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**ADAPTATIONS OF SCHOOLS  
ENVIRONMENT  
IN MURANG'A DISTRICT TO SUIT THE  
REQUIREMENTS OF CHILDREN WITH  
SPECIAL NEEDS**

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E55/13012/05**

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*Adaptations of  
schools environment*



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**DECLARATION**

This thesis is my original work and has not been presented for a degree in any other university or for any other award.

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## ABBREVIATIONS AND ACRONYMS

EBD	-	Emotional and Behavioral Difficulties
EFA	-	Education for All
FPE	-	Free Primary Education
IDEA	-	Individuals with Disabilities Education Act.
KANU	-	Kenya African National Union
KISE	-	Kenya Institute of Special Education
KNUT	-	Kenya National Union of Teachers
MOEST	-	Ministry of Education Science and Technology
NARC	-	National Rainbow Coalition
SNE	-	Special Needs Education
UN	-	United Nations
UNESCO	-	United Nations Educational, Scientific and Cultural Organisation

## ABSTRACT

This study sought to determine the adaptations made in school environments to suit the needs of learners with special educational needs (SNE) in Murang'a District of Central Province, Kenya. The study was linked to the eco-systemic theory. The theory expounds on the importance of the interaction between learners and the environment for good development. However in the case of learners with SNE, the environment in public primary schools has to be modified for effective interaction. A sample of 12 public primary schools was randomly selected from the 207 primary schools in Murang'a District. The study adopted a descriptive survey design to determine the adaptations that had been made in public primary schools to make a barrier free environment for learners with SNE. The researcher targeted the headteachers and school management committees Chairpersons as respondents so as to gather information on the environmental modifications done and what remained to be done. An interview schedule and an observation guide were used to collect the information. A pilot study was carried out in two schools which were not included in the main survey. Test-retest method was used to ascertain reliability of the research tools. Data was analyzed and interpreted using percentages and frequencies. Qualitative data was summarized in narrative form. The findings of the study were that, some environmental modifications were done in some schools. However, in most of the schools no environmental modifications were done. In some schools individual learners with visual impairment were bought spectacles while others were bought goats for income generating purpose. In three of the primary schools, some three learners with hearing impairment, mental challenges and physically impairments were taken to special schools for the deaf, school for the mentally handicapped and school for the physically handicapped respectively. The findings show that there is a need to have the primary schools' environments modified to suit learners with various special educational needs since learners with SNE were enrolled in all the primary schools. The researcher recommended the complete modification of the public primary schools environments to make them barrier free for learners with SNE. The researcher also recommended that serious campaign be launched to sensitize the non-disabled learners, teachers, parents, and other stakeholders on the needs of learners with special learning needs.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

Discussed in this chapter is background to the study, statement of the problem, purpose and objectives of the study, research questions and assumptions. The chapter also highlights the significance, scope and limitations of the study.

The theoretical and conceptual frameworks are also discussed.

#### **1.1 BACKGROUND TO THE STUDY**

In Murang'a District there are no statistics to show the number of SNE learners enrolled in the public primary schools for the years 2001-2006. The district has two special schools. The special schools are Murang'a school for the deaf which caters for learners with hearing impairment and Don Oreone Special School for learners with mental challenges. Murang'a school for the deaf has an enrolment of 102 hearing impaired learners while Don Oreone special school has an enrolment of 20 learners.

SNE Learners have been enrolled alongside other non-challenged learners in the regular primary schools. The enrolment of the public primary schools in Murang'a district for the years 2000 to 2006 are as shown in Table 1.1.

Table 1.1: Public Primary School Enrolment in Murang'a District 2000 - 2006

<b>YEAR</b>	<b>NO OF PUBLIC PRIMARY SCHOOLS</b>	<b>BOYS</b>	<b>GIRLS</b>	<b>TOTAL NO OF PUPILS</b>
2000	209	49761	50749	100516
2001	212	46751	47421	94172
2002	210	46050	46556	92606
2003	207	46869	46497	93366
2004	208	46234	45576	91810
2005	207	44169	43189	87367
2006	207	42293	41539	83832

*Source Murang'a District Education Office.*

Table 1.1 above shows public primary school enrolment in Murang'a District. The Table shows some decline in enrolment between 2000 to 2002. Year 2003 registers some improvement in enrolments. This was as a result of Free Primary Education which was introduced in January 2003. Since 2004 the enrolment reflects a remarkable decline. This could be as a result of declining birth rates. From the year 2002, registered public primary schools have been declining which could be as a result of schools changing ownership. For example, Bishop Mahiaini which became a church owned school.

Every citizen of Kenya has a fundamental right to education guaranteed under the constitution. Education and literacy are key to socio-economic growth and development. Indeed, there is a close link between education, economic growth, poverty reduction and improvement of standards of living (KNUT, 2005). This implies that education is essential for the economic growth of the individual, the community and the nation. Education helps in poverty reduction and improving the living standards of the individual as well as that of the community and the nation.

Prior to 2003, cost sharing in education was practiced as was recommended by the Report of the Presidential Working Party on Education and Man power Training for the Next Decade and Beyond (GOK, 1988). Kenya had low enrolment and completion rates at the primary level of education (refer Table 1:1). The low enrolment and completion rate was partly due to the inability of poor parents to pay for direct costs of primary education.

Learners with SNE require more specialized materials and a barrier free environment, which makes their education more expensive. Consequently fewer SNEs access education. Before the year 2003 majority of the learners with SNE were not enrolled in the regular primary schools due to their nature. The school's environment was not conducive to learners with SNE. Low enrollment of SNE learners contributed to the low primary school enrolments.

In Kenya, the primary school enrolment for the period 1998–2002 shows a low completion rate. This could be as a result of the dropping out by learners with SNE who could not cope with the hostile learning environment.

Table 1.2 below shows the primary school enrolment for 1998–2002 in Kenya.

Table 1.2: Primary School Enrolment for the period 1998-2002 in Millions

YEAR	BOYS	GIRLS	TOTAL	TOTAL COMPLETED	COMPLETION RATE
1998	3	2.8	5.8	2.88	49.8%
1999	2.95	2.85	5.8	2.88	49.8%
2000	2.89	2.9	5.79	2.85	49.8%
2001	2.95	2.9	5.85	2.91	49.8%
2002	3	2.9	5.9	2.93	49.8%

Source, Mburu, (2003); MOEST (2005)

Recognizing the importance of education for Kenya’s economic development, the government launched the Free Primary Education (FPE) programme in 2003. Implementation of FPE, was one of the 2002 election campaign pledges by the National Rainbow Coalition (NARC) which won the elections and formed the government in January 2003. During the campaigns, NARC leader and now the President of Kenya, His Excellency the President Honourable Mwai Kibaki had declared,

“We want to offer Free Primary Education to every child in accordance with the Children’s Act (2001). We want to invest a lot in manpower development..... (Munene, 1<sup>st</sup> December 2002 pg 14)”.

In addition to economic development, education is important for individual development. Persons with challenges require education so as to enable them to interact with others socially and economically. Response to the implementation of FPE was overwhelming and enrolments increased by 22 percent in 2003 (Ministry of Education Science and Technology (MOEST), 2003).

MOEST (2003) noted that, consequent to the launch of FPE in January 2003, many children with SNE reported to various primary schools. However, majority of the learners with SNE dropped out of school soon after enrolling because the environment was not conducive for them. The schools did not have the necessary barrier free environments.

The Task Force on Special Needs Education (MOEST, 2003), observed that, in 2003 the Government allocated Kshs. 1,020 for every child in a regular primary school. In addition Kshs. 2000 was provided for every child with SNE in a special unit or special school. According to a Ministry of Education circular MGA/DEB/70/VOL III/25, of 26<sup>th</sup> January 2005, in 2004 all public primary schools received Kshs. 10,000 each to adapt the environment to suit learners with SNE. The money was to be used for the following purposes:

- ❖ Sensitization of teachers, parents, other learners and the general school community on disability issues.

- ❖ Construction of ramps.
- ❖ Modification of at least one toilet to suit SNE learners, particularly those on wheel chairs.
- ❖ Modification of doors to suit the use of wheel chairs.
- ❖ Modification of furniture to suit SNE learners, for example raised desks.

The Ksh 10,000 was allocated on a flat rate basis to all schools. This was in disregard to the unique school needs and enrolment. For example, some schools are multi-storeyed and therefore their modifications would cost more than those of single storey schools. In other schools, the land leveling requires more work. For learners with SNE to access education, their special educational needs should be addressed first. The school environment should be modified to make it sensitive to the needs of the SNE

learner. The SNE learner should not be expected to fit into the convenience of the school. In view of the problem faced by SNE learners the researcher was prompted to conduct this research.

## **1.2 STATEMENT OF THE PROBLEM**

The 2002 United Nations (UN) Convention on the rights of the child (UNCRC) states that, every child shall be entitled to free basic education which shall be compulsory in accordance with Article 28 of the United Nations Convention on the Rights of the child (UN 2002). Despite the introduction of FPE in 2003, the provision of education for SNE in Kenya has

experienced several challenges. Some of the challenges include, lack of public awareness, few specially trained teachers to handle SNE learners and an environment that is not barrier free to SNE learners (MOEST, 2003).

Alongside the provision of FPE, in 2004 the government gave some funds to the regular public primary schools to adapt the school environment to make it sensitive and responsive to the special needs of SNE learners. The funds were meant to make the school environment sensitive to the special educational needs of learners with SNE. For learners with SNE to be successfully included in the regular primary schools, their special educational needs must be considered and the environment modified to remove the barriers. Due to the nature of the challenges of each individual learner, the environment should be modified to eliminate or reduce the respective challenges.

In particular, the funds were meant to be used to make the school learning environment barrier free for effective inclusion of learners with SNE in regular primary schools. This study sought to investigate the environmental adaptations undertaken in the schools for effective participation of learners with SNE in education in an inclusive setting.

### **1.3 PURPOSE OF THE STUDY**

The purpose of this study was to investigate the extent of environmental modifications undertaken in the schools to suit learners with SNE in Murang'a

District. The study also focused on the various needs of the respective SNE learners in the schools for effective environmental modifications.

#### **1.4 OBJECTIVES OF THE STUDY**

Objectives of the study were as follows:

- To determine the types of SNE represented in the schools.
- To establish the environmental modifications made in the schools.
- To examine whether more environmental adaptations are necessary to make the public primary schools barrier free for learners with SNE.
- To find out the estimated cost of additional adaptations in the schools to make them completely barrier free for learners with SNE.

#### **1.5 RESEARCH QUESTIONS**

Broadly speaking, the pertinent question of this study was what environmental barriers have been removed to make the regular primary schools responsive to the special needs of learners with special educational needs? In seeking answers to this broad question, the study sought to answer the following related questions:

- What types of SNE learners were enrolled in the public primary schools in Murang'a District?
- What environmental modifications were done to make the school environment barrier free for learners with SNE?
- What other adaptations are necessary to make the public primary schools environment in Murang'a District barrier free for learners with SNE?

- What would be the estimated cost of additional adaptations in the Murang'a District public primary schools environments to make them barrier free for learners with SNE?

## **1.6 ASSUMPTIONS**

The investigator made a number of assumptions including:

- The respondents would be available, willing, honest and provide reliable information.
- There were some environmental adaptations done to make the schools environment sensitive to the special needs of learners with SNE.
- All the head teachers and chair persons of the school management committees understood what environmental adaptations should be done.

## **1.7 SIGNIFICANCE OF THE STUDY**

Adapting the school environment to make it barrier free to learners with challenges is very crucial. Once the environment is made barrier free, the learners with SNE will be able to interact with their peers in the classrooms. Learners with SNE will be able to participate in life just like their able bodied counterparts once the environment is modified to suit their needs.

The findings of this study may be of significance to the government in its future planning and especially allocation of funds to schools. The study can assist the government in coming up with an appropriate estimate of amounts of money required for modifications of the school environment in future. This

would make it possible for the government to achieve proper implementation of Inclusive Education and also enhance the achievement of the millennium development goals (MDGs). The study will also assist the Ministry of Education in giving the headteachers and the school committees proper guidelines towards the modification of the environment. This may include information on what to modify and how to modify it. In other words the research would provide empirical data for policy development on inclusive education.

The study may also be of benefit to MOE on ensuring Education for All (EFA) by the year 2015. By modifying the school environment, learners with SNE will access education with ease and hence making it possible for all children to acquire education. Furthermore, it may ensure quality education and more so, improve the standards of education for learners with SNE since all the barriers will be removed. When the barriers are removed, every child irrespective of special needs will receive quality education in their neighborhood school in a Least Restrictive Environment (LRE).

The implementation of the study findings may make it possible for children with special needs to access education with ease in any school. The school environment will be appropriately modified to take care of the special needs of the learners and not the learners to fit into the convenience of the school.

Other researchers may benefit from this study's recommendation in their pursuit of adding new knowledge in this area.

## **1.8 SCOPE AND LIMITATION OF THE STUDY**

This study covered one district, Murang'a District in Central Province. Kenya had eight Provinces and seventy-nine Districts as of 2006. The researcher concentrated only on regular public primary schools focusing on the Kshs. 10,000 intended for adapting the environment in the schools to make them sensitive to the special needs of learners with SNE. In addition, the researcher assessed the usage of the funding assigned to make the environment barrier free for learners with SNE.

Financial resources was the major limitation because the research was wholly funded by the researcher who was a self-sponsored student with little income.

## **1.9 THEORETICAL FRAMEWORK**

The focus of this study was to determine the environmental modifications of the regular public primary schools to fit learners with special educational needs. The study was based on the eco-systemic theory. The theory is based on systems theory by Von Bertalanffy (1950, 1968). This approach focuses on emotional and behavioural difficulties which it holds are as result of interactions between the learners and the systems around him/her and the learners relationships with other people. Social systems and subsystems contribute to a chain of interactions that produce negative or positive behaviours (KISE, 2007).

In the study, the systems were considered to be the entire environment with which the learner interacts. Learners with SNE require some of the

environments to be modified to facilitate the SNE learners' smooth interactions with the environment and the regular learners. As part of the systems, the paths for example have to be modified to cater for the needs of learners on wheelchairs and those using prosthetics (artificial limbs). Doors to the offices, classrooms, toilets and other rooms must be adapted to make it possible for use by wheelchair users. The rooms have to be spacious enough for easy movement of learners with physical disabilities. In addition, the rooms should have enough lighting for effective interactions of learners with visual problems.

Classrooms should be free of excessive noise so as to be conducive to learners with auditory problems. As part of the systems, teachers and non-disabled learners should be friendly and willing to assist learners with special educational needs for effective interaction and hence effective inclusion of SNE learners.

Based on the eco-systemic theory, the schools environment should be appropriately modified so as to be sensitive to the special educational needs of SNE learners. This will help the learners to access education together with their peers in the regular public primary schools. The environment as part of the systems should be modified to cater for all the special education needs of all the learners to facilitate inclusive education.

### **1.10 CONCEPTUAL FRAMEWORK**

The conceptual framework presents the frame of reference for this study. The major concept underlying this study was environmental modifications to enhance the education for the learners with disabilities

Figure 1.2 shows a two dimensional flow illustrating the education for learner with SNE. Dimension one illustrates a flow where adequate school environmental modification is effected and all the barriers to the education of SNE learners are removed. The school environment becomes SNE learner friendly and hence making it possible for SNE learners to realize the expected outcomes like self actualization and realization of their potentials.

Dimension two illustrates a flow where not much modifications of the school environment are effected. In such a school environment the SNE learners encounter barriers in the process of education. This school environment with educational barriers is not SNE learner friendly and hence some SNE learners can not realize their potentials.

## EDUCATION FOR LEARNERS WITH SNE

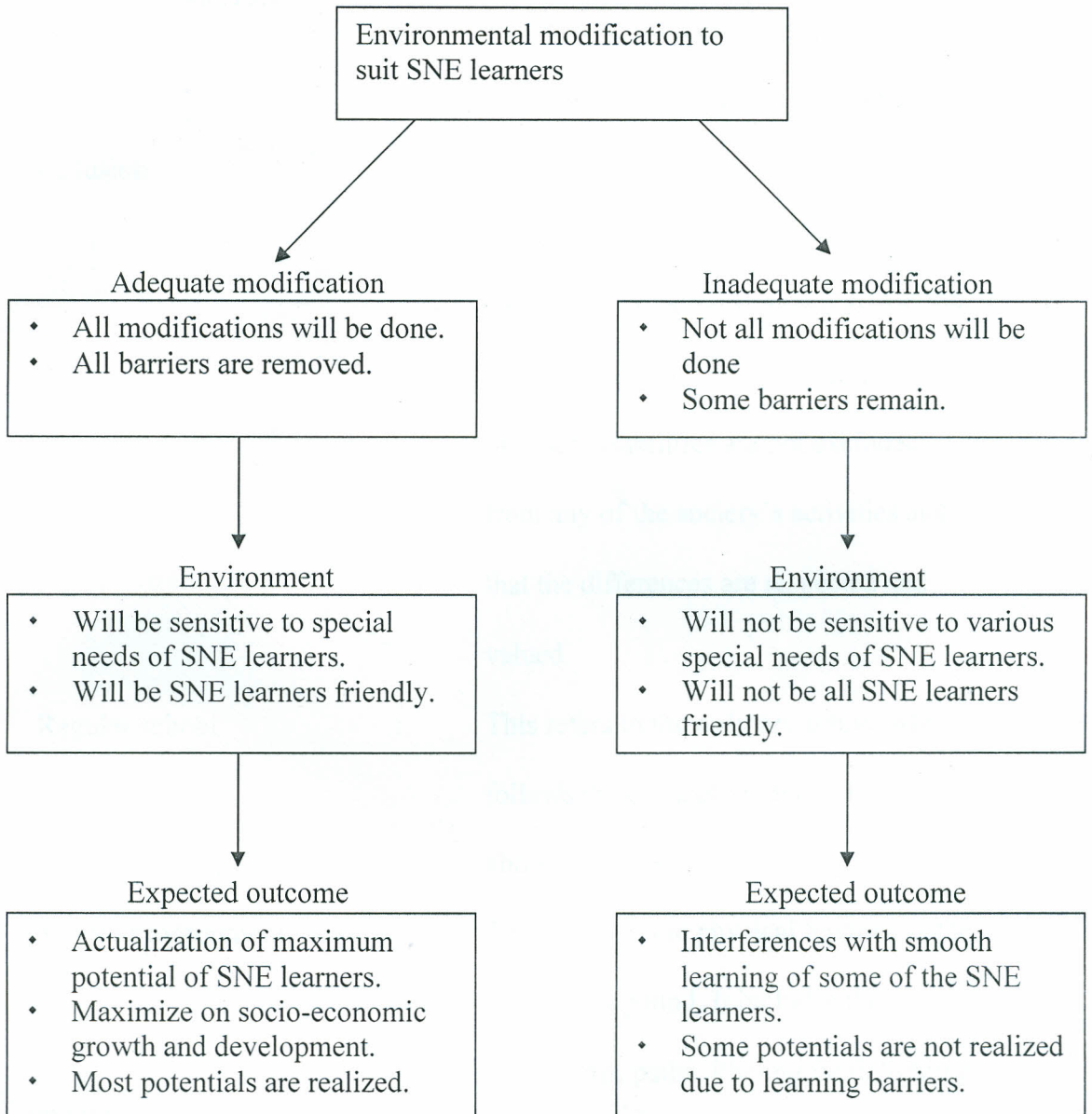


Figure 1.1 Conceptual Framework on Environmental Modification

### 1.11 OPERATIONAL DEFINITION OF TERMS

- Environmental Adaptations : The term describes the adjustment of the environment to meet the requirements of learners with Special Educational Needs.
- Inclusion : This is the philosophy that all participants in any society should aim to ensure that all persons regardless of their disability, mental, economical, physical or other disabilities are not excluded from any of the society's activities and that the differences are respected and valued.
- Regular school : This refers to the ordinary school which follows the curriculum that is for all ability learners.
- School Environment : This refers to the physical features in the school compound. It includes the classrooms, paths, Playing field, lighting and the people in the compound.
- Special Needs Learners : Individuals who encounter difficulty in learning because of a disability and who require supportive services that vary in type and extent depending on the individual needs.

- Special School : This refers to a school that is organized to exclusively provide educational services to learners with disabilities.
- Special unit : The term describes a class of learners with specific type of disability, who are learning in the regular school but in their own classrooms with or without mixing with the other normal pupils.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.0 Introduction**

Discussed in this chapter is the historical evolution of special education, policies advocating for Free Primary Education and government funding towards environmental modifications for children with special needs in education (SNE). This chapter also highlights the specific environmental barriers that should be removed from the public primary schools to facilitate the learning of pupils with Special Needs in Education.

#### **2.1 Historical Evolution of Special Education**

There are 5 periods in the historical evolution of education for SNE. The neglect period before the 1600s, private tuition period from 1700 to 1800, institutionalization period from 1800 to 1900, normalization period from 1900 to 1980 and inclusion period from 1980 to date.

The historical evolution of special needs education (SNE) started before the 1600s (Neglect period). People with disabilities all over the world were considered socially and physically less capable (KISE, 2002). They were not accepted as part of the family and community. Many people with disabilities therefore suffered neglect and rejection. People regarded disability as a result of witchcraft, curses or punishment from God. Disability was considered as contagious. The Greeks and Romans displayed considerable intolerance of physical defects and were reputed to put to death at an early age those they

believed would be a liability to the community (Hodgson, 1953). People with severe handicaps were regarded as burdens to the society rather than potentially useful members of society. However, they were grouped among the deserving poor and thus seen to require and merit protection. Hence, the first institutions which were developed for deaf children in particular were appropriately termed 'asylums'. The prime purpose of the asylums then was to protect the deaf rather than to educate them (Wendy, 1986).

In 685 AD Didymus was reported to have been the first person to devise touch reading materials for the visually handicapped in Alexandria, Egypt. Joan Martin Pablo Bonet of Germany who lived between 1579-1620 developed one handed manual alphabet (Ndurumo, 1993).

In the 1700s, individuals and families who saw the potential in children with disabilities started teaching them at family level. This was the Private Tuition Period. For example St. John of Berverly who was a bishop taught a person with hearing impairment how to articulate and talk.

Institutionalization period was being practiced from 1800 to 1900, and was common in Europe and USA in the 1800s. A residential facility was constructed to house children with various special needs. This was to protect them from neglect (Hallahan and Kauffman, 1997). In Britain, children came to receive an elementary education by courtesy of one or other of the two religious organizations, the National Society, Church of England, and the British and Foreign School Society (Wendy, 1986).

According to Hallahan and Kauffman (1997), in the early 1900s upto 1960s institutionalization was on the decline, it was felt that children with special needs in education could not learn alongside the non-disabled children due to their special educational needs. Normalization started in early 1960s in Scandinavian countries and later got popularized in the United States by Wolfenberger. The main objectives of normalization were to: -

- Create and maintain environments that do not impose excessive restrictions on persons with SNE.
- Create an arrangement that brings persons with SNE as close as possible to the society and cultural mainstream.
- Guarantee that human and legal rights of persons with SNE are protected.

Movement towards normalizations include: -

- Deinstitutionalization - This is the process of releasing children with SNE from confinement of residential institutions into their local communities.
- Regular Education Initiative - This is a philosophy which states that general education rather than special education should be primarily responsible for the education of students with SNE.
- Least restrictive environment - This is a modified environment such that children with SNE learn without any hindrance.
- Integration - This is the provision of educational services to children with SNE within the regular schools system.

- Inclusion - This means addressing the learners needs within the main stream of education using available resources.
- Community based rehabilitation - This is supporting SNE learners within their community and promoting their inclusion and participation in the society.

Hallahan and Kauffman (1997), point out that normalization, a social movement of the 1960s and 1970s was the initial catalyst for moving people out of institutions and into the community. Some conditions that contributed to normalization are; residential institutions offered little care, some institutions were very dirty and repulsive and few institutions provided humane treatment. According to the Ministry of Education Science and Technology (MOEST, 2003) from the mid 1970s, drastic changes started to emerge leading to the integration of children with disabilities. Integration meant educating children with disabilities together with their non-disabled peers. Integration was an attempt towards the realization of the philosophy of normalization. However, the term normalization was found to be unpopular with human rights campaigners and was soon replaced with mainstreaming.

Integration was practiced at three levels; locational, social and functional. Locational integration meant that children with disabilities learnt in the same locality such as a regular school with other children but in different classrooms. Children with SNE and those without had different timetables, and other than the shared compound, had nothing in common with their

non-disabled peers. Social integration on the other hand, made it possible for children with SNE to share certain social activities with their non-disabled peers. They could play together at games time and sing in the school choir together, among other shared activities. The highest form of integration was functional. This ensured that the children with SNE learnt in the same classes with their non-disabled peers and accessed the same curriculum usually with some support.

In all its three forms, integration did not achieve its goals because of a number of reasons. The regular schools were not prepared both physically and socially for this new set of learners who were meant to fit in the school's programmes. The teachers did not know what to do with the SNE learners and viewed them as misplaced. The parents of able-bodied children thought that their children would become SNE too if they interacted with SNE children. Integration was seen as an attempt to modify the child with SNE to fit in an ordinary school. Children on wheel chairs and those using crutches had to struggle to access the classrooms and play grounds.

The same case was true for learners with visual impairments. Physical barriers were therefore a major hindrance. The mode of communication did not consider the learner who had hearing impairments. It was during this period that oralism as a method of communication with deaf learners raised considerable protest. This was because teachers were trying to force the deaf children to speak and lip read. In terms of the curriculum and teaching

methods, the regular classroom was too hostile to learners with SNE. For example, learners with mental handicaps were placed in the same classes with the average learner as well as with those who were gifted and talented. All the SNE learners were frustrated because their needs could not be met under such conditions.

Stainback and Stainback (2000), indicate that the individuals with Disabilities Education Act of 1990 (IDEA), PL. 101-476 and the Individuals with Disabilities Act in USA, Amendments of 1991 (PL102-119), ensured that each student with SNE had a right to education in the least restrictive environment. This mandate served as the premise for including students with disabilities in general education classes with appropriate support and aids in USA. With the proper support, a student with SNE who is educated in the general education setting with peers without SNE has more opportunities for academic and social progress than one educated in segregated special schools.

According to MOEST (May, 2003), inclusive education addresses the learners needs within the mainstream school and advocates for all children, regardless of their disabilities, to access quality education in their neighborhood schools together with their non-SNE brothers and sisters. Karugu (2002), recommended that Kenya embraces the new philosophy of inclusive education. Karugu conducted a survey research in 2001 to ascertain the knowledge, skills and attitudes of educators on inclusion education. In his study, Karugu sampled 153 regular and SNE educators in Nairobi, Murang'a,

Machakos and Thika districts. He found that there were enough educators with the necessary knowledge, skills and the appropriate attitudes for the proper implementation of inclusive education.

## **2.2 Policies Advocating For Free Education**

According to KISE (2002), the 1948 Universal Declaration of Human Rights advocated for human rights practices without violation, social progress and standard of life for all. The Universal Declaration of Human Rights meant to make all nations treat their citizens equally and with dignity. Education was declared a human right which was clearly stipulated in Article 26 of the human right Act which emphasized that everyone has a right to education. The declaration of human rights stipulated that education shall be free at least in the elementary and fundamental stages. Elementary education shall also be compulsory.

The human rights declaration of 1948 broadened access to education through the declaration that education shall be free to all. Accessing education for children with special needs is a strong point in inclusive education. Allowing children to learn in regular schools and meeting their needs there is another problem. Making education free and compulsory has economic implications. Due to depressed economies, many countries particularly the developing countries have not been able to declare education free and compulsory (KISE, 2002).

The World Conference on Education for All (EFA) of 1990, was held in Jomtien Thailand. Its concern was to guarantee every child including those with special needs access to quality educational opportunities (UNESCO, 1990).

Education for All conference was held in Dakar Senegal in April 2000. The purpose was to turn the vision of education for all into a reality. The Dakar framework for action re-affirmed the goals of EFA as laid down in Jomtien and facilitated working towards specific education for all by the year 2015. The framework also called for developing or strengthening national action plans within existing structures to accelerate progress towards EFA.

### **2.3 Free Primary Education**

In Kenya, Free Primary Education was first introduced by the KANU Government in 1969, as stated in the KANU manifesto.

“KANU Government will as from 1<sup>st</sup> January 1970 take over from the local authorities the responsibility of financing the planning and programming of all primary school education.....” (KANU 1969, pg 7).

Wangethi (22<sup>nd</sup> November 2002) noted that the World Forum in Dakar early in 2000 set out six targets for achieving education for all by 2015.

Similar targets were incorporated in the Millenium Development Goals (MDGs) that came out of the millenium summit that the UN convened in 2000. The quest to achieve education for all emerged from the conviction that education is a fundamental human right, the pillar of socio-political and

economic-technological development. Against this backdrop, Kenya's success in eliminating gender gaps and expanding adult literacy sets it on the course of achieving the education for all targets. It is an illustration that despite the numerous educational problems, we are still making headway. Though we have succeeded on certain fronts, a lot more has to be done, including reducing learning costs by providing books and other teaching and learning inputs and regularly reviewing the curriculum to ensure that it is relevant to our children's needs and aspirations.

The debate over free and compulsory education continues to dominate political discourse as the campaign enters the home stretch. While opinions differ over the manner and timing of its implementation, there is consensus that it is an ideal, a progressive nation must strive to attain. Alongside attaining EFA, learners with SNE are also included.

In any case, education for all is provided for in our laws and Kenya has shown its commitment by signing international charters and protocols on providing education as a fundamental human right (Wangethi, 20<sup>th</sup> December 2002).

In line with the international commitments made at the World Education Forum in Dakar in (2000), any country that commits itself to providing Education for All (EFA) is entitled to external funding. What is required is the political good will. Uganda, Rwanda and Tanzania are already benefiting from such initiatives.

NARC (December, 2002, p 3) states,

“Provision of universal primary education has been recognized as an important milestone to economic and social development. In particular, it has been established that by providing primary education to women, a society is able to hasten its development. NARC’S simple belief is that primary education will be catalyst to eradicate poverty. We will bequeath the future generation of Kenyans a quality educational system by fulfilling one of their fundamental human rights to free basic primary education”.

According to Muthoga (December 15<sup>th</sup> 2002), on the promise of none other than President Moi, the children of Kenya and Kenyan’s in general celebrated the enactment of the Children Act 2001 (Act No. 8 of 2001). On the eve of the act being brought into force in March 1, 2002, the President assured the nation that he had ensured that The Children Act becomes law in Kenya, and that all children shall have and be entitled to free basic education. Section 7 of the Act reads,

“7 (1). Every child shall be entitled to education, the provision of which shall be the responsibility of the government and the parents. (2) Every child shall be entitled to free basic education which shall be compulsory in accordance with Article 28 of the United Nations Convention on the rights of the child”.

Article 28 of the UN Convention states;

“1. State parties recognize the right of the child to education and with a view to achieving the right to progress and on the basis of equal opportunities they shall in particular.

(a) Make primary education compulsory, available and free to all.

The children Act (2001, 5) states that, every child has a right to education. This is the responsibility of the government and the family of the child”.

Nzwili (2003) points out that the new government had introduced free and compulsory primary school education for all children. In 2003 as the schools

closed for the April holidays, primary school enrolment had shot up from 5.9 to 7.2 million. 1.3 million children between ages three and six years who had dropped out, had re-entered the schools.

In support of FPE, UNICEF in early 2003 led in donating US\$ 2.5 millions in the form of learning materials to be used in Kenyan primary schools. The funds were aimed at benefiting some 450,000 boys and girls from Std 1-3 in Nairobi and eight other districts in the country. UNICEF's Director for Kenya Peter Alipui said the campaign launched targeted Norway, Japan, US, Canada, Britain and Sweden which agreed to consider extending the campaign for donations to cover the whole country of Kenya at a double cost of Shs. 720 million.

In May 2003 the government received Shs. 4 billion for teaching and learning materials from donors. Another shs. 400 million was to be spent on training and providing resources to school managers and field education officers. Out of this, 2.8 billions was allocated by the treasury and 1.6 billion given by the British government.

Another grant of 3.9 billion was expected from the World Bank by June, 2003.

In January 2003, government distributed shs. 5.9 million equally to 17,000 primary schools each receiving shs. 28,000.

Aduda & Akumu (12<sup>th</sup> February 2003) reported that free primary schooling programme in Kenya received a major boost of Ksh 3.9 million from the

World Bank. Visiting World Bank vice president for Africa Mr. Calisto Madavo announced that the \$40 - \$50 million would be disbursed in the next few months under an emergency programme.

In a meeting with the minister for Education, Prof. George Saitoti at the ministry headquarter Mr. Madavo added that World Bank was determined to accompany the Kenyan Government in the hard journey it had started to provide free education to all school going children. Prof. Saitoti confirmed that the Kenyan ministry of Education would seek Ksh 2.4 billion from the Kenyan government supplementary budget to support free primary education.

Mathu (31<sup>st</sup> December 2002) reported that when taking the oath of office to become the third president of Kenya, Mwai Kibaki said that his government would embark on policies geared to economic reconstruction, employment creation and immediate rehabilitation of the collapsed infrastructure. The president promised to restructure all public institutions to match them with the demands of a modernizing society. The president promised to give the education of all the Kenyan children first priority.

According to Barasa (27<sup>th</sup> May 2006), the FPE has not been a smooth road all through. For example, in the year 2006, the government delayed the release of the money and some chaos emerged. Already, some schools in Central Province started charging fees following the delay in the funds release.

## 2.4 Government Funding Towards Environmental Modifications

In June 2004, every regular primary school received Kshs. 50,000 for water harvesting and sanitation, Kshs. 10,000 for children with disabilities as per a Circular of 26-01-2005 MGA/DEB/70/VOL III/25 (MOEST, 26<sup>th</sup> January 2005). According to the circular, the money was to be used as follows:

- Sensitization of teachers, parents and other learners and the general school community on disability issues.
- Construction of pavements.
- Modification of at least one toilet to suit special needs children.
- Construction of ramps.
- Modification of doors to suit the use of wheel chairs.
- Modification of furniture to suit special needs children.

MOEST (2003), observed that the government had allocated approximately Kshs. 1,020.00 for every child per year in the regular school. An additional Kshs. 2,000 has been provided to every child with SNE in a unit or special school. These allocations did not cover children with SNE who are integrated in regular schools. The Task Force on Special Needs Education noted that the cost of educating a learner with SNE include the provision of the following materials and facilities:

- ❖ Assistive/functional devices such as hearing aids, wheelchairs and clutches among others.
- ❖ Learning resources such as braille machines, low vision devices, audio and audio-visual equipment and others.

- ❖ Support services such as occupational therapy, physiotherapy, and counseling among others.
- ❖ Mandatory medication such as drugs for epileptic, hyperactive and autistic children.
- ❖ Environmental adaptations such as construction of ramps, adapted toilets and pavements among others.

In this regard, the Task Force found that the average cost of educating a child with SNE in a day school/unit is Kshs. 17,000 per year while the estimates of educating a child with SNE in a boarding school costs Kshs. 32,000 per year

**Table 2.1 Some requirements for Educating a Child with Special Needs**

No	Item	Day school	Boarding school
1.	Learning and Teaching devices	6000	6000
2.	Assistive devices	2000	2000
3.	Sports and recreation therapy	2000	2000
4.	Mandatory medication	2000	2000
5.	Supportive devices	4000	4000
6.	Environment adaptation	1000	1000
7.	Boarding fees		15000
	<b>Total</b>	<b>17000</b>	<b>32000</b>

Source: MOEST (2003)

The MOEST (2005), noted that the government was currently implementing measures to improve the participation of children with special needs in schools. Under FPE, additional capitation grants are provided to physically challenged children enrolled in special education institutions and units attached to regular primary schools. Initial support has also been provided to each public primary school to begin removing existing barriers that make the school environment unfriendly to physically challenged learners.

### **2.5 Environmental Modification to Make Schools Barrier Free.**

According to MOEST (May, 2003), on 10<sup>th</sup> January 2003 the then Minister for Education Hon. Prof. George Saitoti appointed the Free Primary Education (FPE) Task Force. The main objective of the Task Force was to assist the Government to develop appropriate responses for implementing FPE and to out line concrete guidelines for the smooth and effective implementation.

MOEST (2003) states that most programmes in special needs education are mainly donor funded with some support from the government. The Task Force further noted that the government was already supporting the education of learners with special needs by providing an additional sum of Kshs. 2,000 per child. However, the task force noted that this amount was not enough due to the unique needs of SNE learners. The task force recommended that:

- ❖ The government takes its rightful and leading role in the provision of education to children with special needs in education.

- ❖ The unit cost of educating a child with special needs in education will be Kshs. 17,000 for a child in a day school and Kshs. 32,000 for one who is in a boarding school.

The task force found out that physical facilities in regular schools were not accessible to many learners with special needs in education particularly to those who had joined the schools after the declaration of Free Primary Education. It also noted that learning and assistive/functional devices such as brailers, hearing aids were lacking in the institutions for learners with special needs in education. The Task Force further noted that those items were as equally important to these learners as the pen and exercise books are to non-disabled learners. Consequently it recommended that:

- ❖ All schools be made barrier free to ease accessibility for learners with special needs in education.

Ministry of Education supply all learners with special needs education with the relevant learning materials/resources to enable them access the school curriculum.

- ❖ Ministry of Education establishes a central body for procurement, disbursement and supply of learning and/or assistive devices.

**The task Force came up with the following recommendations on general needs of special education environment.**

- ❖ Provide barrier free environment within the compounds used by children who are deaf, blind, mentally handicapped and physically handicapped.

- ❖ Build adapted toilets, bathrooms and add bars to assist the children to hold onto while bathing, showering and toileting.
- ❖ Avoid door steps; instead have ramps with recommended gradients to entries and exits of all facilities like classrooms, dormitories and playgrounds.
- ❖ All classrooms should be spacious, well lit and well ventilated.

**On needs for specific handicaps the Task Force recommended;**

- ❖ Physically handicapped- entrance to all buildings in use should be large enough for use of wheelchairs.
- ❖ Hearing impaired- provide-in-built group hearing mechanism and feedback mirrors.
- ❖ Mentally handicapped- provide water point especially a sink within the class for training in activities of daily living like washing of hands and face.

Subsequently, all regular primary schools received Kshs. 10,000 for environmental modification to make them barrier free or disability friendly.

The money was sent to schools in June 2004 according to a circular written on 26-01-2005. The circular explained how the money was to be used although the money was received in the schools over six months before the circular.

MOE (2008) points out that, school safety is an integral and indispensable component of the teaching and learning process. There is no meaningful teaching and learning that can take place in an environment that is unsafe and insecure to the learners and the teachers. The environment should be accident free for all the learners. The main objective of school safety is to create and maintain a safe, secure and caring environment that facilitate and enhance quality teaching and learning process in schools. Indicators of school safety include high retention rate of enrolled learners and strong focus on teaching and learning reflected by better academic performance and all round character development amongst its learners. Unsafe environment pose barriers to the smooth learning process.

## **2.6 Specific Environmental Barriers to be Removed**

Among the environmental barriers to be removed were the attitude of teachers, pupils, parents and the school community. The general attitude should be friendly to the learners with disability.

All the stakeholders should be sensitized on disability issues. Physical barriers such as stair cases instead of ramps should be removed. Doors to toilets, offices and classrooms should be made wide enough to suit wheel chair users. Enough lighting should be availed by removing objects that may provide darkness in the classrooms. Classrooms should be acoustically treated to be sensitive to learners with hearing problems. Chairs and tables should be adapted to suit learners with physical disability.

## **2.7 Inclusive Education in Uganda, South Africa and Britain**

Inclusive education is the process of addressing the learners needs within the mainstream of education using all available resources. The available resources should be modified so as to make them sensitive to the requirements of learners with special needs. Across the world, many countries are trying to modify the school environment so as to make inclusive education possible.

KISE (2002) explains inclusive education in Uganda. Every teacher trainee gets introduced to the unique needs of learners with special needs. In every district, there is an adviser for children with special education needs to oversee smooth and meaningful inclusion of such learners. On the environmental adaptation, little has been done.

In South Africa, the attitudes of able-bodied people towards their peers with disabilities is a major challenge. Inclusion of people with disabilities into the mainstream is being resisted. However, the government has embarked on training teachers on special educational needs issues. Little has been done in regard to environmental modification of the schools to cater for learners with special educational needs.

In Britain, one of the major barriers in inclusive education is lack of qualified personnel. The government is training teachers and other staff members on how to work with learners with special educational needs. The government is constructing new school buildings that are cognisance of the needs of all

learners. There is also a systematic rehabilitation of the old buildings to conform with the needs of all learners (KISE 2002).

## **2.8 Summary of the Literature Review.**

This chapter has reviewed the development of special education. Policies advocating and supporting free primary education have been discussed.

Finally, the chapter has reviewed information on Government funding towards environmental modification and specific environmental barriers to be removed. The academic gap in this study is the modification of the school environment to make it sensitive to the special needs of learners with special educational challenges.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This study sought to determine the environmental modifications made in public primary schools in Murang'a District to suit SNE learners. Addressed in this chapter are; research design and locale of the study, target population, sample and sample selection procedures, the data collection instruments, data collection procedures and data analysis techniques.

#### 3.1 Research Design

The study adopted a descriptive survey design utilizing qualitative and quantitative approaches. Survey is the most frequently used method for collecting information on a variety of educational or social issues (Orodho, 2005). The rationale for adopting a survey design was that it is useful in gaining insights on the general picture of a situation without utilizing the whole population (Mugenda & Mugenda, 1999). In this study the researcher conducted a survey of the environmental modifications in the sampled schools.

##### 3.2.1 Independent variables

In this research, the independent variables were learning environments and learners with special educational needs.

##### 3.2.2 Dependent variable

The dependent variable was the environmental modifications.

### **3.3 The Locale of the Study**

This study was carried out in Murang'a District in Central Province.

Murang'a District is about 100 kilometers north of Nairobi. Residents of Murang'a District are small scale farmers growing maize, coffee, tea and fruits such as bananas and mangoes. The area under study has 207 public primary schools, which are well distributed within close proximity of each other. The area is also served by a good network of roads with reliable public service transport which enabled the researcher access the schools with ease.

To locate Murang'a district refer to a map of Central Province - Appendix C

### **3.4 Target Population**

The target population for this study consisted of all the 207 headteachers and 207 chairpersons of school management committees in the public primary schools in Murang'a District.

### **3.5 Study Sample and Sampling Procedures**

A sample is a selection from the population that the researcher has identified for the purpose of the study to be carried out (Borg and Gall, 1996). Twelve public primary schools were randomly selected. Stratified random sampling was used. The public primary schools were subdivided into the 4 educational divisions in the district. Three public primary schools were selected from each of the 4 divisions in the district; Kahuro, Kiharu, Mathioya and Kangema divisions.

### **3.6 Research Instruments**

Data was collected using an interview schedule and an observation guide. An interview schedule was used to solicit information and views of the head teachers and chairpersons of the school management committees of the selected schools. The interview schedule had four parts. Items in the first part sought information on the numbers of SNE and types of SNE learners represented in the schools. The second part sought information on the environmental modifications which were made with the government funding. The third part sought the headteachers' and the school management committee chairpersons' opinions on whether all the necessary environment modifications were done. The last part of the interview schedule sought the headteachers' and school management committee chairpersons' opinions on whether there were outstanding environmental adaptations required to make the school environment completely barrier free for SNE learners as well as the estimated cost of the remaining environmental modifications. The researcher also used an observation guide. Through the observation guide, the researcher made his own assessment on what had been done and what required to be done. The observation guide concentrated on the school compound, offices, classrooms and toilets.

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

Validity is the degree to which a test measures what it purports to measure (Orodho, 2005). In this study, validity was established through professional counsel by university supervisors and course lecturers. Validity was further

established through a pilot study. The pilot study was conducted in two schools. The research instruments were administered, scored and analysed. Through the findings validity was determined.

### **3.8 Reliability of the Research Instrument**

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated measurement are taken of the sample subject under similar conditions (Gay, 1992). To ascertain reliability, test-retest method was used during piloting. The same instruments were administered twice to the same group of subjects with a two weeks lapse. Inconsistencies in the instrument items were adjusted so as to yield the same results from the piloting subjects. Item number one in the interview guide was adjusted to read as; how many SNE learners are enrolled in this primary school? By adjusting the item reliability was enhanced.

Orodho (2005) noted that test-retest approach have five steps: -

- (i) Developed instruments are administered to respondents who will not be included in the study sample.
- (ii) The instruments are scored manually.
- (iii) The same instruments are administered again to the same group after a period of two weeks.
- (iv) The completed instruments are scored manually.
- (v) A comparison of answers made in (ii) and (iv) are analysed.

For the two piloting respondents, Spearman Rank Orders Correlation was employed to compute the correlation coefficient. A coefficient of about 0.75 was considered reliable.

### **3.9 Data Collection Procedures**

A pilot study was carried out to try out the instruments. Piloting ensured that the items in the interview guide were stated clearly and had the same meaning to all respondents. Piloting the interview guide and the observation guide also helped the researcher establish time taken to administer those instruments. The pilot units were randomly selected outside the sample. Two schools from Kiharu division, which were not sampled for the main study were used for piloting. The head teachers and chairpersons of the school management committees were briefed on the purpose and objectives of the study by the researcher. The researcher interviewed the head teacher and the chairpersons and then toured the school compound to carry out observations. The researcher recorded the responses after the interview.

### **3.10 Data analysis Techniques**

The data collected for the study was qualitative and quantitative in nature. At the end of data collection exercise, interview schedules and observation outcomes were thoroughly inspected for completeness, information given by the respondents was organized and summarized by the researcher according to the research questions. The researcher presented data in tables using percentages. The findings were interpreted to provide meaning and final

results. The researcher closely evaluated the usefulness of the information in answering the research questions of the study. Qualitative data was summarized in detailed narrative form based on the research questions.

### **3.11 Logistical and Ethical Considerations**

Before data collection exercise started, the researcher considered the logistical issues. The researcher was issued with a letter from Graduate School Kenyatta University. The researcher obtained permission to conduct the research from the Permanent Secretary in the Ministry of Education and was issued with a permit. Once the permit was given, the researcher informed the Provincial Director of Education Central Province and the District Education Officer of Murang'a District about his intentions to carry out the study. To take care of ethical considerations, the researcher sought consent from the respondents and agreed with them on appropriate dates and times for conducting the research. At the beginning of data collection, the researcher assured the respondents of confidentiality.

**CHAPTER FOUR**  
**DATA PRESENTATION, ANALYSIS, INTERPRETATION**  
**AND DISCUSSION**

**4.0 Introduction.**

This chapter contains the data presentation, analysis, interpretation and discussion of the research findings. The result of the statistical analysis are organized around the objectives that guided the study.

The main objectives of the study were;

- To determine the types of special educational needs represented in the schools.
- To establish the environmental modifications made in the schools with the Ksh 10,000 provided through the FPE programme.
- To examine whether more environmental adaptations are necessary to make the public primary schools barrier free for learners with SNE
- To find out the estimated cost of additional adaptations in the schools to make them completely barrier free for learners with SNE.

Information, perceptions and views regarding these factors were generated through an interview schedule which was administered to the head teachers and chairpersons of the selected schools' management committees. An observation guide for the school compound was used to ascertain the environmental modifications made and what more required to be done. The data obtained was analysed using qualitative and quantitative data analysis techniques.

#### 4.1.1 Special Educational Needs Learners Enrolled in the Schools.

Table 4:1 shows the primary schools visited indicating the school learner enrolment and the number of learners with special educational needs and their percentages.

**Table 4.1: Special Educational Needs Learner in Number and Percentage**

School	Enrolment	Total No of SNEs	Percent % of SNEs
1	456	16	3.5
2	300	13	4.3
3	424	16	3.8
4	395	19	4.8
5	537	24	4.5
6	215	11	5.1
7	790	37	4.7
8	933	46	4.9
9	620	29	4.7
10	576	33	5.7
11	666	37	5.5
12	389	20	5.1
Total	6101	301	4.9

Learners with SNE in the schools studied represented between 3.5 % and 5.7% of the total number of learners in the schools. The total learner population in the schools studied ranged between 215 and 933 learners. School Number 10 had the highest number of SNE learners, with 33 SNE learners representing 5.7% out of a school learner population of 576.

In total, there were 301 learners with SNE representing 4.9% of the total learner population of 6101 in the 12 schools. The lowest SNE learner population was in School Number 1 where there were 16 SNE learners in a school with a population of 456 learners. In school number 1 the SNE learners represented 3.5% of the school learner population.

The foregoing information indicates that there are learners with SNE in all the schools studied. It is a confirmation that learners with SNE are found in all schools. This brings about the need to adapt the schools' environment so as to make it sensitive to the needs of these learners.

According to MOEST (May, 2003) inclusive education addresses the learners needs within the mainstream school and advocates for all children regardless of their disabilities to access quality education in their neighbourhood schools together with their brothers and sisters. For this reason the environment should be modified to be sensitive to all the learners including those with special educational needs. A population of 301 learners with SNE is significant and therefore their special educational needs should be considered. To achieve EFA the public primary schools environment should be modified so as to facilitate education for learners with SNE. MOEST (2003) states,

“Remember FPE is all –inclusive. Keep all children, including children with special needs, orphans, and street children in school.”

To achieve retention of SNE learners in school, the environment should be modified to cater for all learners in the schools.

#### 4.1.2 Categories of Special Educational Needs Learners in the Schools.

Table 4.2 shows sampled schools learner population and the various special needs categories found there, their numbers, and percentages.

**Table 4.2 Categories of Special Educational Needs Learners in the Schools.**

School	Hearing impaired		Visually impaired		Physically impaired		Mentally impaired		Gifted and talented		Specific learning difficulties		Total SNE learners	Percentage
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	2	12.5	3	18.7	4	25	2	12.5	1	6.25	4	25	16	100
2	1	7.7	3	23.1	2	15.2	2	15.2	2	15.2	3	23.1	13	100
3	3	18.7	2	12.5	3	18.7	1	6.25	3	18.7	4	25	16	100
4	2	10.5	2	10.5	4	21	3	15.7	2	10.5	6	31.5	19	100
5	3	12.5	2	8.3	6	25	3	12.5	2	8.3	8	33.2	24	100
6	1	9	1	9	3	27	2	18	1	9	3	27	11	100
7	5	13.5	3	8.1	7	18.9	6	16.2	3	8.1	13	35.1	37	100
8	6	13	5	10.9	8	17.4	7	15.2	4	8.7	16	34.8	46	100
9	3	10.3	4	13.7	5	17.4	3	10.3	3	10.3	11	37.9	29	100
10	4	12.2	7	21.2	4	12.2	2	6.1	2	6.1	14	42.4	33	100
11	5	13.5	8	21.6	5	13.5	4	10.8	3	8.1	12	32.4	37	100
12	2	10	4	20	2	10	2	10	2	10	8	40	20	100
	37	12.3	44	14.6	53	17.6	37	12.3	28	9.3	102	33.9	301	100

In the schools studied, six special educational needs were represented. The six special educational needs were:

- Hearing impaired learners
- Visually impaired learners
- Physically challenged learners
- Mentally challenged learners
- Gifted and talented learners
- Learners with specific learning difficulties

In the 12 schools studied, 301 learners had special educational needs. Learners with specific learning difficulties were 102 representing 33.9% of all the 301 learners with SNE. There were more learners with specific learning difficulties than any of the other categories. Gifted and talented learners were the fewest. They were 28 representing 9.3% of the 301 learners with specific educational needs. Learners with hearing impairment and learners with mental impairments were each 37 learners representing 12.3% of the 301 learners. Learners with physical and visual impairments were 53 and 44 each representing 17.6% and 14.6% respectively. However, the researcher did not find learners with autism, cerebral palsy or deafblind.

This would suggest that either there are no learners with autism, cerebral palsy or deafblind in the area under study or that the learners are there but they have not been enrolled in the schools.

To ensure SNE learners do not face SNE related difficulties in school, the schools' environment should be modified to cater for the special needs of learners representing the 6 special education categories. Findings indicated that all the 6 mentioned special educational needs categories were represented in all the schools. The researcher found out that there is need to adapt the entire schools' environment to remove/reduce barriers caused by the various challenges facing each category of SNE learners in the respective learners.

Barriers that may disadvantage learners with hearing impairments include high noises in the learning environment. Echoes would also aggravate the problems of these learners and hence they should be eliminated or reduced.

Learners with visual problems require an environment with enough lighting. This means that dark rooms should be provided with enough lighting facilities or that objects causing the darkness are removed.

Physically challenged learners require an environment that would facilitate easy movement. Steps should be modified to ramps. Door steps should be avoided and doors to rooms widened to cater for those on wheelchairs.

Mentally challenged learners require a socially friendly environment. In particular, they need teachers and peers who understand that learners with mental challenges have a variation of temperaments. If not understood the mentally challenged may be mistaken as being rude.

Gifted and talented learners require an environment where they can learn according to their abilities. Extra personnel, facilities such as libraries and activities should be provided so that they can learn according to their speed and ability.

Learners with specific learning difficulties require an environment that enables them to learn and master skills and concepts adequately before they move on to new areas. Such an environment need to be friendly rather than a hostile environment.

Learners with SNE require the learner environment modified for all the categories so as to make it barrier free. Modifying the environment will facilitate inclusion of SNE learners in all public primary schools.

#### **4.2 Environmental Modifications Done to Make the Schools Environment Barrier Free for Learners with SNE.**

Table 4.3 shows the school and the environmental modifications done.

**Table 4.3 Environmental Modification Done**

<b>School</b>	<b>Learner enrolment</b>	<b>SNE learners enrolment</b>	<b>Modification done</b>
1	456	16	None
2	300	13	A ramp
3	424	16	None
4	395	19	1 toilet
5	537	24	None
6	215	11	None
7	790	37	None
8	933	46	None
9	620	29	1 toilet
10	576	33	A ramp
11	666	37	None
12	389	20	None

The information in Table 4.3 shows that environmental modifications to suit learners with SNE were made in only 4 out of the 12 primary schools studied. In 2 schools, ramps leading to the toilets were constructed representing 16.7% of the 12 schools studied. In 2 other schools toilets were modified. The 2 schools represented 16.7% of all the 12 schools studied. In 8 schools no modifications were implemented. This represents 66.7%. The 8 schools

represent the largest number of schools implying that in most public primary schools, not much of the environment was modified to suit learners with SNE.

### 4.3 SNE Related Activities

Table 4.4 below shows the related activities done in the schools.

**Table 4.4 SNE Related Activities**

School	SNE related activity
1	Paid schools fees for SNE learners in special schools.
2	None
3	Paid school fees for SNE learners in special schools.
4	None
5	Purchase of uniforms for SNE learners.
6	Purchase of goats and giving them to SNE learners
7	Purchase of school uniforms for SNE learners.
8	Paid school fees for SNE learners in special schools.
9	None
10	None
11	Purchase of school uniforms for SNE learners.
12	Purchase of reading glasses to 4 SNE learners.

The researcher observed that very little environmental modifications were done. In 8 schools, individual SNE learners were bought items like goats, uniforms and reading glasses. Three schools used the FPE money provided for environmental modifications to pay fees for SNE learners in special schools. In schools number 1,3 and 8 one SNE learner from each of the schools was taken to a special school and school fees was paid. In schools number 5,7, and 11 SNE learners were bought school uniforms while in school number 6, SNE

learners were bought goats to rear in their homes. In school number 12, four SNE learners were bought reading glasses. The researcher attributed the use of the funds in this manner to the schools' administration misunderstanding as to what environmental modification is and the reasons for it.

Out of 12 primary schools with a total of 301 learners with SNE only 2 schools modified the toilets. This shows that in all the other 10 schools learners with physical challenges could not access proper toilets easily. In only 2 other schools, ramps were constructed making it easy for learners on wheel chairs to move around comfortably.

In all the other 10 schools learners with physical challenges could not easily access all the necessary facilities.

#### **4.4 Cost of Environmental Modification Done**

Table 4.5 shows the environmental modifications done in the schools and their estimated cost.

**Table 4.5 Environmental Modification done and their Cost**

School	Environmental modification done	Estimated cost
1	No modification	-
2	A ramp leading to the toilet	Sh 10,000
3	No modification	-
4	One toilet	Sh 10,000
5	No modification	-
6	No modification	-
7	No modification	-
8	No modification	-
9	One toilet	Sh 10,000
10	A ramp leading to the toilet	Sh 10,000
11	No modification	-
12	No modification	-

In all the 12 schools, the school management committee chairperson and the head teacher stated that they used Ksh10,000 in the environmental modifications. In 4 of the schools, the researcher was informed that they modified toilets and constructed ramps. Two of the four schools constructed ramps which cost Ksh 10,000 in each school. In the other 2 schools, at least 2 toilets were modified to suit the needs of SNE learners. The researcher was informed that the toilet modifications cost Ksh 10,000.

In three schools, the respondents stated that they bought some SNE children uniforms. The head teachers and chairman of the school management committees said that they selected existing SNE learners in their school and resolved to buy them school uniforms at a cost of Ksh 10,000. The respondent said that the parents were poor and could not afford decent uniforms for their SNE children.

In three schools, some severe SNE learners were selected and taken to special schools and Ksh 10,000 used to pay fees for the SNE learners in the special schools.

The three SNE learners were sent to Murang'a school for the deaf, Don Oreone school for the mentally handicapped Murang'a and Thika School for the physically handicapped respectively. Using the money to send SNE learners to special schools amounted to using funds meant to support integration of SNE learners in regular schools to perpetuate segregation of those learners. Segregation was used as opposed to the MOE policy of inclusion.

In one school the head teacher selected four SNE learners with visual problems. The four SNE learners were taken to Murang'a District hospital where they were each fitted with reading glasses at Ksh 2500 each. This summed up to Ksh 10,000. In one school goats were bought for 4 physically handicapped learners so that the learners could rear goats as an income

generation activity. The researcher was informed that the 4 goats cost Ksh 10,000.

Buying of school uniforms for individual SNE learners, paying school fees for some SNE learners and buying goats is not modifying the school environment. Using the funds meant for environmental adaptations on uniforms, school fees and purchase of goats suggests that the school administration did not understand what environmental adaptations is all about or its purpose.

#### **4.5 More Environmental Adaptations Necessary to Make the Public Primary**

##### **Schools Barrier Free for Learners with SNE.**

Table 4.6 shows the outstanding environmental modifications in the schools studied.

**Table 4.6: More Environmental Modifications Necessary**

SCHOOL	ENVIRONMENTAL MODIFICATION				
	DOORS	RAMPS/PAVEMENTS	LIGHTING	TOILETS	AWARENESS CREATION
1	11	10 M ramp	—	2	✓
2	10	—	✓	2	✓
3	15	20 M ramp	—	2	✓
4	15	—	—	—	✓
5	15	30 M ramp	—	2	✓
6	15	30 M ramp	—	2	✓
7	15	30 M ramp	—	2	✓
8	15	30 M ramp	—	2	✓
9	10	—	—	—	✓
10	10	—	—	2	✓
11	10	10 M ramp	—	2	✓
12	15	30 M ramp	—	2	✓

The researcher noted that there are many other environmental modifications necessary to make the school barrier free for learners with SNE. It was found out that the landscape in all the schools was sloppy. Pavements and ramps are therefore very necessary to cater for special educational needs of the physically challenged learners who constituted the majority of SNE learners in the schools studied.

The cost of construction of the pavements and ramps would differ from school to school. These would be because of the difference in distances from the gate to the main buildings and distances between buildings. All the schools studied require more doors to be modified. Learners with physical challenges should be able to access all the rooms in the school. The schools administration offices should have modified doors to allow access to all learners in the school. The least number of door which should be modified was 10 per school. This was in schools number 2, 9, 10 and 11. Schools number 3, 4, 5, 6, 7, 8, and 12 require to modify 15 doors each. School numbers 1 require to modify 11 doors.

All the schools require awareness creation. Teachers, parents and the non challenged learners require to be sensitized about learners with challenges and their SNE. Schools number 4 and 9 had modified at least 2 toilets to cater for the needs of learners with SNE. All the other schools require to modify at least 2 toilets in their schools.

#### **4.6 Estimated Cost of More Environmental Adaptations Necessary**

Table 4.7 shows estimated cost of more environmental modifications.

Table 4.7 Estimated Cost of more Environmental Modifications

School	Environmental modification								
	Doors		Ramps/ Pavement		Toilets		Lighting	Awareness creation	Total cost in Ksh
	No	Cost in Ksh	Distance	Cost In Ksh	No	Cost in Ksh	Cost in Ksh	Cost in Ksh	
1	11	198,000	10m	3,000	2	72,000	-	10,000	283,000
2	10	180,000	-	-	2	72,000	100,000	10,000	362,000
3	15	270,000	20m	6,000	2	72,000	-	10,000	358,000
4	15	270,000	-	-	-	-	-	10,000	280,000
5	15	270,000	30m	9,000	2	72,000	-	10,000	361,000
6	15	270,000	30m	9,000	2	72,000	-	10,000	361,000
7	15	270,000	30m	9,000	2	72,000	-	10,000	361,000
8	15	270,000	30m	9,000	2	72,000	-	10,000	361,000
9	10	180,000	-	-	-	-	-	10,000	190,000
10	10	180,000	-	-	2	72,000	-	10,000	262,000
11	10	180,000	10m	3,000	2	72,000	-	10,000	265,000
12	15	270,000	30m	9,000	2	72,000	-	10,000	361,000

Pavements and ramps should be 1.2 m wide. A distance of 10 m long may cost Ksh 3,000. This implies that the cost of the pavements can be calculated in respect of the respective distances. The width of the pavement is meant to give enough space for the movement of a wheel chair.

The researcher found out that there was need for the adaptations of doors to offices, classrooms and toilets. They should be modified to fit the use of learners with physical challenges, on clutches or using other prosthetics. One door's modification would cost approximately Ksh 18,000. In all the schools about 14 doors need to be modified at an estimate cost of  $\text{Ksh } 18,000 \times 14 = \text{Ksh } 252,000$ . The estimates are based on the cost of items and labour in the respective areas.

At least two toilets should be modified to suit the SNE learners. One for the boys and another one for the girls. In school number 1, 3, 5, 6, 7, 8, 10, 11, and 12, adapted toilets should be constructed. This would be possible at an estimated cost of Ksh 36,000 per toilet. The estimate per toilet is about Ksh 36,000. This shows that for the whole adaptation of the two toilets an estimate of Ksh 72,000 would be required.

The researcher noted that there was need to modify the lighting system for learners with visual problems. This could be done by installing electricity bulbs in the classrooms for schools with Hydroelectric power supply. In schools without power supply some transparent roofing iron sheets can be installed. Lighting can be modified with an estimate of Ksh 30,000 to Ksh 100,000 depending on the source of light. In school number 2, there is hydroelectric power which has been connected to the office only. An amount of about Ksh. 100,000 should be used to supply the lighting to the classrooms.

Some awareness on issues of the SNE learners should be conducted. Teachers, parents, and peers should be sensitized on the special needs of learners with SNE.

#### Summary of the findings

Teachers can be sensitized on the use of individualized educational programmes especially for the gifted and talented, learners with mental challenges and the learners with specific learning difficulties. Teachers should also be trained on how to address the special needs of learners with hearing impairments. In schools number 5, 6, 7, 8 and 9, seminars should be conducted to sensitize the non-disabled members of the community on issues of SNE learners. The estimated cost would depend on the approach. For the teachers and learners some facilitators can be invited in the schools. It may cost about Ksh. 10,000 for training and facilitation. For the community some barazas can be called where experts can be invited to sensitize the community on the issues concerning SNE learners.

The estimated cost of more environmental adaptation necessary ranges between Ksh 190,000 and Ksh 362,000 per school. School number 9 require an estimate of Ksh 190,000 while schools numbers 5, 6, 7, 8 and 12 require an estimate of Ksh 361,000. School numbers 3 require an estimate of Ksh 358,000 and school number 11 require an estimate of Ksh 265,000. Schools number 1, 2, 4 and 10 require an estimate of Ksh 283,000, Ksh 362,000, Ksh 280,000 and Ksh 262,000 respectively. On average the schools require an

estimate of Ksh 276,000 each to effect all the necessary environmental adaptations in the schools.

#### **4.7 Summary of the findings**

The researcher found out that six types of special educational needs were represented in the public primary schools. The categories of special educational needs represented included, hearing impaired, visually impaired, physically challenged, mentally challenged, gifted and talented and learning difficulties.

Findings confirmed that the Kenya Government through the Ministry of Education in 2007 funded the public primary schools to modify the environment. The researcher discovered that some environmental modifications were done in the schools. The researcher established that there was need for more environmental modifications to make the schools' environments completely barrier free for learners with SNE.

## CHAPTER FIVE

### SUMMARY, CONCLUSION, AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter outlines the major conclusions that resulted from the data analysis and interpretations in Chapter Four. In this chapter the summary and conclusions are presented. Finally, recommendation on areas for further research and possible policy guidelines are presented.

#### 5.1.0 Summary

The study was guided by the following objectives:

- To determine the types of SNE represented in the schools.
- To establish what environmental modification were done in the schools.
- To examine whether more environmental adaptations are necessary to make the public primary schools barrier free for learners with SNE.
- To find out the estimated cost of additional adaptations in the schools to make them completely barrier free for learners with SNE.

The study was conducted in 12 randomly selected public primary schools in Murang'a District of Central Province. The sample for the study constituted 24 respondents. These included 12 head teachers and 12 chairpersons of school management committees.

The instruments utilized for data collection were, an interview schedule for head teachers and chairpersons of school management committees and an observation schedule.

### **5.1.1 Types of SNE Represented in the Schools.**

The researcher confirmed that there are learners with the various special educational needs in the regular primary schools in Murang'a District. There is a significant population of learners with SNE in the public primary schools. In the 12 schools studied there were 301 SNE learners in a learner population of 6101. This shows that there is need for the environment to be modified to suit learners with SNE. The SNE categories represented in the schools are; physically challenged, hearing challenged, visually challenged, mentally challenged, the gifted and talented as well as those with specific learning difficulties.

### **5.1.2 Environmental Modifications Done in the Schools.**

The researcher found that some adaptations were done in a few of the schools studied. The modifications done differed from school to school. In 2 schools, ramps were constructed to facilitate easy movement of learners with physical challenges while in 2 other schools 1 toilet in each school was modified. In the majority of school, no environmental modifications are done while in some schools individual SNE learners were assisted instead of the general school environment being modified.

### **5.1.3 More Environmental Adaptations Necessary to Make the Public Primary Schools Barrier free for Learners with SNE.**

The investigator found out that the SNE categories were enrolled in all the schools and therefore the same environmental modifications were needed in

all the schools. The topography of the schools was found to be similar in almost all aspects and hence the financial requirements for the environmental modifications are similar. In all the school paths, pavements and ramps are necessary to facilitate easy movement of learners on wheelchairs, on clutches or other prosthetics. The cost of the paths, pavements and ramps will differ from school to school depending on the different distances from the gate to the classes and offices and the differences in distances between the essential facilities in the school compound. It is important that at least two toilets, one for the boys and one for the girls are modified in all the schools.

Lighting in the classrooms should be adequate so as to cater for learners with visual challenges. The lighting can be improved through using the hydroelectricity supply or installation of transparent iron sheets on the roofs.

The researcher found that there was need for awareness creation among the students, teachers, parents and the general public. This could help in raising the enrollments and retention of learners with SNE in the regular schools.

#### **5.1.4 Estimated cost of Additional Adaptations in the Schools to Make them Completely Barrier free for Learners with SNE.**

Environmental modifications in the schools require some large amounts of money in the schools. The researcher found out that the Ksh 10,000 government funding was not enough. Depending on individual schools needs, the environmental modifications require between Ksh 200,000 and

Ksh 270,000 per school. These amounts would be used to effect the environmental modifications.

Table 4.7 shows the estimates of cost to modify the necessary adaptation required in the schools. The estimates are based on information from the headteachers and the school management committee chairpersons about the cost of items like sand, cement, timber, and labour from the local market.

MOEST (2003), recommended that all schools be made barrier free to ease accessibility for learners with special needs in education. The researcher agrees with this recommendation and recommends that the government take the responsibility of adapting the environment in all the public primary schools.

## **5.2 Conclusions**

By providing each school with the Ksh 10,000 for environmental modifications, the government has made a positive step towards ensuring adaptation of the school environment to suit SNE learners.

However, the conclusions of this study are that little environmental modifications have been done in public primary schools in Murang'a District and that Ksh 10,000 is too little funding for environmental modifications needed in the schools.

### 5.3 Recommendations

The findings in this study showed that more environmental modifications are needed. Therefore the researcher made the following recommendations.

- Funding for environmental modification should be increased from the current Ksh 10,000 to Ksh 276,000 per school.
- Training and sensitization on SNE should be conducted among the teachers, head teachers, parents, learners, school administration and the entire members of the public. This would change the negative attitudes towards SNE learners and more of them would enroll in the school so as to receive education together with their peers.
- Ensure funds meant for environmental modifications are not diverted to other uses.
- The government should ensure that funds are audited.
- The government should come up with a policy guiding on environmental adaptations.

### 5.4 Suggestions for further Research.

1. Further research using a larger sample is required.
2. A thorough research should be conducted to ascertain the schools' SNE needs.
3. There is need to extend the same kind of research to other educational levels like the secondary level and even the university level.

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**APPENDIX A****HEADTEACHERS AND CHAIRMEN OF THE SCHOOL  
MANAGEMENT COMMITTEE INTERVIEW SCHEDULE.****INTRODUCTION**

I am conducting a research on the adaptations of school environment to suit the needs of children with special needs in Murang'a District.

**ABOUT THE INTERVIEW SCHEDULE**

The interview schedule focuses on four areas. The items are open and closed ended which require your independent response. You are assured that the information you give will be kept strictly confidential. It is hoped that you shall offer very honest information which will be valuable in educational research for better management of funds intended to improve the environment for learners with special needs in our schools.

Thank you in advance for your co-operation.

Yours Faithfully,

Wakahiga Peter M.

**INTERVIEW SCHEDULE FOR THE HEADTEACHERS AND THE  
CHAIRPERSONS OF THE SCHOOLS MANAGEMENT  
COMMITTEES.**

1. How many SNE learners are in this primary school?

Boys

Girls

2. What are the various categories of special education needs represented by your SNE learners in the school?

•

•

•

•

3. Which environmental modifications have been done to make the school environment barrier free for learner with SNE?

•

•

•

4. What is the estimated cost of each of the environmental modifications done?

Modification

Estimated cost

•

•

- -
5. What other environmental modifications are necessary to make the school barrier free for learners with SNE?

- 
- 
- 
- 

6. What would be the estimated cost of the additional adaptations in the school to make the environment barrier free?

Adaptations

Estimated cost

- 
- 
- 

Thank you for answering all the questions I asked you.

**APPENDIX B****OBSERVATION GUIDE**

1. The environmental modification done?

- 
- 
- 

2. The environmental modification that required modification but were not modified.

- 
- 
- 
- 

3. How are the pavements and paths in the school compound?

- i) Have they been adapted?
- ii) Do they require any adaptations?

4. Are toilets sensitive to the special needs of wheelchair users?

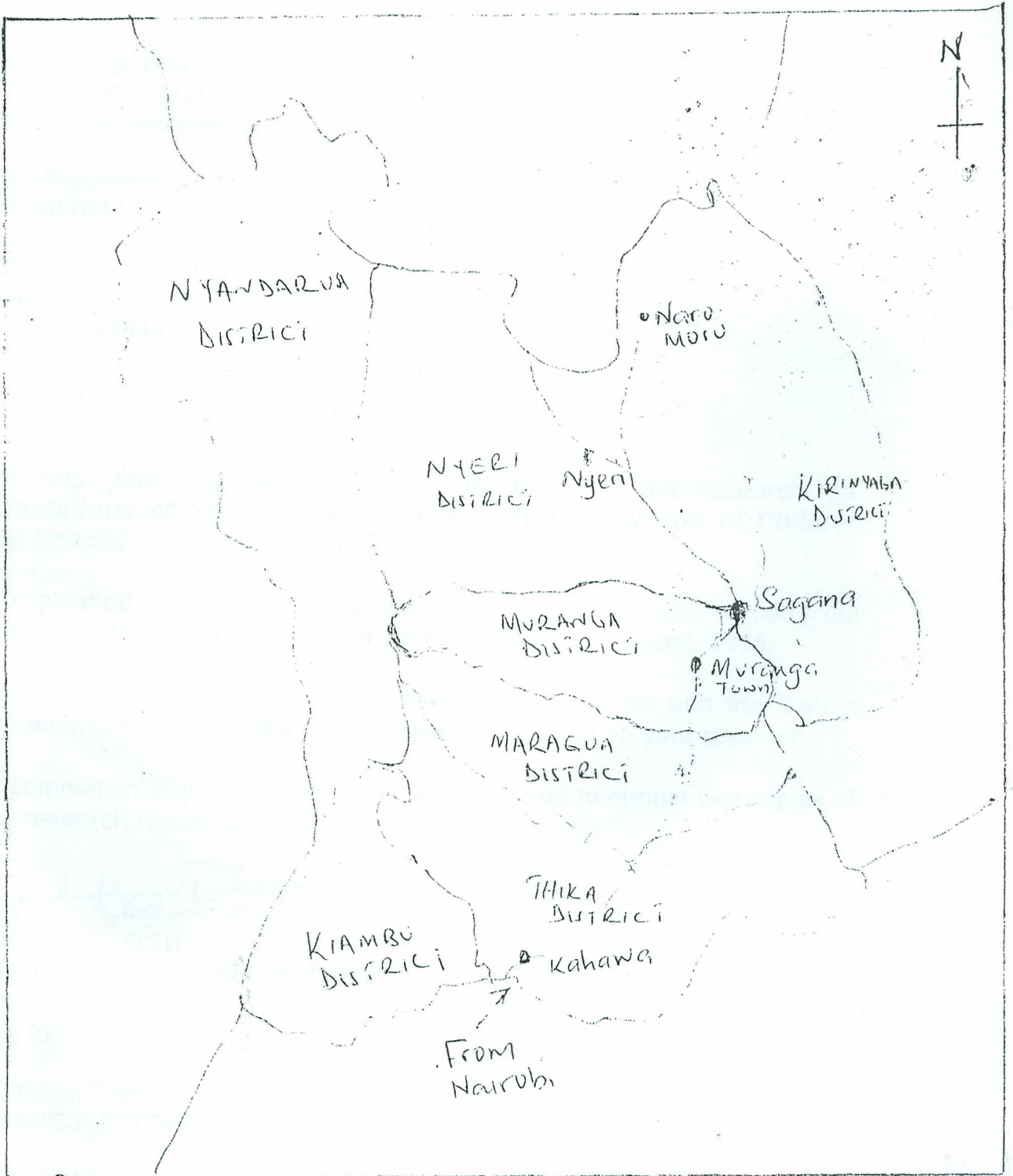
- 
- 

5. Are doors to the rooms sensitive to the special needs of wheelchair users?

- 
-

APPENDIX C

MAP OF CENTRAL PROVINCE SHOWING  
MURANGA DISTRICT



APPENDIX D



REPUBLIC OF KENYA

## MINISTRY OF HIGHER EDUCATION SCIENCE & TECHNOLOGY

Telegrams: "SCIENCE TEC", Nairobi  
Telephone: 02-318581  
E-Mail: ps@scienceandtechnology.go.ke

JOGOO HOUSE "B"  
HARAMBEE AVENUE,  
P.O. Box 9583-00200  
NAIROBI

When Replying please quote  
Ref. MOHEST 13/001/ 38C 297/2

3<sup>rd</sup> June 2008

Peter Mbira Wakahiga  
Kenyatta University  
P.O. Box 43844  
NAIROBI

### RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on,  
*'Adaptations of School Environment to Suit the Needs of Children  
with Special Needs in Murang'a,*

I am pleased to inform you that you have been authorized to carry out  
research in Murang'a District for a period ending 30th August, 2008.

You are advised to report to the District Commissioner and the District  
Education Officer Murang'a District before embarking on your research.

On completion of your research, you are expected to submit two copies of  
your research report to this office.

A handwritten signature in black ink, appearing to read "Mercy Gatobu", written over a horizontal line.

MERCY GATOBU  
FOR: PERMANENT SECRETARY

Copy to:

The District Commissioner  
MURANG'A DISTRICT

The District Education Officer  
MURANG'A DISTRICT

APPENDIX E

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

DISTRICT EDUCATION OFFICE  
P.O. BOX 118  
MURANG'A.

MGA/DEB/70/Vol III/25

GA

26th January 2005

All Headteacher's  
MURANG'A DISTRICT.

RE: ADDITIONAL FUNDS TO SPECIAL SCHOOLS, UNITS AND  
REGULAR SCHOOLS FOR CHILDREN WITH SPECIAL NEEDS

In the spirit of Free Primary Education for all children undergoing primary education, the Ministry of Education Science and Technology has deposited Ksh.153,660/=(One hundred and fifty three thousands, six hundred and sixty shillings only) in the account two for special schools and special units with an enrolment of six pupils and above for disability specific needs. Units with an enrolment of five pupils and below will receive Ksh.17,400/=(Seventeen thousand four hundred only)

In addition to this each regular school was given Ksh.10,000/= for making the environment disability friendly.

These funds are to be used to provide for disability specific requirements.

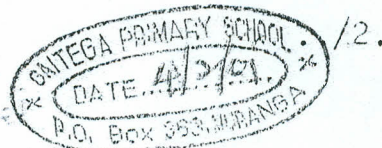
The funds should be strictly used for the welfare of the disabled and accounted for separately.

Below please find a list of proposed areas for consideration.

LIST OF PROPOSED AREAS FOR CONSIDERATION

USE OF KSHS. 10,000/=

- . Sensitization of teachers, parents and other learners and the general school community on disability issues.
- . Construction of pavements
- . Modification of at least one toilet to suit special needs child.



- . Construction of ramps.
- . Modification of doors to suit the use of wheel chairs.
- . Modification of furniture to suit special needs child.

USE OF 153,660/= / Kshs.17,400

(a) Hearing Impaired

- . Purchase and maintenance of audiological equipment.
- . Purchase of Hearing Aids.
- . Purchase of speech trainers.
- . Purchase of audiometers.
- . Purchase of vocational training materials.

(b) Mentally Handicapped

- . Purchase of speech train.
- . Purchase of vocational training equipment in the following areas
  - Carpentry
  - Masonry
  - Tailoring
  - Physiotherapy

Contact the E.A.R.C for professional advice.

*Samuel Kamande*  
(SAMUEL KAMANDE)  
for/DISTRICT EDUCATION OFFICER  
MURANG'A.

cc

All ZQAO/AREA EDUCATION OFFICERS