition disorders that affect their health, attendance and performance in school. The researcher intends to investigate on what pre- scholars carry as packed lunch in absence of school feeding program. It also addresses on how care givers could be equipped with nutritional information to enable them provide enriched or fortified diets to the pre- scholars.

1.3 Purpose

The purpose of this study was to investigate the influence of nutrition on learner's academic performance in pre schools of Ruiru Division.

1.4 Specific objective

The following objects guided the study:-

To investigate if Nutrition influence enrollment of children in pre- schools.

- To asses the quality of food served in pre-schools.
- To investigate the effect of Nutrition learners academic performance.
- To establish if nutrition influences on learners absenteeism from school.

1.5 Research questions

The following research questions made the study on track:-

1. Is the enrollment of learners in pre –school influence by their feeding?
2. What is the quality and quantity of food served in pre – schools of Ruiru?
3. Does Nutrition affect learners’ academic performance?
4. Does feeding of learners influence absenteeism?

1.6 Significance of the study

It enabled policy makers to asses the school health (policies and programs) and develop a plan for improvement.

It will enable the parents to bring good and reliable future citizens who would participate effectively in building the nation.

It sensitized the parent with the best nutrition to feed the children with, which enhance their performance in school.

1.7 Scope

This study investigated the influence of nutrition on the learners’ academic performance in selected pre-school centers of Ruiru Division. The study investigated the influence of feeding on enrollment, academic performance and absenteeism of learners. The research begun in January 2009 and ended in August 2009.

1.8 Operational definitions of terms

Nutrition-feeding habits for proper growth and health

Nutrients	substance found in food which the body needs for growth.
Growth	increase in size physically.
Caregivers	all those who are responsible for taking care of children.
Mental development	deals with the development of brain and mind.
Population	group of people used in study
Performance	the way you do something.
Data	information about something.
Enrolment	number of pupils in a class.
Vitamins	nutrients needed by the body for protection against diseases.
Malnutrition	Lack of necessary nutrients in the body.
Proteins	substances needed for body building.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviewed what other scholars had researched about child nutrition and school performance.

The need for proper nutrition

Increasing evidence shows that the conditions of early childhood development affect the risk of physical and mental health problems in adult life, hence the need for proper nutrition.

According to haright (1972) without sufficient in their diet, children may be irritable, in attentive and apathetic. This causes less resistance to diseases which leads to frequent attacks by diseases.

Quality nutrition is a determinant in the battle for ones state of health F.G. Joseph MD (1978). This is why it is important that the children are properly fed every day. But in the case of young children in Thika many of them come from.

Mental and physical development

Gross malnutrition of the mother during the last six months of pregnancy or malnutrition of the child during the first year of life may hinder the development of brain cells leading to mental retardation.

According to Steve (1980) good nutrition may be a necessary condition for adequate mental development "poor nutrition has great effect on brain personality or capacity to be valuable person". Yet in Thika, a number of children are unable to get a balanced diet which could otherwise compensate for the malnutrition their mother suffered when they were carrying them.

According to Land and Ing (1946) nutrients lacking in young children's diet directly influences their adult mental and physical states. This includes impaired sight, poor teeth and other physical problems.

Nutrition and Good Classroom Attendance

According to Steve (1980) a proper school feeding program acts as an incentive for parents to send their children to school. He argues that food provide energy for work and play.

Poor nutrition and its impact on the children's development

Poor nutrition results to over weight which leads to obesity, research show that several over weight children are four times more like than their healthy – weight peers to report "impaired school functioning". Over weight children are also more likely to have abnormal scores on the child behavior checklist (behavior problems) and are twice more likely to be placed in special education and academic classes than are children who are not over weight.

Over weight can impair school performance in many ways, including: Health – related absenteeism; among the medical condition linked with over weight in school-aged children are asthma. Joint problems types are two; diabetes, depression and anxiety and sleep apnea.

Although the evidence that child obesity affects school performance is limited, nutrition clearly affects academic performances. Poor nutrition status and hunger interfere with cognitive function and are associated with lower academic achievement. Iron deficiency is linked to shortened attention span, irritability, Fatigue and difficulty with concentration.

A recent review of studies of breakfast habits and nutritional status in children found that breakfast consumption may improve cognitive function related to memory, test grades and school attendance. Children should integrate proper nutrition with physical activity because research has also recently begun to elucidate the relationship between physical activity and student performance at school. Among the findings are that physical programs help school aged children develop social skills, improve mental health and reduce risk taking behaviors. Evidence suggests that short – term cognition benefit of physical activity during the school day adequately compensate for time spent away from other academic areas. In comparison with what happens here in Juja, many parents cannot afford to provide breakfast for their children.

The food – brain connection

The human brain, although extremely complex, operates on a simple principal – it requires ample nutrients, including vitamins and minerals to function optimally. Even the slightest nutritional deficiency can have a huge impact on brain chemistry, resulting in impaired learning and cognitive functioning, decreased attentiveness, inability to problem solve anxiety and other behavioral disorders. Skipping a meal entirely or substituting wholesome meals with nutritionally depleted foods laced with sugars and saturated fats can have the time effect.

But it is not only malnutrition that impacts student's performance. A newly released study conducted through the school of public health at the University of Alberta and Dalhousie's faculty of medicine highlights that a quality diet with an adequate and diverse selection of quality foods is significant in academic performance. This stresses the importance of variety with particular emphasis and increased fruit vegetable intake and moderate consumption of dietary fat. In order to achieve optimal health and academic performance we must ensure optimal nutrition.

Conclusion

According to the researcher it is clear and elaborate that a child nutrition since conception is of importance up to the old aged person. A part from exclusive breast feeding young children including pre-schoolers should be fed with

balanced diet that contains all nutrients in the right proportion that is proteins, vitamins, carbohydrates, fats and mineral salt. During this early years there is rapid growth in children for example the brain develops almost fully during this periods. If children are not fed with proper portions of nutrients they are likely to suffer from malnutrition diseases for example Kwashiorkor, Marasmus, rickets etc. these diseases will adversely affect growth and development of children even in their late years. The disease will affect the environment in pre-schools and also interfere with the performance of pre-schoolers academically, physically and socially. These diseases would also increase the health budget of families because of a lot of income would be used to buy medicine.

As a result the community will not be able to produce health and reliable citizens required in national building and development activities. All stakeholders should be their responsibilities to ensure that good nutrition is practiced by all regardless of their economic status caregivers and teachers should be equipped with the right knowledge on how to provide balanced diet to their children one way of doing it is by starting school feeding programs whereby the diet of the pre-schoolers would be closely monitored. Feeding programmes would also help to raise the environment in pre-schools and help to improve their academic performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the methods techniques and procedures that were employed to assess the impact of school feeding program on learner's academic performance.

3.1 Research Design

The research took from both qualitative and quantitative approach.

3.2 Research Area and Population

The study was conducted in ECDE centers of Kia-Ora location, Juja Division. The researcher identified this area of study since she worked for the last five years. Researcher was very conservative with this area. I have closely monitored the lifestyle of the people in this community. Most people are tenants, so they do not have land for farming. So as to earn their living they are usually employed in flower and coffee plantations and the wages they get are not sufficient for their families. This has greatly affected the nutritional requirements especially for their young children. Due to this the health of most affected public pre-schools where the pre – school teachers faced many problems as they execute their duties. The Pre – scholars are occasionally sick and absent from school a condition that

CHAPTER FOUR

DATA PRESENTATION ANALYSIS AND INTERPRETATION

4.0 Introduction

This study set out to investigate the influence of proper nutrition on the learner's academic performance. Chapter four presented the data which were obtained from the field and analyzed it.

4.1 Nutrition and enrollment of children in pre-school

Nutrition has been associated with children's growth and development. It is assumed that when children feed well they are able to grow rapidly and join school at the required entrance age. The researcher wanted to know whether children were enrolling in schools where there were feeding programs.

Table 1: Showing the relationship between child enrollment and school feeding

Enrolment				School feeding program			
schools	girls	boys	total	yes	no	balanced	Not balance
Mild land	10	10	20		X		X
Gachororo	35	25	60	X		X	
Kuraiha	30	15	45		X		X
Thiririkaa	40	45	85	X		X	
New peak	20	20	40		X		X
total	135	115	250	2	3	2	3

Source: Field data 2009

As evidenced in the table 1, Mild land pre – school had a lower enrolment and also did not have an adequate school feeding program. Kuraiha also has enrolled 45 children and it also did not have a balanced program. Similarly, New Peak had enrolled 40 learners and it not have an adequate school feeding program either, Gachororo ECD center had 60 learners and had an adequate program. The same applies to Thiririka with the highest enrollment of 85 children and with a balanced feeding program.

From the above analysis, it is evident that there is a relationship between food and enrollment of learner in ECD centers. Where there is an adequate feeding program children enroll in great numbers whereas those centers without adequate feeding program attract fewer children.

4.1.1 Enrollment of children and presence of a school feeding program in the selected PFCDE centers

Gachororo pre – school which is public had an enrolment of 60 pre – schoolers represent 24%. $60/250 \times 100 = 24$

Thiririka pre – school which is public had an enrolment of 85 pre – scholars. This represents 34% $85/250 \times 100 = 34$

Total enrolment for school with feeding program was 145 pupils. This represented 58% of the total enrolment in the five pre – schools $145/250 \times 100 = 58\%$.

4.1.2 Enrollment of children in schools without feeding programs

Mild land pre – school which is private had an enrolment of 45 pupils which also represented 18% of the total enrolment.

Kuraiha pre – school which is public had an enrolment of 5 pupils which also represented 18% of the total enrolment.

Mild land pre – school which is private had an enrolment of 40 pupils. This was 16% of the total $40/250 \times 100 = 16\%$

The total enrolment for schools without feeding program was 105 pre – scholars.

This represents 42% of the total enrolment in the five pre – schools.

Table 2: Summarized data on enrollment and school

Types of feeding program	Number of schools	Enrolment	Percentage
With feeding program	2	145	58%
Without feeding program	3	105	42%
Total	5	205	100%

Source: Field data 2009

From the above data it's clearly evident that schools with feeding have higher enrolment than pre – scholars where pre – scholars carry packed lunch

Finding in table 3 clearly indicated the food stuffs that contain the required nutrients. It also showed the diseases that children could suffer from as a result of not eating food with the required nutrients. The next step was to study the feeding programmed; the foods served.

4.2.1 Feeding routines for the pre schools

The researcher had to study the food routines of the different ECD centers in JUJU in order to establish if they were giving children a balanced diet

Table 4: Showing feeding routines for the pre-schoolers

Type of food	Monday	Tuesday	Wednesday	Thursday	Friday
Githeri	6	12	16	10	4
Chapatti	10	7	3	5	6
Meat	3	-	-	4	1
Ugali	10	11	16	7	9

4.3 Nutrition and school preface

In the second objective the researcher wants to establish the level of performance in pre – schools without feeding programs. Good performance depends on so many factors good or poor nutrition is one of the major factors. The pre – scholars who carried packed lunch is poorly fed thus affected their school performance. The following diagram of bar graph tries to explain these factors.

4.3.1 Nutrition and learners' performance in school

Numerous scholars have established a link between educational performance and children eating balanced food. According to Del Rosso (1999) food enhances the children's cognitive ability thereby reducing hunger. This means that the children will be attentive in class and should therefore perform well.

Table 5: Showing the teachers view whether learners who perform well look nourished

Respondents	Frequency	Percentage
Agree	13	65
Disagree	3	15
Do not know	4	20
Total	20	100

Source: Field data 2009

Findings in the table above indicate that even the teachers are aware that well nourished children perform better in class (65%). Some three teachers however disagreed and four did not know. This finding highlights a relationship between nutrition and good performance.

4.4 Nutrition and Absenteeism

When a child does not get a balanced meal, there are chances that he/she will suffer from deficiencies. This makes children vulnerable and weak resulting into missing of classes some days. More so when children do not get enough food

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 Introduction

The preceding chapter presented and analyzed the data on the influence of nutrition on the learner's performance. The chapter summarizes the findings of the study concludes and makes recommendations.

5.1 Summary of findings

5.1.1 The effect of nutrition on enrollment of learners in ECD centers

Findings in the study established that three ECD centers had partially implemented the school feeding programs to centers for the Nutrition needs of learners, while only two had a balance one. It was revealed that the three centers which had partial feeding program, enrolled fewer children complemented it. This finding highlights the relationship between food and enrollment of children in schools. The finding is in agreement with that of Bundy and Strickland (2000).

5.1.2 The quality and quantity of school feeding programs

It was established that out the EDC centers studied, three of them had partially implemented the school feeding programs. While the two had a fully

implemented feeding program. It was also established that the same three schools had lower enrollment compared to the two. This clearly highlighted the relationship between feeding and learners enrollment. It shows that food attracts children to join schools.

5.1.3 Feeding and learner's academic performance

According to thirteen teachers, it was established that children perform better when they are well nourished.

5.1.4 Nutrition and learners' absenteeism

It was established that in the two schools where the feeding program had been implemented absenteeism was lower than those which had a partial program. This indicates that feeding influences absenteeism in schools.

Parents with children who carry packed lunch mostly don't offer the best nutrition to their young ones.

Pre – scholars who carry packed lunch from homes have many problems and may not enjoy school life. Pre – scholars who learn in schools with feeding programmers don't encounter many problems. They enjoy being at school and they perform well academically.

5.2 Conclusion

Teachers who teach in schools with feeding programs have an easy time and they are encouraged. Those who are in schools without feeding programs experience a rough time and feel demoralized.

Parents whose children learn in schools with feeding programs have an easy time when preparing their children for school in the morning.

5.3 Recommendation

Schools can become one of the nation's most powerful weapons in the fight against malnutrition by creating an environment that is conducive to healthful eating and physical activity.

Health and success in schools are interrelated; schools cannot achieve their primary education mission if their students and staff are not physically, mentally and socially fit.

Each school can follow the following KY recommendation to promote lifelong physical activity and healthful eating for its population.

These include:-

Address physical activity and nutrition with a coordinated school health programmed approach.

Designate school health coordination and maintain an active school health council.

Assess the schools health policies and programmers and develop a plan for improvement.

Strengthen the schools nutrition and physical policies.

Implement a high quality health promotion programmed for school staff.

Carry out a high quality course of study in health education.

Implement a high quality physical education course.

Increase opportunities for students to engage in physical activities.

Offer a quality school meal programmed.

The school should work together with policy makers, advocates, parents and communities to create an environment where children eat healthfully, become physically fit and develop lifelong habits that contribute a wellness; the nation will be well on its way to preventing poor nutrition which affect the perspective of pre-school child.

REFERENCES

Alaimo, Katherine (2001). Food insufficiency and American school aged children's cognitive, academic and psychosocial development *pediatrics* 108(1)44-51.

California Department of Education, child nutrition and food distribution Division (1994), better breakfast better learning. Sacramento, CA: Author.

Cromer, B.A Tarnowski, K.J (1990). The school breakfast programmed and cognition.

Development and behavioral pediatrics, 11 (6), 295-300.

Kretchmer, N, Beard, J.L & Carison, S (1996). The role of nutrition in the development of intents and normal cognition. *American Journal of clinical nutrition* 63 (6), 9975-1001s.

Meyer, A & Cahwta, N. (2000) Nutrition and the social, emotional, and cognitive development of intents and young children. *Zero to three*, 21 (1), 5-12.

National health/education consortium. (1994) children nutrition and learning champaign.IL: University of IIIinois at Urbana-Champaign, ERIC/PS.

Tara, Howard & William Polts-Datema (2005). Obesity and student performance at school. *Journal of school health*, 75(8)291-295.

Tuttle, CR (2000) healthy eating for 2-5 year-old children. College park, MD: Maryland cooperative Extension.

Tufts University, center of hunger, poverty and nutrition policy (1998). Statement on the link between nutrition and cognitive development in children Medford, MA: Author.

US department of agriculture, team nutrition (1999). healthy eating helps you make the grade. Washington DC Author.

Walter. T(1993) impact of iron deficiency on cognition in infancy and childhood. *European Journal of Clinical Nutrition*, 47, 307-316.

Zullig. K, Ubbes V.A, PYLE.J, Valois RF. "self reported weight perceptions, dieting behavior and breakfast. Eating among high school adolescents". *Journal of school Health* 2006.76 (3):87-92.



Kampala International University
Institute of Open and Distance Learning
P O Box 20000 Kansanga, Kampala, Uganda
256 41 373 498/ 256 41 373 889 (Ug) 254 20246275 (Ke)
e-mail: efagbamiye@yahoo.com Tel: 0753142725

Office of the Director

10/01/09 -

TO WHOM IT MAY CONCERN:

Dear Sir/Madam,

RE: INTRODUCTION LETTER FOR MS/MRS/MR. SUSAN KAGURE KIMANI.

REG. # BED/21560/81/DF

The above named is our student in the Institute of Open and Distance Learning (IODL), pursuing a Diploma/Bachelors degree in Education.

He/she wishes to carry out a research in your Organization on:

THE EFFECTS OF NUTRITION ON THE PERFORMANCE
OF PRE-SCHOOL CHILDREN - A CASE OF E.C.E
CENTRES IN KIAORA LOCATION, THIKA
DISTRICT.

The research is a requirement for the Award of a Diploma/Bachelors degree in Education.

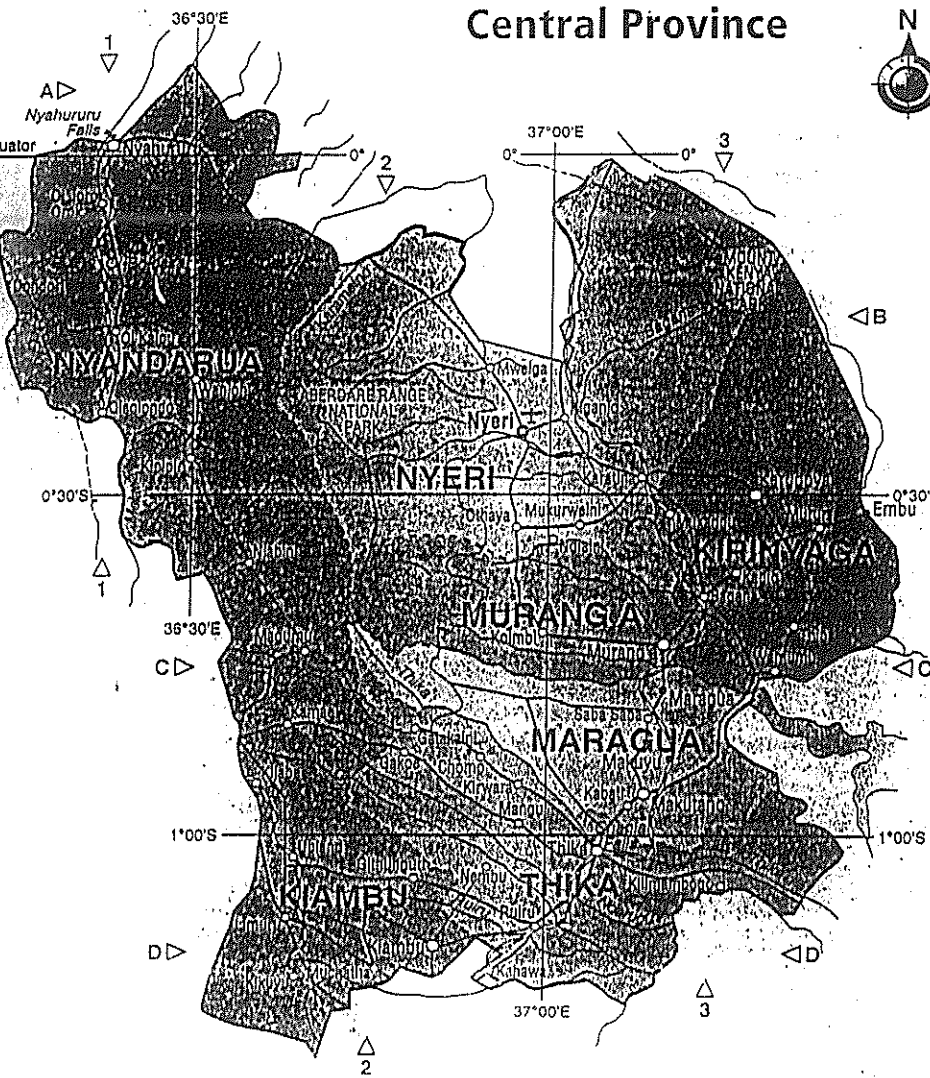
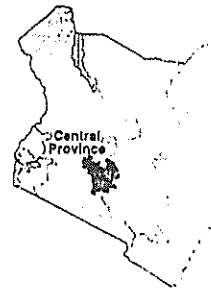
Any assistance accorded to him/her regarding research will be highly appreciated.

Yours Faithfully,

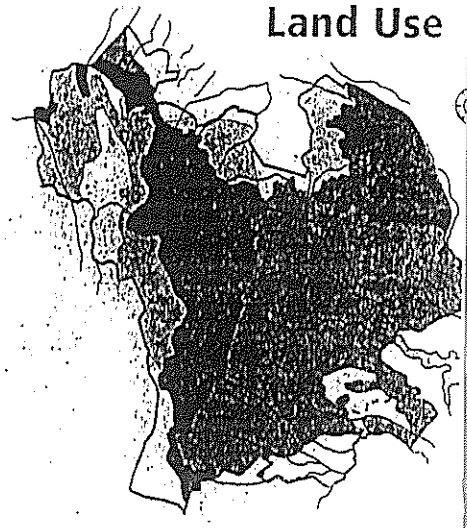
MUHWEZI JOSEPH
HEAD, IN-SERVICE

Central Province

Location Map



Land Use



0 25 50
Scale 1:2 500 000

Key: Land Use

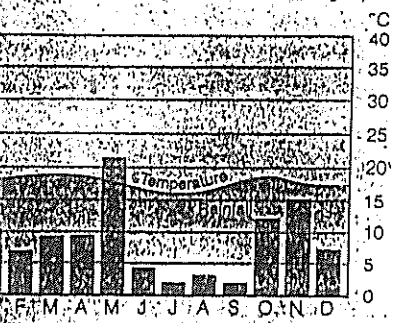
- Arable
- Arable and improved grazing
- Forest
- Grazing
- Horticulture
- Improved grazing
- Moorland

20 30 40 50 kilometres
200 000

Central Province

- Provincial boundary ——— Other road • Other important town
- District boundary - - - - - Railway ○ Other town or village
- National park Provincial headquarters ± Airfield
- Main road ○ District headquarters

Rainfall and Temperature in Nyeri



Profile

- Area - 16 220 km²
- Population 1989 - 3 411 255
- Population 1999 - 3 724 159
- Population Increase 1989-1999 - 19.7%
- Annual growth rate 1989-1999 - 1.8%
- Population density 1999 - 229 people per km²
- Urban population 1999 - 30.2%
- Population of major urban centres 1999 - Nyeri 213 000, Thika 88 600, Murang'a 49 000, Maragua 48 100
- Provincial headquarters - Nyeri
- Number of districts - 7