

UNIVERSITY OF NAIROBI

INTEGRATING THE NEEDS OF PERSONS WITH DISABILITIES IN COMMUNITY INFRASTRUCTURE. A CASE STUDY OF NAIROBI CITY, KENYA

By

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in the Department of Urban and Regional Planning, University of Nairobi**

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DECLARATION.

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

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This thesis has been submitted for examination with my approval as University Supervisor.

Signed J. Mochache 26.10.2021

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DEDICATION:

To the persons with disabilities in Kenya

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Mary Anne R. Mwaniki.

ABSTRACT

The main purpose of this study was to find out how needs of persons with disabilities have been included in planning development and management of community infrastructure within an urban set up. Nairobi was chosen as the area of study. An assessment of how the needs of the Physically Handicapped, the Visually Impaired and the Hearing Impaired have been addressed was made. The guiding principle was that a community infrastructure is a public good whose benefits should be exploited to benefit all persons.

The methods of data collected included observation of integration efforts of persons with disabilities within the selected community infrastructures of education, health, transport, religion and recreation, interviews with key respondents and questionnaires administered to 36 respondents with disabilities.

It was established that persons with disabilities have been discriminated greatly in access and use of community infrastructure within Nairobi. Only a few sections of society assist persons with disabilities to enjoy use of the same. They include the family, the religious organizations, the NGOs and organizations of persons with disabilities as well as well-wishers. The state and the society at large have made very minimal efforts.

This situation must change if planning for community infrastructure has to be successful. Failure to consider human elements in the planning and development of these facilities in the urban built environment creates unnecessary apathy, discrimination and frustrations for persons with disabilities. For effective integration it is important to consider "who" will use a physical development and "how" they will use it. Thus, it is impossible to cut across social and physical. This study equally argues that persons with disabilities are a product of society and must be treated as such. Their needs should be planned alongside those of their able-bodied peers. But for such an arrangement to work, the efforts of all persons; each in his/ her own capacity must join hands to help persons with disabilities to use available and future community infrastructure.

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LIST OF ACRONYMS

APDK	Association Of The Physically Disabled in Kenya
CRD	Central Business District
DAA	Disability Awareness in Action
DANIDA	Danish International Development Agency
DPI	Disabled Persons International
EARS	Educational Assessment and Resource Centre
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
ILO	International Labour Organization
IYC	International year of the Child
IYDP	International Year of Disabled Persons
K.I.E	Kenya Institute of Education
KISE	Kenya Institute of Special Education
KNAD	Kenya National Association of the Deaf
KSDC	Kenya Society for the Deaf Children
KSL	Kenyan Sign Language
KSPH	Kenya Society for the Physically Handicapped
KUB	Kenya Union of the Blind
MCSS	Ministry of Culture and Social Services
MOE	Ministry of Education
MOH	Ministry of Health
NCC	Nairobi City Council
NCDHRD	National Conference on Disability, Human Rights and Development
NGO	Non Governmental Organization
NMT	Non- Motorized Transport
PSV	Public Service Vehicles
STD	Sexually Transmitted Diseases
TSC	Teachers Service Commission
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children Education Fund
WHO	World Health Organization

CHAPTER ONE

1.0 Introduction

“Encountering disability is part of normal life. Persons with disabilities have not always had the opportunity to participate fully and equally in development and management including decision making, often owing to social, economic, attitudinal and physical barriers and discrimination. Such barriers should be removed and the needs and concerns of persons with disabilities be fully integrated into sustainable development activities.”¹

Certain people in every society suffer physical, visual, hearing and mental impairments and/or deficiencies that make them special. Some may have been born with the impairments due to their genetic composition. They could have suffered certain adverse effects before or during birth or while living normal lives. There is also the category of disability that accrues from injuries on roads, factories, homes, riots, wars, earthquakes and the most common out of old age.

Whatever the cause, people with disabilities have to depend on one way or the other on assistance of other people or community to do certain things. The nature or degree of disability differs among persons and determines each person's level of inability to carry out normal functions and therefore his level of dependence on the family or community.

Those who are non-disabled seldom appreciate the problems of everyday living that people with disabilities face until they are confronted with them. Society often tends to treat disability as an issue belonging to “those people”. It does not occur to them that disability can occur to anyone at any time. One can be whole today and tomorrow he is confined to a wheelchair or completely blind for the rest of his/her life.

From time immemorial, the handicapped have taken second place among the citizens of the world. It is often forgotten that they too have needs like everyone else, the need to be loved, the need to be part of the society, the need to learn through activities and the need

¹ Habitat Agenda 1996, Article 16.

to participate in community affairs. More often than not, they have been left out in important issues of development, even in the kind that concerns them

The planning and organization of community infrastructure also sidelines persons with disabilities. There is the tendency of people without disabilities to concentrate on what they imagine the disabled cannot do than in giving them an opportunity to show how much they are capable of doing. For instance, a person crippled in childhood may as a result have led a life very different from his brother who is not crippled. The crippled child may have been separated from his parents and from natural affection for a long time and put in a special school. Such a person could have been encouraged to sit at home and fostered to believe that he will never be able to work and contribute normally to life.

Likewise, a similar child could have been lucky to go to school. However, in school he could have been exempted from much of the schools social activities such as games, exercises etc. Facilities provided in school may have failed to suit his day-to-day needs. His disabilities may have subjected him to laughter and ridicule by his colleagues. Eventually, he may have viewed himself as a lesser human being. Thus, society is responsible for the creation of inability. In the same way however, it can undo inability through attitude change, sensitization and proper planning mechanisms within its structural organization.

The built environment on the other hand has for many years created unnecessary barriers that limit access of handicapped persons to public and private facilities. However, to be independent is the predominant motive of most disabled people. To achieve that ambition, they will need not only a great deal of personal determination but all the help they can get from the alterations that can be made to the environment to meet their particular needs.

The 1954 WHO report recognizes that "every person has the right to develop his/her potentialities to the maximum." The central purpose of (all) economic and social development is to meet human needs. "Today, it is recognized that success requires a

much more complex integration of social, cultural, economic and environmental factors within which the needs of the individual, for an adequate standard and quality of life are the basic measures. True normalization in societies can only be achieved when people with disabilities are accepted spontaneously as an integral part of society. Integration requires creation of an environment in which persons with disabilities can achieve satisfactory all round growth and development.

As observed by Beckman (1976), it is in many cases the deficiencies in the environment that create special needs and not the unfortunate lot of the people afflicted by handicaps or lack ability. The philosophy assumes that all people at some time in their lives will be fundamentally disabled or unable to manage everyday routines, for example due to old age. Overall elimination of obstacles in the environment is the goal in order to normalize living conditions for the disabled. Viewed in this perspective, it is no longer relevant to speak of special needs. The needs of the handicapped form part of the needs of the entire community.

The scenario in Kenya is such that not much effort has been accorded by both the society and the state to the aspect of handling disability. In the National Development Plans persons with disabilities are only mentioned in Special Education and vocational Rehabilitation which unfortunately do not target all due to lack of statistical data to facilitate planning and funding. In the District Development Plans only an estimate of their population is given and this mainly includes those with a physical disability. Nothing on measures to integrate them in societies activities are given.

In the Poverty Eradication Plan (1999-2015) persons with disabilities are only classified among the population of the poor living below poverty line but efforts to deal with alleviation of the poverty experienced by this disadvantaged group are not given. Similarly, only the 1989 National Population Census included persons with disabilities but the results were dismissed as highly inaccurate. Consequently they were not included in the 1999 census. The constitution on the other hand has not safeguarded their well being especially in the use of available community infrastructure thus creating loopholes

that facilitate discrimination of persons with disabilities in the appropriate use of these facilities.

The above considerations form the main foundation of this study. It is based on a conviction that persons with disabilities like everybody else have a basic human right to access use, access and also enjoy community infrastructure. The study borrows from the Swedish philosophy that individuals with disabilities should not be viewed as separate user groups. Disability is a societal concern and society is viewed as the best agent in managing the plight of the disabled. In particular the study argues that, persons with disabilities can do more in society if infrastructure is designed in such a way that it provides conducive chances for them to exploit their potential.

1.1 Statement Of The Problem

“Human rights are birthrights and not optional, conditional or charitable. For the person with a disability in particular, equality means the realization of rights that have been denied as a result of legal, cultural, institutional behavioral and attitudinal discrimination”².

According to the Report of the Task Force Reviewing the Law Relating to Persons with Disabilities in 1995, it was revealed that persons with disabilities represent that segment of the marginalized population in any society especially in the developing world. They experience special problems as a result of their disability. Majority of them do not have access to education, health, employment and rehabilitation. Most often than not, they are ostracized, abused, stigmatized and experience in-built social-cultural and economic prejudices. Laws supposed to be instruments of social engineering and avenues for awareness, and intervention in alleviating their plight have not been explicit in addressing their human rights. This being the case, participation in the social, economic, cultural and political opportunities available in the country are minimal for them.

² The report on the Task Force Reviewing the law relating to persons with disabilities. 1.1.7

They experience deprivation of having employment and occupation, leisure and recreation, healthcare, medical attention, public communication and other needs. Very often, these deficiencies remain invisible and a state of exclusion is established. The persons with disabilities therefore do not get the opportunity for self-determination. Once this happens, they are affected negatively thereby affecting the development of the general society. Thus, there is need to address the plight of those with disabilities and consequently make structural changes in society in issues affecting them. This study calls for a change of attitude in dealing with issues appertaining to disability.

1.2 Purpose Of The Study

The purpose of this study therefore, is to establish how the needs of persons with disabilities can be integrated in the planning of community infrastructure. Many community facilities in Nairobi and other parts of Kenya (such as roads, offices, banks, churches etc) do not address needs of disabled persons in their planning, design and management. The study establishes the actual scenario in Nairobi and comes up with policy proposals on integrated community facility guidelines.

1.3 Research Objectives

The study has its main objective, the creation of awareness on the necessity to include needs of disabled persons in community infrastructure. Specific objectives include:

- *Establishing the kind of disabilities within Nairobi's population, their numbers, respective causes and measures taken against the causes.*

This objective determines the number of persons with disabilities in Nairobi that planning for community infrastructure should address. Knowing the kinds of causes likely to be found in Nairobi facilitates ways of coming up with remedy measures such as prevention and control by relevant authorities. The objective also reveals how much data on the population of persons with disabilities is available.

- *Establishing the problems experienced by disabled persons in using the community infrastructure with in Nairobi.*

This objective identifies which community facilities are particularly problematic to persons with disabilities. It also points out the nature of the problems experienced. The objective is crucial in coming up with proposals and recommendations in dealing with the problems.

- *Establishing the care accorded to the disabled in community infrastructure and how it could be enhanced.*

This objective considers the educational, social, and moral as well as economic needs of persons with disabilities. It establishes the extent to which the family, the state, religious organizations, NGO's, persons with disabilities, organizations dealing with persons with disabilities etc offer support and the nature of support. It also establishes what nature of support persons with disabilities yearn from which member(s) of society. The objective also tries to find out why society can or cannot care for its members with disabilities.

1.4 Research Assumptions

The study uses two assumptions

- The society as it exists is incapacitated to deal with disability.
- Planning, design and management of community infrastructure within Kenyan urban sector and in particular Nairobi has not addressed the needs of people with disabilities.

1.5 Justification Of The Study

1.5.1 Legal Status

In Kenya there is no Disability Act that guarantees rights of people with disabilities. The Kenyan constitution only mentions people with disabilities in a number of its sections and articles but these are presented negatively. People with disabilities are referred to as "imbeciles", "infirm", or "incapacitated". In sections where the blind and mentally

handicapped persons are mentioned, they do so with a purpose of denying them their rights of being elected into a public office or the right to association and family life. (Kenya constitution sections 12 (1) 33, 34 and 41(5). In 1992, the Attorney general set up a task force to review laws relating to people with disabilities. Though the report was completed, the bill's report is yet to be presented to parliament. In 1977 a bill was presented in parliament on rights of children. It was however silent on the rights of children with disabilities.

1.5.2 Physical Planning

Among other responsibilities, the physical planning profession is charged with the responsibility of planning for public places as well as approval of building plans. However, the Physical Planning Act (1996) for example sets out no regulations or standards on how planning of these areas can include needs of all persons. Planning should go beyond allocation of land for particular types of development. Litchfield (1975) notes, "planning proposals without question affect the well being of members of our society."

He also notes that public planning agencies are established to protect and further the interest of society at large - all those who comprise society rather than interest of particular groups." In principle, no affected persons should be ignored in the assessment of a plan proposal." Lynch (1981) adds to this in planning for democratic streets. He observed that in planning for streets, five basic public space rights should include presence, use, action, appropriation, modification and disposition. These rights should apply for the planning of other community infrastructure.

1.5.3 Architecture/ Engineering

Access and mobility are part of physical planning. The physical environment both in urban and rural setting is not accessible. Public buildings such as banks, schools, post offices, hospitals, hotels etc in some instances have slippery floors and staircases making them inaccessible to those with physical disabilities like the physically handicapped or the visually impaired.

Public transport as well is not accessible to people with physical and visual disabilities especially in urban areas where there is usually competition to board and alight from public vehicles.

The deaf on the other hand find it difficult to express their desire/problems because the personnel of most public places like banks, post offices, hotels, police stations, churches etc do not understand sign language. The police may for example whip a deaf person when his silence is mistaken for rudeness. The public in its big numbers rarely understands sign language. The Government on the other hand does not officially recognize sign language as the language of people with hearing impairment; there is no policy in Kenya on communication for people with hearing disabilities

1.5.4 Policy

Existing policy frameworks are either lacking in some areas (e.g. in the building codes, traffic regulations), unimplemented where they exist, (e.g. though the report on the review of issues relating to disability, was released in 1995, a disability bill is yet to be enacted), targeting only a few, (e.g. Special Education) or not comprehensive. (e.g. it is unrealistic to exempt institutions dealing with persons with disabilities from taxation of disability related equipments when so many disabled persons need the equipment but are not in institutions). For this reason, even when advocacy organizations fight for welfare of people with disabilities they have no policies to support or base their arguments.

1.5.5 Health

Parents and communities require far more information and knowledge about handicaps and disabilities and especially on prevention. Sensitizing a country's communities can help in dealing with some of the handicaps and disabilities. Common causes of impairment are infections, malnutrition, parental conditions, trauma, accidents, environmental pollution, drugs and genetic effects etc. Most of these can be prevented through capacity building of the community, healthcare and good nutrition

Health management will many times go hand in hand with poverty levels and distribution of resources. With inequality of access to health institutions (especially for the urban and rural poor) together with cost of medical care, disability becomes a big challenge. In most African countries, rehabilitation therapy to those who are disabled covers 2% of the cases in need. This is usually at a cost, which would not within existing funds permit much greater coverage. Approaches to prevention of handicaps should therefore be within the community participation but this should follow an initial process of health. The 1989 population census indicates that there were 115,000 children countrywide suffering from a variety of deformities which could be controlled or prevented if timely and appropriate remedies were applied.

Other disabilities are indirectly caused by poverty and negligence on the part of authorities responsible. Recent occurrences in Kenya in which people became blind after consumption of illicit brew in Nairobi, Embu, Murang'a and Naivasha are good examples. These brews are mainly found in slums in urban areas where poverty levels are high. Residents cannot afford decent beer. As a result, they consume whatever is available to drown their frustrations. These experiences nevertheless reveal high levels of negligence on the part of Government departments involved with public health and security. If no measures are taken, then Kenya and other similar states will continue to lose the battle against disability.

Capacity building is also crucial in the areas of disaster preparedness. Many Kenyans do not know what to do when disaster (like the bomb blast of 1998) occurs. Even as development of technology increases no measures have been taken to train the community on for example what to do whenever they hear gunshots at a close range or even what first aid to apply to accident victims.

In many urban areas within the country and in particular Nairobi, the society does not obey set regulations and law enforcement is not well effected. For example, the condition of many streets is deplorable especially for use by those on wheelchairs. Passengers at bus stops more often than not do not queue. Motorists park along the roads causing

congestion and public vehicles not only overload dangerously but also pick passengers anywhere along the streets. In 1982, the UN estimated that numbers of people with disabilities living in developing countries would rise from three-quarters to four-fifths in the year 2000, Nkinyangi (1982). Prevention measures on disability are therefore very important.

1.5.6 Education

The education system, facilities and services offered at the institutions of learning, as well as the attitude of the society (especially the parents) are major prohibiting factors to disabled persons' ability to acquire education. The table below shows an analysis of the kind of different problems persons with disabilities experience within the education sector.

Table 1 Type of problems experienced by persons with disabilities in getting education

Type of Disability	Kind of problems experienced
Hearing Impairment	Few schools, absorption into higher institutions of learning, subjects like languages and music, few instructors of sign language, grading system in examinations
Visual Impairment	Subjects such as pure sciences and mathematics, lack of Braille machines and typewriters, library material in Braille, use of staircases, lack of audible warning signs, grading system in examinations, mobility aids
Physical Handicap	The built environment (e.g. use of staircases, narrow paths and corridors, slippery floors), physical facilities (e.g. seats, beds, toilets, lack of lifts)

1.5.7 Employment

People with disabilities are discriminated in accessing formal employment. Due to the fact that majority of them do not receive enough or appropriate formal education, they end up in low calibre jobs or in the informal sector. Many disabled persons often come from poor backgrounds. For this reason, many parents may opt to educate the children without disabilities at the expense of those with disabilities. Thus, majority of persons with disabilities are poor. Even for those in the informal sector, access to capital including loans is difficult. This also makes those willing to get into the informal sector face difficulties.

1.5.8 Social Life

People with disabilities have limited access to recreation and social amenities. In schools like mentioned earlier, those with visual and physical handicaps are left out in recreation and extra curriculum activities. Many of the persons with disabilities and especially those with physical handicaps have difficulties in accessing religious institutions due to mobility problems. The deaf on the other hand cannot understand what is being said in these institutions because many (institutions) lack sign language interpreters.

More often than not disabled persons lack a chance to participate in community activities either due to the reasons already given above or due to the fact that society views them as incapacitated. They often experience limited freedom to associate in marriage. There is the imagination by society that if one has physical or visual disabilities, he/she is not capable of biological functions like giving birth. For this reason, many end up without partners. For those in institutions for the disabled, there is a lot interaction among themselves. Since they tend to understand each other better some end up marrying each other. There is nothing wrong with such an arrangement, but there is also the need for members of the society to integrate so that they can understand and appreciate each other.

1.5.9 Gender

Women with disabilities face violence in the area of gender life. This violence is in the form of psychological, physical and sexual. Both families and governments (especially those in the third world countries) have negative attitude towards girls/ women with disabilities. They are viewed as inferior to other women. Due to their isolation and invisibility they are often stigmatized. Women with disabilities also lack access to information, for example on HIV/AIDS due to being isolated. They also lack access to education compared to their male counterparts. In institutions for the disabled and on the streets some are raped especially those with mental and physical disabilities), some are even victims of incest in their homes. They also lack normal married life because the

Such issues as the ones analyzed in this section and others not mentioned make this study necessary. Tackling disability will involve change of attitude by the whole society. It will

involve proper policy formulations, sensitization of society and an enabling political as well as social-economic environment

The study therefore had among other reasons the aims of:

- Establishing the population of people with disabilities and their respective categories in the area of study as well as the causes of the disabilities. This was crucial in coming up with supportive policy measures as well as the course of action to be sought.
- Establishing facilities and services provided in community facilities in Nairobi favour persons with disabilities.
- Establishing societies' attitude towards persons with disabilities. The study also tried to find out who cares for the disabled and what policy measures exist in order to promote their welfare.
- Coming up with recommendations and proposals on appropriate measures and strategies be followed in enhancing integration of the needs of persons with disabilities in the planning and development of any community infrastructure and
- Consequently, paving way for further research especially in the area of how community infrastructure favors those with mental disability since this is an area, which was not covered in this study.

Thus, in appreciating the fact that planning for every member of society can only be achieved through integrated planning (and not through parallel planning or planning for a certain section of society), the study addresses two categories of people

1. The Government through its different mechanisms such as policy makers, professionals dealing with/and planning for community infrastructure and departments charged with the responsibilities of handling persons with disabilities such as the Ministry of Culture and Social Services, the Ministry of Education and the Ministry of Health.

2. In the society at large, care of persons with disabilities is a societal responsibility, yet this is not accepted. Every one has an obligation to do whatever he/she can to make lives of persons with disabilities easier by developing a positive attitude. Creating an environment that has fewer barriers through showing understanding and love in enabling persons with disabilities to use public places can also do it. A simple example is like that of obeying a request to line up in order board public transport. Such a request, which really doesn't cost much, will enable a disabled person board a vehicle with much ease than when people scramble and push to board. Special emphasis has been given to the family, religious organizations, school communities, NGOs and organizations dealing with the disabled, as part of organizations within community.

1.6 Scope

The study was carried out in Nairobi city. Nairobi was chosen for various reasons as given below.

- Being the capital of Kenya it has diversified community infrastructure that require modifications to include needs of disabled persons
- Many people from all over the country come to Nairobi in search of employment, schooling or even visiting. Thus, getting the views of people from different parts of Kenya will be getting views of Kenyans with disability in their respective regions.

The study limits itself to three categories of people with disabilities. They include those with a physical handicap, those with a visual impairment and those with a hearing impairment. Throwing some light on the needs of these three groups will pave way for further research on other categories.

Parameters that have been tested include physical, educational, economic, social and health needs of people with disabilities as addressed in community infrastructure. Chapter one deals with the proposal, which also includes the methodology. Chapter two will include literature review on various issues and aspects of disability. Chapter three is

about the area of study. Chapter four includes actual findings of the survey carried out and the analysis while chapter five gives recommendations to issues arising from the findings.

1.7 Methodology

1.7.1 Research Design

This research uses Social Town Planning Theory that argues that special needs of particularly the minority and disadvantaged groups in urban areas must be incorporated in the physical built environment. In this connection, the methodology developed had a strong social lineage. As such, the study used the survey research design. Being an exploratory kind of research, this design was considered crucial in facilitating in-depth information gathering on the subject matter. It also facilitated the use of more than one survey tool.

1.7.2 Population and Sample

The study is about persons with disabilities in Nairobi city. Three subgroups of people with disabilities were selected, namely the physically handicapped, the visually impaired and the hearing impaired. A sample size of 36 persons with disabilities from the 3 groups was selected.

Non-probability sampling method was used to come up with the sample size. Both purposive and quota sampling methods were applied. First an inventory of departments, organizations and institutions dealing with disabled persons was established. Selected groups from these subjects were chosen to act as key informants.

It was established from these subjects that according to estimates of the Nairobi population and Kenya in general, the physically handicapped persons constitute the majority among the 3 sampled groups. The visually impaired persons come next and the hearing impaired persons follow respectively.

A sample of 36 was found to be ideal for various reasons

- The actual population of persons with disabilities in Nairobi is unknown.

- Following WHO estimates that 10% of any population has disabilities, 10% of Nairobi's population constitutes 213700 persons with disabilities scattered all over the city.
- Persons with disabilities are not a special group found within a particular geographical region, race social class or gender especially in a region (like Nairobi), which has not experienced major disasters such as war.

Quota sampling was used to split the 3 subgroups. 14 physically handicapped persons, 12 visually impaired persons and 10 hearing impaired persons were interviewed. The different numbers received their categorization from Seltic, Weightsman and Cooks' argument that for greater accuracy of findings the number of each stratum should be based on the relative size of each subgroup in the population

In selection of subjects, any person within the city with the required characteristics who was available and willing was interviewed until the required number in each category was achieved. However care was taken to include both men and women, (17 and 19 respectively) people in formal employment (8), people in informal employment, (4), unemployed (7) beggars (7) and students (10) with disabilities to make the sample more representative. This method was used due to the reasons given above and due to the nature of the research, which is mainly qualitative.

1.7.3 Data Collection

Survey tools included questionnaires, interviews with various key respondents, and checklists to Government Departments dealing with disabled persons as well as general observation of community infrastructure within Nairobi. Government Ministries included, the Ministry of Education, the Ministry of Culture and Social Services and the Ministry of Health (through Kenyatta National Hospital). An 'institutional' questionnaire was administered to various organizations and institutions dealing with persons with disabilities to find out how they facilitate integration of persons with disabilities in community infrastructures and what bars their efforts. These groups were particularly helpful in pointing out how existing policies and laws discriminate against the disabled in

their access to infrastructures such as health and education. Table 2 below shows the sampled institutions and organizations and some of the crucial information sought

Table 2 Selected Organizations and Institutions.

Institution	Deals with	Key Information sought.
Kenya Institute of Special Education (KISE)	Training of personnel in Special Education	<ul style="list-style-type: none"> • Training of teachers in special education is far below the demand for the same. • There lacks co-ordination between activities of the three Ministries dealing with persons with disabilities (MOH, MOE AND MCSS)
Kenyatta University	Has a Special education Unit	<ul style="list-style-type: none"> • Training of graduate teachers in special education is inadequate. • Has made great efforts in helping persons with disabilities adapt in education institution.
University of Nairobi	Has a Special Education Unit	<ul style="list-style-type: none"> • Training needs of persons with disabilities especially for the Hearing Impaired in institutions of Higher learning falls below 5%. • The Universities Act and the Higher Education Loans Act do not consider special needs of students with disabilities.
Association for the Physically Disabled of Kenya (APDK)	Rehabilitation of the Physically Handicapped	<ul style="list-style-type: none"> • Most persons with Disabilities come from poor families and cannot afford cost of mobility appliances • Imported mobility appliances often do not suit local conditions.
Kenya National Association of the Deaf (KNAD)	Advocacy and welfare for the Hearing Impaired.	<ul style="list-style-type: none"> • The Hearing Impaired are particularly discriminated in getting opportunities, education and employment. Most employment is provided through efforts of KNAD. • Kenyan sign language is not officially recognized as the language of the day.
Kenya Society for the Deaf children (KSDC)	Facilitate education of children with a Hearing Impairment.	<ul style="list-style-type: none"> • Education of persons with disabilities relies heavily on donors. • The mode of examination in the education curriculum discriminations against those with disabilities.
Kenya Society for the Physically Handicapped (KSPH).	Advocacy and welfare of persons with physical disabilities.	<ul style="list-style-type: none"> • Assists in education of children with physical disabilities from poor backgrounds. • The disabled want to be included in planning for development that concerns them.
United Disabled Persons of Kenya (UDPK)	Advocacy for persons with all kinds of disability.	<ul style="list-style-type: none"> • Policies and laws such as those of Education, Traffic, etc discriminate against persons with disabilities • Less than 5% of persons with disabilities are in institutions of higher learning or involved in the country's economy. • Welfare needs of persons with disabilities especially in health and education are met by NGOs, Religious organizations and groups of the disabled
Kenya Union of the Blind (KUB)	Advocacy for the Visually Impaired	<ul style="list-style-type: none"> • Educational facilities for the Visually Impaired are extremely few. • In nearly all public places materials in Braille are lacking.

The area of community infrastructure is wide and complex. As such, the study narrowed down to specific categories of community infrastructure namely, Educational facilities, Health facilities, religious facilities and transport facilities. It is argued here that a person with whatever disability, whatever his social status is most likely to use one or more of these community facilities at one time or the other during his stay within Nairobi.

Educational and Religious Institutions.

A questionnaire for educational institutions and another for religious institutions were administered to the selected institutions to assess how disability is addressed and observations made on how facilities and services provided address the same. As a particular consideration, availability and use of playgrounds and other recreational facilities offered in schools was assessed to establish how integration for persons with disabilities has been achieved in the area of recreation. The selected institutions and reasons for their choice have been given in table 3 below.

Table 3 Why the sampled facilities?

Educational Institutions	Reason for selection.
Kasarani primary school	<ul style="list-style-type: none"> • A Nairobi City Council primary school.
Kilimani Primary School	<ul style="list-style-type: none"> • A Nairobi City Council Primary School which is within the integrated programmes for the visually impaired.
Marion Preparatory School	<ul style="list-style-type: none"> • A Private Primary School within Nairobi
Kasarani Academy Secondary School	<ul style="list-style-type: none"> • A Private Secondary School (to establish whether upcoming secondary schools have the aspect of disability in mind).
University of Nairobi	<ul style="list-style-type: none"> • An institution of Higher Learning within the city centre.
Kenyatta University	<ul style="list-style-type: none"> • An institution of Higher Learning at the outskirts of the city that has pioneered in integration of persons with disabilities within institutions of higher learning.
Religious Institutions	Reasons for selection.
The Holy family Minor Basilica	<ul style="list-style-type: none"> • Located within the city centre. • Has a target population of between 2000 to 3000 people. • Being a Catholic Church, it represents one of the oldest crusaders of disability awareness in society.
St Andrews Presbyterian Church of Africa (PCEA)	<ul style="list-style-type: none"> • Also within the city centre. • Has a target population of about 2000 to 3000 people • Has been crucial in addressing hearing disabilities.
Deliverance Church Kasarani	<ul style="list-style-type: none"> • One of the most Modern Religions. • Has a catchment population of about 2000 to 3000 people • Is placed within a residential neighbourhood (Zimmerman) so more accessible.

Health Facilities.

Observations on the built environment of selected health institutions were made to assess how it favours those with disabilities. An assessment of access to health care and how services provided in the institutions favours those with disabilities was however derived from the questionnaire for the disabled. This was viewed as a more appropriate method of assessing use of health facilities by persons with disabilities within Nairobi. The selected health institutions included:

- The Kenyatta National Hospital (a public national hospital).
- The Nairobi Hospital (a private hospital)
- Ngaira Road Chest Clinic (Nairobi City Council clinic)

Transport.

Observations were made on provisions within public transport both within the CBD and other parts of the city. These included roads and streets, public transport, bus stops, parking facilities and street facilities. It was not possible to select specific streets for study because persons with disabilities do not use specific streets. Moreover, picking on a few streets may not give a representative view of the kind of problems experienced by persons with disabilities on different occasions. The nature of the problems experienced was however established from the questionnaire on the disabled.

However, general observations on other community facilities within the city and the issue of how they address needs of disabled persons in their physical design and service delivery was also made although at a minimal level. They included facilities such as hotels, offices, shops, post offices, banks, stadiums, law courts police stations parks etc. Thus, any relevant observation within the realms of a community facility within the city was noted.

1.7.4 Data Analysis

Both qualitative and descriptive statistics were used. Descriptive statistics were used to summarize and describe the sample. Data measured through nominal, ordinal and interval scale such as age, sex, marital status age, distance, money earned etc were measured

using measures of central tendency such as mean and mode and frequency distribution. In establishing relationships for example between sex and educational level, or the relationship between cause of disability and age at which it occurs, cross-tabulation and correlation coefficient were used. In the examples given, it was for instance established that men with disabilities have higher educational levels than their female counterparts and that disability caused by infections mainly occurs between 0-5 years when children are vulnerable to sickness. For variables measured in ratio or interval scales and normally distributed (e.g. the relationship between education level and sex) Pearson correlation coefficient (r) was preferred while Spearman's rho correlation coefficient was used to analyze data not normally distributed (e.g. employment and training)

1.7.5 Data Presentation

Data computation was done using computer package for social sciences (SPSS). Parameters such as socio-economic characteristics of respondents (e.g. sex, educational levels, marital status etc), education needs of respondents (e.g. type of primary education system used, problems experienced in schooling etc), health needs (e.g. distance covered to health facility, type of health facility used, problems experienced in getting Medicare etc) type of transport used and kind of difficulties experienced etc were assessed in relation to how they favour persons with disabilities

First a data structure was constructed. It included a variable name, variable label, a variable type, decimal place for analysis of data in ordinal scale such as distance and a value label. With this data structure in place, the variables in the questionnaire were coded accordingly and keyed in. Consequently it was possible to do the analysis. Data that could not be keyed in such as the one involving open-ended questions or observations was analyzed manually. Presentation has been done by use of frequency distribution tables, Bar charts, pie charts, percentages and relationships maps, pictograms and diagrams

1.8 Operational Definition of Variables

Community infrastructure: a public facility

Income is operationalized as the nature of occupation one has

Education is operationalized as highest level of education achieved.

A conventional school is operationalized as a regular school.

1.9 Limitations Of The Study

Due to limited time and resources, the researcher was not able to deal with all the types of disability. Other limitations experienced included lack of statistical data on persons with disabilities and the fact that due to society's negative attitude towards them, many persons with disabilities have developed apathy that makes parting with information difficult. There is a lot of suspicion that data collection is out of selfish interests to solicit for funds. As such, it is an area that required much patience and understanding

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Introduction.

In this chapter, review of literature on the aspect of disability has been given. Aspects such as global and national efforts in dealing with disability have been discussed. Literature review has given the study a logical framework in its attempt to assess how community infrastructure serves or fail to serve persons with disabilities. It is argued that the said facilities as they exist do not serve persons with disabilities. Social Theory and Social Town Planning Theories have been used to back the author's arguments that the needs of the individual constitute the needs of the society and that town planning is not just physical but also social.

According to Habitat (1996), the quality of life of all people depends among other economic, social environmental and cultural factors, on physical condition and spatial characteristics of our, towns and cities. City layout and esthetics, land use patterns, populations and transportation, ease of access for all to basic goods, services and public amenities have a crucial bearing on the livability of the environment. This is particularly important to vulnerable and disadvantaged persons, who often face barriers in access and in participating in shaping their future.

People's need for community and their aspirations for more livable neighbourhoods should guide the process of management and maintenance of human neighbourhoods. Objectives of this endeavour include protecting public health, providing for safety and security, education and social integration, promoting equality and respect for diversity and increasing accessibility for persons with disabilities.

2.2 Definition Of Disability.

Definitions of disability differ in different parts of the world. In the Republic of the Philippines it is "those persons with restriction or different abilities as a result of mental, physical or sensory impairment, to perform an activity in the manner or within the range

considered normal for a human being. Society tends to view them as abnormal.”¹ In Zimbabwe a person with disability is defined as one “with physical, mental, or sensory disability including visual, hearing or speech disability which gives rise to physical, cultural or social barriers inhibiting him from participating at an equal level with other members of the society in activities, undertakings or fields of employment that are open to other members of the society.”²

The United Nations on its part says that “the term disability summarizes a great number of different functional limitations occurring in any population in any country of the world. Disability may be physical, intellectual or sensory, medical or mental and may be permanent or transitory in nature.” On the other hand the term “handicap” means the loss of limitation of opportunities to take part in level with others. It describes the encounter between the person with the community and the environment. The purpose of this term is to emphasize the focus in the shortcomings in the environment and in many organized activities within society. For example, information, communication and education which prevent the persons with disabilities from participating on equal terms

For many people the concept “disabled,” means that the individual is helpless and hence the Kiswahili concept “*asiyejiweza*”(the helpless). In Tanzania this fact has been considered and the concept has been changed to “*mlemavu*” which gives the concept of disability its right meaning: a person with disabilities. The stigmatizing term “*kipofu*” (the blind) has also been changed to “*asiyeona*” (one who cannot see) The mentally impaired has also been referred to as “*waliopungukiwa na akili*” (those with low intellectual ability) and not the negative “*wajinga*” (the fools). Disability implies the relationship between the individual and his environment and not a problem of the victim. It is a problem that should concern the society as a whole. Thus viewed in this context, a person with disabilities meets problems in performing his daily activities and society has an obligation to respond positively to his needs.

¹ Republic Act No. 72 77 providing for the Rehabilitation Self Development and Self Reliance of Disabled Persons, Chapter 1.

² Zimbabwe's Disabled People's Act, 1992.

Handicap: This denotes the limitation caused to an individual in his/her society, culture or environment by the occurrence of an impairment. Handicap occurs at various levels:

- i. At individual level- where decrease in independence, mobility, leisure activities, social integration and economic viability is experienced.
- ii. At family level- where care is needed, distributed social relationships and economic burdens are experienced
- iii. Societal status- where care is necessary and where loss of productivity and social integration is experienced.

Thus, disability includes a wide range of conditions: it covers more than the obvious such as blindness or confinement to a wheel chair. Breathlessness, pain, the need to walk with a stick, difficulty in gripping because of paralysis or arthritis, lack of physical coordination, partial sight, deafness and pregnancy can all affect a persons mobility in the environment. (Royal Town Planning Institute RTPI, 1985) For the purpose of this study however, a disabled person is one who due to an impairment, cannot effectively use ordinary community infrastructure without some kind of physical or social support. It is that person who cannot effectively interact with and/ or manipulate his/her environment like ordinary persons as stressed by the United Nations Advisory Committee for the International year for disabled persons.

2.3 Causes of Impairment/ Disability/ Handicap.

According to UNICEF (1991), the common causes of impairments are:

- Infection.
- Malnutrition.
- Perinatal conditions.
- Trauma or accidents.
- Drugs or
- Genetic effects.
- Environmental pollution.

2.4 Global Efforts To Deal With Disability.

The international community has since 1948 set legal instruments that commit state guarantee civil right for citizens. In 1948 the United Nations passed the fundamental Human rights charter that became the key reference to states that wanted to develop and promote basic human rights in their countries. The UN Human Rights Charter was followed by a series of international conventions that stipulated the rights of specific groups. These conventions covered the rights of specific groups. They covered the rights of women and children among others.

However, it was not until 1980 that the international community realized the need to address the rights of people with disabilities. The first step was to pass world programme of Action concerning disabled persons the rights of people with disabilities. Next was the declaration of the year of the disabled persons (IYDP) by UNICEF in 1981. This was followed by the declaration of the decade for people with disabilities in 1982.

It was only in 1990 however that the economic and social council of the General Assembly passed resolution 1990/26 that authorized the commission for social development to consider as its 32nd session, the establishment of an ad hoc open-ended working group of government experts funded by voluntary contributions to elaborate standard rules on the equalization of opportunities for disabled children, youths and adults, in close collaboration with the specialized agencies, other intergovernmental and bodies particularly organizations of disabled persons.

The greatest achievement though was the UN standard rules on the equalization of opportunities for persons with disabilities. The rules were based on the international bill of human rights, comprising the universal declaration of human rights, the international covenant on economic, social and cultural rights, the convention on the elimination of all forms of discrimination against women as well as the world programme of action concerning disabled persons (World Programme of Action concerning disabled persons:8). The purpose of the rules is to ensure that girls, boys, women and men with

disabilities as members of their societies may exercise the same rights and obligations as others (Ibid: 8-9).

The preamble of the UN standard rules on equalization of opportunities however states that in all societies of the world, there are still obstacles preventing persons with disabilities from exercising their rights and freedom.

Globally, nations have been recognizing disability although this has been a gradual process. The Americans with disabilities Act was enacted in 1990 with three main objectives.

1. To provide clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities
2. To provide clear strong consistent enforceable standards addressing discrimination against individuals with disabilities.
3. To ensure that the fundamental government plays a central role in enforcing the standards established in the Act on behalf of individuals with disabilities. (Americans with Disabilities Act: 5)

The act covered four broad areas in which Americans with disabilities had faced discrimination; employment, public societies, public accommodation, telecommunications and miscellaneous provisions. With the commitment of this act, the social-economic status of Americans with disabilities has greatly increased. In Africa, Uganda is among the first few states that have launched a new constitution, which has specific sections, and articles that have spelt the rights of people with disabilities. The launching of the constitution was done in 1995.

The Ugandan constitution recognized the dignity of person's with disabilities. It clearly stipulates that 'society and the state shall recognize the right of persons with disabilities to respect human dignity'. It also aims at promoting the development of a sign language for the deaf (NUDIPU Feb. 1996:3). Only Uganda in Africa is there an elaborate constitution that guarantees the rights of people with disabilities. Nevertheless

Zimbabwe, South Africa and Zambia have Disabilities Acts that guarantee the rights of their citizens who have disabilities.

2.5 Disability In Kenya.

In Kenya, more awareness about children and their needs was triggered by the international year of the child (IYC) in 1979 IYC brought children and their needs into the limelight. As a result of it, many governments, organizations and communities tried to provide services for children especially pre-school education facilities. Some countries established permanent commissions for children to ensure their welfare was looked into. The International Year for the Disabled (IYDP) picked up where IYC left off and focused more on disabled persons. Many governments however depend on voluntary organizations to meet the needs of disabled children.

The response of IYDP does not appear as widespread as that of IYC. However, surveys on disabled persons in 1981 during IYDP are positive steps though not much has been achieved in the area of disability. Efforts by many individuals such as the organizations dealing with advocacy of disabled persons, some individuals with disabilities and even scholars are nevertheless gradually being felt especially from the 1990s Sensitization on issues to do with disability had however received very little attention until 1980 which was declared the National Year for Disabled Persons and consequently 1981 which became the International Year for Disabled Persons. Earlier on the approach used was to tuck away children with disabilities special institutions. This attitude has nevertheless been changing over the year.

It has ranged from coming up with more special institutions, sensitizing parents to take those children with minor impairments to conventional schools to introducing special units for disabled persons in the conventional schools. Focus has mainly been in education, which has also not completely succeeded. Other community facilities have not been given much emphasis such that even after rehabilitation in a special school, a disabled person still finds that he/she cannot use other available community facilities with

ease due to barriers in the environment. A link has got to be created in all these facilities for rehabilitation to be meaningful.

2.5.1 Population.

WHO (1976) estimates that 10 percent of the world's population has disabilities resulting from diseases, trauma, malnutrition, genetic diseases as well as old age. However, from a large number of surveys and studies made results from 55 countries varied significantly ranging from 0.2 percent to 21 percent. Helander (1993) observes that there are a number of problems related to this variance. It is more as a result of the methods of the surveys than with the actual number of people with the disabilities in the various countries.

According to the United Nations (1977), 25 percent of the world's population has a disability. It would however be misleading to imagine that these estimations cut across the world. There is high prevalence of disability in developing countries than in developed ones. In developing countries poverty and disease loom. Access to health services in many African countries is difficult; hospitals are far away. Through the recognition that the country's population especially that of persons with disabilities is directly challenged by issues such as poverty, illiteracy, low economic and participation ratio the need to form a strong information base to allow better planning was realized.

The census of persons with disabilities was incorporated into the main general Population and housing census of 1989. It localized exercise at village, sub location, division, district and provincial levels. The coverage was in response to data needs to enhance the district focus for rural development (DFRD). Unfortunately, since the Government did not have resources and capacity to analyze this data, it still has not been done. As per 1989 census, Kenya had a total of 302,058 persons with disabilities against a total population of 21,443,636 persons. Nairobi, which is the study area, had a total of 9480 disabled persons against a total population of 1,324,570 persons. (See table 4 below). These figures must be strictly be estimated because the physical planning scenario requires that the planner must know his /her target population its demographic characteristics, location and

requirements in order to plan effectively for it. In this study, it refers to planning of community facilities.

Table 4 Disability against total population numbers by province in 1989 and 1996 projected:

PROVINCE	TOTAL POP 1989.	TOTAL POP 1996	DISABLED POP 1989	DISABLED POP 1996	PERCENTAGE.
Kenya	21,443,636	28,267,000	302,058	1,696,018	100
Nairobi	1,324,570	1,932,000	9,480	53,229	3.14
Coast Province	1,829,191	2,353,000	22,377	125,644	7.41
Eastern Province	3,768,677	4,768,000	60,963	342,000	20.18
N. Eastern Province	371,391	647,000	7,789	43,734	2.58
Rift Valley Province	4,981,613	6,622,000	57,847	324,804	19.5
Central Province	3,116,703	37,8300	35,773	200,861	11.84

(Source: 1995: Review on Law Relating to Disability.)

The figures given imply that the population of people with disabilities in Kenya accounts for 6% of the entire population. If detailed variables of the disabilities were to be considered under the World Health Organization (WHO), this percentage would vary between 6% and 10% of the entire population. It is the argument of this study that more disabled persons would be better accommodated in the city if planning ensures that provisions to suit their needs are put in place; for example by improving public transport and public buildings.

2.5.2 Socio-Cultural Issues Related To Disability

An insight into how the Kenyan people view disability is extremely important in determining the point of entry into the society's structure and the means to bring about change. Cultural practices are not entirely blameless on the plight of people with disabilities. Attitude towards persons with disabilities in the past depended on cultural beliefs and practices of different communities.

As noted by Helander (1993), a community would determine whether the disabled are disliked, neglected, feared, obstructed, segregated and hidden away from the public, while in some cases they were protected.

Some communities associate disability with bad omen. Children with disabilities are considered a taboo. They are perceived as a punishment from God or a curse from ancestors as a result of either past sin. Disability is also viewed as a result of sorcery and witchcraft in many African societies. As a result children with disabilities tend to be given derogatory names like “*Kionje*” in Kikuyu, “*Kiwete*” in Swahilli, “*Maima*” in Maasai to denote their disabilities. This not only has a negative impact on the psychology of the victims but also on their parents. As a result, the children with disabilities tend to be hidden away from the public. UNESCO (1974) observes that parents of disabled children tend to feel ashamed so that such children are hidden away from the society. In extreme cases parents resort to infanticide. Where institutional facilities exist, the child is dumped there and forgotten.

The effect of institutionalization is that the children are dislocated from their communities, completely institutionalized and in adulthood becoming strangers in their homes. In most communities both urban and rural, though many persons with disabilities are talented in certain sports, they cannot participate due to discrimination and/or lack of facilities. Often the disabled are perceived as incapable of engaging in any activity such as gainful employment. Such beliefs limit chances of persons with disabilities to access crucial rights provided with community infrastructure such as education. Consequently, these facilities are built without the acknowledgement of the existence of persons with disabilities.

2.5.3 Disaster Management And Awareness Creation

During the bomb blast of August 1998 in Nairobi as many as 5000 people were treated for injuries caused by the blast.

In the same attack, about 80 people suffered losses ranging from psychological security, visual impairment to even total loss of eyesight. They are now out of hospital but the battle is not won. They require immediate, medium and long-term rehabilitation, particularly psychological care³. This reveals that society is ill prepared for disaster occurrence. Another victim David Kabugi was quoted as saying, "I have been asked to buy medicines but I cannot afford them. Most of us do not have money to buy drugs". One of the problems one faces in the Kenyan situation, as a disabled person is access to health care

With the current incidences of insecurity being experienced in Nairobi as well as past disasters attributed to violent tribal clashes, train and road carnage, fires etc, which frequently result to death or disability, there must be a change in addressing the issue of disability. However, the Government and other concerned bodies have not come up with a policy or plan for the disabled. Babu also believes that planners should look into the issue of partitions and other fittings in buildings.

Accordingly, all areas that could endanger the safety of human beings through causing death or disability must of necessity be addressed. Kenya is currently losing an average of 500 persons to HIV/AIDS everyday (Ministry of Health 2000). Many people are getting disabled due to opportunistic diseases caused by the pandemic such as tuberculosis and paralysis. Many children born to HIV positive mothers are sick in homes or hospitals without medication, while others are orphaned thereby becoming socially and economically disabled.

Experience of a victim of the August 1998 Bombing in Nairobi.

"I just went to the window without the slightest sense of danger. I heard the window shake, then saw a lot of dust coming down and I covered my face only to be hit all over by pieces of glass." For him the blast led to loss of sight in one eye. "I cannot drive my pick-up neither can I attend my consultancy work," he lamented. Babu is just among the many Kenyans who fell victim of ignorance of what to do when disaster strikes. (Chege Babu a victim of the Bomb blast report in Shelter Forum October 1998)

However, both the state and the community are doing little concerning disaster management on this line. For example, drugs to boost immunity and suppress opportunistic infections are beyond the reach of the average Kenyan person. This implies that although community facilities in the form of hospitals exist, to a big extent they are impoverished to safeguard the welfare of the common Kenyan against HIV/AIDS. Campaigns such as those on HIV/AIDS also tend to treat persons with disabilities like people without sexual rights by often ignoring them in their forums. The most affected are the hearing impaired who cannot get the message through verbal communication and the visually impaired who cannot see gadgets advocated to control HIV/AIDS such as the condom. So how prepared for disaster is the Kenyan community?

2.6 Models Of Disability.

There are at least three models of disability: the medical, the charitable and the social (Swain et al, 1993). The medical model is one in which disability is seen as an illness or as permanent disability, set within the confines of the hospital or institution and therefore unlikely to impinge on the community or the built environment outside. However the World Health Organization's definition refers specifically to impairment, disability and handicap and concentrates on the individual's personal condition (Imrie, 1996; Hartrop, 1998).

The charity model of disability leaves little role for state intervention. The image is one associated with pity, embarrassment, doing good, dependency and sympathy. This contrasts sharply with the third model- the social model of disability, which is based as having human rights (Greed 1999). This model draws on American Civil Rights Disability Movements and is inspired by the Americans with Disabilities Act of 1998 (Manley 1998). The emphasis is shifted towards seeing societies' attitudes and thus the design of the built environment as themselves disabling. For example, the disabled are considered to be restricted or inconvenienced in their use of buildings if there are barriers that restrict peoples free passage or if no suitable facilities have been provided to help them.

Contrasted with the first model discussed (medical) a person can for instance say, "I cannot go to a conventional school because my disability prevents me from climbing the stairs". In the third model one can say, "I cannot go to a conventional school because the steps prevent me from entering the building". Thus those working in the built environment profession have a major role to play. This study is particularly interested in the third model in tackling barriers in society created through poor/discriminative planning of the environment and through society's attitude in addressing disability.

Disability groups have actively argued that all people should be able to gain access to buildings, with no fuss, no assistance, "as normal", as (inter alia) workers, shoppers, and students. Ramps are viewed as cheap second best add on solutions, not something that disabled people should be grateful for (Imrie 1996). The planner should nevertheless be conscious about the society he/ she is planning for before dismissing the idea of ramps as "add on solutions". Imrie for example is talking about planning for a developed society. In a developing society where even ramps requirements like in most crucial public buildings do not exist then a planner should be conscious of where his point of focus should begin.

By the beginning of the 1980s, wider political and theoretical discussion was taking place with regard to social models of disability, which were in turn challenging social theory (Oliver, 1996). It has been argued for example that persons with disabilities should be seen as disadvantaged or oppressed minority group whose unequal economic and social positions stem from discrimination and lack of access to power (Barners, 1991). Many disabled people enthusiastically received this model because it made an immediate connection to many of their experiences but not by all. (Swain et al, 1993) Finkelstein (1993) has stated that it may particularly but not fully explain the social oppression felt by disabled people. Whilst political theory might provide the motivation and justification for change, legislative change is the key in redesigning the built environment because disability requires the greatest physical change to our towns and cities

2.7 Laws.

Significantly, much of the legislation relating to disability is outside the realms of town planning resulting in divided powers, so that many disability related issues are met with the reply, "its ultra vires". Disability is not seen as a land use matter (Greed 1999) In setting laws affecting the welfare of persons with disabilities, discriminatory legislation is set within a medical not a social definition to disability. It looks to the social definition to challenge what it regards as the specific forms of oppression experienced by the disabled in all communities. Such legislation must be planned to have the removal of disabling barriers and guarantee full civil rights for all disabled people. Thus, as discussed in this study, a social understanding of disability is important in coming up with solutions to social problems experienced by people with disabilities within the urban physical environment.

Absence of laws specifically dealing with persons with disabilities has adverse effects on their equalization opportunities. Persons with disabilities have no recourse to law when their rights are violated; for example, Employment Act (cap 226) does not protect their rights in the hostile employment market, the Universities Act (cap 210) does not recognize the aspect of disability by providing measures that will facilitate access and absorption of persons with disabilities to the universities. The physical Planning Act (No.1996) as well as Building Codes give no standards to be followed in design of public places

Education Fund Act (Cap 213) of the Higher Education Loans Board gives no provision for students with disabilities. The Education Act (cap 211) in the 8-4-4- system of Education has introduced cluster system for entrance into university thus already discriminating upon those who failed to do some subjects by virtue of their disability. This system ignores the effect it has on the education of persons with disabilities. Although Section 82 (3) of the Kenya Constitution talks about discriminatory practices to different persons, the sections sited above are contradictory to this, Sekoh (1998).

Clarion (1998) has observed that the Kenya Constitution presents a major bottleneck in the realization of rights of people with disabilities. Chapter 5 of the constitution spells out the protection by law of the fundamental human rights and freedoms for the individuals but persons with disabilities are not aware of these rights and liberties. Ignorance of the law denies them the ability to take advantage of their rights and protection conferred by law. They cannot therefore challenge laws and practices that are detrimental to their welfare.

2.8 Information.

There is also lack of access to information in the media for people with disabilities. Muganda (1998) notes that in this Information Age, the hearing impaired are still denied their right to information. In Kenya, broadcasting stations still broadcast for the hearing population. Oral communication ignores the needs of hearing disabilities. KBC Television has however made a positive move by introducing a programme in Sign language *Young and Speechless* in Metro T.V but this is not enough because sign language is not taught in schools or used in many public places. Consequently, not all deaf persons will benefit from the programme. Moreover, Metro T.V is only accessible to those living within Nairobi and its environs.

Written information on the other hand ignores the needs of people with visual disabilities. Malinga (1998) observes that in Tanzania, like in many other countries there is a high incidence of HIV/AIDS among deaf women, simply because they cannot get the information they need to make informed choices. Information can save lives. DAA (1991) notes that lack of access to information has serious effects on the health, welfare rights of women with disabilities. No language policies exist in Kenya and this has negative repercussions on the hearing impaired. This explains why it is not treated as an important inclusion in public facilities.

2.8.1 Use Of Sign Language In Kenya

People with hearing impairment are seen as abnormal or stupid due to their inability to communicate normally, their use of sign language or the hearing aids they use. Majority

of them lead lives that are impoverished due to communication problems. Many are therefore uneducated, unemployed, socially powerless and unable to make use of the various facilities available to them in society. (Review of the Law on issues relating to Disability 1997)

What makes hearing disability a handicap is the rejection of sign language by the hearing people who have power to decide which language may be used to communicate with persons with a hearing disability in schools, hospitals, courts of law, churches, police stations among others. Thus the handicap is as a result of the hearing people's attitude. This leads to formulation of language policies in education policies and elsewhere that do not take into account the special language needs of persons with this kind of disability.

For the hearing impaired to be able to adapt and since it is beyond their ability to use the common language used by the hearing persons, the latter have an obligation to learn sign language in a bid that communication between the two groups can be made possible. And since not all people may get a chance to learn sign language, it is important that some professionals of sign language be trained to facilitate translation for both groups.

Problems Of Sign Language

Just like any other language, sign languages differ as a result of their origin. We for instance have, American Sign Language, Chinese sign languages Kenyan sign languages (KSL) etc. The problem experienced in Kenya has been that since sign language is not articulated as a language, foreigners in institutions for the deaf tend to teach the children in their own sign language. Due to the same fact, they also do not want to learn Kenya's sign language. The result is that you can find two hearing impaired children communicating by use of different sign languages. Without some foundation, then it proves difficult to introduce sign languages as a teaching language in schools. The problem is however being solved through the popularization of Kenyan Sign Language (KSL) by Kenyans with a hearing disability who are aware of the problem. In Uganda, the national sign language is recognized by the constitution as the language of the persons with hearing disability.

2.9 Gender

Women with disabilities.

Issues of women with disabilities all over the world are particularly depressing. They are viewed as inferior to other women and so cannot be expected to share in the same rights and aspirations as other women (DAA, 1991). Such problems are a result of negative attitude from families, communities and governments. Women with disabilities suffer isolation and invisibility. According to Muganda (1998) and Aganyanya (1998) they suffer social seclusion due to their immobility. They are not referred to and so they are rendered invisible. As a result not many receive rehabilitation services. Muigai (1998) notes that this is “gender blindness”.

She notes that among the 34 recommendations recently launched under the Basic Rights Charter dealing with persons with disabilities, none touched on needs of women with disabilities. She also notes that they are evidently absent from community activities like social gatherings or social gatherings or family planning clinics. In women’s movements there has been little focus on issues concerning women with disabilities. Disability World Report (1999) noted that during the UN Fourth Conference on women in Beijing in 1995, 88 governments wrote down their policies with regard to achieving equality of opportunities for women. However, very few made specific commitments towards women with disabilities. The Task Force Report on Women Empowerment in Kenya did not address women with disabilities (Mazrui, 1998)

In the scope of access to education, women with disabilities suffer most. This is compounded by the fact that the percentage of literacy amongst women is lower than that of men in most countries. DPI (1991, DDA, (1991) World Disability Report (1999) notes that their literacy rate as a group worldwide is probably under five percent. A study done by Women’s Bureau in Kenya in 1993 found out that 53.1 percent of women with disability had no education. As noted by Preko (1999), in Africa, families prefer to educate boys to girls. It is believed that the boys will support the family economically. There is also the belief that the place of women is at home. Girls with visual disabilities

are viewed as having lesser value than those with sight and so many in the former group lack chances to get education.

In vocational training as noted by Mpirive and Diri-Baba (1996), basic material like Braille lack in the centers, so training is not very effective. Fefoame (1996) however observes that courses in vocational centers are undiversified and there is a high rate of dropouts due to pregnancies. Lack of employment opportunities for women with disabilities impacts negatively on their rehabilitation process. They are twice as unlikely to find work as their male counterparts. According to the Disability World Report (1998), majority of people with disabilities were denied the chance for regular, productive work.

DAA(1991) and International Rehabilitation Committee (1997) observed that employment is critical in enabling women to support themselves financially, to achieve self-esteem and recognition. Njoki (1992) however attributed their lack of employment to the absence of education and training. Even where they are educated they have difficulties in getting jobs and where they manage to get employment more often than not they are paid less than non-disabled people. They get no training opportunities and their chances of promotion are low. Professional openings are limited to them and therefore people with disabilities are mainly found in low paid jobs.

As noted by Preko (1996) even for those with vocational training it is difficult for women with disabilities to establish their own businesses. The business opportunities are not only few but they lack capital, tools and equipment. They have problems in marketing their wares and in accessing loans since they may not have the necessary collateral as security and they have no entrepreneur skills necessary to manage and sustain a business. Those selling their wares on the streets of major towns like Nairobi often face harassment from council officers who even confiscate them their wares Mazrui (1998)

Preko (1996) pointed out that some women with disabilities are forced to beg on the streets sometimes even with their children exposing themselves and their children to all

sorts of dangers. Some even acquire diseases when they engage in prostitution. As a result they lose their self-respect and dignity.

2.10 Taxation And Insurance.

Some other important social issues have significantly been left out in handling the aspect of disability. They include:

- Tax exemption for imported assistive devices and income of persons with disabilities.
- Insurance for personal injuries.
- Suitable insurance schemes
- Categorization of areas of disabilities
- Insurance cover for medical assistance devices.

There are no sound medical care schemes in respect of hospitalization, rehabilitation, nursing care, homebound patients and attendants for persons with disabilities. After giving an insight of how disability is addressed internationally, regionally and nationally, this study narrows down to use of community facilities by the disabled. An assessment of how their needs have been addressed in this area provides the core of this study to establish how needs of people with disabilities can be integrated in planning for community infrastructure.

2.11 Community Infrastructure.

A community infrastructure is a public good. A public good is a facility whose benefits are not depleted by an additional user and to which it is impossible to exclude any person from its benefits. These include banks, schools, hospitals, shops, offices, roads, religious facilities, markets etc. This study addresses access to and use of community infrastructure by persons with disabilities. It concentrates on four major areas of community infrastructure namely education and training, health care, worship and road transport network. Within Education, recreation has also been assessed. The utilization of the same in Kenya has been discussed below.

2.11.1 Education

Education is a life long process that should seek to achieve awareness, balanced perception, learning and decision-making. To accomplish these goals, individuals must develop a functional understanding of their cultural inheritance as well as the ability to contribute in a positive manner to society. Education occurs through the traditional institutions identified for that purpose through continuing involvement in a discipline, through community programmes and in the broadest sense through popular culture. It is not just a question of achieving academic excellence. The latter has been the main focus of the Education system in Kenya.

It is important that education and involvement efforts be integrated thoroughly into each step of the planning process. Lassey (1977) says, "If planning is to be successful, a major re-ordering of public education, involvement, and communication process may be necessary. Existing scientific knowledge about effective communication processes and knowledge about human learning provide increased potential for public understanding, appreciation and involvement in significant societal decisions.

Education therefore must be future-oriented and on going. Continuity education should assist people in making linkages between their individual skills and interests and larger public issues. Without such linkages, the rules and regulations developed to protect people's health, safety and welfare will be treated with suspicion by those whom they were meant to protect. This should be the focus of education for persons with disabilities.

There is need to give equal opportunities to people with disabilities by creating an environment that is friendly to their needs. Modern education is dedicated to the academic and social development of every individual to the fullest extent permitted by his/her individual capacities. The goal of such education is to produce an informed responsible, self-reliant adult who will participate in contributing into the growth of the society. However, this is not so for the disabled in Kenya.

Lowenfield (1952) notes, that education must aim at giving the disabled a knowledge of the realities around him and the confidence to cope with the realities and the feeling that he is accepted as an individual on his own right. Education for people with disabilities is also imbued with the same philosophy and goals (Auma, 1982). Article 26 of the Universal Declaration of Human Rights (1948) states that “everyone has the right to education”. The 44th session of the United Nations (UN) General Assembly in 1989 adopted the convention which reaffirmed that education is a human right and makes (in article 23), a special reference, to the right of a child with mental, and physical disability to education, training, social integration and individual development.

Likewise, one of the UN Standard Rules on the Equalization and Opportunities for people with disabilities (1994) sets out principles for equal participation for people with disabilities. Rule six states that: “States should recognize the principle of equal primary, secondary and tertiary educational opportunities for children, youth and adults with disabilities in integrated settings. They should ensure that the education of persons with disabilities is an integrative part of the education system.”

2.11.1.1 The Education Situation In Kenya

The Government of Kenya’s policy on education is to provide “education for all” including persons with special needs. The government policy on Special Education is well documented in Sessional Paper number 10 of 1965 and number 6 of 1988 on *Education and Manpower Training for the next Decade and beyond*. However as Obagi (1998), notes the proportion of the household income spent on education will depend on the number of children going to school and the level of education at which they are enrolled.

The population of income that a household spends on basic necessities like food and health and the attitude of the parents towards education will determine what is allocated to education. Many children with disabilities come from poor homes. A parent may deem it fit to educate a child without disability and leave out one with disabilities.

It is in this light that this study advocates for the need to make available regular schools as accommodative to the disabled as possible by providing them with appropriate facilities and improvement of the design of the built environment. Thus, the "Education for all" policy has failed to work in Kenya due to the Governments' lack of commitment to recognizing education as a basic right for all and on how such like commitments are translated into specific policies and actual interventions on activities put in place to achieve this end.

Despite the recognition of the importance of special Education programme in Kenya, education opportunities for people with disabilities have been extremely difficult. When the Special Education section dealing with the education of people with disabilities in Kenya was established in July 1977 it had the following aims:

1. Development of potential production and creative abilities of the individual so that he may be an asset of society.
2. Overall development of individual spiritual, social and physical to the highest degree.
3. Attainment of the individual of a fuller degree of independence in his life.

However, a study by Nkinyangi (1982) has shown that very few children with disabilities are placed in schools. By December 1980, special education units or schools attached to ordinary schools were only 55 with a total enrolment of 5,699 children. (Daily Nation 23rd July 1981). By the end of 1996, over 80,000 children with various disabilities had been identified through Education Assessment Resource Centre countrywide and by 1999; special schools could accommodate only 12,000 disabled children.

This means that about 70,000 were in their homes probably awaiting placement (Special Education Policy Programmes and Drawbacks, Ministry of Education, 1996). The scenario clearly shows that education for people with disabilities has tended to lag behind and unless their education is provided alongside that of their able-bodied counterparts they are bound to continue lagging behind.

2.11.1.2 Education Participation Rate.

Education is seen a basic need. It is a means of meeting other basic needs and an activity that sustains and accelerates overall development. Appendix 1 shows the participation of people with disabilities in Kenya by Age and Sex. Per the results, it is evident that although the government has pledged to provide basic and universal education to its citizens, it has not fully achieved these goals in the population of persons with disabilities as participation rate has worked against them.

Literacy level for the general population is 75 percent (male 88 percent and female 66 percent) while that of the disabled stands at 54 percent. Enrollment levels at all levels are strikingly low. The striking trend becomes even more serious as one moves higher up the ladder of the education pyramid. Why? Because, the higher the person with a disability goes up the academic ladder, the fewer the provisions provided for him in institutions of learning. Society seems to determine what levels of education should be attained by persons with disabilities. However, this study seeks to show that with appropriate provisions the disabled stand an equal chance of academic excellence like anyone else.

2.11.1.3 Education Policy And Disability.

There are many factors that limit the participation of people with disabilities in the field of Education. The greatest is found in the education policy itself. In Kenya, no well-defined policy on the education of persons with disabilities exists. According to a special education workshop organized by the Government and National Council of Churches of Kenya (NCCCK) in 1998, the policies that exist have not been put together in a comprehensive document which clearly and unequivocally guides in streamlining education services to learners with disabilities. Lack of such a policy document has resulted into poor delivery of such services.

2.11.1.4 Acts And Legal Notices.

Acts and legal notices related to education also impede on the education of people with disabilities. As noted by the workshop cited above, it is clear that the Education Act and supporting legal notices such as the Universities Act, Higher Education Loans Act among

others show that it is the lack of consideration of persons with disabilities in these statutes that foster discriminatory practices in the education system.

Muganda (1998) observes that children with disabilities are sometimes denied chances to learn in regular schools because the head teachers fear that they might contribute to the lowering of the mean score in the national examinations. Such cases will often go unpunished due to the fact that no law exists to deal with them. Thus, discrimination practices are increased.

2.11.1.5 Physical Facilities And Services.

There are inadequate physical facilities such as classrooms, dormitories, workshops etc. Otiato (1996) has argued that library services for people with disabilities are absolute. The existing books in Braille are old and out of date due to the high cost of Braille material. There are only 2 secondary schools for the deaf in Kenya both with an output of 25 students annually. Given the population of the hearing impaired in Kenya, then these schools are far from enough measures to cater for the deaf population. Unless facilities are provided within local schools then they may never have a chance of getting education.

A further handicap to this situation is that schools for the hearing impaired can only admit 12 pupils per class thus limiting their chances for education. VSO (1998) estimated that only 0.6 percent of children with disabilities are placed in appropriate educational institutions meaning that they are fewer than one in a hundred. The conditions of the schools are in a poor state.

Lack of provisions of learning, training and teaching material has been given as another reason why persons with disabilities are marginalized in the education system. According to detailed information on essential areas in special education compiled by the Ministry of Education, teaching, training and learning materials have never been provided for and as a result, there is a serious shortage of essential learning/ training teaching materials.

The Government role is non-existent and donors and individuals have provided for materials. This has been blamed on shortage of funds and high cost of such materials.

As noted in the 8th National Development Plan (1997) the hearing impaired persons have not been provided with speech laboratories, audio-logical equipment and speech therapists. Thus, persons with disabilities have to contend with lower levels of education. The community on their part does not know what to do because they are all prepared to act. If really the policy on education for all has to be achieved, then something has to be done by involving the community to make available primary, secondary and colleges more receptive.

2.11.1.6 School Curriculum.

The school curriculum is another area of concern in special education Curriculum. According to the National Conference on Disability, Human Rights and Development (NCDHRD 1999), the Ministry of Education has been unable to develop a special curriculum to cater for the needs of students with disabilities. Each school has set up its own curriculum. Barasa (1997) observed that although the Kenya Institute of Education (K.I.E.) has a department that develops the curriculum to be followed by special education, it is not disability friendly.

Mugo (1999) notes that "there lacks an adopted curriculum for all types of disabilities. Frequent syllabus changes in the school curriculum affect learners with disabilities, especially those with visual disabilities because Braille material is expensive and takes long to process. The curriculum ignores the communication barriers experienced by the deaf. There is no policy in sign language. This is a serious challenge to learners with hearing impairments.

Clustering of subjects has also limited the advancement and performance of persons with disabilities who become limited in that they cannot take up subjects that they would not excel in. The result is that very few people with disabilities qualify to join public universities and other tertiary colleges.

There have also been the controversies and doubts about examinations as a mode of qualification in the present education system and particularly for learners with disabilities (Ministry of Education and NCKK Seminars, 1998). However, it is not enough to say what is lacking it is important to show what should be done and how it can be done. This study attempts to make such contribution especially in the area of provision of physical facilities and design.

2.11.1.7 What Are Special Schools?

Special schools are those institutions that provide teaching for children who have a disability of one form or another. Children with disabilities may require a special environment, special medical treatment, a modified curriculum and a special teaching method. Special education therefore refers to the type of education that is accorded these categories of children. In Kenya at present, it is awarded children who have visual, hearing, mental physical and multiple disabilities Waudu (1999).

In regular education, the teacher mainly concentrates on the average student but in special education the teacher is also concerned with the students who are below and above average in their class performance. Students in special education must have individualized education plan (IEP). It is this IEP among other variables that makes special education special. Nonetheless it is only through regularizing special education that special needs of children with disabilities can be understood by the community and planned for.

If we treat them as special group that should be given special places in society then they will always remain alien members of society. This should not be so. It is what is offered in special schools that should be borrowed and integrated in regular schools. This way, the special needs of the children will be appreciated but at the same time they will have a chance of learning in a normal environment.

2.11.1.7.1 A Brief History Of Special Education In Kenya.

Special schools were introduced in Kenya in the second half of the 1940s by churches and the voluntary organization such as the:

- The Catholic Church
- The Salvation Army Church
- The Presbyterian Church of East Africa
- African Inland Church and
- The Church of the Province of Kenya (now Anglican Church of Kenya)

The first school to be opened in 1940 was St Nicholas Special School for Children with Mental Disabilities to cater for European children living in Nairobi. According to Munhuzi et al (1977) Kenya had a total of 26 special education schools before independence. The Kenyan government and the Salvation Army of Kenya also offered rehabilitation services to the Second World War victims who were either blind or physically disabled.

Table 5 Trend of Education Programs For People With Different Disabilities

Year	Programme
1946	Visually Impaired
1947	Mentally Handicapped
1958	Hearing Impaired
1961	Physically Handicapped
1968	Multiply handicapped

(Source: NCDHRD 1999)

Special Education in Kenya is seen to have started in the right direction but has not been aggressive enough to include all those who need special education services. After independence, the government and the general public's priority was development of the regular education. Special education was left more or less to voluntary organizations to plan, develop and manage. The trend was uneven development. Slow rate of expansion continued for quite some time until 1980-1986, when there was marked growth in development.

According to a survey conducted by the Kenya Institute of Education there were 3598 children enrolled in 51 programmes in 1980. Expansion of schools and units was more

pronounced in the hearing impaired and mentally handicapped categories. Those with physical and visual disabilities were integrated in regular schools. Karugu et al (1996) gave a figure of 2.3 million children in Kenya who need special education. The table below shows programmes for special education by 1999.

Table 6 Number of children receiving special education services by Disability, schools and units in 1998 and 1999.

Disability	No, of Secondary Schools	No, of Primary Schools	No, of Units	No, of Integrated Programmes	Enrolment			Total Number of Programmes by 1999
					Male	Female	Total	
Visually Handicapped	1	9	3	20	1251	957	2200	36
Hearing Impaired	2	18	12	56	1246	1180	2427	40
Physically Handicapped	3	10	11	56	1300	694	1995	115
Mentally Retarded	0	27	190	77	3163	1615	4778	600
Multiply Handicapped	0	4	1	2	120	45	165	
Total	6	68	217	211	7080	4492	11672	791

(Source: NCDHRD 1999).

As shown in the table above by 1998, only 11572 children were receiving special education service in Kenya. Now, considering Karugu's et al (1996) figure of 2.6 million children needing special education, it is clear that special education has not managed to target all children with disabilities and so a change of focus is needed.

2.11.7.1.2 Current Status Of Special Education.

The Current policies in special Education in Kenya are geared towards certain courses of action or principles that have been proposed and adopted by the government through Sessional Paper No. 6 of 1989. They are:

- Promotion of integration of the handicapped into formal education to make education accessible to handicapped children of age group 6-14 years
- Promotion of measures to prevent impairment in order to limit the incidence of disability.
- Creation of awareness through the Education Assessment and Resource Services (Ears) and Field Officers
- Development of appropriate vocational instructional materials for training
- Intensification of training of Kenyan teachers in order to increase capacity of personnel that is skilled in theory and practice of teaching the children with disabilities.

There has been increase in access and participation, in awareness, in the number of teachers, in physical facilities and an in the number of schools, units and programmes. However, these are largely inadequate for the number of children with disabilities

2.11.7.1.3 Enrollment

Table 7 Enrolment in schools (1998)

Handicap	1998			
	No. of Schools	Boys	Girls	Total
Visually Handicapped (VI)	16	1,170	845	2,015
Hearing Impaired (HI)	31	1,574	1,057	2,631
Physically Handicapped (PH)	13	1,050	680	1,730
Mentally Handicapped (MH)	46	1,585	944	2,532
Deaf-Blind	1	15	10	25
Total	107	5,397	3,536	8,908

Overview of Enrolment.

Enrolment in 1998.

	Enrolment			
	Number	Boys	Girls	Total
Primary School Programmes	761	7,883	5,054	12,940
Secondary	7	565	528	1,063
Vocational/ Technical	5	-	-	499

NB: Secondary Schools: VI-1, PH-3, HI-3

Enrollment in 1999.

	Enrollment			
	Number	Boys	Girls	Total
Primary School Programmes	823	8,420	6,194	14,614
Secondary	7	605	588	1,163
Vocational/ Technical	5	-	-	512

	1998			1999		
	Boys	Girls	Total	Boys	Girls	Total
Primary School Programmes	7883	5054	12940	8420	6194	14614
Secondary	565	528	1063	605	558	1163
Vocational/ Technical	-	-	499	-	-	512

(a) Secondary schools: VH-1, PH-3, HI-3.

	VH	PH	HI	Total
Number of Boys	144	265	156	565
Number of Girls	136	250	142	528
Total	280	515	298	1093

Source: GOK- MOEST

There is no great gender disparity. There has been a significant increase in the number of children in the programmes but that is still hardly 1% of the school going children with disability. Strategies need to be developed that will increase access and participation to at least 20% by the year 2010.

2.11.7.1.4 Integrated Programmes.

There were 184 integrated programmes in 1990 when integration became a policy but by 1998, they had increased to 655. In the visually handicapped category, there are 19 programmes, sponsored by Sight Saver International, with a total of 1040 blind children having been integrated into regular primary and secondary schools. Enrollment in the secondary schools for the deaf (Hearing Impaired) has increased from 110 in 1990 to 268 in 1998 due to efforts by welfare organizations that have put up physical facilities and the peace corps, who have offered teachers.

The current trend is towards more integration and less towards segregation of the handicapped children. So far, more than 11,000 have been integrated in regular schools. Though crucial positive efforts have been made so far, there is evidence that the pace is still slow though the shift from segregation to integration is remarkable. However, it is

evident that efforts towards integration are more inclined to NGOs than the Government and the Kenyan society.

2.11.7.1.5 Teacher Training.

Kenya Institute of special Education (KISE) is the main training institute for special education. It was established in May 1986 in response to the need for the expansion of manpower training in all areas of service for persons with disabilities.

Among its training programs it admits teachers biannually, runs 3 months courses concurrently with the diploma course for 40 regular teachers, conducts short courses, workshops conferences and seminars during the holidays for special schools, parents, Education administrators and other related professionals and persons with disabilities. Between 1987 and 1989 K.I.S.E. has trained 585 diploma teachers (152 for the deaf, 104 for the blind, 158 for mentally handicapped and 102 for those with physical disabilities).

Others include:

- Kagumo Teachers College that to train the blind to get a diploma in education
- Highridge and Asumbi Teachers that have room for the blind to train as teachers for primary schools.
- The deaf school leavers train at Machakos Teachers College as primary school teachers. The numbers trained in these institutions however has not been given. Moreover, it appears that their careers have been predetermined by society

Table 8 Number enrolled for Bachelor's degree in special education at Kenyatta and Maseno universities

Year	Kenyatta University	Maseno University
1995	33	-----
1996	44	-----
1997	91	-----
1998	109	15
1999 forecast	180	15
Total	447	45

(Source NCHRD 1999)

Other special education teachers are trained at Kenyatta University and at Maseno University and are awarded a bachelor's degree in special education. Kenyatta University started special education in 1995 and Maseno in 1997. Between 1995 and 1997 only 447 and 45 teachers had been trained in Kenyatta and Maseno Universities respectively. Table 8 above shows the number of enrolled for the degree in special education from the two universities.

It is also evident from the table that the number of graduate trained personnel is still inadequate to curb the population it should target. More aggressive training alternatives are essential to open up access to special education for more professionals and students with special needs. Demand for teachers in special education at all levels is still very high.

2.11.7.1.6 Number of Specialized Teachers Trained.

Table 9 The number of teachers trained in special education from 1990 to 1999.

	1990	1999
Diploma in special education	155	505
Certificate: 3-months course	474	1154
Graduates: B.Ed. (Special)	-	33
Total	627	1692

Source: MOEST.

It is rather unfortunate that even the Ministry of Education does not know the exact number of teachers for special education trained at graduate level as reflected on Table 9 above. Similarly, I have deliberately included Tables 6 and 7 to demonstrate the disparity on the data on special education available depending on the source. Some coordination is lacking and this sends an alarm that something is wrong. If the number of all teachers of regular education is well known by the Ministry why not that of special education? This could be an indication of the little emphasis given to special education. It is important to merge it with regular education so that records for all the education are updated equally.

2.11.7.1.7 Recurrent and Development Expenditure on Special Education.

The government has over the years increased its recurrent expenditure in Special Education since 1996/97 but the development expenditure has continued to decline (See table below)

Table 10 Recurrent and Development Expenditure assigned to special education (1996-2000)

In Kenyan Pounds millions	1996/97	1997/98	1998/99	1999/2000
Recurrent Expenditure	2.73	3.01	3.65	4.08
Development Expenditure	6.35	2.91	0.01	0.15
Total	9.08	5.92	3.66	4.23

Extract from Table 2 Economic Survey 2000 (p. 35)

The expenditure is minimal compared to the running cost of Special Education programmes.

Table 11 Recurrent and Development Expenditure assigned to education 1990-2000.

	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00
Pre-primary	-	0.67	0.68	0.78	0.18	0.24	0.44	0.51	0.221	0.31
Special Educ.	0.65	5.14	6.60	6.91	1.76	2.33	2.73	3.01	3.324	4.08
Primary	293.52	348.36	393.95	551.22	2.26	18.84	25.31	71.97	24.68	24.17
Secondary	88.2	98.30	122.14	157.27	15.94	16.12	27.12	15.96	26.62	29.79
University	122.21	97.93	125.04	142.04	199.90	235.47	223.73	257.47	254.74	272.5
Others	23.18	34.93	32.38	39.64	30.65	48.96	33.66	44.98	49.98	59.26

Extract from Table 2 Economic Survey 2000 (p. 35)

There is need to increase the annual expenditure on Special Education if the quality of services to children with special needs is to be realized.

Out of the 107 fully-fledged special schools/ institutions, the Ministry of Education disburses grants to only 38 of them. The Donors and Religious Organizations provide for the rest. Special schools have continued to operate under very difficult circumstances since they have big pending bills, salary areas to B.O.G. employers amounting to (S \$ 0.294 million) (MOEST). Parents of the handicapped are generally poor and the PTAs are too small to adequately finance school projects. This has resulted in serious dropouts due to the cost sharing policy.

2.11.7.1.8 An Assessment Of Special Education.

In the earlier days institutionalization resulted from considerations like, inability of a family to care for such a child, the cost (financial, emotional and physical) to the family

especially the parents' lack of expertise and facilities needed to give proper care. Self-concept theories, Mead (1934), Keinch (1963), Ira Gordon (1972) use the example of a child's development to explain the need for integration.

They argue that a child's personality development is viewed in terms of the development of his self-concept and subsequent behaviour. They maintain that a child's self concept is enhanced by the people who are significant and important in his life. It is important that the rest of the community understand the handicapped aspirations and difficulties. It is important to understand how persons with disabilities feel, think, act and perceive themselves (Risper 1982). This will enable community to provide for their needs adequately and to enhance their integration into the community.

Moreover institutionalization is said to have an adverse effect on the growth and development of the child. Special institutions are stigmatizing in that they are a mark that one is different. Likewise, they are often quite inferior to regular ones. Research has indicated that children in institutions tend to be relatively slower and even become retarded in development due to having weak, inconsistent relationships with adults (UNICEF 1981). In these institutions, the adult child ratio is more than 10 to one. Likewise, care in institutions compared to care within the society is expensive (UNICEF 1981).

An assessment of special education in Kenya reveals that most of these policy frameworks have not been exhaustively addressed. Teacher training for special education is still largely inadequate to serve the population of children with disabilities. Special education in Kenya is neither free nor compulsory and consequently, the Government has no authority to force parents to send children with disabilities to school. Programmes for disabled persons are justified on both humanitarian and economic grounds.

In the Ministry of Education documentation on Special Education *EFA 2000 AND BEYOND*, it is stated that, " In Kenya, Special Education is an integral part of the Education system. It cuts across all sectors of education running from early childhood through, primary, secondary tertiary to University.

At every level of education, there are special schools/ units catering for handicapped children-----". Now, looking at such a statement, a reader would imagine that all is well about special education in Kenya.

However, special education has mainly been emphasized at primary school level and is minimal in secondary, tertiary and university levels. Integration has been done through introduction of special units in some primary schools and although this is a big step towards the realization of integration not much has been achieved. Moreover, in the policy frameworks, nothing has been discussed about design of the built environment or the physical facilities to enhance integration.

One of the policy objectives is the intensification of training of teachers to teach children with special needs but as already discussed there are very few special education teachers in Kenya. Equally, it is assumed in this study that facilities and specially trained teachers. There's therefore need to revise the mode of training for special education teachers are not enough for the population they should serve. Moreover, although efforts to enhance disability awareness are being made through the Education Assessment and Resource Services (EARS), special education has also not been mainstreamed into early childhood Development (ECD). In most of our communities, parents are not fully sensitized on the need to educate their disabled children.

Legal instruments that exist such as the Education Act, TSC Act, Universities Act etc do not adequately address special education as a separate entity except the Sessional Paper No.6 of 1989. Other legal documents that do not adequately cover special education are Development Plans, Presidential Circular Papers and others. There is no bursary at primary and vocational levels for the handicapped persons. Special Education is also expensive due to costly services provided, costly equipment and costly materials. Government's spending on Special Education is also minimal.

Approach has been to have partners such as Welfare Associations, Religious Organizations, Charitable Organizations and the Donor Community to enable in the

provision of specialized service. Most programmes are actually donor funded and yet the issue of their sustainability has not been adequately addressed.

Equally, the community has not been considered as a potential partner. There is only the mention that private sectors and community have in the recent years begun making contributions directly to special schools yet the community may actually be the most important agent of development in special education especially at the neighbourhood level.

Thus there is need for integration of the disabled in every neighbourhood school so that planning for them is simultaneous with that of the able bodied persons at all levels. Nevertheless, before integration can be realized, it is crucial to find out the following:

- What does society need to do as a prerequisite for the integration of the disabled in for instance a school?
- What is gained and lost if we simply put disabled children in conventional schools.

These two questions have to be taken seriously and answered satisfactorily before integration is undertaken because the disabled can be ruined by insensitive integration especially where facilities created for ordinary children become a constant source of frustration and emphasize on their handicaps. To be able to enjoy equal opportunities in life with non-disabled children, they must have access to formal schooling that is equally through. The Government should promote equal access to all levels of education and skills development for persons with disabilities. It should endeavor to provide universal formal education just like for able-bodied children. Disabled children should whenever possible be put in stimulating education environments that are as normal as possible. They should be able to attend the local nursery primary secondary tertiary and university of their choice. Integration is crucial in facilitating the social and economic growth of persons with disabilities.

2.11.1.8 Integration/ Inclusiveness Versus Segregation

Not all people however agree with the principle of integration. Integrated education for instance is more theoretical than practical because it proves to be difficult. Lagerwall (1997) noted that in order to achieve equal opportunities as outlined in the UN Standard Rules, the rights and possibilities to get education are crucial. He further notes, "There is no inclusive education," a concept that is the strategy being recommended by special education specialists. Integrated education is also expensive to adopt. The debt on "integration versus segregation" creates questions as to which is the best option for persons with disabilities.

Karugu (1984) however, discussed the principles involved in integration and identified four forms of integration of persons with disabilities namely, physical, functional, social and societal integration. Physical integration tries to reduce the distance covered to a special school by for instance having a regular school. It also means that physical barriers in buildings and roads may be removed.

Functional integration tries to reduce the functional distance. This involves sharing of resources in planned activities like drama, music, sports, arts etc. Persons with disabilities should be able to function together with those without. This will give people with disabilities a feel of belonging to society. Societal integration discourages confinement of people with disabilities in special institutions such as homes and advocates for integration into community activities.

This study advocates for the three kinds of integration equally because as discussed at a later stage of this chapter, it is impossible to put a clear-cut wedge between what is physical and what is social. However it goes further to advocate for the same not just in the schools but also in other community infrastructure that are essentially public goods.

2.11.2 Rehabilitation And Training.

Not all people with disabilities have had a chance to get adequate formal education. Rehabilitation and vocational training has been used to address this omission.

Rehabilitation is a goal-oriented and time limited process aimed at enabling persons with disabilities to reach optimum social functional levels, thus providing them with tools to change their lives towards a higher level of independence (Wandera 1992) It aims at providing measures that are intended to compensate for loss of function or functional limitation by provision of technical aids and appliances and imparting other training skills to facilitate participation in economic activities. Its overall aim is to lead a person with disabilities to self-reliance.

Vocational rehabilitation efforts emerged in Kenya in 1968 with the establishment of a vocational rehabilitation committee whose objectives were to identify, give vocational guidance, train and resettle persons with disabilities in gainful employment. Vocational and industrial training centers were built for this purpose not only by the government but also by NGOs to include persons with disability in training. Wanjeru (1998) noted that training centers for people with disabilities have played an important role in the rehabilitation of persons with disabilities. Odeck (1992) in examining the impact vocational training has on the economic and social contributions of females with disabilities showed that women with disabilities who have been trained experience a positive change as a result of vocational training. This change affects positively their social and economic status in the local community.

However, studies by Nkinyangi (1982), Mbindyo (1992), Wanjeru, (1987) show that vocational training centers are encountering numerous problems and people with disabilities are not getting adequate training. This does not however mean that vocational training has lost its importance. Problems in vocational rehabilitation of persons with disabilities revolve around limited opportunities, management, finance and personnel courses offered. Wanjeru (1998) identified centers, which have been closed for 2 years due to lack of funds to run the. Centers were operating below capacity despite long waiting lists due to lack of funds (UNDP/ILO, Terminal Evaluation report 1984 and Ramsom 1992).

Nkinyangi (1982) noted that training opportunities for people with disabilities are extremely limited as there are very few vocational training as there are very few vocational training centers. He found out that some were merely proposals and were not operational. He also found that fees levied in training centers were a major impediment restricting entry and continuation in rehabilitation programmes. Able-bodied children were instead taking places of those with disabilities simply because they could afford to pay school fee.

According to Wanjeru (1998), should this practice continue then some of the centers will be inaccessible to the children with disabilities. Introduction of cost sharing in rehabilitation centers means that trainees must pay fees. Many parents are either reluctant to pay fees for their children with disability or they may not afford it. Wanjeru (1998) noted that in rehabilitation centers the number of trainees has dropped drastically due to lack of funds. This means that though they exist, rehabilitation centers are being under-utilized. The table below shows Government Training Centers.

2.11.3 Employment.

Although a few training opportunities for people with disabilities exist, there are no subsequent employment opportunities as noted by Nkinyangi (1982) and Mbindyo (1987). Trainees are offered courses that are already pre-determined for them by society and such choices are out of tune with realities of contemporary job markets.

Oudheusden (1992) and Ransom (1992) content that vocational training is not a guarantee for employment for people with disabilities, especially if they are being trained for non-existent jobs. Even after training, people with disabilities are mostly taking up subordinate jobs and some have ended up in the streets as beggars. The trainees are no longer given tools to make a start into self-employment. Most studies show that there is lack of material and financial support from the government. This has stagnated chances of self-development for people with disabilities.

Both the private, state corporations, civil service and local authorities have not set good examples in incorporating the persons with disabilities. No quota system exists to ensure that both qualified and experienced persons with disabilities are not generally discriminated against. One of the biggest barriers to the employment of persons with disabilities is the negative attitude and discriminatory practices of employers. Oudheusden (1992) has noted that employers normally look for people who will produce more and maximize profits. Employers fear absenteeism, transport problems and higher insurance problems for employers with disabilities.

2.11.4 Transport

According to a study on transport planning by Manpower Report US Department of Labour in (1971) it was noted, "The Disabled should have and want the same opportunities the general public has for working, shopping, social interaction and recreation. They need access transportation, which is free of the physical, economic and psychological barriers that keep them from traveling.

Transport Disability

A study by Man Power Report to the president US Department of Labour (1971) describes a "transit-relevant physically handicapped person" as "any individual who by reason of illness, injury, age, co-genital malfunction or other permanent or temporary incapacity or disability is unable without special facilities or special planning or design to utilize mass transportation facilities or special planning or design to utilize mass transport facilities and services as effectively as persons who are not so affected".

It is unfortunate however that the segment of the nations' population that most initially needs basic communication services is the same segment that tends to have the least physical access to these services. The handicapped should be able to take full advantage of free or low-cost health care services as well as recreational and social activities but their access to these services is hampered by the following:

- They cannot afford or are unable to drive an automobile.
- They cannot afford public transportation
- They reside in areas poorly served by public transportation

- The design and service feature of public transport systems pose difficult health, maneuverability or orientation problems for them. Persons with disabilities need access to transportation, which is free of the physical and economic and psychological barriers, which keep them from traveling. Inconveniences or inappropriateness appear to be the major problem even beyond personal physical limitations and physical obstacles on the vehicles themselves.

Thus in enabling the disabled use public transport needs of all persons are catered for. All of them should have and want the same opportunities as the general public has for working, shopping, social interaction and recreation.

2.11.4.1 Public Transport In Kenya.

Malombe (1992) notes that public transport is inaccessible to those with physical disabilities. Karuri (1998) has noted that problems of access and mobility for people with disabilities start from the initial planning and design in which their needs have not been taken into consideration. If persons with disabilities are to participate on equal terms in society and if they are to enjoy their full human rights, then they have to be able to get everywhere. This requires a well-adapted environment without obstacles and barriers (Njuguna 1992).

2.11.4.2 Transport Policies In Kenya

The transport policies for Kenya are spelt out in development plans, Sessional Papers and special papers. Emphasis is mainly on:

- Improvement of safety.
- Development, expansion and maintenance of the transport system.
- Development of non-motorized transport.
- Enhancement of comparative advantage of each mode of transport.
- Integration of transport modes.
- Human resource development etc.

However, no direct focus is made on transport needs of persons with disabilities. The human welfare tenets exposed in Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya such as mutual social responsibility and equality of all regions and groups of persons (Republic of Kenya 1965) can be used, as a basis to plan for transport needs of persons with disabilities. Though there has been an increase in the road network and level in recent years in Nairobi, there does not appear to have been a corresponding comprehensive change in transport planning, legal enforcement and road user system to enforce the possibility of the occurrence of road traffic accidents and also improve mobility for all road users.

Transport technology development and adoption does not reflect a serious consideration of the needs of people with disabilities. The existing traffic laws regarding PSV (uses, matatus) have over the years proved ineffective. Most designated stops do not have enough seats. In especially the C.B.D. the amount of street space set aside for walking does not reflect the demand, which is much higher. It is important to appreciate that virtually all the trips to C.B.D. are on foot.

Dusty, dirty and rough footpaths, risk of being hit by motorists and parking on walkways were among the major complaints experienced by pedestrians and cyclists in CBD as analyzed by a survey on N.M.T. in Nairobi in 1994. (SSATP 1994). In developed countries like Sweden, Denmark, Germany and India, the law on public transport is clear. There are reduced rates or compensation for transport facilities for persons with disabilities.

The principle of traffic compatibility should be applied to ensure that all the means of transport using the road are well catered for in terms of provision of separate lanes, adequate road space, giving adequate times to all users at traffic lights and the general management of road traffic. Social transportation planning is therefore necessary to address needs of all persons including the vulnerable groups

2.11.4.3 Streets

“It is the idea of the street, not the reality, that is important” A.P. Smithson, (1970)
 Streets are an important part of the landscape of everyday life. People rely on them for many daily activities.

Empirical research shows that good streets are democratic streets –streets that have meaning for people; invite access for all and encourage use. These basic qualities of street democracy are either inexistent or vanishing from our towns, cities and neighborhoods. Rudofsky (1969) Whyte (1980) Apple yard (1981). The decrease in plurality of public space, as shaped by current practices of urban design and the growing trend of privatization together create a troubling gap between the social goals and manifest results of current design and development initiatives. A broader and more holistic concept of “good” streets is needed.

The democratic street does not exclude the automobilist but provides space for vehicles by striking a more equitable balance with other street users, namely, pedestrians and bicyclists (including those of disabled). It stresses safety and comfort and also emphasizes the access and needs of many different kinds of people. Street democracy grows out of the concept of publicness. Publicness is a new concept that recognizes one's right to free and unlimited access to public places. Kevin Lynch (1981) and J.B. Jackson (1984) claim that a space is “open” only when it is publicly accessible. Degrees of publicness are thus crucial in classifying space. However, such criteria extend beyond mere physical considerations to encompass humanistic concerns. A successful public place is one where users of different backgrounds can coexist without one group dominating another. Lynch (1981)

The concept of democratic streets should therefore be adopted in planning for Kenyan streets which mainly favour motorists. The street designers must balance an expanding spectrum of technical, administrative, economic, social and aesthetic issues. They must also assume the role of educator, helping local communities to visualize new ideas, to identify opportunities to fulfill non-traffic objectives and understand implementation and

funding techniques. The key to this is to think holistically, to see transport planning not just as a set of engineering schemes, but as part of wider processes of meeting people's needs whilst limiting environmental impacts and not adversely affecting local economic competitiveness.

The Central Government and the Local Government retain a great deal of regulatory power in transport matters within the country. They need to support both policy strategies that demonstrate the equity aspects, inherent in all transport policy decisions and initiatives such as concessionary fare schemes that attempt to maintain accessibility and quality of life for persons with disabilities. As noted by Brooks (1988), no material on site planning and the pedestrian would be complete without an overview of the guidelines necessary to provide access for the handicapped. This study suggests ways of achieving some amount of integrated user street and public transport network in the area of transport planning in Nairobi in relation to their use by disabled persons

2.11.5 The Urban Built Environment And Physical Planning

The design of the environment causes stress by affecting "person-environment fit" Zimmig (1981). Clearly, design can directly support or thwart the users goals. An example of an indirect method of affecting person-environment fit would be a design that does not facilitate social interaction. Saegert (1970) notes some qualities of the environment likely to contribute to stress to the disabled such as:

- Suitability of environment: the ability of the environment to support or frustrate people's goals. As an example buildings with way finding problems
- Psychological and social: Environments that are coded with messages that convey feelings of social worth, security, identity and self esteem, as well as indication of status."

The built environment has for years created unnecessary barriers that limit the accessibility of the handicapped to public and private facilities. In every site plan the objective should be to develop the site, paths and walkways in such a way as to allow the greatest diversity of people's access to buildings and facilities safely and unhindered. However, without regulations, access for the handicapped would not exist

Many issues such as access for their disabled, children facilities environmental matters are excluded from town planning authorities. The great weakness resulting from ugly and impractical urban design has been the lack of concern among planners with social activities and cultural diversity. Alternative, more culturally inclusive approaches to planning which might transcend the social/ spatial dichotomy are required. Greed (1999).

Architectural and accessibility barriers also give people with disabilities a psychological handicap. These barriers make those with disabilities feel helpless since they require assistance everywhere. The result is a negative self-image on their part based on environment incompetence. Steps to improve and rectify the shortcomings of existing buildings are lacking as noted by Karuri (1998). Consequently, this study seeks to establish how such facilities can be provided in community infrastructure

Human well- being is a primary concern of all land-use planning. Most human beings are concerned about that part of the environment with which they are most familiar because it has an environment, which has an immediate impact on their lives and supports the daily activities. It is therefore the role of the planner, to think more widely about how environments can be maintained or created which ensure human well being within the constraints of the local environmental, social and economic characteristics (Beer 1994)

The process of planning must therefore change. The culture and composition of the planning profession itself must change, particularly to be more representative and reflective of the people they are planning for in terms of minority composition (that includes disability and gender). Since the disabled and the elderly represent a significant sector of the population, covering all classes of people, and since anyone has a possibility of becoming disabled, it is no longer appropriate to adopt a segregated or divisive approach in which planning for disabled persons has often meant devising a special system for them.

For example, providing a separate school being for them. Evidence from the operations of special institutions show that this kind of approach is no longer sustainable. Like recommended by Linda Davis (1996) what disabled persons have been pressing for and what the various professions in the built environment need to recognize and address, is the need for aggressive solutions in the built environment, which integrate people as regards for example design considerations. Over all, this would produce a better-built environment, not just for disabled persons but also for all. The divide between disabled and able is not clear-cut.

2.11.5.2 Change In The Planners' Approach.

Urban and regional planning has in the past, been predominantly concerned with the social consequences of the development and use of real property. More recently however planners have become increasingly aware of the non-spatial aspects of public management of urban areas such as education policy. This wider interest may be interpreted as a formal recognition by planners and others that improvements in the individuals of which it is comprised, should be the general objective of the authorities and consequently of their professional advisers.

If the interpretation of the widening interests of planners is broadly correct, it should also be much concerned with identifying the welfare consequences of all types and decisions with which they are involved. Today the planner has to mind the welfare of all persons in planning. In construction of a building for example he must address the question of who might need it and what their requirements might be. Physical and social problems are interrelated. Having realized this, physical planners have begun to change their professions approach to both physical and social problems. There has been an acceptance of the doctrine of physical environmental determinism.

Professor Melvin Webber characterizes this doctrine by arguing that for generations it had been generally understood that the physical environment was a major determinant of social barrier and a direct contributor to individual's welfare. Having accepted professional responsibility for the physical environment, the City Planner was thus

accorded a key role as an agent of human welfare. Thus, the clearly prescribed therapy for the various social pathologies was improvement of the physical setting.

Since a landscape is the interface between social and environmental processes, landscape planning addresses those issues that concern the interrelationship between people and nature. The planet presents many opportunities for people and there is no shortage of environmental problems. Problems and opportunities therefore lead to specific planning issues such as an assessment. Litchfield (1975)

Social problems greatly increase the intensity of physical problems. During the last few years, two positions have developed within the physical planning profession concerning the planner's responsibility for helping solve major social problems.

Proponents of the latter approach feel that planners can offer the most expert assistance to cities/towns by dealing primarily with physical factors affecting urban conditions. They recognize social and economic means as important but consider them largely outside the competence of physical planners. However, in recent years uneasiness at this position has been growing. Some planners have believed that the social, economic, political and physical factors affecting development are so interrelated that successful planning requires a more complete view of the community with pressing issues like poverty alleviation, disability and street children. The discussion of this study argues that the planner's responsibility should be direct confrontation with social issues and a move away from the more traditional and indirect means of controlling the physical environment.

It is true that the profession will find it desirable and expedient to include the planning of socially oriented programmes within its domain. This should occur at least to the extent that greater attention will be given to coordination of the planning of the facilities with the planning of services conducted within them (Steiner (1991)). This forms the core of this study. It incorporates the importance of social goals in planning the environment in issues relating to planning of community infrastructure.

Webber set forth some propositions, which provide a common base for all planners no matter how wide they define the scope of their profession. He asserted that “each aspect lies in a reciprocal causal relation to all others, such that each is defined by and has meaning only with respect to its relation with others we can no longer dissociate a physical building for example from the social meanings that it carries for its users and viewers from the social and economic functions of the activities that are conducted within it’. In social Town Planning you cannot cut a wedge between the social and the physical because the two are inter-dependent.

Borrowing from Webber’s ideas, the aspect of disability may be viewed as a purely social problem to be tackled by sociologists while in essence it is perfectly a Physical Planner’s problem that requires his/her immediate attention. This realization makes this study particularly important in challenging physical planners to respond to the needs of all the people they plan for, and especially the vulnerable groups such as the disabled in urban planning.

2.11.5.3 Limitations Of Physical Planning In Meeting Needs Of Persons With Disabilities.

In Kenya, most community facilities favour those who are able bodied. Most entrances to public and private buildings within the city for example have staircases instead of ramps or both. Streets are congested making movement for not only the disabled but even pedestrians difficult. Pedestrian walkways especially in the CBD are narrow yet they also serve as building fronts/ verandas for many buildings. Public toilets only favour those without disabilities but still they are filthy and unsafe. The floors of some buildings such as banks, hotels shops etc are slippery yet they are supposed to serve all people

Bus stops are congested with many activities taking place (e.g. hawking, preaching etc) some people have even turned the kerbs into trading places creating a totally different land use and hence creating a lot of disorder. On such bus stops and even in parking places, there are no ramps to allow those on wheel chairs to board or alight the vehicles in comfort. Even where attempts have been made to provide parking for the disabled, able-

bodied persons comfortably park their cars. There seems to be total apathy as far as taking care of the needs of disabled persons are concerned

Building consultants and planners have often preoccupied themselves in designing buildings, which only meet what is termed as standard requirements for able-bodied users. Njuguna (1992), Nzioki (1992), Karuri (1998) and Clarion (1998) have identified some of the key areas that create barriers for persons with disabilities. Most entrances to public buildings have no handrails to facilitate easy grip for those using wheelchairs. There is no clear opening for entrances and even internal doors. Door handles and light switches are placed too high to be used by those with disabilities.

In many institutions (educational, religious, health, offices etc) only a few if any disabled persons can be accommodated because not only are appropriate laws and policies to ensure their integration lacking but the facilities therein do not favour them. In most of these institutions no sign language interpreters exist for the deaf. Some buildings in urban areas and especially the C.B.D. are storeyed but have neither ramps nor lifts. In places where ramps exist they are often either faulty or congested.

Currently, there is an attempt by local Authorities who are custodians of the Building code to provide lifts in buildings of more than six floors. However, even where lifts exist many are not wide enough to accommodate wheelchairs. No emergency warning devices exist in the lifts and where they do, they are too high to be reached by persons with disabilities.

In educational institutions, buildings are far away from each other (e.g. Nairobi University) halls of residence are so far from the classrooms; the paths are narrow, (and at times with grass on the sides), slippery or rugged. (acial facilities are accessed by use of staircases such as the halls of residence or dining halls as if to dictate on who should be in these facilities.

In hospitals, cost of health care is high, drugs and other facilities are missing. Many city council clinics, which are near the people, have been closed down due to lack of appropriate facilities. Many disabled persons are poor. From a study done in Kenya by Nkinyangi (1982) it was revealed that majority of disabled persons come from poor families (61%) small peasants, (15%) skilled and semi-skilled workers (14.8%) –the landless or unemployed

This scenario implies that not many can afford Medicare in private hospitals, which are expensive. Public transport tends to discriminate against those with a disability. The public service vehicles are not disability friendly. They have narrow doors and high stairs. In making an assessment of requirements of the disabled, it is noted that existing recreational facilities in many developing countries such as Kenya, specially prepared playing fields for persons with disabilities are rare. Spectator facilities, or entrances to venues such as gymnasiums and playing fields that are not suited to persons with disabilities. Provisions for leisure games for persons with disabilities are equally rare.

The Physical Planning Act of 1996, as well as the Building Acts of Kenya have no regulations to be followed to ensure that public buildings are friendly to everybody including those with disabilities. These and many more examples reveal how physical community infrastructure has failed to cater for persons with disabilities within Nairobi.

Now why has town planning failed yet all these physical facilities exist? Why have public facilities failed to address all as intended? It is because though the objective of town planning is primarily physical it cannot succeed without consideration human characteristics or the purpose of town planning which is essentially social. It also results from failure to translate individual needs into society needs. The planner/developer must always consider the concepts of who (is to use the development) and how (he/ she will use it) if it has to succeed in meeting its goals. For example, it is pointless to talk about "Education/ health for all" if the questions of, "Who constitutes all" and "How will all people access education/ health?" are not addressed.

2.11.5.4 The Urban Planners Role In Guiding Development.

The implementation of urban planning proposals without question affects the well being of members of our society. This is especially so if it does not touch on the welfare of all persons. The consequences are frequently of major significance for the welfare of individuals. Public planning agencies are established to protect and further the interests of the society at large: all those who comprise the society rather than the interests of the particular groups to the exclusion of the interests of others.

The professionals dealing with the built environment such as the Urban Planners, the Architects, the Engineers, surveyors and the Local Authorities have a valuable role to play in raising awareness to the Government, business and other community sectors in arranging inspections of premises to ensure that they comply with access criteria for all persons. These criteria should be set down in the building codes and cross-referenced to all development plans involving the built environment. Equally, they should also lobby for change if standards are inadequate.

Physical Planning should adopt policies ensuring that persons with disabilities have access to new public buildings and facilities, public housing and public transport systems. During renovation of existing buildings similar measures should be adopted whenever feasible. Planners are equally concerned directly with housing, education, health and recreation because these aspects of welfare require careful location, extensive land areas and expensive facilities, all of which are central considerations in physical planning. For example, today education has become a prime target of attack to break the circle of poverty.

Education of the disadvantaged such as the poor and disabled are part of an increasing concern at the role of education in achieving social welfare. The physical planners responsibility towards education is becoming more complex. His role as a planner of physical facilities now leads him/her into fundamental questions on the appropriateness of the education policy.

Thus, since many social welfare problems stem from the apathy resulting from discrimination and other forms of social injustice, from a lack of knowledge of opportunities and from emotional problems caused by poor living conditions and poverty, the planner should be familiar with programmes to alleviate these programs through coordination, research, advice, provision of service facilities where available or necessary, and community renewal programmes recommendations.

2.12 Examples Of How Integration Has Worked

2.12.1 Kenya

Rev. Charles Muhoro Secondary School & Thika School For The Blind

Rev. Charles Muhoro Secondary in Central province however has gone ahead in spearheading integration. According to NCDHRD (1999), the school has one stream per class for hearing students and the other for deaf students. The head teacher has noted that integration should aim at students who are deaf interacting freely with those that are hearing. Those found in his school play in the school team and do garden work together with the learning students.

For him however, integration should not mean the hearing and non-hearing in the same class. The reasons behind his argument are that a school for hearing students should consist a maximum of 40 students whereas that of the deaf should have a maximum of 12 students. Thus if 10 deaf students are put in a class of 40 hearing students, it will be difficult to teach them. Integration should not however deny the deaf access to education. According to the headmaster of Rev. Charles Muhoro Secondary School, it is the hearings that have a problem integrating with the deaf.

Thika School For The Blind

Thika School for the Blind also has an integration programme that allows admission of 5 sighted students into a class of 15 students with visual disabilities. The sighted students assist those with visual disabilities in reading. Promotion of integration has been motivated much more by the idea of cost sharing.

Kenyatta University

Students with disabilities are admitted to the university purely on merit but as it were, it takes them a little longer to get oriented to the expanse campus and to find their way into lecture halls, hostels, health facilities, offices etc compared to the other students. However, the orientation week for first year students makes a lot of difference to the life of students with disabilities at the university and if not properly handled is likely to disillusion an otherwise brilliant scholar.

Therefore, from the day of registration, staff at the Kenyatta University tries to make things easy for students with disabilities. Arrangements are put in place to assign them hostels that are within proximity of their lecture theatres and thereafter, the office of the Directorate of Students Affairs handles their day-to-day problems. This caring attitude and spirit of understanding shows that disability can be handled.

2.12.2 Australia

Many developed countries have advanced in the direction of inclusive education. For example, an inclusive programmed for the hearing impaired was introduced in Miami Primary School, in Queensland Australia in 1985. (Karigu (1999). The programme caters for a multi-age class of hearing impaired children where each child gets Individualized Education Plan (IEP) irrespective of age. Teachers who are aware of development principles use flexible groupings to cater for learning styles and abilities in an effort to respond to individuals rather than use of average expectations. The philosophy is believed to create an ideal learning environment for special education.

In the Australian system, both hearing and non-hearing students use the accepted Australian signed English to communicate. All teachers dealing with training of hearing impaired students are fluent in this language and majority of the hearing peers in the multi-age classrooms are fluent signers. It is this type of learning environment that has effectively made inclusion to take place in Australia. The government of Kenya does not formally recognize sign language as the language of deaf persons.

Notably, inclusion practice in Miami primary school has shown a significant improvement in the hearing impaired students because such students identify themselves as part of the mainstream of the school community and therefore accepts and expect to be treated as such. Their academic performance has improved considerably. They adhere to school rules and their peer hearing students no longer question the purpose of subject content of sign language; it is viewed as the norm. A socialization level between the hearing colleagues has also greatly improved both in and out of class.

The philosophy of integration and inclusiveness is good and practical as shown from the examples above. But, do the planning systems and policies in the field of education in Kenya support introduction of such a program? Are there enough special teachers to facilitate its implementation? Are community facilities such as schools well designed and serviced to suit disability? And are the departments dealing with Persons with Disabilities willing to merge efforts to realize the noble course?

2.12.3 Sweden

Many people consider Sweden to have the most enlightened approach to design for the disabled. The government publishes a number of books and pamphlets explaining these policies on disability and them makes available to members of the public. It also pays for all kinds of devices to retrofit a home to enable an individual with a disability to function independently. Jain (1992) The philosophy in Sweden is that individuals with disabilities should not be viewed as separate user groups who have special needs: "it is in many cases the deficiencies in the environment which create the special needs and not the unfortunate lot of the people afflicted by handicaps or lack of ability" (Beckman 1976, p33).

The philosophy assumes that all people at some time in their lives will be functionally disabled or unable to manage everyday routines. Overall elimination of obstacles in environment is the goal in order to normalize living conditions for the disabled. The disabled according to them include, the visually and hearing impaired, allergy sufferers, the confused, in addition to those who have impaired mobility. "Viewed in this

perspective it is no longer relevant to speak of special needs. The needs of the handicapped form part of the needs of the entire community" (Beckman 1976 pg 33).

2.12.4 Case Studies in Britain.

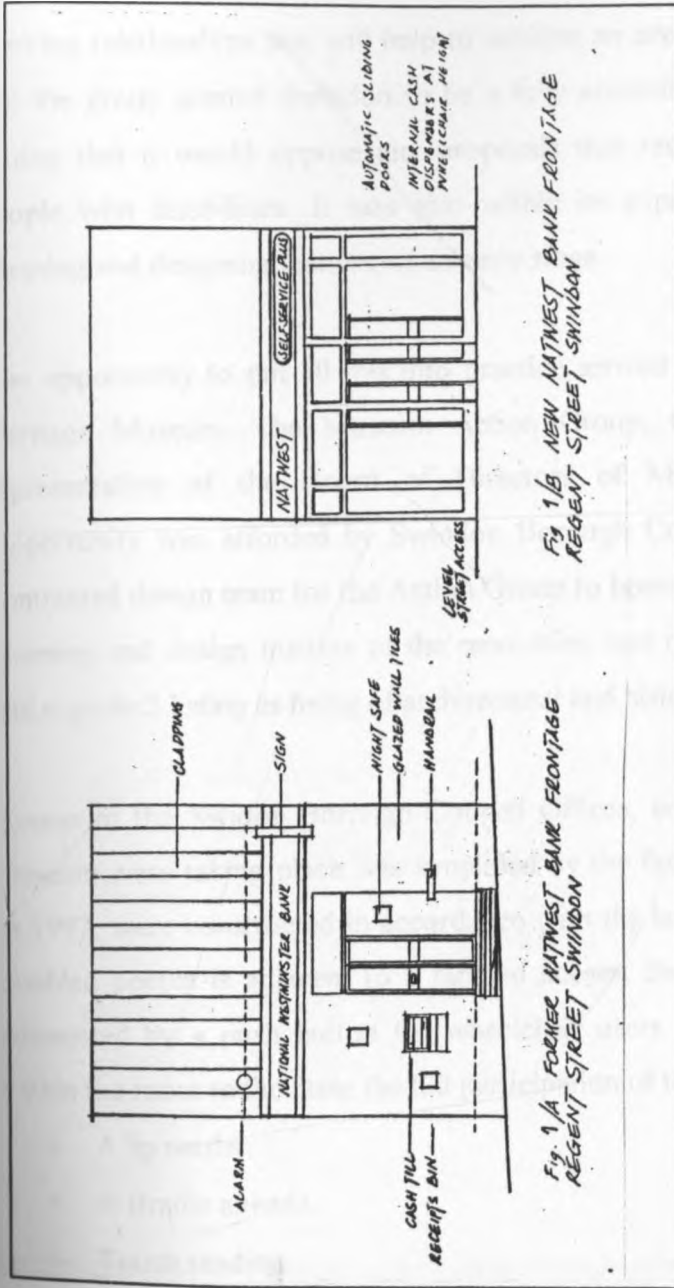
However case studies below illustrate how access for disability have been successfully sought and implemented in Britain. In these case studies, discussions and negotiations were held with disability groups throughout the process. The cases demonstrate the interaction of the social and the physical in the design process. They also show the interplay of time, people, culture, and serendipity (chancing) in the planning process.

Swindon Borough Council, Local Planning Authority.

The Natwest Bank, Swindon wished to alter their frontage to a main pedestrian precinct by introducing new ATM cash till and repositioning the entrance door. The local council had in force a local policy incorporated in the then consultative draft of the local plan. It required that the altered shop front had to incorporate improved access for all, including wheelchair users. The frontage was on a gently sloping site and overlooked a busy pedestrianised street in the centre of town. There was no space for a ramp. Some solutions, such as using the rear of the premises solely for access by disabled people, using a back door in a service yard adjacent to the deposited rubbish, were outright rejected by the access officer.

The bank directors however, were determined to follow a scheme with minimum alteration and cost and persisted to the point of submitting their application requesting planning permission without any provision at all for disabled people. The planning committee refused this. Several months later, the applicants returned and presented the planning committee with their revised shop front alterations incorporating the recommendations of the access officers.

Fig 1 Natwest Bank



The revised plan showed a reduction in the internal floor levels, lowered internal cash dispensers, and wide entrance doors with a flush access, all of which allowed equity of access to the bank with a mobility problem. The alterations are now in place and represent a small success for access for all to barrier-free living. They typically demonstrate the need for persistent negotiation and discussion as well as adherence to often-minimum policy standards, even when challenged by large organizations. (Fig 1).

Source: Greed 1999

Swindon Railway Heritage Museum Advisory Group, The Swindon Access Group.

This is an example of positive and early consultation with a local access group on a community issue. Swindon Borough Council (1997/8). It is also an example that shows 'disability' can be linked to planning for tourism and cultural activities.

The Swindon Access Group had an aim of promoting effective consultation and building working relationships that will help to achieve an accessible environment for all. To this end the group wanted Swindon to be a fully accessible city for the twenty first century stating that it would oppose any proposals that restrict access and the integration of people with disabilities. It was also within its expectations to be a consultee in all-planning and designing matters, at an early stage.

The opportunity to put all this into practice arrived with the proposals for the Railway Heritage Museum. The Museum Action Group, the Hard of Hearing Club and a representative of the Board of Directors of Museums, the local access officer. Opportunity was afforded by Swindon Borough Council, the Local Authority and the contracted design team for the Action Group to become involved at the early stages in the planning and design matters of the renovation and reconstruction of the building, which had a grade 2 listing as being of architectural and historical interest.

Access to the Swindon Borough Council Offices, where the regular meetings about the museum were taking place was simplified by the fact that the newly built offices opened in 1997, were constructed in accordance with the latest access requirements. Parking for disabled people is adjacent to a ramped access; the entrance door is extra wide and is automated by a push button for wheelchair users. The following devices are available within the room to facilitate the full participation of those with a disability:

- A lip reader.
- A Braille agenda.
- Touch reading.
- A three-dimensional model of the proposed heritage museum for a blind representative who is helped by explanations from an assistant.
- An infra-red induction-to assist hearing and
- A centrally located transmitter with neck loops and headsets.

Once familiar with the proposals for the Heritage Centre, the Action Group was able to contribute to the debate. Suggestions, which emerged from the group regarding the design and operation of the Heritage Centre, included:

- A ticket desk to provide a variety of ways of presenting entry prices and other information rather than written lists only. For example the availability of a counter loop for the hard of hearing, a talking price "list" and
- Staff at the desk to deal with customers' extra needs will all aid access for disabled as well as able bodied people.
- Staff to receive disability awareness training, in order to be prepared to help customers who have access problems.
- Lift access to all floors of the building.
- Lift contractors to be available at all museum opening times in case of breakdown of lifts.
- Lift design to incorporate sufficient wide doors, maneuvering space, invisible eyes and adequate length of opening times, in case of break down of lifts.
- Revolving doors to be avoided.
- A speech processor to be installed for those with a speech impediment.
- Handrails to be fitted in corridors and in large exhibit rooms.
- An escape passage.
- Height of written displays to be at a comfortable level for wheelchair users.
- Scissor lifts to help change levels, rather than ramps. (Slope and length too demanding on internal space.)
- All corridors and doorways to be according to recommended standards, (in accordance with building regulations.)
- Need for many touch exhibits.

In this way, by having regular discussion meetings with a local group, the access officer could act as the interface between the needs of the disabled in a new building in the town and the designers and other colleagues on the council. As a result of the close working relationship between the users and the professionals, the views of the users were considered and attempts were made incrementally, throughout the early stage of the

design process, to accommodate essential design criteria, which may only be apparent to this group of users of the proposed building. This inclusive approach taken by the designers and developers meant that the resultant design should meet the needs of the users, and not require expensive add on, on features at a later stage, as so often happens.

2.13 Theoretical Framework

Social theory is a preposition that helps us to understand human behavior in sociological research. The concept of structural functionalism in particular has been adopted as stated earlier on this chapter, this study receives its backing from social Theory and social Town Planning Theory. It begins with the broader social theory and then narrows down to social Town Planning as the basis of the study. Social theory is a preposition that helps us to understand human study is that of structural functionalism as it relates to the social town planning. An assessment of who comes or who should come first between the individual and the society has been given particular attention in the study.

As a society, our attitudes actions, and behaviour are largely governed by what we believe in, our culture, religion, ideologies policies, laws and regulations etc One of the founding fathers of sociology, Emile Durkheim (1858-1917 in George EG 1964) was concerned with disorder in society caused by the social stratification in Europe during his time. He felt that most problems experienced by an individual were caused by society. Most people in the world consider the disabled as incapable or as different human beings. The Kenyan attitude is reflected in the terminologies they refer to the disabled as discussed earlier on. With such an attitude, it is difficult for society to create an enabling environment for the disabled.

Most society members believe that needs of the disabled should not be considered along those of the able-bodied persons because they are not important. In community facilities for example, they are excluded in design and facility provisions because many people feel they do not need these facilities because they cannot fit in. The legal provisions available also reflect the same feelings in that they do not protect the needs of this vulnerable

group. Thus, Durkheim is right in expressing the view that society contributes to the individual's frustrations.

In dealing with disability, to a large extent the Kenyan society has adopted Auguste Comte's arguments that social change only comes through adaptation, with those physically fit automatically fitting and in the process automatically eliminating those who are unfit (Comte Auguste 1798-1857 in Franlyn 1968). This study however, argues differently; that the consideration of the needs of the individual could bring about change to the entire community in the long run.

If for instance a retractable ramp is installed to serve the needs of those with disabilities in public vehicles, in the long run, loading of luggage into the vehicle for both the touts and other passengers becomes easier. This way, consideration of a social need to alleviate the plight of a community member often considered to be insignificant to society's welfare could create an important change to the physical environment to benefit all. Every member is therefore important in his own right and as such his needs should be given equal consideration in planning for any community infrastructure. Those who are anti-change easily adopt Comte's idea, because they do not want to take up responsibility.

Another social theorist Charles Horton Cooley (1864-1929 in Rieff P 1964) supports this argument. Cooley was concerned with the development of an individual's progress. He realized the fact that we cannot talk about the structure of any particular society without talking of its function and hence his coining of the structuralism theory. Since individuals cannot be separated from society, it can be argued that he was also a firm believer of society since society is made up of individuals. He argued that, however small a social institution is, it must be considered on its own merit and thus given due attention. Thus, however unimportant society might view a disabled person to be, he has an absolute right to utilize community provisions such as community infrastructure as one of its members. As such his needs must be included in the planning of such a facility.

2.13.1 Physical And Social Town Planning

2.13.1.1 Development Of Social Town Theory

This study equally applies social Town Theory in showing cause why Town Planning should not just be Physical Planning. Social Town Planning guards the needs of especially the vulnerable and disadvantaged groups who are often forgotten or discriminated in the urban planning of Town Planning has long been seen as primarily the physical shape and development of towns and cities. This view of the primary focus of town planning was exhibited in Keeble's book *Principles and practice of Town Country Planning (1952)* and indeed most other texts on town and country planning of the early post Second World War period.

First, the view that town planning as about the physical planning of the environment was intimately connected with the view that it was essentially an exercise in (physical) design. At this time, town planning was seen as a natural extension of architecture or (to a lesser extent) civil engineering. Accordingly, those thought to be most appropriately qualified to be town planners were architects or civil engineers or at least people qualified in the built environment professions, such as surveyors (Cherry, 1974).

Second, the view of town planning as an exercise in physical design led to a certain view of the kinds of plans it was assumed appropriate for town planners to make 'master plans' which delineated precisely the future pattern of land use and development for the urban area being planned. In other words, town plans were conceived as blue print plans or future urban land use and form, on the same model as architects' plans for buildings or civil engineers detailed designs for roads or bridges (Faludi 1973). Thus planning by post war town planning theories was one, which emphasized the physical shape and form of urban development.

By the early 1960s this physicalists' theory of town planning was being criticized in the light of the experience of the first fifteen years of post war planning practice in Britain. From these criticisms there emerged new thought to embody a conception of planning

that was more socially informed and which, correspondingly, down played the physical design side of town planning. The slogan "planning is for people" emerged at this time. Though this expression was overused, it did at least express the shift from a physical, design-based concept of town planning to one that is more socially informed and sensitive.

Some of the episodes that led to the development of more socially informed town planning theory are:

- The lessons learnt from the social insensitivity of post war physical planning especially the schemes of comprehensive housing redevelopment
- The emergence of local urban protests against planning schemes in the 1960s and the consequent acknowledgement of the political nature of town planning.
- The realization in the 1970s that town planning practice affected people in different ways and so had distributive effects that could diminish inequalities (Dennis, 1970, 1972)

This study is particularly interested in the third episode that explains why persons with disabilities should be integrated into the mainstream of society development through planning to lessen inequality in society.

Planning theorists like Jane Jacobs and Christopher Alexander had called upon planners to gain a better understanding of cities before they embarked upon planning them. Likewise, a number of other theorists called for the empirical examination of planning itself (e.g. Scott and Rowles, 1977) so that we might better understand its effects and its role in society. Moreover, up until the 1970s there were few, if any, systematic empirical studies of the effects of town planning in practice.

Against this background Peter Hall and his colleagues (Hall et al 1973) made a significant contribution. They had set the task of examining the changing face of urban Britain planning system down to the end of the 1960s. They observed that a major objective of the post-war planning system had been to restrict urban sprawl and development in the countryside and they found that this objective had been realized.

However, from their research they showed that urban containment had been bought at a price. By restricting the supply of land available for urban development British town planning had unwillingly contributed to the inflation of land and property prices. This in turn had led town planning to have some distinct distributive effects on different groups within British society.

By contributing to increases in land and property prices, physical planning had contributed to the widening of social inequalities with the rich affording to buy homes and the poor having to put up with poor inferior quality housing. In short post-war physical planning had had socially egalitarian or socially "regressive" effects. Thus distributive effects contributed another dimension to the development of a more socially informed town planning theory.

The picture which emerges is that, whereas in the years immediately following the second world war town planning was conceived as essentially an exercise of physical planning and urban design, through the 1960s and 1970s largely as a result of criticisms of the physicalist model in practice. Various theorists drew attention to the need for town and planning to become much more "socially informed". So how then should we conceive of the relation between the physical and the social in urban town planning?

2.13.1.2 Town Planning "Social" Not Just "Physical".

Greed (1999) gives an explanation of why Town Planning is not just physical but also social. She draws a logical analysis from Lewis Keeble's definition of town planning. Lewis Keeble notes "Town (and country) planning is the art and science of ordering the use of land and the character and siting of buildings and communicative routes. Town planning deals primarily with land and as such it is not economic, social or political planning. But town planning can assist in realizing the aims of other kinds of planning (Keeble 1952, Pg. 1)

From Keeble's definition it is possible to distil the following claims

- That town planning deals primarily with land.

- That town planning is concerned with planning/ ordering: a) of land use b) the character of buildings and spaces (including communicative routes).
- That town planning is not economic, social or political planning.
- That physical town planning can contribute to the achievement of economic, social and political goals.

Thus, he looks at town planning as an exercise of "Physical Planning and Design". From his understanding of town planning as discussed above therefore, he concludes that town planning is not economic, social or political. It is possible to reduce further Keeble's statement to three claims:

- That town planning is primarily Physical Planning
- That town planning is not social planning.
- Physical Planning has social effects and so can realize social goals.³

2.13.1.2.1 Town Planning is Primarily Physical.

It is important to understand why Keeble looks at Town Planning as primarily physical. If in describing Town Planning as physical Keeble was looking at the object of a planning then he is right to consider the 'character and siting of buildings and communicative routes'. Town planning actually has powers primarily over the location and form of physical development. Thus town planning seeks to manipulate (as its object) physical development. This implies that the statement "town planning deals with the object of town planning" is 'largely' true – 'largely' because it is not wholly true.

The reason why it is not wholly true is that although town planning includes changing of physical form and changes in land use, not all changes in land use issue in change in physical form. For example, one might change a residential house to an office use without any change in the external form. In planning land use really, planning has been concerned with planning human activities and not just the character and siting of

³11. The argument confines itself to social effects only as relates to the interests of the study though it is also noted that we cannot strictly distinguish between "social", "economic" and "political" issues as implied by Keeble

buildings and communicative routes- not just physical form. Thus the statement that town planning is primarily physical can be accepted on the basis that it talks about primarily and not wholly physical.

2.13.1.2.2 “Town Planning Is Not Social Planning”.

However, it is also important to analyze whether Keeble was right when he said that Town Planning is not social planning. However this follows if only what is physical cannot be social at the same time if, the categories “physical” and “social” as applied to defining town planning are mutually exclusive but this is not the case. Whether or not they are depends on what we mean by “social”. This constitutes the core of my study.

There are three relevant senses in which the term “social” might be used as descriptor in relation to town planning

- a) The term “social” might be used to describe the kind of action that town planning entails: it is a form of social action.
- b) The term “social” might be used to describe the object of town planning (i.e. what it deals with).
- c) The term “social” might refer to the purposes of town planning.

“The object of planning is not social”

The meaning of this statement is that the thing(s) town planning deals with or manipulates are not social. However, town planning does so to speak, act on people. The difference is that it does not do so in the same direct way as say, teaching or medical care does on people. The latter deals directly with people’s minds and bodies as objects but town planning works (primarily) on the physical environment. This is what makes town planning physical and not social.

However, does it follow from this that the purposes of town planning are not social? This brings us to the argument that “The purposes of town planning are not social”. The question raised above leads to other crucial questions

For example:

- Why do we engage in town planning?

- What is the point of town planning?

The answer to these questions must be that we assume or believe that town planning in some way improves the quality of peoples lives by improving (or maintaining the quality of the physical environments they live in. If it was not to improve peoples' welfare then why should we plan? We don't plan the physical environment for its own sake

The purpose of planning the physical environment is therefore human or social, not physical. Any planning that ignores this factor is deemed to fail. This is true for example of planning or controlling the design of buildings and spaces which might be thought of by some people to be part of town planning that is "not social". Some people who have written about town planning sometimes talk of town planning having 'social' and 'economic' aims as well as aims concerned with physical form and design, as if the latter were not "social" (or economic)

We are concerned with the design quality of the built environment and hence the point of planning it is that it enhances human welfare and this is a human, social reason. Indeed as suggested earlier, the idea that we might engage in physical planning for non-social reasons is incoherent. Thus if the purposes of town planning are social, the claim that the purpose of town planning is not social is false.

2.13.1.2.3 "Physical Planning Has Social Effects And So Can Realize Social Goals".

Keeble also argues that "Physical Planning has social effects and so can realize social goals" It is clearly true that town planning, conceived and practiced as an exercise in manipulating the physical environment, has effects on human welfare and therefore "social" effects so defined. Indeed town planning since 1945 was precisely a resume of how post-war town planning theories and practitioners became increasingly aware of the social effects of physical planning. The lesson was therefore learnt that in engaging in physical planning, it was vital for town planners to understand and assess these social effects.

It is by virtue of the fact that physical planning has social effects that its purposes are social, even though the fact that town planning works primarily on the physical environment has deceived some people into thinking that it is merely technical. Empirical evidence shows that the form (or design) of the built environment can play a strong role in shaping social behaviour and others expressing skepticism at this idea. It can lead to either frustrations or to fulfillment as already shown by Zimnig 1981 in his discussion of environmental stress.

From the discussion above it is concluded that the object of town planning at any rate is primarily physical environment but the purpose of town planning is necessarily social in the sense that its (town planning) purpose is the maintenance and enhancement of human welfare. In other words, the means of town planning are primarily physical but its ends are social. What town planning works on to achieve its social goals is the physical environment, as Lewis Keeble understood over fifty years ago. The truth of this is therefore a useful corrective to any town planners who might have pretensions to be doing more than this.

However, the notion of town planning as being primarily physical is not limiting or narrow. The reason behind this reasoning is that the quality of the physical environment in which people live is evidently of huge importance to the quality of their lives. This reasoning also implies that in town planning it is impossible to cut between 'physical' and the 'social' because each depends totally on the other. Thus if we consider that the objective of the planning as physical and its purposes as social, thinking about the needs of the disabled as part of the social needs of an urban society, then we will be contributing more positively to the urban built environment. For many years designing of the physical urban environment has ignored social aspects of the various categories of persons who comprise the urban residents. Often, buildings and roads reflect the fact that only the able bodied persons can use them. The persons with disabilities within Nairobi have faced both social and physical barriers due to failure by the urban society to consider their needs in planning. Consequently, they face alienation and discrimination because even services that are offered within these facilities do not consider their needs.

A failure to balance between the objects and purposes of planning has created a state of apathy and the needs of the individual do not constitute those of the society. As a result own planning has not been very successful. Social town planning advocates the need to consider needs of the disadvantaged in the planning of the urban environment in order to reduce disparities within society. As applied in this study, it advocates for the needs of the disabled. The study is enriched further by contributions of social theory which advocate that the needs of the individual must form the basis of the needs of the society. Thus, failure to consider the needs of persons with disabilities in the planning of the urban environment means that this kind of planning cannot be complete.

This study therefore, argues that in planning for community infrastructure there must be integration of the needs of all persons who comprise the urban population. Needs of persons with disabilities must be considered in the planning, management and design of each community infrastructure. Further, it argues that not only is it impossible to cut a wedge between the social and the physical in planning for the urban environment but it is also impossible to cut a wedge between the individual and the society. Should this happen then planning automatically fails. This study therefore set to establish modalities on how needs of the disabled can be integrated in the planning, management and design of community infrastructures.

2.14 Conceptual Framework

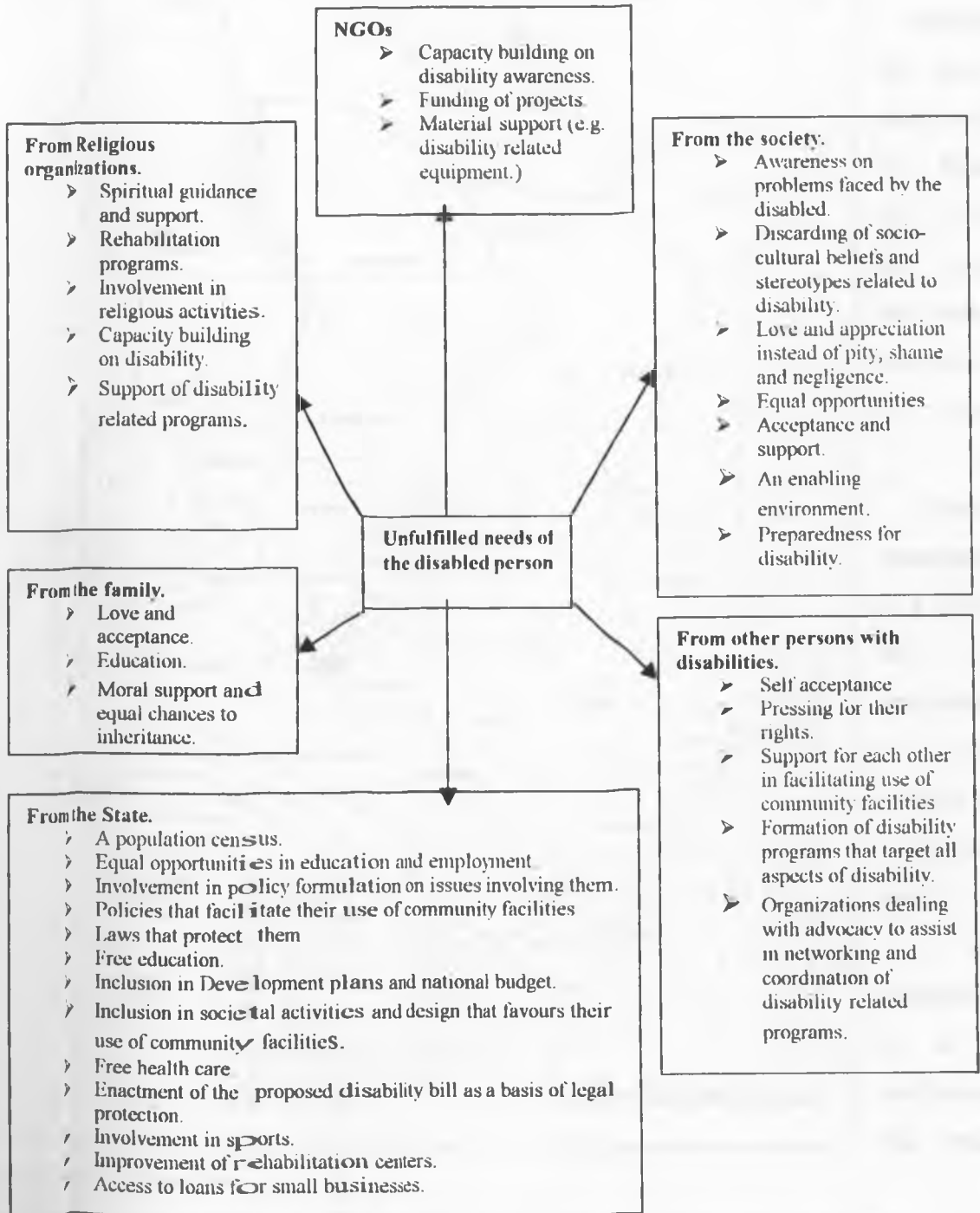
It has been conceptualized in this study that the needs of persons with disabilities have not been adequately addressed by the various groups within society supposed to act as crucial agents in alleviating the plight of the disabled in the use of community infrastructures. The study argues that unless each person/group of persons within society participates in assisting the disabled to use these public facilities at par with the rest of the society, then complete societal development cannot be realized.

Dealing with disability cannot be left to isolated sections of the society since the disabled belong to the society and everyone stands a chance of disability. Thus, the study sought to establish how far the needs of persons with disabilities have been

addressed within the community infrastructure in the Nairobi urban set up and hence establish modalities of how integration of the same can be achieved in Nairobi and elsewhere.

Fig 2 Unfulfilled Needs Of The Disabled That Hinder Their Use Of Community Infrastructure.

Source: Author 2001

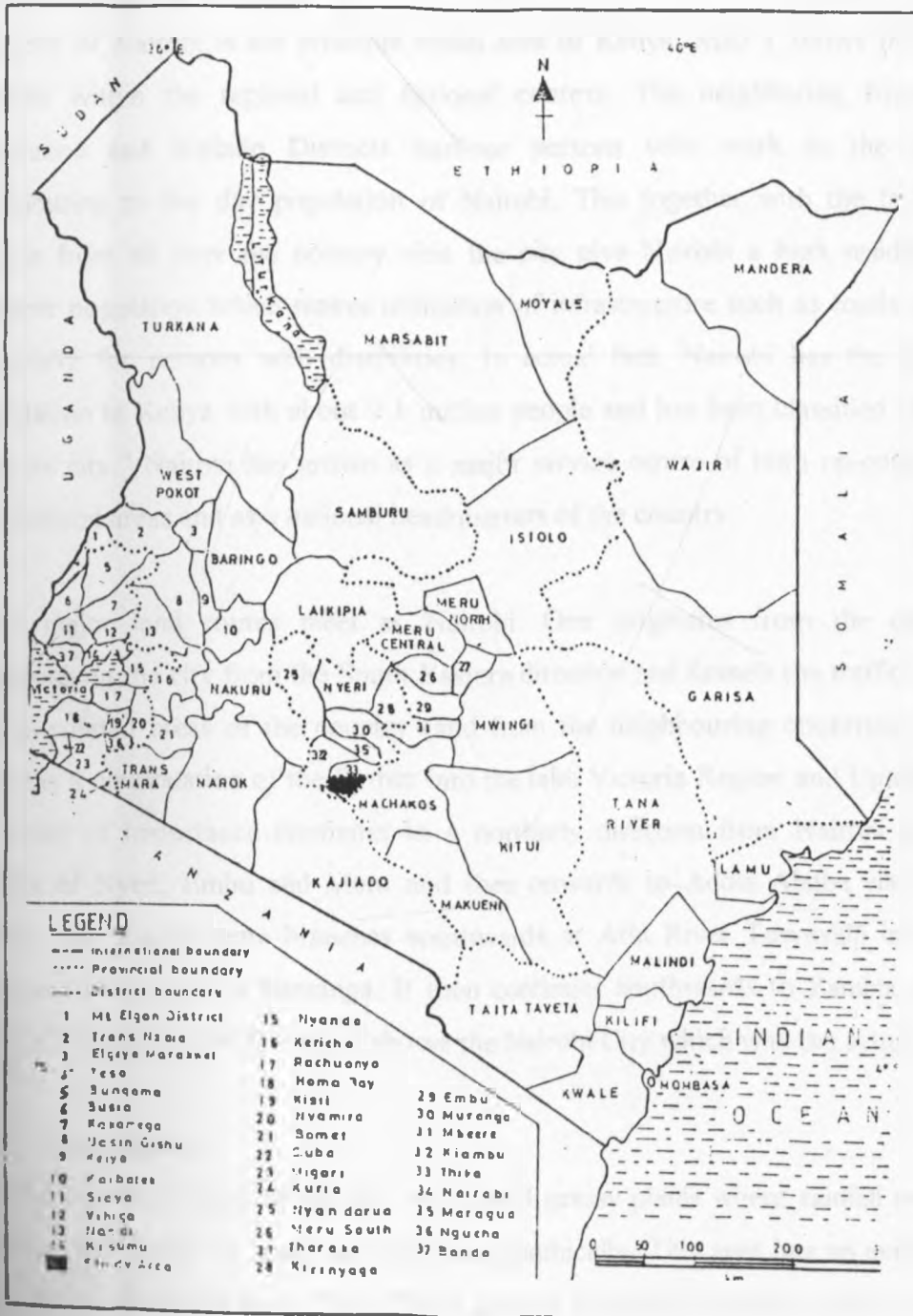


CHAPTER 3

3.0 AREA OF STUDY.

3.1 Introduction.

Map 1 Nairobi Within The Regional and National Context



This chapter introduces the area of study which is Nairobi city within the regional and national context. It is argued that disability management is a product of the environment in which persons with disabilities exist. As such, characteristics of the environment that makes

Source: Survey of Kenya 2001

management and planning for the disabled favourable or unfavourable have been

discussed in this chapter. Factors such as population that have an impact on the utilization of physical and socio infrastructure available within the city have also been discussed.

3.2 Geographical Location.

The city of Nairobi is the principle urban area of Kenya. Map 1 shows the location of Nairobi within the regional and national context. The neighboring Kiambu, Thika, Machakos and Kajiado Districts harbour persons who work in the city thereby contributing to the day population of Nairobi. This together with the fact that many people from all over the country visit the city give Nairobi a high resident and non-resident population which makes utilization of infrastructure such as roads very difficult especially for persons with disabilities. In actual fact, Nairobi has the largest urban population in Kenya with about 2.1 million people and has been classified as a "classical primate city." Nairobi has grown as a major service centre of both up-country highland agricultural areas and as a national headquarters of the country.

Four major land routes meet at Nairobi. One originates from the coastal region approaching the city from the South Eastern direction and funnels the traffic from most of the populated areas of the country (and from the neighbouring countries). The second route is a continuation of the former into the lake Victoria Region and Uganda. The third in order of importance continues in a northerly direction from Nairobi along Eastern franks of Nyeri, Embu and Meru and then onwards to Addis Ababa via Marsabit and Wajir. The fourth route branches southwards at Athi River Township into Moshi and Arusha (Tanzania) via Namanga. It then continues southwards to Zambia and Southern Africa (Walmsley 1957). Map 2 shows the Nairobi City which was the actual study area.

3.3 Topography.

To the South and East of the city are rainfall grassy plains where rainfall averages under 800mm per annum. It is almost level topographically. This area has an average elevation of 1500 m above sea level. The 1700m contour forms the Western most boundary of the plains south of Nairobi and the 1500m contours is the boundary to the North of Nairobi. To the West of these boundaries the land rises steeply on to the mountains forming the

eastern flanks of the Rift Valley. These are the Abadare ranges, whose Southern tip in Nairobi region forms the Kikuyu plateau and the Ngong hills

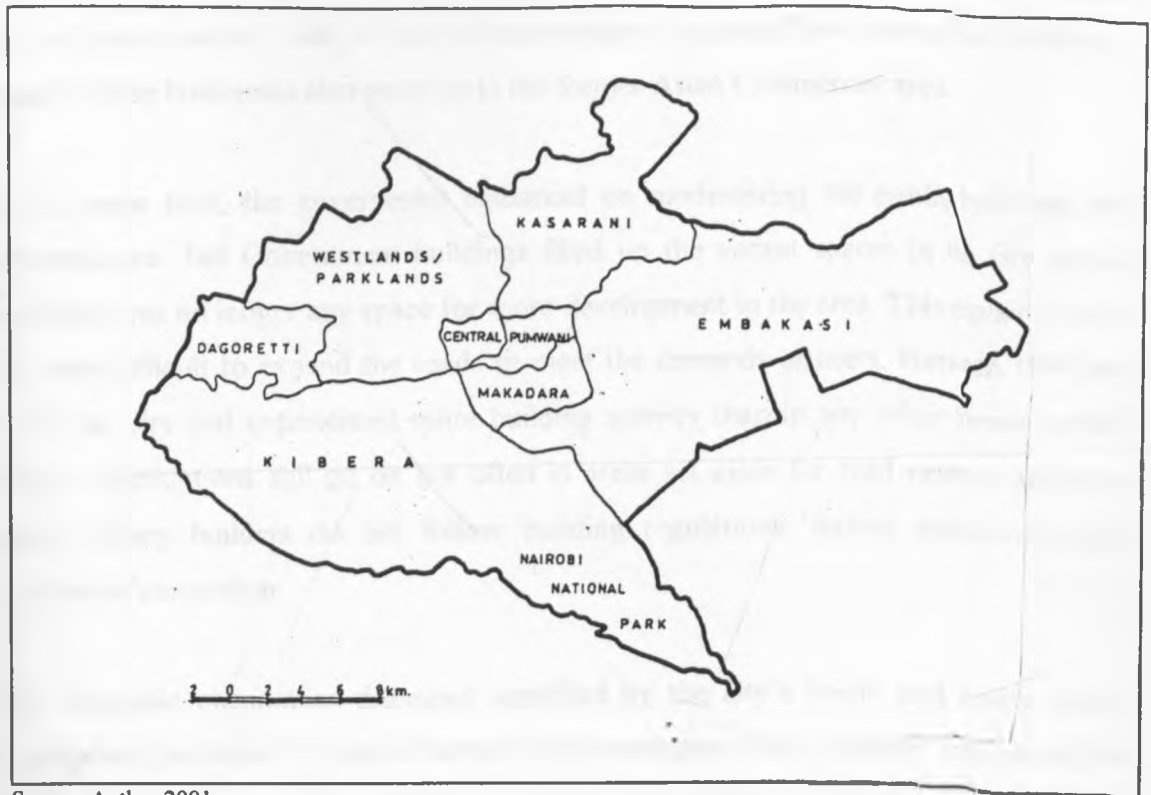
West of Limuru, Kikuyu and the Ngong Hills is the Rift Valley escarpment. The formation of the Rift Valley during tertiary times has strongly influenced the geology and geomorphology of the Nairobi area. The slope of the land rises gradually on the edges of the upper Athi basin and then steeply up the Kikuyu uplands to the North and West of the Nairobi region. To the North higher region levels of rainfall ranging from 975 mm p a at Kabete and 1230 mm p a. at Limuru are experienced. Because of the strongly layered volcanic series and considerable gradient of streams, the valleys are deep, narrow and steep sided, separated by flat top ridges. Morgan (1967). The topography of the study area is therefore a dissected slope in the Northwest, the undissected slope in the South West and a relatively flat but very gently sloping plain in the East, extending up to the flanks of Mau hills.

The terrain has effect of on the road network of Nairobi especially during the rainy seasons when the lower areas are waterlogged and the condition of roads is messed up by poor storm drainage systems. When the conditions of the roads are messed up use of mobility equipments for persons with disabilities is complicated further. The appliances commonly used by people with disabilities include white canes, wheel chairs, clutches, calipers and tricycles. The wheelchair users are disadvantaged in that the urban environment of Nairobi has many physical barriers.

The donors who provide wheelchairs do not consider the local conditions of the area such as terrain and poor state of the roads. Some wheel chairs such as those designed in America cannot withstand rough conditions of our streets and hence break down. On the other hand, most persons with disabilities cannot afford these appliances due to their high cost. The terrain on its part directly affects use of appliances such as the wheelchairs, which are not motorized. It is often very hard to control such facilities on the parts of the city with steep slopes especially alongside speeding motorists.

3.4 Growth Of Nairobi

Map 2 Nairobi Administrative Units



Source: Author 2001

3.4.1 Developments In The CBD.

When the African government came to power in 1963, they inherited a seriously depressed economy. There were high unemployment rates especially among the African population and capital formation had come to a standstill. There was a serious shortage of housing, which occurred at the time when the volume of rural urban migration was greatest. These economic indicators were not comfortable. The new government had to do something urgently to solve the economic crises and to demonstrate a greater degree of independence self-sufficiency and control to the African population.

The immediate effect of the economic policies of the time was expansion of the existing industrial and business concerns in the country, most of which were located in Nairobi. This created a growing demand for office and industrial space in the city. The 'voids' that had multiplied since the onset of the post emergency depression had to be filled. Construction of local industrial firms like the House of Manji, Kenatco etc created further

demand for offices in the C.B.D. area to house business executives and the building boom continued. Open spaces in the C.B.D's former European business area were filled up, and many vacant plots in the railway-managed industrial area were also taken up. Small African businesses also grew up in the former Asian Commercial area.

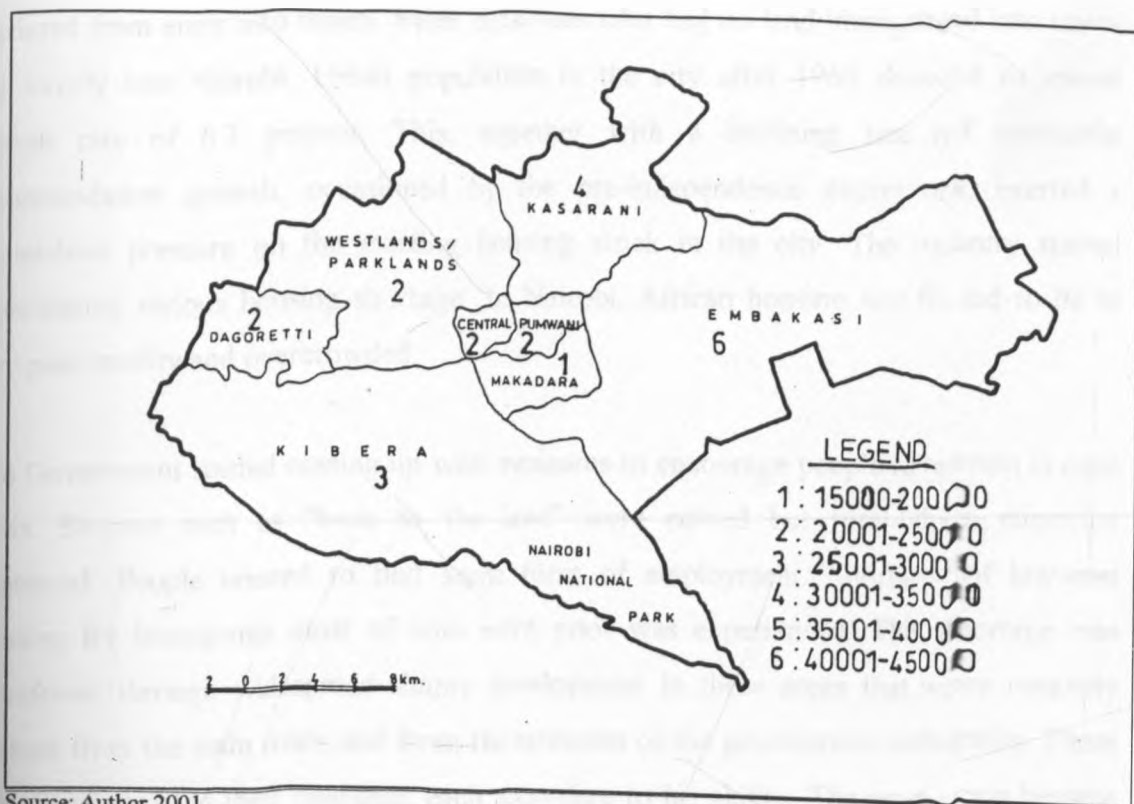
At the same time, the government embarked on modernizing the public buildings and infrastructure. Tall Government buildings filled up the vacant spaces in the city square and there was no longer any space for more development in the area. This explains why it has been difficult to expand the roads to meet the demands of users. Between 1969 and 1979, the city had experienced more building activity than in any other former period. Today constructions still go on but often in areas set aside for road reserves and open spaces. Many builders do not follow building regulations, further compounding the problem of congestion.

The economic phenomena discussed amplified by the city's height and density zoning regulations, has been the major factor in the evolution of the physical character of the CBD. The structure of the C.B.D. is mainly the product of Government policy and actions throughout the city's history. Kingo'ria (1980)

3.5 Population Density.

Nairobi has a density of 3079 persons in an area of 696 Km². Thus there are 0.23 persons per square kilometer. Map 3 shows the population distribution. The situation is worse within the C.B.D. where there is congestion due to the influx of population flowing from the estates, the city's environs, the countryside and even people from outside Kenya. This congestion impacts negatively on the roads and streets, which have not been widened to accommodate the rising population ever since they were constructed during the colonial times. As a result, movement for persons with disabilities becomes very difficult. Concentration of population is in the low-income areas such as those of Kibera and near the city centre where many persons with disabilities are found either due to their low-income levels or in a bid to earn a living.

Map 3 Population Distribution



Source: Author 2001

The actual figures as they appear in the 1999 National Population Census have been given below:

Area	Population
Makadara	19.7434
Pumwani	20.2211
Parklands	20.7610
Central	23.4942
Dagoretti	24.0509
Kibera	28.6739
Kasarani	33.8925
Embakasi	43.4884

3.5.1. Residential Development.

Rural-Urban migration. After the end of the emergency, African population in urban areas, especially in Nairobi was relatively small due to the restrictions imposed upon

African town dwelling by colonial Authorities. After 1960, Africans were no longer restricted from entry into towns. Most detainees who had no land immigrated into towns and mostly into Nairobi. Urban population in the city after 1960 showed an annual growth rate of 6.3 percent. This, together with a declining rate of residential accommodation growth, occasioned by the pre-independence depression, exerted a tremendous pressure on the existing housing stock in the city. The country started experiencing serious housing shortage. In Nairobi, African housing was found to be of very poor quality and overcrowded.

The Government started coming up with measures to encourage people to remain in rural areas. Slogans such as "back to the land" were coined but rural-urban migration continued. People wanted to find some form of employment. Shortage of low-cost housing for immigrants most of who were poor was experienced. This shortage was manifested through widespread shanty development in these areas that were remotely located from the main roads and from the attention of the government authorities. These people constructed their dwellings each according to his ability. The areas soon became health hazards because they lacked the basic sanitary and environmental facilities.

Today the problem has heightened. Currently, Nairobi has 649,426 households with each having an average of 3 persons. However, this figure rises to as high as 7 to 10 persons sharing a room especially in the low-income areas. These areas are not well served with infrastructure such as good roads, public transport, health, and educational and recreational facilities. The city has several slums such as Kibera, Mathare, the Mukurus etc. More than 55 percent Nairobi's population lives in slums.

Many people with disabilities, majority of who are poor live in these areas. Likewise, the poor conditions of these slums leading to health hazards has contributed to increased rates of disability through, diseases such as malnutrition, typhoid etc. as well as crime. It is not to be forgotten that these areas are poorly served by necessary community infrastructure like health facilities and schools. Yet the problem of immigration continues.

3.5.2 Nairobi's Population Through The Years:

<i>Year</i>	<i>Population</i>
1948	100.000
1962	250 000
1969	609.000
1979	837.000
1989	1.3 Million
1999	2.1 Million

The present population poses new development challenges that require new and innovative responses. It is important to note that city planning is a constituent of regional planning with which it has symbolic relationship.

3.6 Political Independence and Changes in Urban Planning Challenges:

The 1948 Master Plan marked an entry of land use planning in urban development management. However, the main concerns of the plan were segregation of the racial groups and development and growth management by way of social control.

In 1963 Kenya attained formal political independence which marked the end of white settler' influence in development administration and meant freedom to the indigenous population. This formal political independence opened floodgates for indigenous people to migrate to the city. This new phenomena rendered the official plan of the city fostering development containment and relying on racially discriminative system of political system of policies administration and economic governance irrelevant and untenable. New urban planning challenges emerged from the social processes that followed formal political independence. These among others included:

- High rate of urban growth mismatched and decent housing as well as urban services.
- Inadequate infrastructure to support new investments in job creation and to accommodate rapid urban growth.
- High inequalities and social exclusion.

- Insufficient technical and financial capacities of the city government to carry out its responsibilities to citizens.
- High increase of sectors excluded from access to urban resources the formal urban development processes.
- Urban sprawl without attendant infrastructure hence spread of the disabled to areas that cannot sustain them easily.

Emergence of slum development and informal economy in parallel with a fully motorized age, some balance between the capital investment in vehicles and the access ways in which they travel will have to be affected.

3.6.1 Administration

The City Council of Nairobi is the local Government entity charged with development entity charged with development management of the city. It perceives city planning as an instrument for servicing urban development process but the council has not been successful in that effort. City planning process takes place within a political, social and economic environment conditions by the complex process of change that makes intervention difficult. The city Government also lacks well managed financial capacity and technical professional competence to sufficiently undertake its planning function.¹

It is discernable that urban planning experience in the city reflects various typologies of planning depending on the various challenges and times of intervention. The experience of city planning is marked by movement from strategic concerns with social control and containment of development during colonial period, to growth management and urban expansion in post independence period. The transition was political, economic and social-variables influencing urbanization process and city development process in particular

3.6.2 Roads.

Most of the city area is well served by tarmacked roads, which have been in good condition till the early 1990s. The authority responsible for the building of roads within

¹ Services supposed to be provided by NCC: Road construction and maintenance, primary education, health, solid waste collection, sanitation, planning and zoning recreational facilities, water and sewerage, fire and ambulance services.

the city has been the City council of Nairobi since 1908. In the 1970s an efficient bus service serving over 100,000 passengers and a private car population of over 50,000 cars were running on the roads every day King'oria (1980). Today however, with the declining economy, poor management by the City Council and high rise in the population of both people and cars, the condition of the roads have very much deteriorated especially on the old part of the C.B.D. (Kirinyaga road, Ronald Ngara, River Road).

There are however measures to renovate them that are taking place gradually. The former *Kenya Bus Service* buses which were plying the roads during the 70s and 80s have collapsed giving way to fewer stage bus company buses and a big population of privately owned matatus which have drastically increased in the 1990s with privatization of the public transport sector. In a study done in 1995, it was established that there were more than 500,000 vehicles operating in Nairobi every day. The roads have limited if any provisions for persons with disabilities using wheelchairs.

3.6.3 Some Problems Experienced In Nairobi.

The character of Nairobi has emerged as a result of the interaction of a number of factors. The physical background of the site has imposed certain limitations. For example, the Nairobi stream and the Nairobi Hill limit the central area. The steep ridges and valleys of upper Nairobi have influenced the pattern of development. The actual buildings of the city bear the mark of European influence, an influence that has predominated for many years.

Practices and ideas characteristic of very different climates and churches were imported and effected in an alien environment. A confusion of standards was presented to the indigenous population. A policy of *laissez faire* existed for many years. As yet, there is no statutory planning control. Planning by- laws control some elements of the use of buildings but not on land. This constitutes a serious loophole in planning control. Freed of the controls of life in Europe (colonial), people have felt that they were at liberty to do as they pleased with land. Equally, mobility appliances like wheelchairs imported from

other countries such as America for the disabled have failed to serve adequately in Nairobi because they have not been made to adapt to the Kenyan environment and roads

The actual physical layout of the city presents certain problems. The attraction of the gridiron layout pioneered by settlers probably due to ease of setting out, has been prevalent throughout recorded history. In addition to creating characterless monotony as a basis for traffic circulation, it is not only unsuitable but also dangerous. In the outer areas of the city, the sprawling residential development has created great problems of services and provision of amenities. Accessibility to an expanded central area and satisfactory communications throughout will require an integrated road and transport plan for surpassing in its scope anything envisaged so far.

3.7 Why Nairobi?

The nature of life in both urban and rural areas makes problems experienced by persons with disabilities in the two areas different. Urbanization for instance has led to the breakdown of the African traditional hospitality and the bond of kinship that rendered people with any kind of disability a communal responsibility. As a result, the urban centers are today hostile to the persons with disabilities. People with disabilities contend with the indifference of the able bodied people who often ignore them.

Being mainly among the low-income groups, they are forced to resort to unorthodox methods of survival such as begging thus further degrading their position. Most of them live in the slums under squalid conditions. Those living with relatives with disabilities leave them for long hours to fend for themselves. Not only are they lonely but they are often left with no one to help them with basic needs. For those who engage in small businesses or are in the begging business, the wrath of municipal 'askaris' does not spare them when the chase for hawkers is on, nor do the conmen and small time thieves leave them out.

Most public buildings are inaccessible what with a whole range of stairs, irresponsible or non-existent management of lifts and slippery floors. For those with hearing impairments,

communication in formal and informal sectors is a nightmare since majority of the population does not understand sign language. Facilities like public transport do not favour the disabled neither do pedestrian walk ways. The state of the roads on the other hand is deplorable and some of the wheelchairs and tricycles used by the disabled are not appropriate for our kind of climate.

CHAPTER 4

4.0 RESEARCH FINDINGS

4.1 Introduction

This chapter discusses the findings of the field survey. In this section, two assumptions were made. First, that the society as it exists is incapacitated to deal with disability and second, that the planning, design and management of community infrastructure within Kenyan urban sector and in particular Nairobi has not addressed the needs of people with disabilities. In order to address the case, certain questions were raised to facilitate the analyses of use of community facilities by persons with disabilities within Nairobi. They included the following:

- Who is a disabled person?
- What is the population of persons with disability within Nairobi that planning for disability should address?
- What are the causes of disability and what measures are required to deal with them?
- What community facilities are problematic to persons with disabilities?
- What measures have been provided by the state and the society to address the problems?
- What kind of care has been accorded to their needs in community infrastructure and how can they be enhanced?
- How can integration of the needs of the disabled be achieved in the planning and use of community infrastructure?

4.2 Socio-Economic Characteristics Of Respondents

4.2.1 Age And Sex Composition

A total of 36 respondents were interviewed. They included 17 males and 19 females aged between 18 and 49 years. 38.9 percent were physically handicapped persons, 33.3 percent visually impaired and 27.8 percent hearing impaired. 58.8 percent had come to Nairobi for job seeking, employment or schooling, 23.5 percent to seek for help while 17.6 percent had come due to other reasons.

4.2.2 Education Level

Pearson Correlation Coefficient (r) indicates that there is a positive relationship of .379* at 95 percent significance level between the sex of a person with disabilities and educational level attained. As shown by the cross tabulation between sex and educational level, males with disabilities have higher educational status than their female counterparts. Likewise, parents are more willing to educate male children with disabilities than female children with disabilities whether in regular schools or in conventional schools as shown by the cross tabulation between sex and the type of school one attended.

Table 12 Education Level Of Respondents

Sex	Education level					
	None	Lower Primary.	Upper Primary.	Secondary	University	Other
Male	2	2	5	8	3	1
Female	2	2	4	7	1	1
Total	4	4	9	13	4	2

Table 13 Cross tabulation Between Type Of School Attended and Sex of Respondents

Sex	Type of primary school attended			
	Special school	Conventional School	Conventional / special school	None
Male	13	6	-	3
Female	10	3	1	-

81.8 percent of the respondents who were unsatisfied with their education level could not pursue further education either due to lack of school fees or their parents' unwillingness to educate them. Pearson Correlation Coefficient (r) indicates that there is a positive relationship of .443** at 99 percent significant level between parents willingness to educate a child with a disability and his/her education level. The more the willing a parent is to provide his disabled child with education, the more the likelihood that he/she will achieve a higher educational level and vice versa.

4.2.3 Marital Status.

Persons with disabilities have high celibacy rates. Out of those interviewed, 66.7 percent were single, 27.8 percent were married and 2.8 percent were divorced. Thus, disability

has an impact on marital status. Similarly, Spearman's rho Correlation Coefficient (r) indicates that there is a negative relationship of -0.704^{**} at 99 percent significant level between marital status and the number of children a person with disabilities has. The fact that not many get married means that only a few have children. From the sample-size, 66.7 percent had no children, 11.1 percent had one child, 13.9 percent had two children, 5.6 percent had three children and 2.8 percent had four children.

4.2.4 Material Support.

From the field survey, it was established that 52.8 percent of the respondents support themselves materially, 25 percent are supported by their parents while 13.9 percent are supported by relatives, friends or organizations (e.g. church). Spearman's rho Correlation Coefficient (r) shows that there is a positive relationship of 0.485^{**} at 99 percent significance level between one's age and his/her source of material support; the older the person with a disability is, the more the likelihood that he/she should support him/herself financially. It is therefore important that many persons with disabilities be enabled to be financially independent.

4.3 Who is a Disabled Person?

From a consolidation of views gathered from respondents with disabilities, it was concluded that a disabled person is "one who is unable to carry out, daily functions without either the support of another person or an appliance which could be in the form of a hearing aid, walking stick, sign language interpreter or a guider. Such a person can only learn work and contribute to the society's welfare effectively if provided with guidance, facilities and opportunities to do what others can do."

4.3.1 Functional Definition of Persons With Disabilities.

In using community infrastructure, the disabled are "people who cannot use a community infrastructure without some kind of physical or social support." The two definitions imply that there definitely is a form of deficiency that persons with disabilities have to contend with in their daily lives. However, it is also true that with some kind of support the deficiency is not absolute.

4.4 Population

Actual statistics on people with disabilities within Nairobi and/ or in Kenya at large do not exist. No data is available from the Central Bureau of Statistics other than the largely disputed one from the 1989 National Population Census. The Ministry of Education is only aware of the cases registered in institutions of learning especially those in special institutions. However, even this data is not representative because many disabled persons are not in school. Moreover, those in public schools are not classified as disabled persons but as ordinary students. Only estimates are used to indicate the magnitude of population with disability. The Government can only effectively plan for persons with disabilities if it identifies their exact numbers, their categories, age, sex, skills, geographical locations and concentrations as well as needs and potential.

4.5 Causes of Disability and Intervention Measures.

Fig 3 Age at which disability occurs.

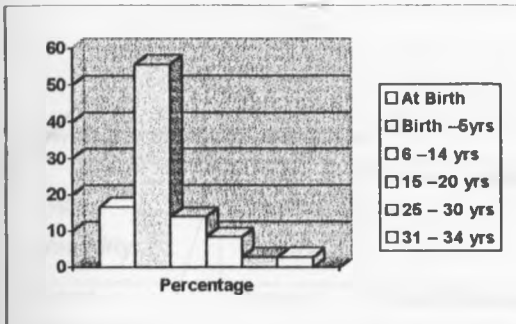


Fig 2 indicates that, age has an impact on the cause of disability. Most disabilities occur between birth and 5 years of age (early childhood) when children are vulnerable to infections such as measles and polio. Similarly, Spearman's rho correlation coefficient indicates that there is a positive

relationship of .563** at 95 % significant level between cause of handicap and nature of handicap. For example, accidents are more likely to lead to physical or visual handicaps.

Plate 1 Victims of police brutality.



From the field survey it was established that 72.9% of the respondents had disabilities resulting from infection and disease (e.g. measles, malaria, polio, ear eye infection), 13.2% from trauma and 13.9% from congenital related problems. Table 14 gives a summary of common causes of disabilities within Nairobi and the appropriate measures that can be taken against them as established from Kenyatta National Hospital. However,

it was also established that, there is a change in current the trend of disability occurrence as shown on Table 15.

Table 14 Causes Of Disability Within Nairobi, Preventive And Curative Measures.

Type of deformity	Causes	Measures preventive	Curative
Blindness	-Trauma e.g. Accident -Infections e.g. Trachoma. -Congenital e.g. From birth -Radiation.	-Safety measures -Use of protective gadgets e.g. safety belts. -Hygiene and prophylactic treatment. -Diet rich in vitamin A.	-Surgical intervention. -Use of drugs (chemotherapy) -Proper antenatal clinic follow up.
Hearing Impairment	-Infections e.g. Otitis media. -Exposure to high frequencies. -Trauma e.g. head injuries, direct blow, and foreign bodies.	-Hygiene and prompt medical check ups. -Use of protective devices.	-Use of antibiotics i.e. (chemotherapy) -Use of hearing devices. -Surgical intervention.
Physical Handicap	-Trauma. -Diseases e.g. polio, congenital.	-Safety measures, roads, buildings, factories. -Immunization e.g. against polio vaccine. -Good antenatal follow up.	-Surgical. -Chemotherapy. -Rehabilitation.

Table 15 Current Trends of Disability.

Type of disability	Trend	Reasons explaining trend.
Visual impairments	Decrease	-Establishment of Associations for the blind -Improved health care (especially primary health care) -Health education that advocates proper hygiene.
Hearing Impairment	Decrease	-Establishment of Association for the deaf who promote awareness and medical attention. -Improved primary health.
Physical handicap	Increase	-High rates of road accidents, fires, etc. -High rate of assault cases due to police brutality, (see picture above), economic hardships, domestic violence, drugs etc. -Disease e.g. HIV/AIDS, T.B etc

Source: Kenyatta hospital

4.6 Community Infrastructure That Is Problematic To Persons With Disabilities.

From the sampled population, it was established that 86.1 percent face problems in using the community infrastructure within Nairobi. Problems experienced range from movement, accessibility, comfort, and convenience to communication.

However, although public buildings appear to be the most problematic public places as indicated on Table 16, the area of public transport is actually the most disturbing because majority of those interviewed experienced problems in either or both of the two major areas of public transport namely, public service vehicles and streets/roads. Public toilets, shops and public offices, hospitals and churches are some of the public buildings that are particularly problematic.

Persons with disabilities are left out in the areas of economic welfare and leisure. Out of those interviewed, only 3% felt that banks and cinemas were problematic to them. This could give an indication that persons with disabilities have limited opportunities in using the facilities.¹ As indicated on the table above, individuals with disabilities experience both physical and social problems or at least either in using community infrastructure. Thus, in addressing disability in the area of community infrastructure, it is erroneous to consider social or physical problems independently. Physical frustrations could lead to social frustrations and vice versa.

¹ NB: The idea that only few persons with disabilities face problems in schools could be influenced by the fact that most of those interviewed 63.9% learnt in special schools that had special facilities.

4.7. Specific Sector Problems

Table 16 Problematic community infrastructure in Nairobi

Public place	Percentage of persons with disabilities experiencing difficulties.	Nature of problem.
Public transport	69%	-Boarding and alighting of vehicles.
Public service vehicles	39%	-Congestion in public vehicles. -Being taken to wrong destinations. -Communication with touts and other passengers
Streets/ roads	33%	-Crossing of roads. -Harassment by council askaris (for those who hawk)
Public buildings :	74%	-Access.
Shops.	19%	-Locating items.
Offices.	19%	-Communication.
Public toilets.	11%	-Opportunities (especially in employment)
Hospitals, Churches.	8%	-Acceptance.
Cinemas, Banks,	3%	-Harassment (Especially for the hearing impaired)
Schools, police stations		
Open places:	2%	-Accessibility & Congestion
Stadiums, Markets	2%	-Acceptance, Communication.

Source: Author 2001

4.7.1 Public Transport

Table 17 Nature of Problems Experienced by the Disabled In Transport.

Public Service Vehicles.	Road And Pedestrian Facilities.	Bus Stops And Parking.	Street Furniture And Facilities.
<p><u>For the Physically and Visually Disabled.</u></p> <ul style="list-style-type: none"> Narrow doors. High steps. Lack of seats reserved for the disabled (Only Kenya Bus Services have made arrangements to reserve seats at the front but even these do not serve their intended purpose especially during rush hours) Congestion especially during rush hours. Lack of adjustable/ retractable ramps. Discrimination by touts who find them cumbersome to ferry.² <p><u>For the Hearing Impaired.</u></p> <ul style="list-style-type: none"> Drivers, touts and passengers do not understand sign language. Tendency to be mistaken for people wanting free rides (especially for girls). Being taken to wrong destinations. Touts escaping with their change. 	<ul style="list-style-type: none"> Lack of side lanes for those on wheel chairs or crutches². Dangerous manholes especially for the visually handicapped. Congested pavements especially along the CBD. Drivers park along the roads causing obstruction even with the knowledge of City Council and Traffic Police. Some pavements are slippery. Some roads and pavements have deteriorated to dangerous levels. Zebra crossings are few, often unmaintained and unrespected by motorists. Traffic lights are few, often inoperational and totally lacking buttons for use by the visually impaired. 	<p><u>Bus stops.</u></p> <ul style="list-style-type: none"> Obstructions due to many activities e.g. hawking, preaching etc. Uneveled Bus Stops. Lack of ramps at kerb facilities to enable disembarking/ very few exist e.g. along City Hall way and Muindi Mbugu street. No queuing system for passengers (Buses stop about 5 meters away and passengers scramble to board). Inadequate/ dirty vandalized seats at many designated stops. Inconveniences force the disabled leave 2 to 3 hours to and after work when competition is less. <p><u>Parking.</u></p> <ul style="list-style-type: none"> The few places where parking is provided (near buildings) able-bodied drivers do not respect them. There is no reserved parking for the disabled at parking bays Lack of disabled signs at parking bays. 	<ul style="list-style-type: none"> There are no telephone booths for the disabled (even the few that were formerly available have been removed.) Existing public telephone booths have narrow doors. The telephone sets are located about 1.5 meter from the ground and therefore unusable by those on wheelchairs/ crutches. Public toilets are few, filthy and have none reserved for the disabled. There are no toilets at major bus stops yet as mentioned the disabled spend many hours of waiting at bus stops. Some are actually placed at roundabouts thus becoming very inaccessible.(e.g. along Heile Selassie avenue) On most streets there are no public benches and where they exist they are often vandalized or dirty. The ATM machines in banks along the streets are high. There are no reserved postal address boxes at convenient levels in post offices

Source: Author 2001

² Murithi Antony, a graduate at the university of Nairobi who uses a wheelchair confessed that on the 5th of September 2001 he was nearly knocked down by a motorist as he was crossing the road along Tom Mboya street. He was also forced to pay Kshs 60 instead of the usual Kshs 20 in order to be allowed to ferry his wheelchair in a public service vehicle. The argument was that he was taking up the space of three passengers and had to pay for it.

Plate 2 Problems experienced in public vehicles

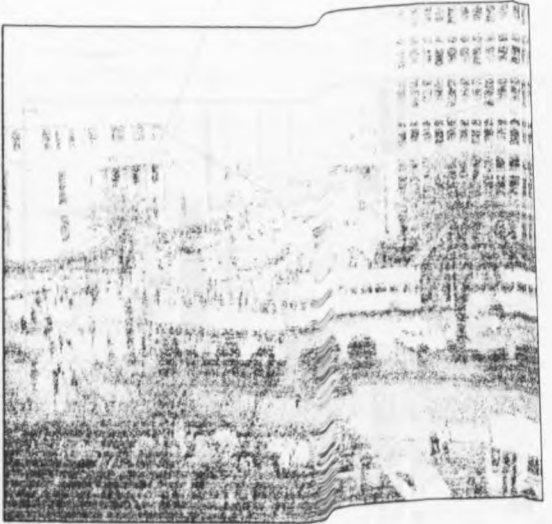
1



2

Plate 3 Problems experienced along the streets

3



4

Source: Author 2001.

1. Narrow doors and high steps which make boarding and alighting difficult
2. The disabled have to wait as other passengers scramble to board.
3. Dangerous potholes along the roads (especially to the visually impaired).
4. Congested streets which make movement difficult

Plate 4 Motorists often fail to respect traffic regulations.

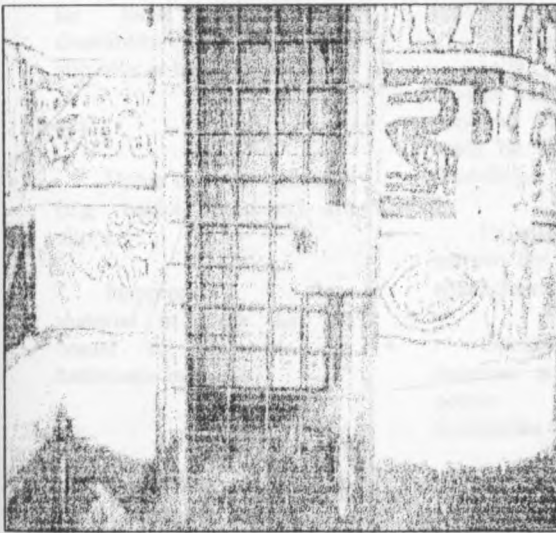


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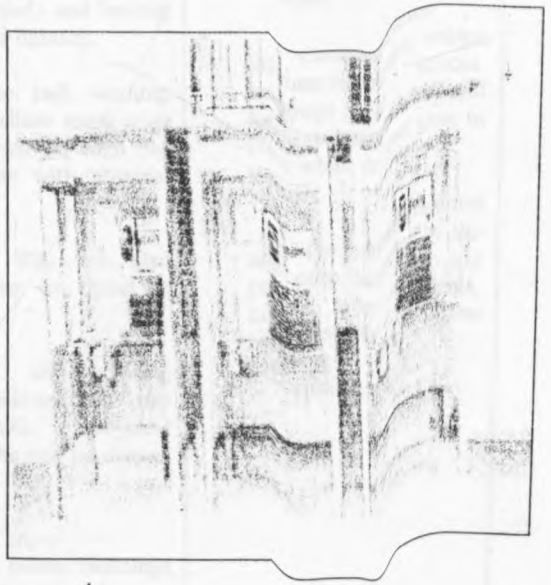


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Plate 5 Problems experienced with street facilities-



3



4

Source: Author 2001.

1. Motorists in Nairobi park along the streets thereby causing congestion.
2. The few parking facilities provided for persons with disabilities are often unrespectable by able-bodied motorists.
3. Public toilets are filthy and not designed to suit persons with a disability.
4. Public telephone booths have narrow doors and high telephone sets.

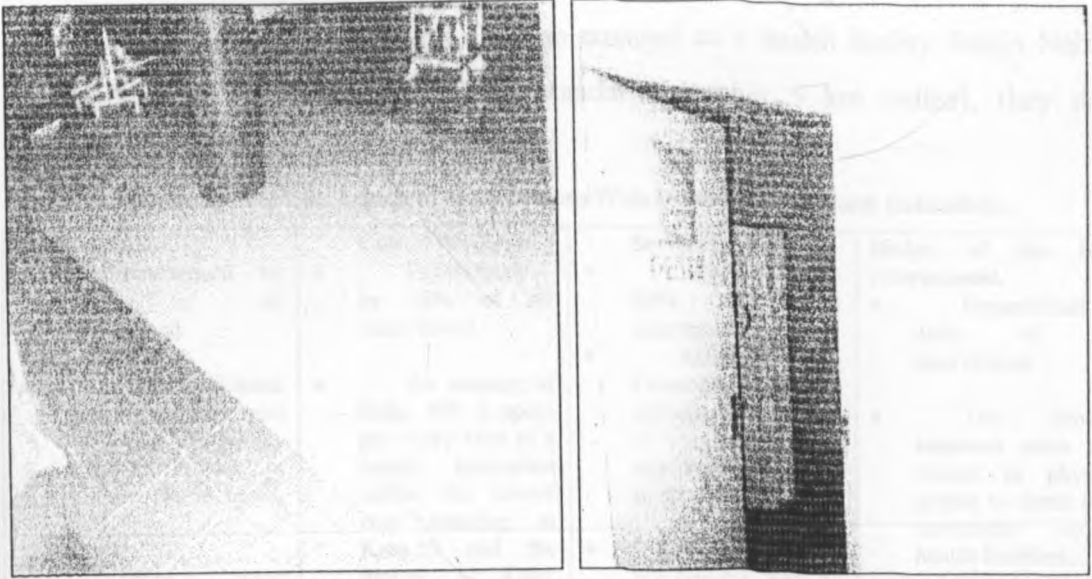
4.7.2 Public Buildings.

Public buildings in Nairobi include offices, supermarkets, cinemas, churches, theatres, post offices, banks, police stations, law courts, bars and restaurants, hotels, shops, schools, hospitals, universities etc. Table 18 shows the type of problems experienced in these facilities.

Table 18 Nature Of Problems Experiences By Persons With Disabilities In Public Buildings.

<i>Entrances.</i>	<i>Lifts.</i>	<i>Information.</i>
<ul style="list-style-type: none"> • Narrow doors. • Use of staircases instead of ramps to access buildings • Lack of handrails to facilitate use of available staircases. • Narrow and steep staircases that are near each other. • Lack of warning signals for those with visual disabilities (they could easily slip over or bang into walls). 	<ul style="list-style-type: none"> • Many buildings especially within the old CBD are multi-level yet many have no lifts. • In some buildings where lifts exist they are often permanently or frequently inoperational e.g. City Hall Annex. • Most of the existing lifts are often very congested (e.g. Kenyatta hospital) and lacking ventilation and lighting. • Lifts also lack warning devices and where some exist they are placed so high for reach by those with physical disabilities. • Existing lifts are also narrow for use by those on wheelchairs. • Opening and closing duration monitored to suit people with physical disabilities who may be slower. 	<ul style="list-style-type: none"> • Receptionists and other workers within most public buildings and institutions (e.g. educational and health) do not know sign language. • Sign language interpreters are very few (e.g. there is only one who serves the 4 courts in Nairobi). • Communication formats only apply written language e.g. notices, labels in supermarkets and else where do not exist in Braille. • The hearing impaired are often harassed by the police when they are mistaken for criminals, refusing to give information.
<p><i>Floors.</i></p> <ul style="list-style-type: none"> • Floors of some buildings (e.g. banks, Telecom) are slippery. • Inappropriate floor material in areas that are bound to be wet. e.g. bathrooms in hotels 	<p><i>Toilets.</i></p> <ul style="list-style-type: none"> • In many public buildings doors are narrow and open inwards. • In some buildings there are no hand basins while in others taps are dry. • Toilet seats are very high and often very dirty. 	
<p><i>Doors.</i></p> <ul style="list-style-type: none"> • Many internal doors are narrow and open inwards. • Door handles are placed so high. 		
<p><i>Corridors.</i></p> <ul style="list-style-type: none"> • Many are narrow especially for manouvre by those using wheelchairs. • Use of staircases and not ramps of both in the storeyed buildings. 		

Plate 6 Slippery floors and toilets with narrow doors that open inwards.



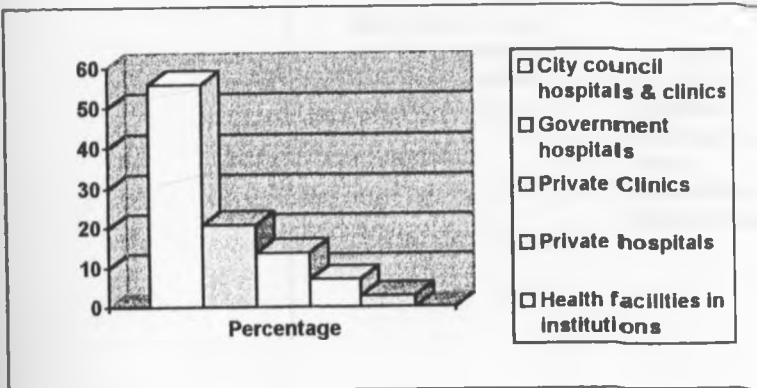
Source: Author 2001.

4.7.3 Health Care.

4.7.3.1 Use Of Health Facilities By Persons With Disabilities In Nairobi

It was established that for whatever ailment, each respondent makes an average of 2 visits per year to his/ her preferred health facility within Nairobi. An average of 4kilometres is covered to any of these facilities with the nearest and the furthest being within 0.2 and 20kilometres respectively.

Fig 4 Choice of a Health Facility



As shown on the bar chart most persons with disabilities within Nairobi Prefer to use City Council and government health facilities (55.8% and 20.7%) respectively.

Source: Author 2001

Choice of these public health facilities depends on affordability (as indicated by 58% of the respondents) and proximity (as indicated by 19% of the respondents). However, 80.6% of the respondents confirmed that they have a health facility within a 2 km radius

from their places of residence whether public or private although 61% do not use them. Thus, although distance covered to a health facility within Nairobi is appropriate as per physical planning standards (within 5 km radius), they do not adequately serve persons with disabilities.

Table 19 Nature Of Problems Experienced By Persons With Disabilities In Health institutions.

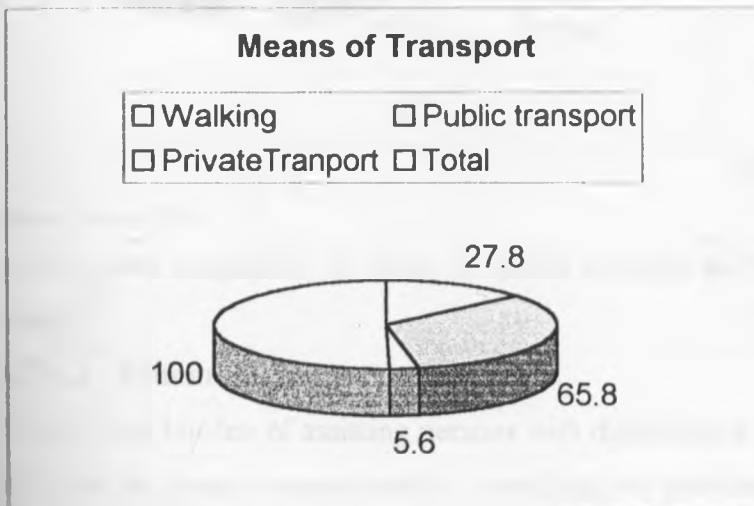
Transport.	Cost of Medicare	Services	Design of the built environment.
<ul style="list-style-type: none"> Experienced by 78% of all interviewed. Majority of those with physical and visual disabilities have difficulties in walking to a health facility. Those using public transport have problems ranging from: <ul style="list-style-type: none"> -Boarding and alighting from public vehicles. -Movement to and from bus stops/stations. -Discrimination by touts. -Communication with other passengers (for the Hearing Impaired). 	<ul style="list-style-type: none"> Experienced by 58% of all interviewed. An average of Kshs. 300 is spent per every visit to a health institution within the lowest cost standing at Kshs.50 and the highest at Kshs. 1000) Health care for the disabled is not subsidized yet many are unemployed or in low paying jobs. Only 7% can afford cost of Medicare in private health institutions which are often more expensive. 35% of those with private clinics near their places of residence cannot use them due to cost. 	<ul style="list-style-type: none"> Experienced by 50% of all interviewed. Many City Council clinics have collapsed due to lack of drugs and equipments required to run them. 40% of respondents fail to use health facilities close to their places of residence due to poor services. Medical personnel are slow in serving persons with disabilities. Failure of medical staff to understand sign language which often leads to wrong diagnosis and wrong prescription. Lack of specialized equipment and personnel in most clinics (e.g. physiotherapy and physiotherapists) 	<ul style="list-style-type: none"> Experienced by 40% of all interviewed. The visually impaired often lack human or physical guides to direct their movement around health facilities. The physically handicapped complained in slippery floors especially in private hospitals at bathrooms and toilets in public hospitals. Both the physically and visually impaired complained in staircases especially in private clinics. (However, most hospitals have ramps to facilitate movement of medicine and food trolleys, stretchers etc) Some private health facilities also have narrow doors mainly because there might have been change of use either from a residential commercial unit to a health facility.

Source: Author 2001.

Spearman's rho correlation coefficient (r) indicates that there is a positive relationship of $-.509^{**}$ between the kind of Health facility a person with a disability attends and whether he is employed or not. Considering that medical care for persons with disabilities in Kenya is not subsidized and the fact that most persons with disabilities are poor or come from poor families, then one whose disability requires frequent medication has a major problem. Equally, curbing causes that bring about disability through early interventions are difficult.

4.7.3.2 Problems Of Transport To Health Institutions.

Fig 5 Means of transport used to a health facility



The study established that the greatest major problem experienced by persons with disabilities in accessing medical care is in the form of transport. Spearman's rho correlation coefficient indicates that there is a positive

Source: Author 2001.

relationship of $.616^{**}$ at 99 % significance level between distance covered to a Health Facility and the means of transport used. As shown on Fig 5 most persons with disabilities use public transport which as discussed earlier is troublesome to the disabled

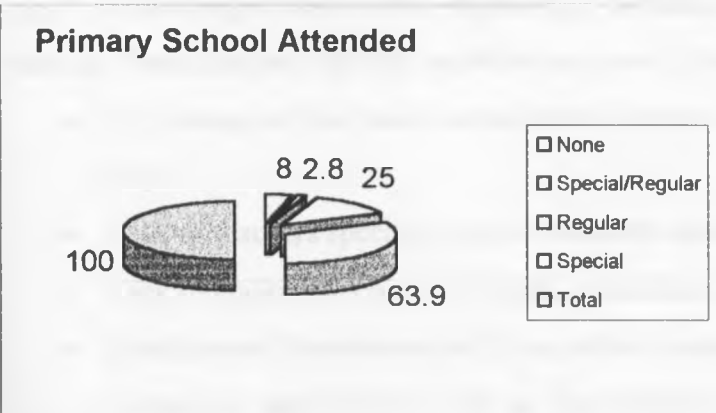
4.7.4 Education

Educational institutions have been given more weight in this study as some of the most important community infrastructure that determine the welfare of a society and must therefore be accessible to all. The Education system was assessed to find out factors that hinder integration efforts for persons with disabilities in regular schools. Efforts to promote this integration by the state and the society were also considered. An

assessment of how special schools favour persons with disabilities was also done to establish which education system best favours needs of persons with disabilities.

4.7.4.1 Type Of Primary School Attended

Fig 6 Type of primary school attended



As shown on Fig 6 most of the respondents learnt in special schools. It was established that unlike able-bodied children, those with disabilities tend to enroll late. The average age of enrollment to school was 7 years; with the earliest enrollee having done so

Source: Author 2001.

at five years (especially for those in special schools) and the latest enrollee as late as 12 years.

4.7.4.2 Education Support.

Most of the burden of assisting persons with disabilities to get education is left to parents who are at times incapacitated or unwilling, to provide this facility to their children. Responding to the view that “ parents are unwilling to educate disabled children,”55.6% of those interviewed totally agreed, 16.7% disagreed, 13.9% totally disagreed while 2.8% were undecided. The table below compares sponsorship in the kind of school attended.

Table 20 sponsorship in Education

Sponsorship	Type of school	
	Conventional	Special
Parent	76.9%	84.6%
Church	15.4%	7.7%
Other (e.g relative, well-wishers)	7.7%	7.75
Total	100	100

Source: Author 2001

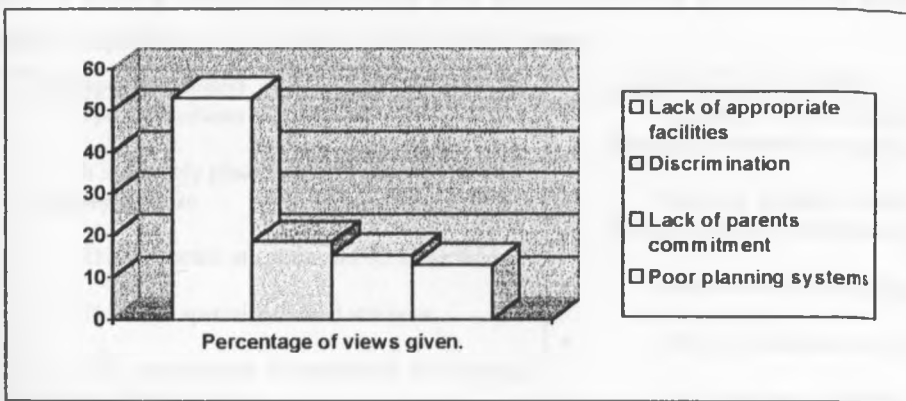
As shown in Tables 13 and 20 parents are nevertheless more willing to educate their children in special institutions than in conventional schools because of the specialized care accorded to the children in such institutions.

4.7.4.3 Conventional Schools.

Fig 7 shows major factors that discourage persons with disabilities to attend regular schools. Translated into specific problems as given by the respondents they include:

- The design of the built environments (narrow paths, slippery toilets, staircases etc)
- Lack of teachers specially trained to handle disability.
- Lack of equipments such as Braille, wheelchairs, hearing aids.
- Hostility and discrimination by the school community in sporting and other extra curriculum activities as well as in building of healthy relationships common among colleagues.
- Lack of school fees due to poverty of their parents or because parents wanted to educate only the able- bodied children.
- Distance covered to school (especially in rural areas).

Fig 7 Reasons accounting for few disabled persons in conventional schools.



Source: Author 2001

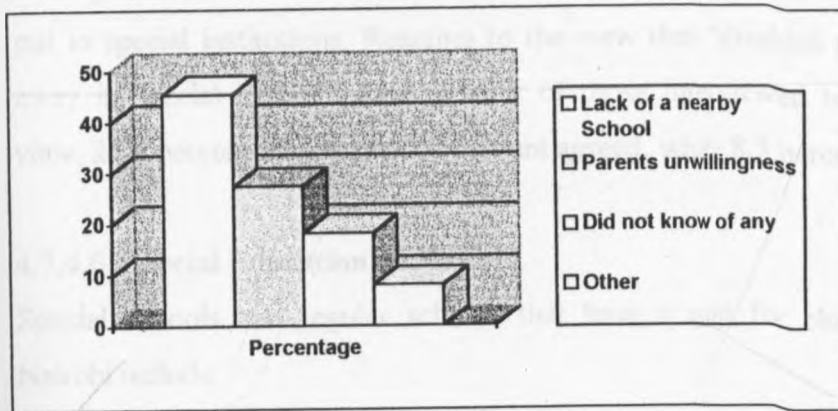
4.7.4.4 Special Schools

4.7.4.4.1 Why Are Special Schools Considered As A Better Option?

Out of those interviewed, 68 percent argued that special schools are the best option for the education of persons with disabilities while 32 percent said they were not (the best

option). However, Spearman's rho Correlation Coefficient(r) indicates that there is a positive relationship of .429* at 95 percent significance level between the argument that special schools provide the best education system for persons with disabilities and the type of school attended. Those who attended special schools tend to support special schools as a better option because of the specialized care that they got in such schools. Table 21 shows reasons for or against the option that special schools are the best educational institutions for the disabled. Fig 7 shows reasons why some respondents did not manage to enroll in special schools even if they had wished to.

Fig 8 Reasons for failure to enroll in a special school



As shown on Fig 8 45.5 percent of the respondents lacked a nearby special school; the parents of 27.3 percent of the respondents were unwilling to educate

Source: Author 2001.

them in special schools there while 18.2 percent did not know of any such school .

Table 21 Respondents Views For or Against Special Schools.

For (special schools)	Against (special schools)
<ul style="list-style-type: none"> • Special facilities are provided • It is the only place one feels accepted since all persons are alike. • There is better attention and better services. • There are specially trained teachers. • The environment is conducive for learning without discrimination. • The disabled get a chance to interact with their disabled counterparts. 	<ul style="list-style-type: none"> • Disability is not inability and the disabled should not be treated as special. • Disabled persons should be encouraged to integrate with the rest of society at an early age. • They curtail efforts of integration. • Only a few teachers use sign language. • They encourage discrimination especially in provision of education. Not all disabled persons are reached since the schools are very widely spread out. • There is no room for interaction with people without disabilities. • There is need for members of the community with or without disability to interact in order to understand each other.

Source: Author 2001.

4.7.4.5 Problems Faced By Persons With Disabilities On Leaving Special School.

Out of those who learnt in special schools, 52.3 percent had a problem in using community facilities such as roads, buildings, hospitals etc while 9.8 percent faced discrimination in social affairs such as religious activities, political activities, sports etc. Thus, although the special schools they attended were relatively well prepared for them, the world outside the institutions was ill prepared to receive them. The isolation created by special institutions alienates the problem of disability from the general public thereby making intervention efforts difficult. Persons with disabilities do not actually want to be put in special institutions. Reacting to the view that “disabled persons should be placed away in special homes”, 44.4 percent of those interviewed totally disagreed with the view, 27.8 percent disagreed 16.7 percent agreed, while 8.3 percent totally agreed

4.7.4.6 Special Education In Nairobi

Special schools and regular schools that have a unit for children with disabilities in Nairobi include:

- Kilimani Primary School
- Our Lady of Mercy Primary School
- Jacaranda School for the Deaf
- Tree side School for the Mentally Handicapped
- Race Course School for the Deaf
- Dagoretti School for the Deaf

Out of the city’s population of over 2 million people, only six schools within Nairobi cater for the rehabilitation and educational needs of children with disabilities. The small number indicates the little emphasis that the state has accorded to the aspect of disability and integration. Moreover, as mentioned earlier, the exact number of children with disabilities that are of school-going age and those actually in school is unknown.

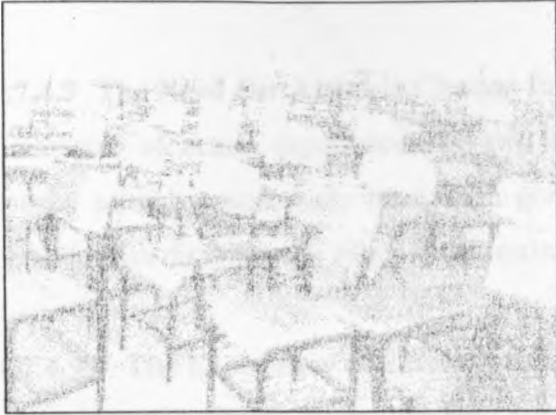
4.7.4.7 Problems That Curtail Integration Of Persons With Disabilities To Regular Schools In Nairobi.

Table 22 Problems Hindering Integration in Regular Schools.

Design	Facilities	Services
<ul style="list-style-type: none"> Distance between buildings harbouring various services (e.g. dining halls, halls of residence, classroom) is long e.g. Nairobi University. In multi-level buildings where facilities are near each other (like in schools and colleges within the CBD) lifts are lacking or frequently breaking down. Most buildings are accessed by use of staircases and not ramps. Paths between buildings are either narrow, rugged unkempt or slippery (one or more of these conditions are common in nearly all educational institutions). Corridors in buildings are narrow for those using wheel chairs. Floor material of bathrooms (in boarding schools) and toilets in most schools is dangerously slippery for those using crutches. No physical guides are available in the built or natural environment to guide those with visual disabilities. Many private schools have no playgrounds. For some public schools that have them, grass is not well trimmed. Others get very muddy during rainy seasons due to lack of grass making them dangerous for especially use by those with disabilities. Basketball pitches and swimming pools especially in institutions of higher learning favour the able bodied persons. Specially prepared playgrounds for persons with disabilities do not exist. 	<ul style="list-style-type: none"> Many facilities offered do not suit persons with disabilities. Chairs and desks in almost all the institutions do not suit the disabled. Children in primary schools often share desks; a condition sometimes difficult for those with physical disabilities. The arrangement of chairs and desks in many institutions is such that a wheel chair cannot fit in between the seats. Circulation space in especially private school is much less than the 6m² per pupil required by physical planning standards. Seats in some lecture halls like those of institutions of higher learning are fixed to the walls making their use by the physically handicapped difficult. In boarding institutions beds are very high. Toilets do not favour those with disabilities- many have narrow doors, high seats and are often dirty. In some public schools doors to some toilets are missing due to vandalism. 	<ul style="list-style-type: none"> School curriculum discriminates against those with visual and hearing impairments. This is especially so in the languages, music, and practical sciences. Set examinations do not meet the special needs of those with the fore mentioned disabilities further limiting their chances of admission in the universities Most regular schools have no equipments for the disabled such as Braille, wheelchairs etc. Out of the institutions visited only Kilimani primary school, Kenyatta and Nairobi universities had a few. Modern courses offered such, as computers don't favour the disabled due to limited space. Most schools have no teachers trained in sign language. Libraries have no materials in Braille or talking books. The attitude of able-bodied students towards those with disabilities is not very encouraging. Only a few are willing to help. Others look at persons with a disability as people to be pitied.

Facilities

Plate 7 Some Physical facilities in educational institutions that discriminate against the disabled



1



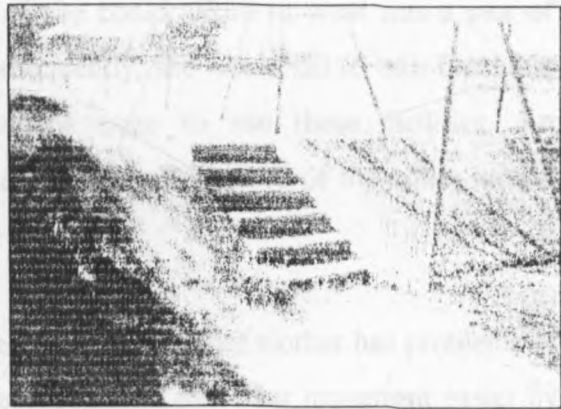
2

Design

Plate 8 Rough pavements, Sharp staircases



3



4

Source: Author 2001

1. Arrangement of chairs does not leave room for wheelchairs
2. Where available computer rooms are equally congested
3. Footpaths are often rugged with grass encroaching on the sides
4. Staircases are steep making movement for the visually and physically disabled difficult

4.7.4.8 How Can Ordinary Schools Accommodate Disabled Persons?

61 percent of those interviewed felt that if appropriate facilities were put in place in ordinary schools then more disabled persons would learn there. 18% felt that disability awareness has got to be enhanced among the school community while 15% felt that in the planning of any school the issue of disability should be considered at the initial planning stage. 3 % however felt that there is need to reduce distance traveled to schools while

another 3 % said that school fees should be subsidized for children with disabilities to attract more into ordinary schools.

4.7.4.9 The Need For Attitude Change to Person With Disabilities.

Examples of actual experiences by two respondents who learnt in conventional and special schools respectively have been given to show how attitude can make lives of persons with disabilities in educational institutions, easier or more frustrating.

4.7.4.9.1 The Experience of a Respondent Who Learnt In a Conventional School.



From the field survey, one physically handicapped person who learnt in a conventional in Murang'a experienced a major problem in using the school toilets. The floor was muddy, dirty and very slippery yet all she could afford to wear was a pair of bathroom slippers. Consequently, she would fail to take breakfast in order to suppress the urge to use these facilities. An improvement to the design and maintenance of the toilets would

have made a difference to Nancy Wanjiru's life in school.

However, something worth emulating happened to her. Since her mother had problems of carrying her to and from school each day, the headmaster made her movement easier by providing her with a cart to ferry her around. Later, he made arrangements for her to be assisted to get a wheelchair from the then local Member of Parliament for her area, Mr. Kenneth Matiba. With the wheelchair, Nancy's movement was made much easier. She only experienced problems in propelling it during the rainy season when it could get stuck in the mud because the paths in the school were not paved. Nancy's example is a clear example of what a positive attitude can do.

4.7.4.9.1 The Experience Of A Respondent Who Learnt In A Special School

The actual words of a hearing impaired respondent have been quoted. "Imagine in my secondary school a good number of students including me were offered sponsorship. Surprising enough, our parents were forced to pay the fee which was already paid by the

sponsor. On seeing this, I decided to ask the sponsor where the money / fees was since I have been sent home for fees. This I did when we were told to write a “Thank you” letter to our sponsor which we did termly.

I was thoroughly beaten together with those who wrote the same thing and were forced to rewrite another letter which we did. Even the addresses of our sponsor we never knew. It remains a secret with the headmaster. Since special education needs a lot of fees which many parents of the disabled cannot afford and the school heads take advantage by stealing sponsors money for the disabled, in my opinion the director of K.I.S.E. must intervene these problems and sack greedy heads from special institutions. Also, the student must be aware of who is sponsoring his/ her education and communicate to the sponsor personally not through the school head but the school head can assist when necessary. NB: As our motto goes, “DISABILITY IS NOT INABILITY”.

4.7.4.10 Efforts Of Integration In Educational Institutions Within Nairobi

A few schools and institutions of higher learning within Nairobi were visited to evaluate efforts made to include children/persons with disabilities in educational institutions. They included:

- Kasarani Primary School (City Council Primary School)
- Marion Preparatory School (Private Primary School)
- Kasarani Secondary School (Private Secondary School)
- Kilimani Primary School (City Council School)
- Kenyatta University and
- The University of Nairobi.

Table 23 contains an analysis of the facilities provided for the persons with disabilities in the schools that were visited.

Table 23 Provisions for Persons with Disabilities Within Educational Institutions

Provisions for Persons with Disabilities Within Educational Institutions.							
Type of disability	Kasarani Primary School	Marion Preparatory School	Kilimani Primary School	Kasarani Academy Secondary	University of Nairobi	Kenyatta University	
Physically Handicapped PH	6	6	6	6	1C 2D 3D 4C 5C	1B 2C 3B 4C 5B	
Hearing Impaired HI	6	1D 3C 5B	6	6	1D 3D 5D	6	
Visually Impaired VI	6	6	1B 2B 3B 4C5B	6	1D 2D 3D 3C	1B 2C 3B 4C 5B	
Total PH HI VI	0	HI -1	VI - 104	0	PH-17 VI-2	PH-11 VI-28	

Key

1. Equipments: Braille Machines, Wheelchairs, White canes, Wheelchairs, Hearing Aids etc.
2. Physical Facilities: desks, chairs, Beds, Toilets
3. Services: Specially trained teachers, use of sign language, counseling, sports
4. Design of the built environment: paths, ramps, non-slippery floors, wide corridors, operational lifts
5. Attitude: Friendly community, Understanding and helpful community etc
6. None

Levels Of Provision

A: Very good

B: Good

C: Fair

D: Poor

Plate 9 Children from Kilimani Resource Centre.

As shown on Table 23, most schools have no provisions for the disabled and even where they exist the levels are relatively poor and enrollment is minimal. The examples of Kenyatta and Nairobi Universities have been used to illustrate how poor provisions for the disabled within educational

Source: Author 2001.

institutions has affected the enrollment levels into these institutions for persons with disabilities over the years.

Kenyatta University

Table 24 Persons with disabilities in Kenyatta University 1995- 2000 period

Type of Disability	Year																			
	1995				1996				1997				1998				1999			
	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%
Physically	1	-	1	0.01	1	-	1	0.01	2	2	4	0.04	1	2	3	0.03	4	2	6	0.06
Visually	2	-	2	0.02	3	-	3	0.03	5	1	6	0.06	5	2	7	0.07	13	3	16	0.16
Hearing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2000			
M	F	T	%
9	3	11	11
22	6	28	0.28
-	-	-	-

Sources = Author 2001

As shown on table 24 the population of disabled persons in institutions of higher learning is extremely minimal. They account for less than 5 percent of the university population which is estimated at ten thousand per university. The scenario is worse for women and persons with hearing disabilities who have extremely limited chances of attaining higher education in Kenya. However, as shown on the same table the trends are improving, an indication that disability awareness in the university is on the increase.

University of Nairobi.

Plate 10. Facilities such as White canes, and Wheelchairs are provided at the Kenyatta University.



The major problems experienced by persons with disabilities in the University of Nairobi include, accessibility to services and buildings as well as inadequate Braille machines and mobility equipments.

Source: Author 2001

Unlike in Kenyatta University where colleagues are friendly to persons with disabilities, only a few are.

Plate 11 A friendly atmosphere that lacks at the University



According to those interviewed in all the educational institutions visited, specialized attention for persons with disabilities is lacking in most conventional schools within Nairobi. This explains why special schools are still left as the best option for persons with disabilities. Views from the headmistress of Kasarani Primary School for example indicated that special schools

Source: Author 2001.

are a better option for persons with disabilities “to avoid unpredictable reactions from other children and unskilled teachers who might mishandle the children.” She however expressed the view that ordinary schools can accommodate children with disabilities but only if appropriate facilities are provided and specially trained teachers employed. School Parents Teachers Associations (PTA) who have the responsibility of providing learning facilities can facilitate in equipping schools with disability related equipments.

4.7.5 Employment.

From the sample size, 53.8 percent were unemployed while 46.2 percent had some form of employment. 50 percent had some practical skill or training while 50 percent had none. Spearman’s rho correlation coefficient indicates that there is a positive relationship of .636* at 95 % significance level between training or practical skill and employment. The more the chances of acquiring training, the higher the likelihood that persons with disabilities will get some form of employment.

4.7.5.1 Current Condition Of Rehabilitation And Training For Persons With Disabilities.

It was established that most persons with disabilities come to Nairobi to search for employment. From the Ministry of Culture and Social Services (Vocational training and Rehabilitation section), it was established that training facilities for persons with disabilities is largely inadequate. Presently, there are 13 Government Vocational Rehabilitation Centres in the country 10 of which are operational and 2 which are under construction. Each has an expected capacity of 50 trainees but presently each holds an average of 10.

Thus, an estimated 130 trainees are using facilities expected to train 650 people thereby indicating high underutilization. In the year 2000 for example, only Bura Vocational Rehabilitation Centre (Coast Province) and Embu Vocational Rehabilitation Centre (in Eastern province) had 23 and 12 graduants respectively. All the other 8 had none. Though 58.65 percent of the trained respondents admitted that training has enabled them to get some form of employment, an assessment of where they acquired their skills revealed that only 5.89 percent have been trained in the Government Vocational Rehabilitation Institutions. (Refer to Appendix 3).

4.7.5.2 Problems Facing Government Rehabilitation For Persons With Disabilities:

- Inadequate funding to facilitate training.
- Inadequate number of trained teaching staff.
- Over concentration on rehabilitation for the physically Handicapped persons.³
- There is only one Industrial Rehabilitation Centre for the Blind located in Nairobi offering telephone operation training to persons with visual impairments who have completed secondary education. Currently it has an enrollment of 24 trainees.
- Concentration on construction of more rehabilitation Centers even where the existing ones are not fully utilized. (Refer to Appendix 2).

³ There is a big gap in the area of training for other types of disabilities especially the hearing impaired (deaf)

- Due to inadequate funding and the deplorable condition of the institutions, the Ministry of Culture and Social Services has not been able to admit many people with disabilities. Leatherwork for example is particularly popular but currently there is no instructor for the same in all the institutions.

Evidently therefore, planning sidelines persons with disabilities in the area of training and rehabilitation in Kenya, further limiting their opportunities to get employment.

4.7.5.3 Training And Rehabilitation Of Respondents.

An analysis of where the trained respondents received their training revealed that:

- Training for most persons with disabilities (especially for those with a physical disability) takes place in ordinary tertiary institutions but trades such as leatherwork and sculpturing are still popular especially for those with low levels of education.
- There are limited chances for training for the hearing impaired.
- Courses such as tailoring and embroidery are losing popularity in the modern market (from the sample size two people formerly trained in tailoring have resorted to hawking).
- There is a move away from what was previously held as “jobs for the disabled” (such as tailoring, leatherwork, etc) to more competitive trades in the current job market in fields such as Information Technology (IT). Some level of education (form 4 and above) must however be obtained before one can fit in. Pearson correlation coefficient (r) indicates that there is a negative relationship of $-.539^*$ at 99 percent significance level between the education level attained by a person with a disability and whether one has access to practical training. The lower the education level the lower the chances of getting practical skill or training and vice versa.

4.7.5.4 Training And Employment For Women With Disabilities.

From the sample size, 37.1 % of the males had some form of employment while only 16.7% of the females were in employment. Out of those who had been trained, only 5%

were women. Spearman's rho correlation coefficient (r) indicates that there is a negative relationship of $-.471^{**}$ at 99 significance level between chances to get training and sex. This is supported further by earlier revelations that there is a relationship between the sex of persons with disabilities and their level of education. Spearman's rho Correlation Coefficient (r) value also indicates that there is a negative relationship of $-.448^{**}$ at 99 percent significance level between employment and source of material support for persons with disabilities. Thus failure to provide equal chances of education and employment to women with disabilities curtails further their chances of getting self – independent.

4.7.5.5 Self – Employment.

Plate12 A hawler with disability.



Source: Author 2001

Nairobi which include:

- Harassment by City Council *Askaris* and Provincial Administration.
- Rain and cold.
- Any form of public mutiny.
- Common-especially people whom they send to buy wares for them.

4.7.5.6 Beggars With Disabilities

Beggars with disabilities constituted 16.7% of the sample size. This group comprised of mainly the physically handicapped and the visually impaired. Most had been begging for

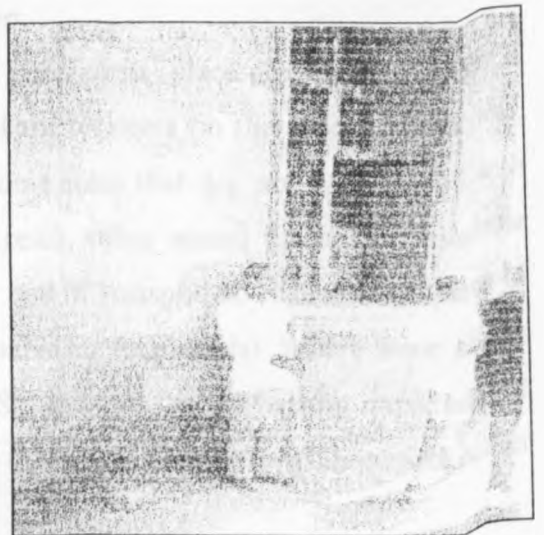
Self- employed respondents constituted 11.1 percent of the sample size. They were mainly street hawkers. All said that they had opted for self-employment due to lack of an alternative job. Only one had been provided with aid (by her mother) to start a business. On average hawkers with disabilities make Kshs. 217 per day but face a number of problems on the streets of

an average of 6 years. All of them had resorted to begging in order to earn a living 57% indicated that they would take an alternative job if offered but equally felt that their educational levels were very low and that they lacked practical training. However, 57.1% had been encouraged by their friends to beg, 28.65 did it voluntarily while 14.3% had been encouraged by their parents.

Reacting to the view that “*With education for all we would have very few beggars with disabilities on the streets*”, 47.2% of all the respondents totally agreed, 41.7% agreed and 11.1% disagreed. On average, a beggar with disabilities within Nairobi earns Kshs 63 per day, with a minimum of Kshs 40 on a bad day and Kshs 100 on a good day. Spearman’s rho correlation coefficient (r) shows that there is a negative relationship of -0.781* at 99 percent significance level between a disabled beggar’s choice of location and the problems she /he faces on the streets. Some of the problems faced by beggars with disabilities within Nairobi include:

- Rain and cold.
- Any form of public mutiny
- Harsh public members.
- Movement along the streets due to congestion.
- Harassment by shop owners -some say that the hawkers collude with thugs to break into their shops.

Plate 13 Beggars with disabilities

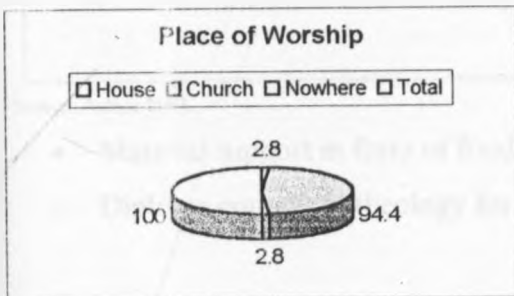


4.8 Religious Facilities.

A few religious organizations within Nairobi have attempted to address the aspect of disability in places of worship through provision of ushers to direct those with physical and visual disabilities. Unfortunately this amounts to the total effort given to the disabled in places of worship. In over three quarters of the religious places within Nairobi integration of their needs is not reflected in the design of the places of worship, facilities offered and the activities carried therein. This nevertheless does not overrule the fact that religious organizations have been the backbone of many educational institutions for persons with disabilities countrywide. What lacks is the reflection of same concern for the disabled within the actual places of worship. Like anybody else they have a right to be fully integrated within their preferred places of worship.

4.8.1 Attendance to places of worship.

Fig 9 Attendance To Places Of Worship



As indicated on Fig 9, it was established that 94.4% of the respondents attend some form of religious institution (be it a church or a mosque). For those who do not attend it is out of unwillingness or accessibility problems.

Source: Author 2001

4.8.2 Distance Covered To Place Of Worship.

An average distance of 3kms is covered to the respondents' place of worship. Ideally, a religious facility should be within easy reach of the residents (in the residential estates). Most persons with disabilities live in low-income areas that are not well served with social infrastructures such as churches. As a result, many attend the nearest available religious institution because they cannot afford cost of transport to their desired place of worship (although even these are not fully prepared for their needs). Where some efforts to integrate their needs have been made (e.g. St. Andrews for the hearing impaired) the facilities are far away and cost of transport and utilization of the same as discussed earlier is expensive.

4.8.3 Programs For The Disabled Within Religious Organizations.

75.8% of places of worship used by the persons with disabilities do not have programmes that favour them. Out of those who have programs in their religious organizations, 66.7% participate while 33.3% do not participate either due to lack of incentive by the church community to involve them or due to lack of interest. Programs provided within the few religious organizations include:

Plate 14 A football team of persons with a hearing impairment



Source: Author 2001.

- Teaching of sign language.
- Bible study for deaf persons.
- Youth programs such as tailoring
- Sporting activities (Football clubs).

- Material support in form of food and clothes.
- Diploma courses in theology for the Hearing Impaired.

4.8.4 Integration Efforts Within Places Of Worship Within Nairobi

Some churches were visited to assess how integration of persons with disabilities has been addressed in places of worship. They included:

- a) The Holy Family Minor Basilica.
- b) St. Andrews Presbyterian Church of East Africa.
- c) Deliverance Church Kasarani.
- d) Table 25 gives an analysis of provisions for the disabled in places of worship.

Table 25 Provisions for persons with Disabilities in places of worship

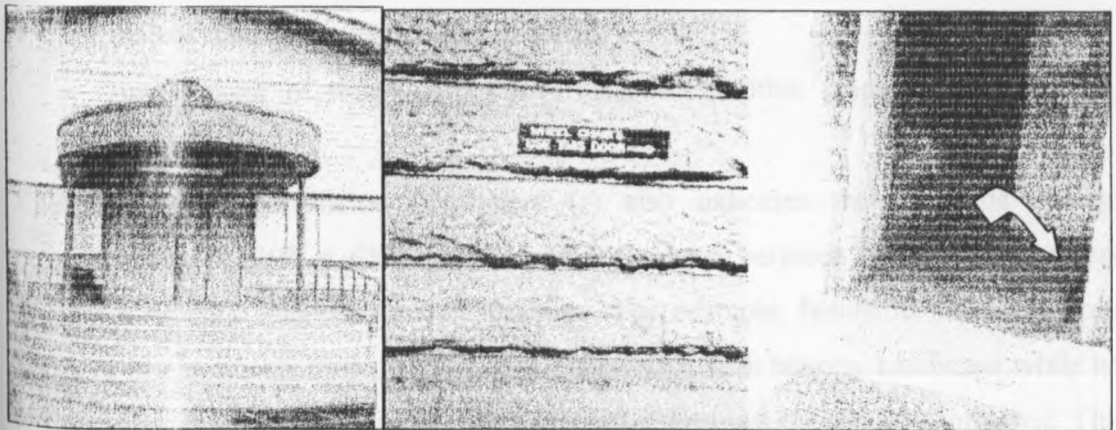
Provisions For Persons With Disabilities Within Worship Facilities In The Sampled Religious Organizations.				
Type of disability	Holy Family Minor Basilica.	St.Andrews Presbyterian Church of East Africa.	Deliverance Church Kasarani.	
Physically Handicapped (PH)	1C 2C 3B 4D 5B 6B	1B 2C 3B 4D 5D 6B	6C	
Hearing Impaired (HI)	3B 4C	3A 4B 5A 6B	7	
Visually Impaired (VI)	7	7	7	
Total	PH- 4 HI- 14 VI- 0	PH- 2 HI- 300 VI- 0	PH- 1	

KEY.

1. Design of built environment: Ramp, non-slippery floor, wide corridors, sitting arrangement.
2. Physical Facilities: Toilets, seats.
3. Services: Ushers, sign language interpreters, guidance and counseling.
4. Equipments: Wheel chairs, White canes, Hearing Aids etc.
5. Programmes: Support programmes, involvement in choir, sports, training etc.
6. Others: Visiting the disabled, prayers for the disabled, building of institutions for the disabled, addressing other types of disability etc.
7. None.

Levels Of Provision.

- | | |
|---------------|-----------------|
| A- Very good. | C- Fairly good. |
| B- Good. | D- Poor. |

Plate 15 A Comparison of How Entrances to Church Buildings at the Deliverance church Kasarani. and the Holy Family Minor Basilica suit Persons with Disabilities

Source: Author 2001.

4.8.4.1 Limitations Within The Sampled Religious Facilities

Minor Basilica.

- All efforts have not been exhausted. A person with a hearing impairment may want to attend mass on other occasions yet translations in sign language are only offered on Sundays.
- Similarly, as can be seen on the picture above, although provision of the ramp is an important consideration, its temporary nature could have a negative psychological impact on persons with disabilities and the general public that provisions for the disabled are either an afterthought or a not-all-too important requirement. It does not blend well with the aesthetics of the rest of the building.
- The visually impaired are not represented within the church.

St Andrews Presbyterian Church of East Africa.

- There is over concentration on one type of disability (HI)
- The Visually Impaired persons are not represented.

Kasarani Deliverance Church.

Not much has been achieved in the area of disability.

4.8.4.2 Summary On Integration Within Religious Organizations.

- Preparedness for disability is still lacking in many religious organizations within the city.
- There is a tendency to over concentrate on one kind of disability or approach thereby failing to create some balance.
- Involvement of those with visual disabilities within places of worship is very poor

Spearman's rho correlation coefficient (r) also indicates that there is a negative relationship of $-.420^*$ at 95 percent significance level between the programs offered in places of worship and the kind of disability. For example, failure to have interpretation services in churches automatically keeps off persons with hearing handicaps while having the services encourages more deaf persons but leaves out the visually impaired. There is need to balance the provisions to suit all types of disabilities.

4.9 Community Infrastructure Where Inclusive Design Has Been Attempted Within Nairobi.

Plate 16 Use of a Ramp at the Bazaar Plaza.



An attempt is being made by a few developers within the city to include needs of all persons in the built environment. These act as a good example to the policy makers and to the general public on the need to include the needs of all persons in planning and management of community infrastructures. After all, a community infrastructure is a public good for use by all persons. Thus, even if the *objective* of planning is physical, as explained in chapter one its *purposes* are essentially social. Where one of

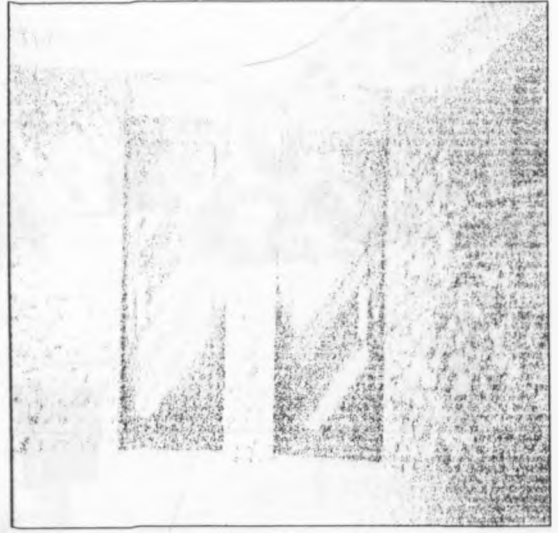
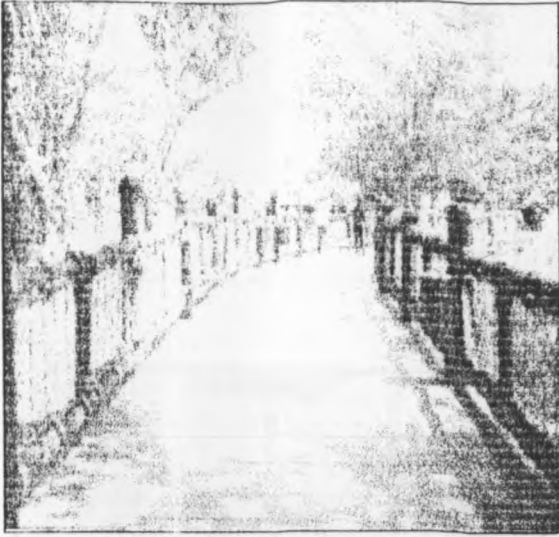
Source: Author 2001.

these considerations lacks then planning fails to target all people. Consequently, once a consideration of "who" a physical development should target is made, then the concept of integration is realized.

Findings of the field survey, established that some of the most disability friendly buildings within Nairobi include, the *Sarit Centre Shopping Mall* in Westlands; it has a wide ramp that meanders all the way up the building thus enabling even a disabled person on a wheelchair, or a person pushing a trolley/ pram to comfortably move around. The move might have been to allow shoppers to do their shopping comfortably but whatever the reason it has gone a long way in responding to the call to integration. *The Bazaar Plaza* within the city centre and the *Mayfair Hotel* in Westlands are others that have made similar moves.

The Animal Orphanage

Plate 17 wide paths and ramps to access buildings

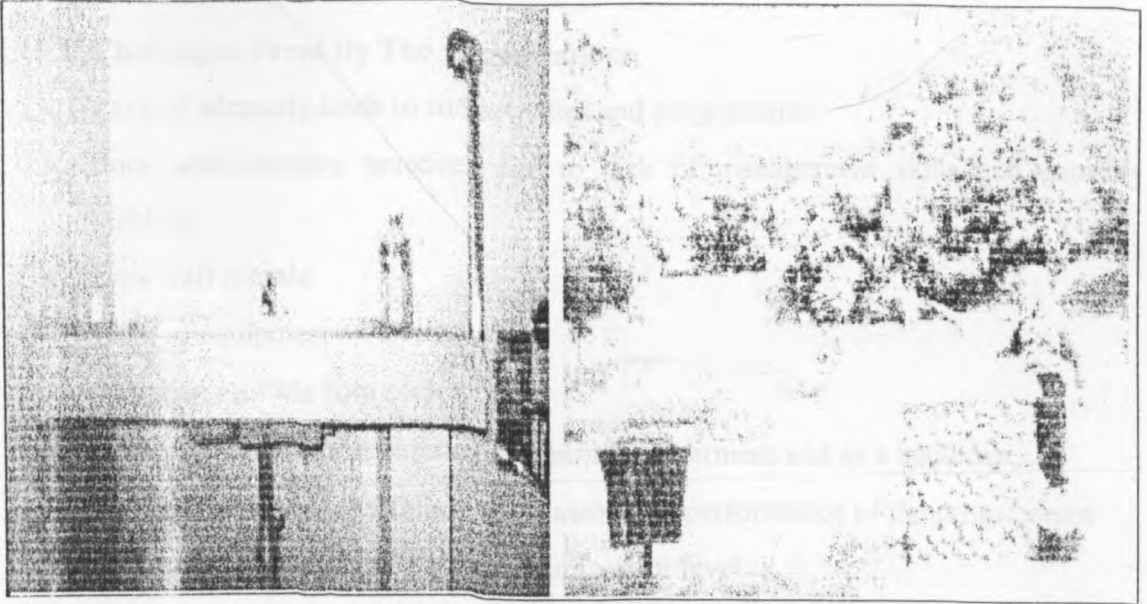


Source: Author 2001.

Some of the greatest efforts in including disabled persons' in public places were however noticed at the Animal Orphanage in the Lang'ata area. The recent renovation of the orphanage was done with an evident concern to include persons with disabilities in the field of tourism and recreation. Paths have been constructed in form of ramps all through the orphanage to facilitate the movement of even those using wheelchairs or pushing a baby's pram with minimum difficulties. Equally, the paths are wide enough to allow even people using wheelchairs to by-pass each other comfortably.

Not only have locally available material (e.g. wood) been used to construct the paths but their design and beauty enhance the aesthetics of the natural environment. There is minimal use of staircases at entrances to buildings. Instead, ramps that can be used by all persons have been installed. Toilets for persons with disabilities have also been provided. Seats and wash sinks as well as dust bins within the park are low and can be used by even children.

Plate 18 Toilets for the disabled, low sinks and dustbins at the orphanage



Source: Author 2001.

4. 10 What Efforts Are Being Made To Promote The Welfare Of Persons With Disabilities And By Whom?

The key respondents noted that most disability awareness and assistance to disabled persons especially in education is by Non-governmental organizations and religious organizations (Refer to Appendix 4). They assist in building of special schools and homes for persons with disabilities and in sponsoring of some of the institutions. Disabled persons have also formed groups and organizations to enhance advocacy and to support one another financially and morally. Most of these organizations deal with advocacy for the rights of persons with disabilities, promotion of education, employment, training and rehabilitation needs of persons with disabilities. (Refer to Appendix 5). A few whose objectives are geared towards the enhancement of the welfare of persons with disabilities were visited. They included:

- United Disabled Persons of Kenya (UDPK)
- Kenya Society for the Physically Handicapped (KSPH)
- Kenya National Association for the Deaf (KNAD)
- Kenya Union of the Blind (KUB)
- Association of Disabled Persons of Kenya (APDK)

- Kenya Society for Deaf Children (KSDC)

4.10.1 Challenges Faced By The Organizations.

- Lack of adequate funds to run activities and programmes.
- Poor administrative practices due to lack of management skills and capacity building.
- Low staff morale.
- Lack of equipment.
- Negative attitude from society.
- The general public's ignorance of Hearing Impairment and as a handicap.
- Lack of evaluation and follow up to assess the performance of the programmes.
- Access to many disabled persons at grass root level.
- The organizations are also faced with the problem of overreliance on donor finances. Most funding for programmes and activities of the organizations come from foreign sources. Should donors pull out, then the organizations are bound to collapse.
- Lack of cooperation from government agencies such the Ministry of Culture and Social Services.
- Formation of self- help groups due to dissatisfaction of services offered by the larger organizations.
- Lack of employment opportunities for their trained personnel.
- Clients' inability to pay for orthopedic services.

4.11 A Summary On How Integration Of Persons With Disabilities In Community Infrastructure Has Been Achieved

Problems of the disabled in using community infrastructure in Nairobi have been poorly addressed. 39% of the respondents felt that their problems in using these facilities have been very poorly addressed, 22% felt they were poorly addressed, 14% felt they were well addressed while 25% were undecided. Certain views on integration were presented to the respondents. Their responses have been analysed in Table 26 below.

Table 26 A Response by the respondents to opinions on Integration.

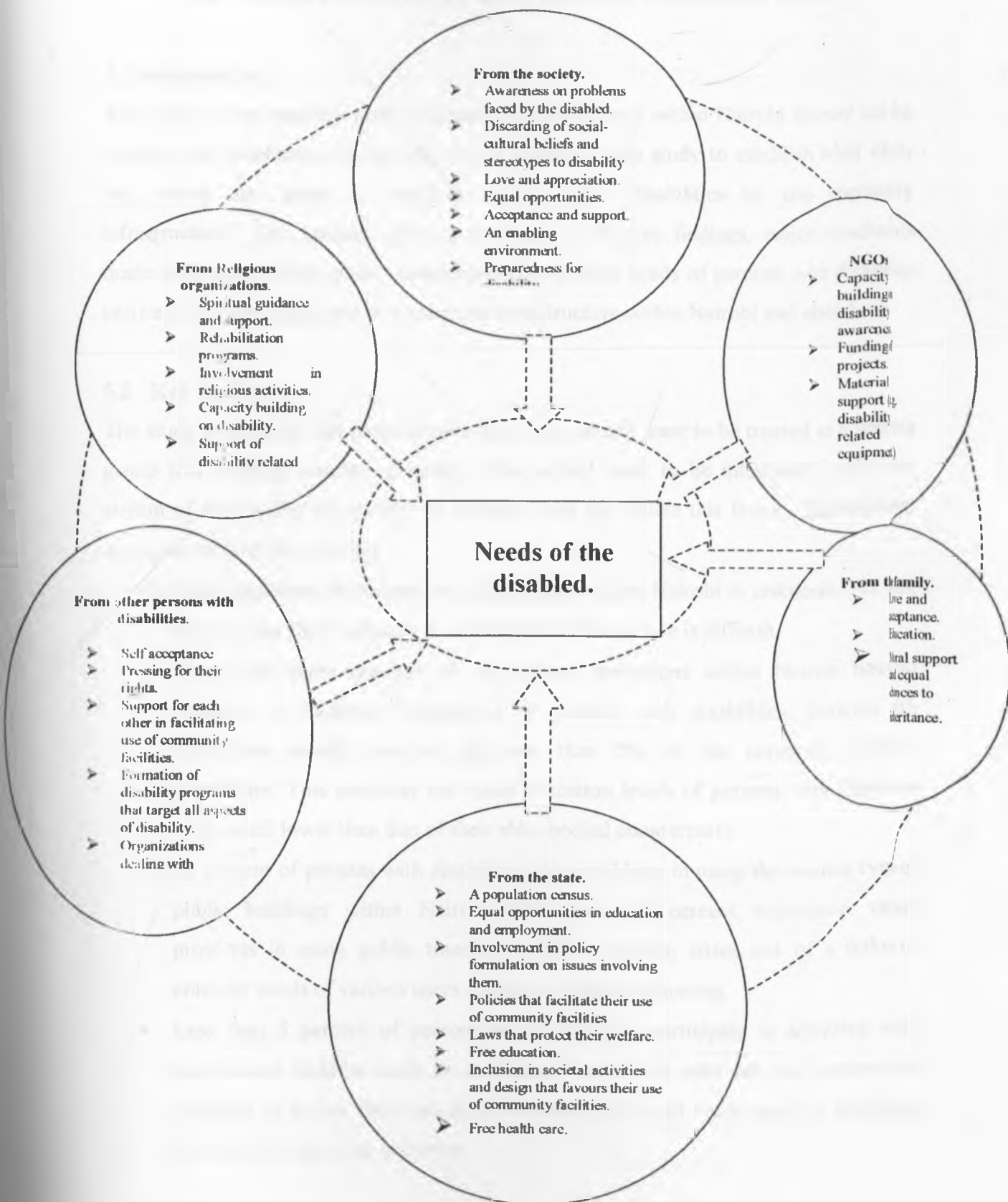
Opinion	Totally Agreed	Agreed	Disagreed	Totally Disagreed	Undecided
Community infrastructures in Nairobi favour only able bodied persons.	66.6	22.2	5.6	0	5.6
It is senseless for disabled persons to mix	8.3	27.8	22.2	42.6	0
Planning for the disabled is not separate planning.	54.6	23	16.8	2.8	2.8
Nothing can be done in addressing the aspect of disability.	0	8.6	47.2	44.2	-
Only the state can assist the disabled to community infrastructure.	8.3	13.8	30.5	44.5	2.9

Source Author 2001

4.11.1 Society's Efforts To Deal With Disability.

As shown on Table 26, persons with disabilities want their needs to be integrated in the entire community infrastructure but the society at its different levels has not been made this possible. Fig 10 shows the levels of efforts currently being made by the various groups identified at the beginning of the study as crucial agents in enabling the disabled to use community infrastructure. It was established that only sections of the society namely, the family, the religious organizations, NGOs and groups are presently making efforts in provision of health care and education. Consequently, the disabled are lagging behind and impacting negatively on the overall development of the rest of the society. The welfare of society cannot be complete without the welfare of the individual

Fig. 10 Level of society's commitment in enabling the disabled to use community infrastructure.



CHAPTER 5

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS.

5.1 Introduction.

This study set to establish how community infrastructures within Nairobi favour/ suit the persons with disabilities. It was also in the interest of the study to establish what efforts the society has made in enabling persons with disabilities to use community infrastructures. This chapter, gives a summary of the key findings, major conclusions made and consequently gives recommendations on how needs of persons with disabilities can be effectively integrated in community infrastructure within Nairobi and elsewhere.

5.2 Key Findings.

The study established that persons with disabilities do not want to be treated as a separate group that requires separate planning. They would want to be integrated in the main stream of society but the society as it exists does not realize this factor. This argument was evidenced by the fact that:

- The population of persons with disabilities within Nairobi is unknown. As such, planning for their inclusion in community infrastructure is difficult.
- More than three quarters of educational institutions within Nairobi have no measures to facilitate integration of persons with disabilities. Persons with disabilities actually account for less than 5% of the university students' population. This omission has made education levels of persons with disabilities to be much lower than that of their able-bodied counterparts.
- 74 percent of persons with disabilities have problems in using the various types of public buildings within Nairobi while over 70 percent experience various problems in using public transport. This condition arises out of a failure to consider needs of various users of these facilities in planning.
- Less than 5 percent of persons with disabilities participate in activities within recreational facilities such as stadiums because not only are the stadiums not designed to favour them but also the society does not encourage the disabled to participate in sporting activities.

- There is a decrease in occurrence of disability caused by diseases to an increase in causes related to disaster but the society lacks disaster awareness and preparedness within the community infrastructures available. Thus, when disability strikes it becomes very difficult for the victims to adjust to the urban built environment.
- Cost of health care for persons with disabilities is unsubsidized yet the N.C.C. health facilities which were formerly accessible and affordable to the disabled in the past have collapsed leaving them without a ready alternative.
- More than three quarters of religious facilities within Nairobi do not include the aspect of disability in the designing of places of worship and activities offered therein. The disabled are therefore often left out in use of these facilities.
- Laws and policies that would facilitate the use of community infrastructure by persons with disabilities are not enabling enough to persons with disabilities. Consequently, the disabled lack a base to justify the discrimination they face in using community infrastructure.
- Due to low educational levels of persons with disabilities, socio-cultural beliefs and stereotypes associated with disabilities the disabled have limited chances of meaningful employment.
- Sign language is alien to more than 90 percent of all persons who use community infrastructure in Nairobi. It is therefore difficult for them to assist persons with disabilities wishing to utilize this facility.

5.3 Recommendations To Facilitate Integration.

From the findings, recommendations have been made to facilitate integration of the needs of the disabled in the various areas of community infrastructure studied. Similarly, amendments to laws and policies affecting full integration of persons with disabilities in these areas have been proposed.

5.3.1 Health

As discussed earlier, it was established that one of the problems faced by persons with disabilities in accessing health care is cost of Medicare. Borrowing from Germany's

example, subsidy on medical care for the disabled is largely met from public aid. The Government can subsidize on the health care of persons with disability by introducing a disability levy or tax. Mobile health clinics should be availed to particularly the disabled within the city who are immobile due to illness or cost of transport. Such a move will reduce unnecessary traveling of persons with disabilities in search of Medicare.

The implication therefore is that the number of persons with disabilities, their type of disability as well as their localities within the city must be known so that they may be easily reached. Alliance between the Ministries of Health and that of Culture and Social Services, the urban community and the Provincial Administration can make this possible. However, The Nairobi City Council and the Central Government must ensure that existing neighbourhood Health Care Clinics and dispensaries are fully operational, with drugs and requirements to benefit all persons including those with disabilities. Such facilities are convenient in that as established in chapter 4, there is at least a health facility within a 2km radius of the residence of persons with disabilities within the city.

All medical personnel (Receptionists, pharmacists, nurses doctors etc) should know sign language to be able to deal with patients with a hearing impairment. As an immediate course of action, some workers who understand sign language should be deployed to health facilities. Consequently, other personnel can be trained in sign language. Medical institutions should also provide free guidance and counseling to patients with disabilities and ensure quick attention to them.

It was also confirmed that the floor material of some facilities in hospitals within Nairobi (especially the private ones) is slippery and therefore dangerous even for normal operations within a hospital. It was also established that some doors are also narrow for use by those using wheelchairs. As such, building regulations should be followed to see to it that safety measures on the design and quality of health institutions are followed. This will ensure safety of not only persons with disabilities but also other similar needs of the hospital. As an example, slippery floors should be completely avoided.

The study acknowledges the fact that people with different types of disabilities are complex and therefore difficult to address in all different health facilities available. Consequently, it recommends that the development of a referral hospital that will cater for the various medical needs of all persons with different types of disabilities would be ideal. This hospital can be located in Nairobi, being the capital city of Kenya. The hospital should have qualified medical personnel, social workers to work as support staff and equipments necessary for the treatment and rehabilitation of the various disabilities. Cost of medication at the hospital should be subsidized by the state through a disability levy or tax. Other kinds of treatment not necessarily related to disability can be offered at the hospital to persons with disabilities at a subsidized cost. Currently we have a referral hospital for children and another for women within the city; it is possible to come up with one for persons with disabilities.

5.3.2 Education.

As established in this study, lack of facilities, qualified staff, designs of the built environment as well as attitude account for some of the major factors that make integration of persons with disabilities into regular schools difficult. It was established that the actual number of persons with disabilities eligible to be in school within Nairobi is unknown. Consequently, proposals on how integration can be achieved have been given below.

5.3.2.1 Proposals To Facilitate Integration In Regular Educational Institutions.

Change of Focus.

The word 'school' should be redefined to imply a leaning environment that provides appropriate academic/ non-academic skills for both the disabled and non-disabled. Those who cannot achieve academic excellence should be assisted to fit better in society. A system that includes social workers as part of the school staff should be introduced to provide counseling and supportive services to persons with disabilities. Equally, guidance and counseling should be availed to the able bodied persons on the need to accept their disabled counterparts. Knowledge about disability related equipment, causes of disability, prevention and need for integration should be taught in schools.

Education of the disabled should be made locally accessible (in the neighbourhood school) and comprehensive. A multi-sectoral approach should be adopted in dealing with disability and integration efforts. Persons working in all public places should receive training in special education. These people include: Medical personnel, social workers, police etc. Consequently, the MOH, MOE, MCSS should be more united to be able to coordinate their activities in dealing with the aspect of disability. Through field surveys MSCC should identify children with special needs, counsel their families and help to start rehabilitative measures at the community level and eventually let the children be consumed at the local school.

Administration

As proposed earlier, the Government should introduce a disability tax/levy to cater for the education, health and transport of persons with disabilities. With the tax it will be able to meet or subsidize cost of education for persons with disabilities and consequently make it an offence for any head of a school or parent who refuse to avail education to a child with a disability.

All school heads and school inspectors should have basic knowledge of special Education to facilitate assessment and articulation of integration. The average number of students at primary school level should be reduced from the present 40 pupils per class at primary school level to at least 30 pupils to facilitate individualized attention of all pupils and to facilitate realistic disabled/able-bodied pupils ratio (e.g. 1:3) where applicable. Circulation space per student per school should be the expected 6m squared¹. Congestion and unnecessarily small classrooms should be completely discouraged especially in private schools.

Training.

Teachers of special education are inadequate for the population they are supposed to serve. Development expenditure allocated by the Government to special education can be used to employ experts in special education who can train more persons in special

¹ Physical Planning Handbook Pg. 129.

education. Future teachers of special education ought to be trained to handle all types of disabilities and not a particular kind.

Plate 19 Sign language should be taught in schools.



Sign language and Braille should be introduced in the school curriculum, both at Teacher Training Colleges and other educational institutions. Kenyan sign language (KSL) should be adopted to avoid communication problem.

Education Curriculum.

The curriculum does not consider the special circumstances of persons with a visual and hearing disability. Limitations of candidates with a disability should be considered in examinations (e.g. more time should be allocated to pupils whose slowness is as a result of disability) Testing mode for examinations should also include other forms like spoken responses, pointing or use of examination aids whenever applicable.

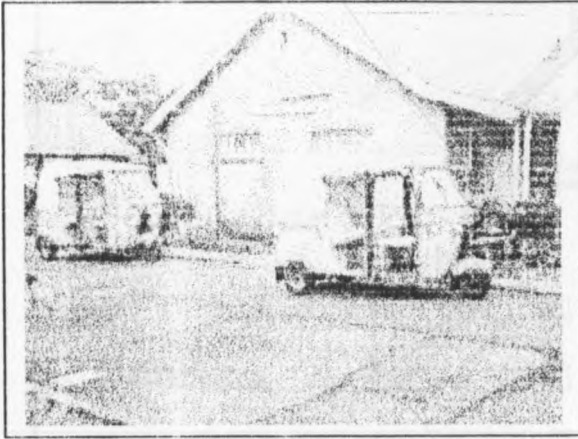
Entry points to universities for persons with disabilities should be lowered because they experience more hardships in learning. At least 30% of university admission should be reserved for persons with disabilities. 30% of facilities to suit their needs should equally be reserved.

Extra Curriculum Activities

Children with disabilities should be encouraged to participate in activities such as drama, music and sports.

Equipment and Facilities.

Plate 20 Mobility equipments should be availed to students with disabilities.



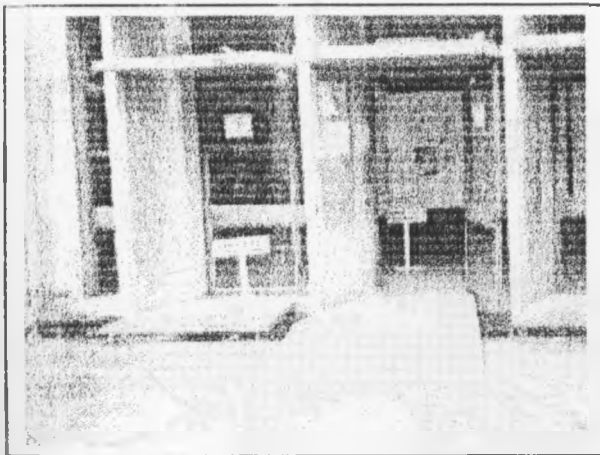
As a welfare consideration for persons with disabilities by the Ministry of Education, mobility and communication (e.g. Braille, wheelchairs etc) should be availed to persons/students with disabilities. These equipments are beyond the reach of an ordinary person with disability. Talking books for the

Source: Author 2001.

visually impaired should be provided in schools libraries. Design of simpler less expensive devices with local methods of production (e.g. jua kali) and adapted to the Kenyan environment should be considered to make the equipments easily available.

Design.

Plate 21 Buildings should be accessed by ramps.



Source: Author 2001

Use of ramps instead of staircases to access buildings is recommended. (Plate 21 and Fig 12)

Physical planning standards should indicate the required size and quality of paths, distance between buildings (especially for boarding schools, width of corridors etc). Different bushes and flowers with different scents can be used to direct persons with visual disabilities as shown on fig 11.

Fig 11 Wide Corridors In Public Buildings

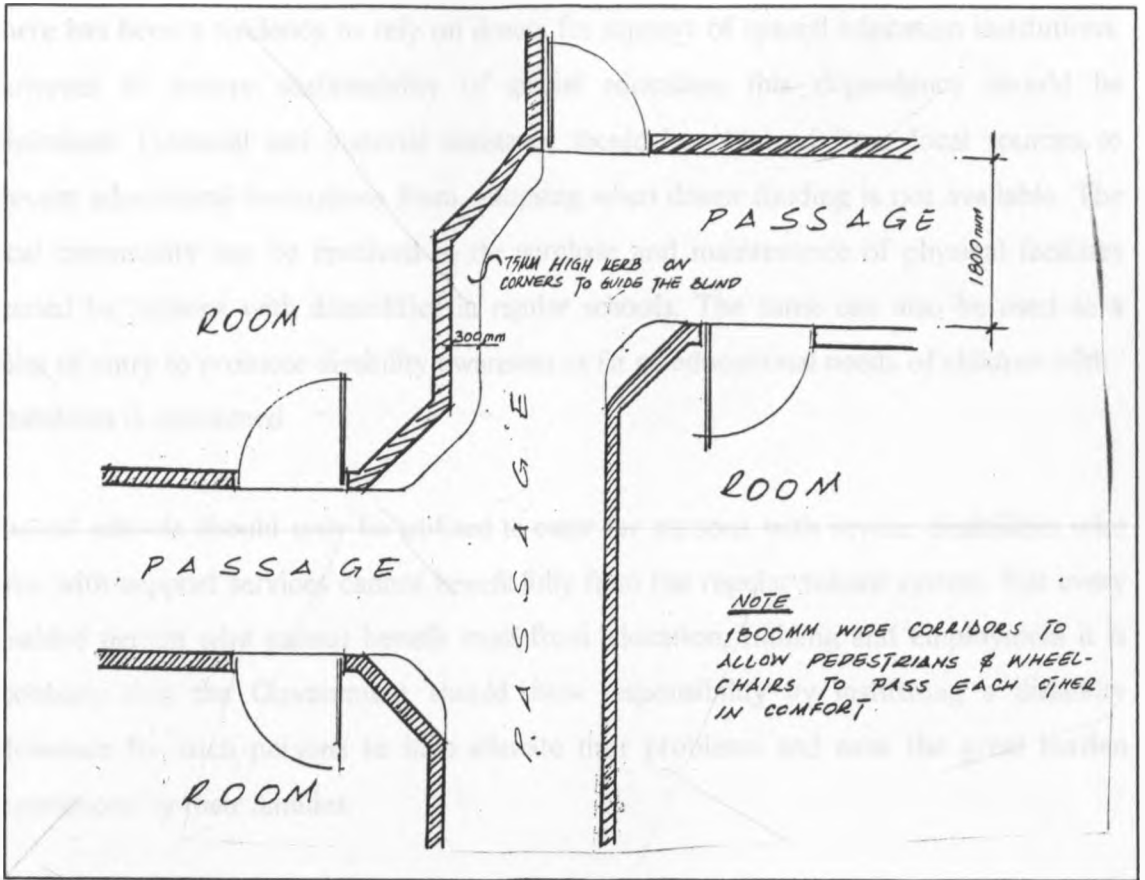
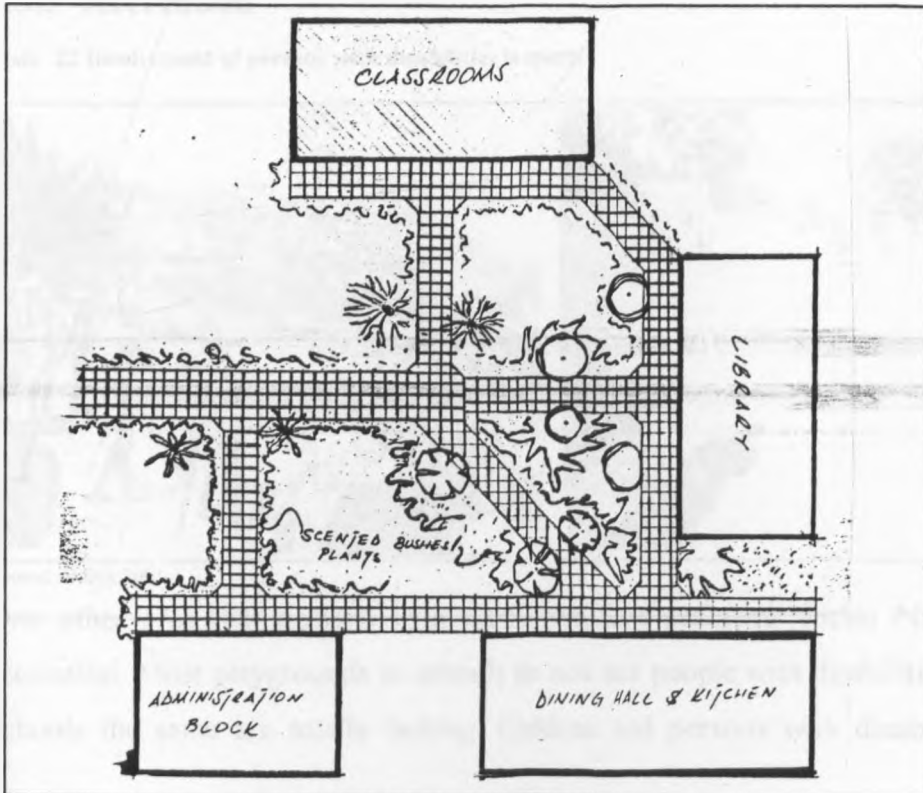


Fig 12 Disability Friendly Arrangement of An Educational Institution



Source: Author
2001

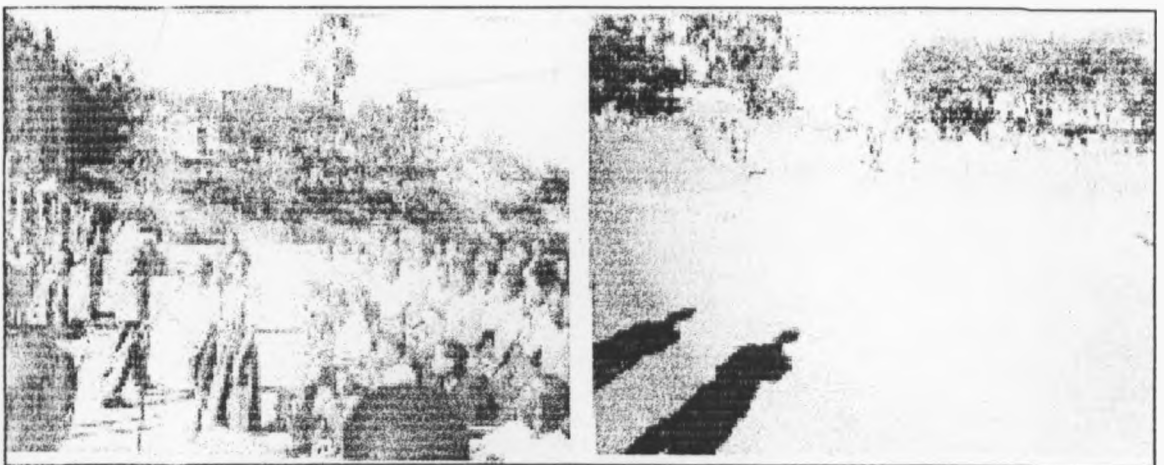
Community Participation.

There has been a tendency to rely on donors for support of special education institutions. However to ensure sustainability of special education this dependency should be minimized. Financial and material assistance should be obtained from local sources to prevent educational institutions from collapsing when donor funding is not available. The local community can be involved in the purchase and maintenance of physical facilities needed by persons with disabilities in regular schools. The same can also be used as a point of entry to promote disability awareness as far as educational needs of children with disabilities is concerned.

Special schools should only be utilized to cater for persons with severe disabilities who even with support services cannot benefit fully from the regular school system. For every disabled person who cannot benefit much from education, training and employment it is necessary that the Government should show responsibility by instituting a disability allowance for such persons to help alleviate their problems and ease the great burden experienced by their families.

5.3.3 Recreation

Plate 22 Involvement of persons with disabilities in sports



Source: Author 2001.

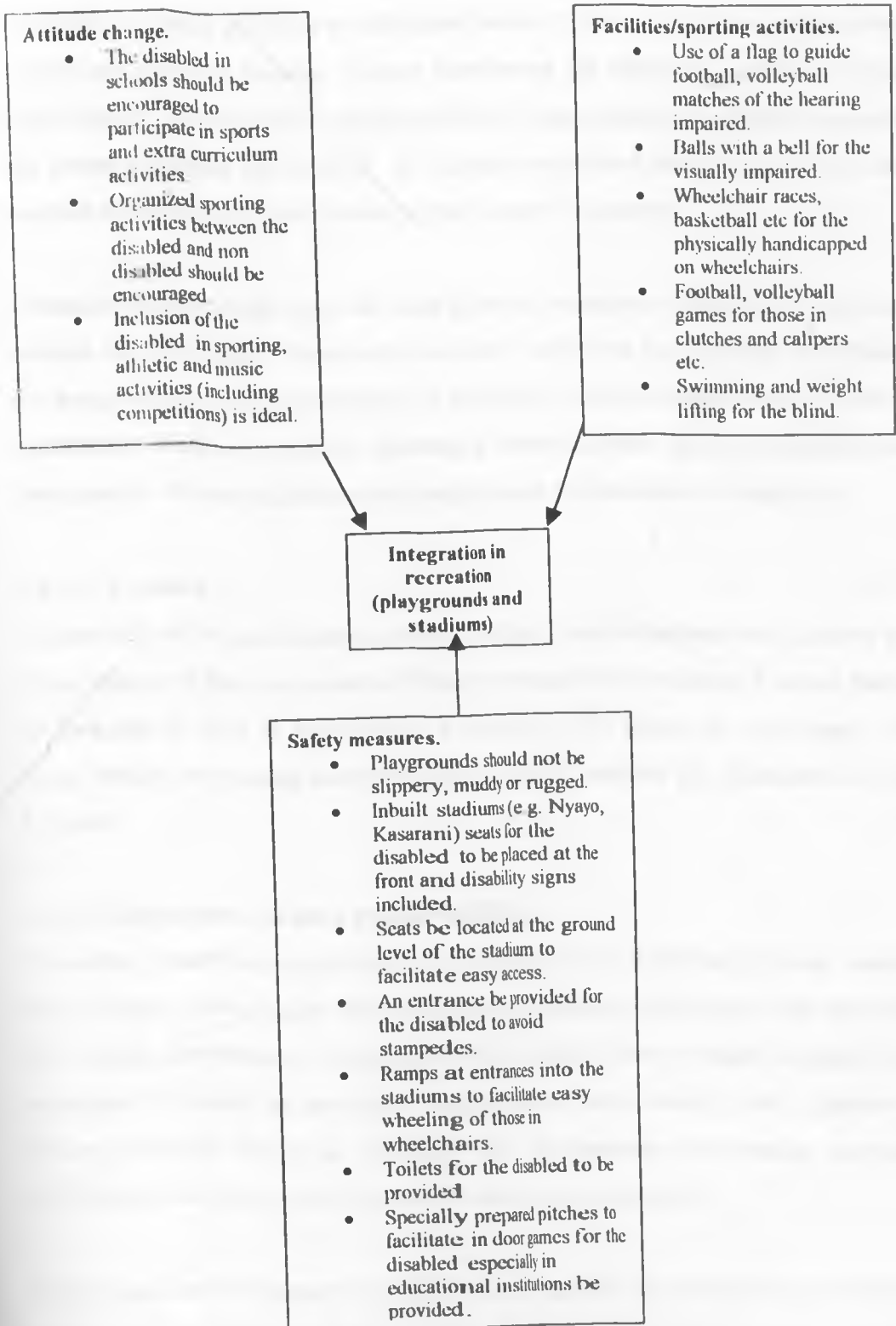
One other area that persons with disabilities face problems within Nairobi is that of recreation. Most playgrounds in schools do not suit people with disabilities while in some schools the same are totally lacking. Children and persons with disabilities in tertiary

educational institutions are not encouraged to participate in extra-curriculum activities. Some persons with disabilities also often inhibit the attitude that they cannot do any kind of activity because they tend to feel that they are weaker than they actually are and consequently keep off sporting activities.

Society on the other hand feels that the disabled have to be protected from any kind of physical exercise. Such attitudes make the disabled lose their self-confidence in being able to participate in society's daily life. Participation in different sporting activities for persons with disabilities is a very important element in rehabilitation. It helps to build their physical strength, general health as well as self-confidence.

Fortunately, nearly all disabled persons are capable of participating in one kind of sporting activity or another if given a chance. However, there must be an initial effort of attitude change from the society and the disabled themselves. An improvement of stadiums and playgrounds in schools should be considered. These facilities are also used for other services such as public gatherings, political meetings, religious meetings etc. As such, modifying them to suit disability means that persons with disabilities can also comfortably use them on other occasions. It is important to build on disabled persons abilities rather than on their disabilities.

Fig 13 Integration in Recreation facilities (playgrounds and stadiums)



5.3.4 Training And Employment.

It would be a major omission to talk about access to formal education and training within institutions of higher learning without mentioning the aspect of vocational training and rehabilitation. In this study it was noted that not many persons have had an opportunity to get formal education and training. It was also established that less than 5 percent of the disabled are involved in contribution to the country's economy.

Unfortunately, not much input has been given to vocational training and rehabilitation for persons with disabilities. Since very few work within the public offices, modifications to the design of the same and provision of facilities to suit their needs in such places become a secondary consideration in the planning of these facilities. Some recommendations have been given in the area of training and employment for persons with disabilities.

5.3.4.1 Training

Courses offered in rehabilitation centers not only need equipment and teaching staff but also a change of focus in courses offered to persons with disabilities. Courses that suit the modern market such as Information Technology (IT) should be encouraged. The first move though is to make sure that more disabled persons get education like all other Kenyans.

5.3.4.2 Employment Within Public Buildings.

To enable persons with disabilities to be absorbed into formal employment, measures to provide them with physical aids, attendants, alternative technologies and adjustment to the working environment. is important. For example, when a visually impaired person is employed, he should be provided with a braille and a reader, while a person with a hearing disability should be provided with sign-language interpretation services. The employee should retain these services as long as he is employed.

Borrowing from Zimbabwe's example whose Disability Act was passed in 1992; it is an offence for any person to fail to comply with an order requiring them to modify and adjust their premises to accommodate persons with disabilities or to discriminate against

such persons in employment. Such legislation is crucial in Kenya especially relating to any public building, institution or place of employment.

5.3.4.3 Hawkers and Beggars with Disabilities.

The Local Authority (Nairobi City Council) should build temporary stalls for hawkers with disabilities near bus stops where most of their customers are found. (Fig 22) The stalls will also shield them from cold and rain. The Local Authority should give persons with disabilities in business entrepreneurship consideration in the allocation of business plots in order to empower them financially. On such plots they can build premises on which to carry out their businesses because renting of business premises for most of them is rather expensive. More disabled persons should therefore be encouraged to apply for allocation of such plots where they exist.

The Government should also guarantee the issuing of tool kits to all graduates of Government run vocational centers to enable those who have not had access to formal education to be able to start up small-scale businesses.

From the study it was established that persons with disabilities lack access to credit to start small-scale enterprises. It was also revealed that most funding to small-scale entrepreneurs with disabilities is by UDPK, which is an organization for persons with disabilities. As such, financial lending institutions that have small enterprise credit systems (e.g. KREP, Cooperative bank etc) should be encouraged to set aside allocations for small entrepreneurs with disabilities. Special attention should be paid to women with disabilities to uplift them for their double "disabilities". As shown in chapter 4, only 2% of persons with disabilities in business were assisted with some form of aid to start up their businesses.

Equally, there should be exemption from levies and taxes on any kind of importation of specified articles, training materials and equipment required for rehabilitation centers and on specified aids appliances and devices required to assist the persons with disabilities in securing and retaining employment.

5.3.5 Religion

Plate 23 Sign Language Interpreter



The study established that many religious organizations within Nairobi fail to consider the element of disability in their worship facilities and activities. The disabled want to be part of the society in all its socio-cultural activities. Recommendations have been made to facilitate their integration within places of worship. For example, as shown on Plate 23 all places of worship should have a sign language interpreter available at all gatherings.

Services.

- The NCC to provide space for religious facilities in low-income estates/settlements.
- Provision of Sign language interpreters.
- Prelate to have knowledge on sign language.
- Reservation of front seats for persons with disabilities.
- Presence of ushers to offer guiding services.

Programmes.

- Involvement in Bible/ Quran or other services.
- Disability awareness.
- Campaigns e.g. HIV/ Aids.
- Camping sessions.
- Sporting activities.
- Youth programs.
- Choir.
- Guidance and counseling.
- Rallies and workshops.

Integration of the needs of the disabled within places of worship.

Facilities.

- A few hymn/ bible prayer books in Braille.
- Purchase of disability related equipments e.g. White canes, wheelchairs and hearing aids for members with disability.
- Disability friendly toilets and seats.

Works of charity.

- Visiting those with severe disabilities in their homes.
- Donations to disability related activities e.g. helping families of people with disabilities, education.
- Starting of pre-school rehabilitation.

Design.

- Use of ramps instead of staircases to access buildings.
- Ramps should blend well with the aesthetics of the building (they should not appear like an afterthought)

Fig 1-4 Proposals to consider in places of worship

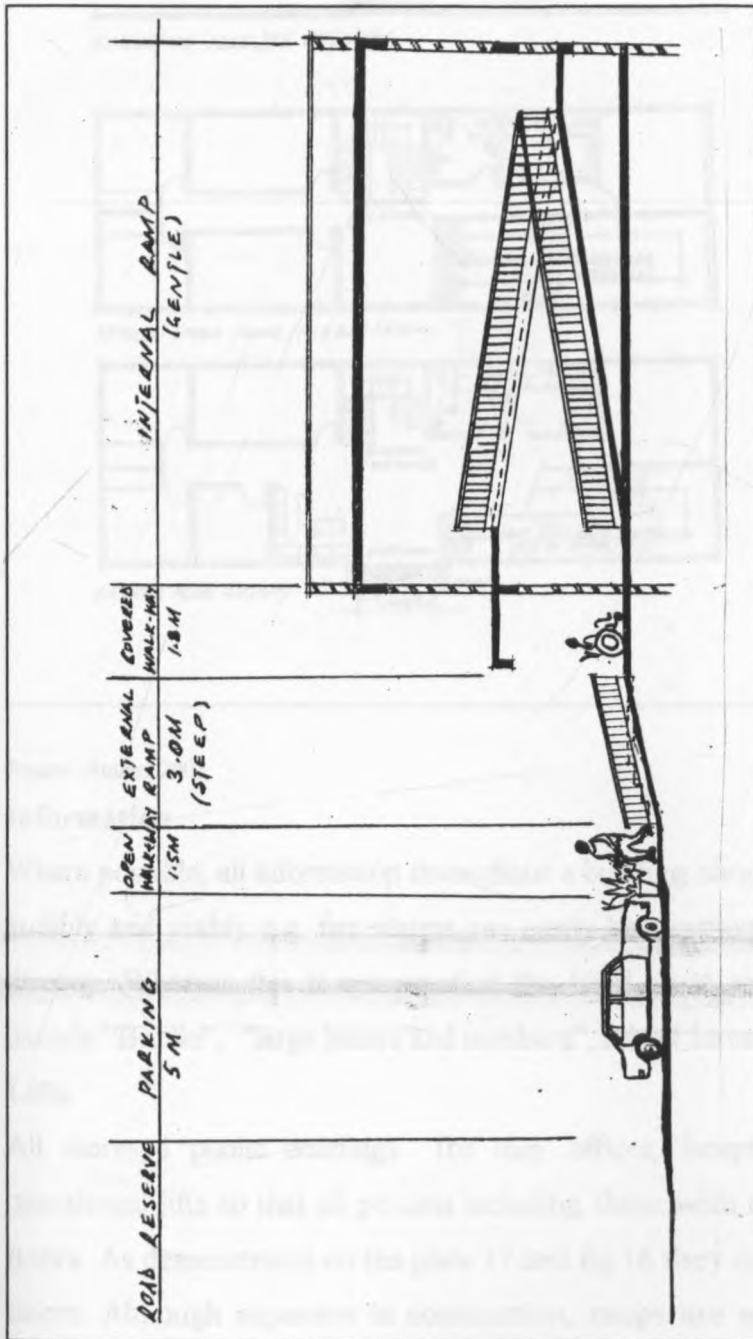
Source: Author 2001

5.3.6 Buildings.

Problems experienced by persons with disabilities within public buildings include narrow entrances, slippery floors, use of staircases, lack of lifts, and narrow corridors among others. Below are recommendations made to facilitate integration of the needs of the disabled in public buildings.

Ramps

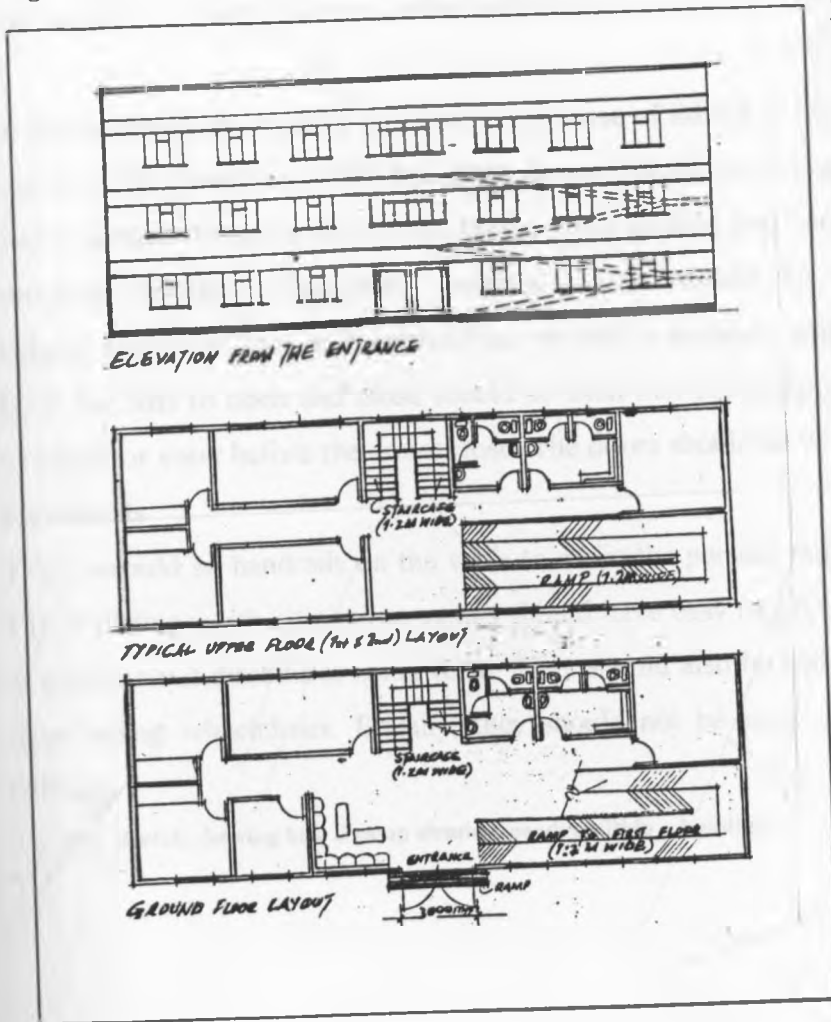
Fig 15 Difference in Gradient Between Internal and External Ramps



A ramp or both a ramp and a staircase must access all public buildings. The 'Universal Design Concept' approves use of the ramp in place of staircases because all persons including those on wheel chairs or those with visual disabilities can use it appropriately.

Source: Author 2001

Fig 16 Provision of a Ramp Within a Public Building



Ramps within buildings should not appear like an afterthought but should blend well with the rest of the building to enhance beauty of the building. Where a building is near a street, the approach to at least one entrance from the adjacent street should be level or ramped for easy access to those using wheelchairs (Fig 15)

Source: Author 2001

Information

Where possible, all information throughout a building should be communicated both audibly and visibly e.g. fire alarms can easily be supplemented with audible warnings or directly. Whereas this is not practical the blind must rely on printed information alone namely "Braille", "large letters and numbers", raised letters and numbers.

Lifts

All storeyed public buildings (be they offices, hospitals or institutions) must have operational lifts so that all persons including those with disabilities can have access to all floors. As demonstrated on the plate 17 and fig 16 they can also have a ramp accessing all floors. Although expensive in construction, ramps are extremely important for all users

especially in the event of a breakdown of the lifts. Where such a ramp exists it may be unnecessary to have staircases unless a developer deems it fit to include them.

A guard should be in place to ensure proper use of lifts (e.g. by controlling congestion of users). Lifts should be wide enough to accommodate wheel chairs. They should have an audio system for announcing floor levels, good lighting and ventilation. Lights should be serviced regularly. Emergency warning devices should be placed at recommended heights from the floor with instructions written in ordinary writings and in Braille. Time lapse for lifts to open and close should be such that the persons with disabilities are able to alight or enter before the doors close. The doors should be wide enough.

Handrails

There should be handrails on the walls to assist the persons with disabilities to move (Fig 15). Buildings with continuous ramps should have easy to grip handrails for easy support of persons with disabilities using them. They should also be wide enough to accommodate those using wheelchairs. Equally, they should not be steep but rather meander up the building.

Fig 17 A sketch showing how a ramp should meander within a building

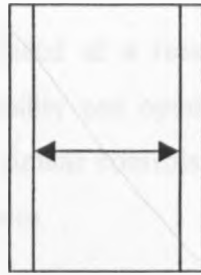


The most comfortable height for ramps handrails is 3ft 0in and 2ft in for stairs. A second handrail to accommodate children and wheelchairs is often mounted to 2ft 4in. In either case the rail should extend 10 inches beyond the end of ramps and 6in beyond the stairways.

Doors

Revolving doors at entrances should be avoided. Spring closers for doors should also be avoided where possible. The entrances should give a clear opening width of not less than 1200mm.

Fig 18 Size of Entrance to buildings, Internal doors



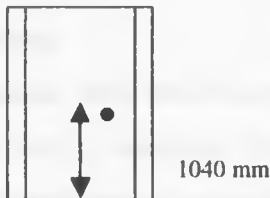
Entrance 1200mm



Internal 900mm

Doors leading to dangerous areas such as boiler rooms, kitchens, laboratories, workshops should be identified by operating hardware that is knurled or roughed. Internal doors should give a clear opening of not less than 900mm while door handle should be set at approximately 1040 mm above the preferred knob handles.

Fig 19 Appropriate location of door handle for persons with disabilities



Toilets



Plate 24 An ideal toilet for persons with disabilities.

For toilets/ lavatories, the door should open outwards or slide. Inside, the wheel chair should be positioned clear of the line of the door swing. Toilets in public buildings should incorporate an accessible wheel chair compartment. This should allow their users access

Source: Author 2001

to facilities such as hand rinse basins, incinerator, mirrors, towel dispensers, hot air hand driers, and disposable paper rolls among others (Plate 25). The public should be sensitized on proper use of toilets.

Windows

Windows should be placed at a reasonable height and location so that persons with especially physical disability can open them easily. Light switches, bell pushes, buttons in lifts, telephones and similar controls, should also be located where they can be reached by persons with disabilities.

Security

Fire alarms, smoke detectors and flashlights should be installed in all public buildings. For safety measures, construction sites in public places or walkways should be fenced off with canopies. There should be warning signs in different forms of writing including Braille. Rail guards should also be placed.

Handicapped Parking.

The criteria associated with handicapped parking needs special attention. Walking distance should be held at minimum. Handicapped parking should be located in such a way that physically handicapped pedestrians can avoid crossing a circulation drive. Most ordinances require a widest space (12ft 6in) space to permit wheelchairs access between cars. Signs identifying handicapped parking should be located next to wheelchairs ramps. Signs and ramps should be visible and accessible.

Office ware

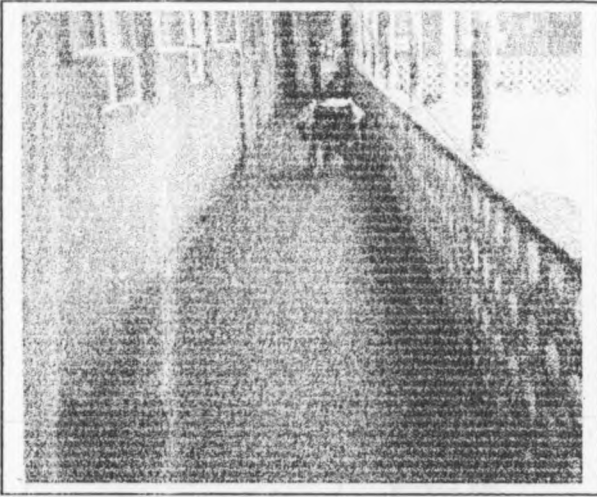
In particular office buildings, computers with voice synthesizers, transcribers, optical character readers, Braille and printers should be accessible to persons with disabilities.

Surface.

Surface is an important safety and aesthetic consideration in the design of paths, ramps and stairs. Ramps and paths should be all-weather, nonslip and free of surface irregularities such as cracks and uneven edges. Although all joints cannot be eliminated in a paved surface they should be minimized with none larger than half inches. All

external surfaces should have a minimum of one-eighth inches per foot to sustain positive drainage.²

Plate 25 Appropriate surface and wide corridor.



The stability and functional quality of a surface is also dependent on its relative density. Harder surfaces are generally more stable and thus preferred. Asphalt, brick in concrete and concrete are considered to be both hard and smooth and accommodate both pedestrians and wheelchairs very successfully.

Source: Author 2001.

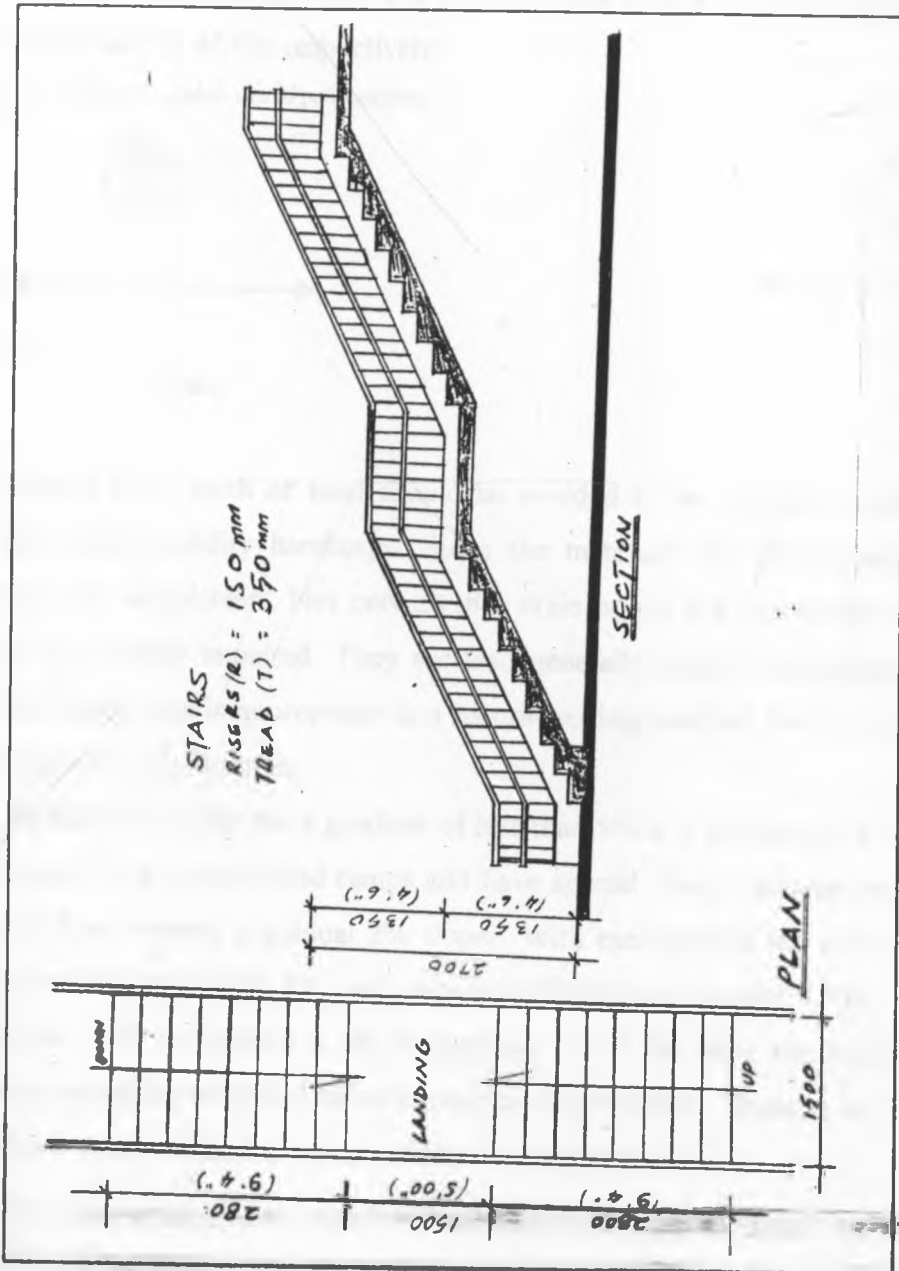
Some floor materials affect the mobility of the wheelchair bound disabled. Rough surfaces although dense are generally less desirable unless special attention is given to reducing their inherent irregularities. Some materials such as, bricks laid in sand, or exposed aggregate concrete and wood decks could inhibit the mobility of those using the crutches, canes or wheelchairs. Floor surfaces should be slippery resistant, whether wet or dry (Plate 26). Hazards at floor level should be avoided. Difference in design and of material in buildings can be used to indicate the proximity of:

- Entrances
- Steps and stairs.
- Potentially hazardous areas.

²NB. When a ramp or stair is used as a part of a natural environment and its location on the path could become a hazard a textual signal advising those with visual difficulties of the impending obstacle should be considered both above and below the ramp or stair.

Stairs.

Fig 20 Ideal Length and Width of Staircases



Minimum one-way stair widths should be 5 ft 0 in. (Fig 20). Since visual impairment often accompany physical problems, stairs and ramps should be in contrasting colours to those of adjoining walls or paving. Risers in excess of six and a half inches with tread widths of less than eleven inches should be avoided. Softer surfaces can create such difficulty for the handicapped where they are

Source: Author 2001

used as a paving material. Unless under limited circumstances, they are not recommended.

Paths/walkways

The recommended two- way and one-way path widths to accommodate wheelchair traffic are 6ft 0in and 4ft 0in respectively.

Fig 21 Recommended size of path/walkwa



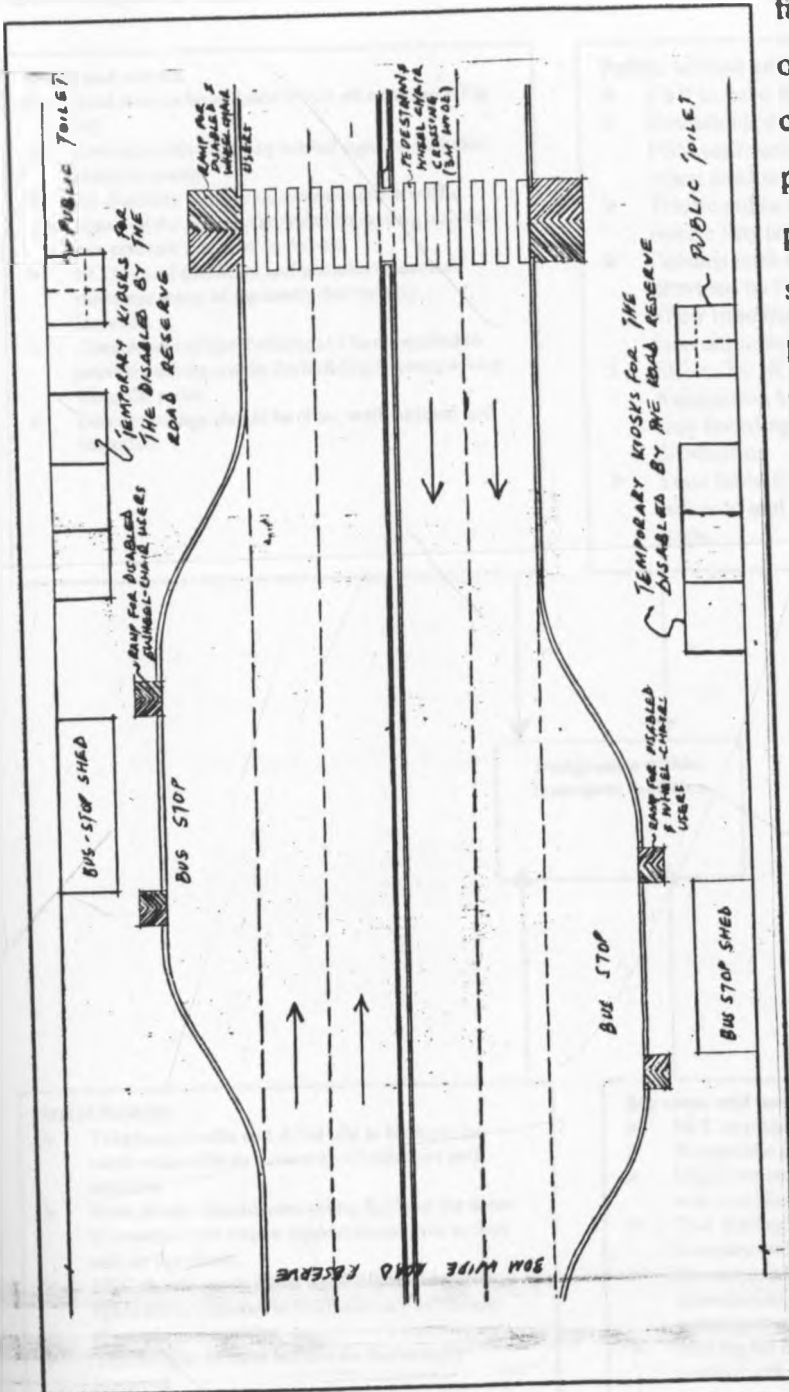
Crushed rock, earth or sand should be avoided in the design of paths to accommodate those with mobility handicaps. Since the materials are unsustainable they are poorly suited for wheelchairs. Not only do they drain poorly but also create orientation problems for the visually impaired. They are also generally high in maintenance cost. However, discriminate use is appropriate in a natural setting in which their use does not present an access or safety hazards.

Gradient: If a path has a gradient of less than 5% it is considered a walkway. Those that exceed 5% are considered ramps and have special design requirements. If possible walks should not exceed a gradual 2% slope. With exception of the short ramps that provide access from a parking lot, ramp gradients should not exceed 8.33%. Length should not exceed 30ft 0in without a 5ft 0in landing. A 6ft 0in clear space should be provided at each end of the ramp to facilitate wheelchair movement. Because of the incline, the ramp criteria are different from those of the walkway and path.

5.3.7 Transport.

As discussed earlier transport problems for persons with disabilities include, lack of appropriate provisions in public service vehicles, lacking or inappropriate street facilities,

Fig 22 A Proposed Bus-stop



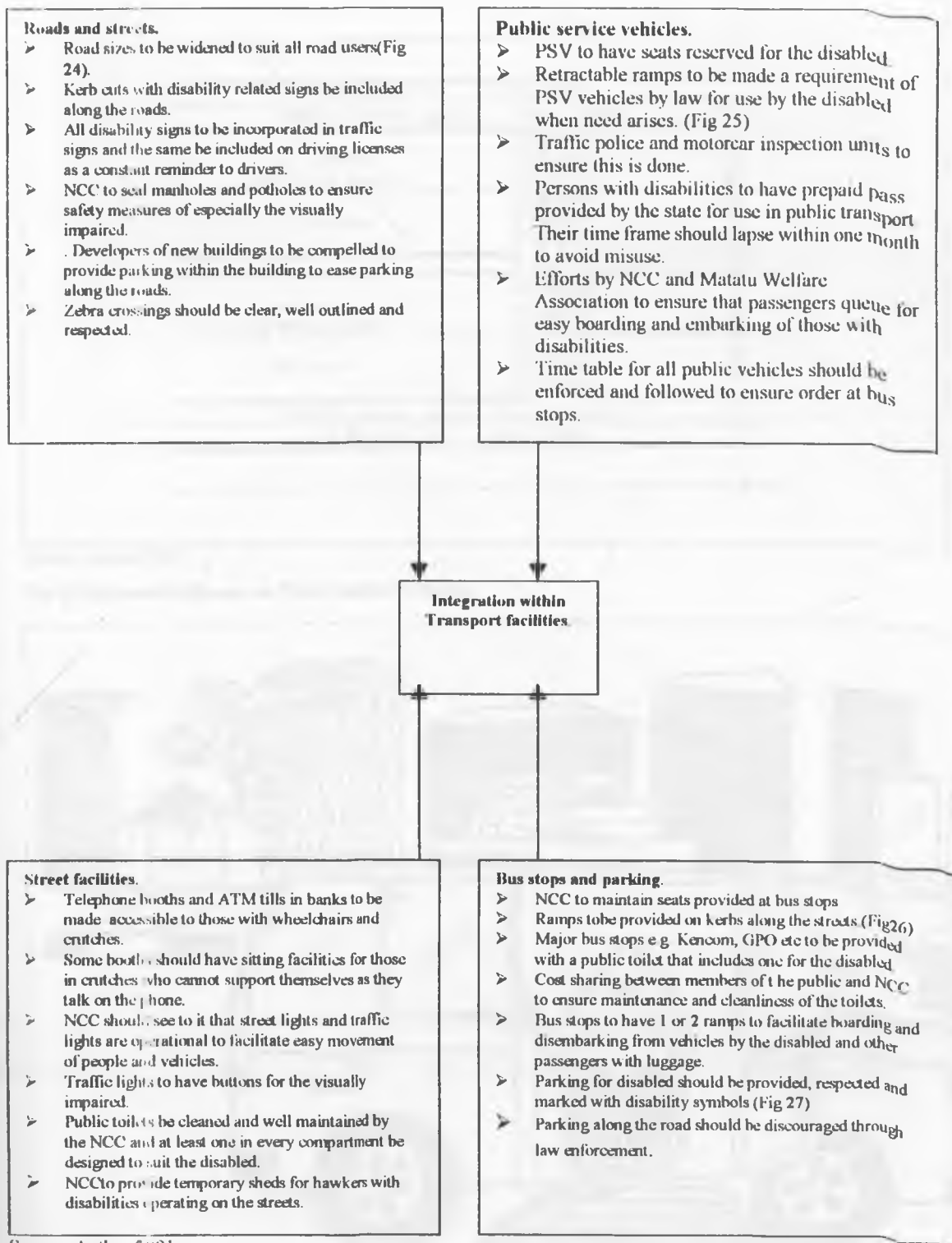
failure by motorists to observe traffic regulations, congestion along streets and poor state of roads as well as poor management of bus stops. Fig 22 shows a proposal made in the area of transport.

Plate 26 Well maintained Traffic lights but should have buttons for the visually impaired.



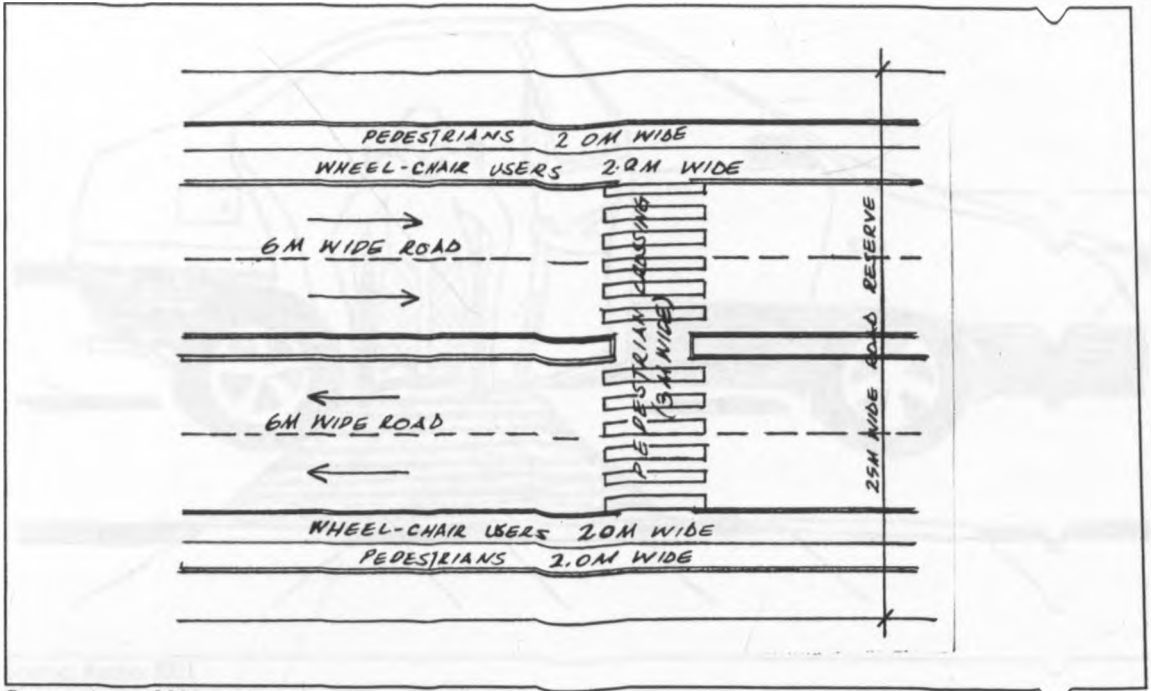
Source: Author 2001

Fig 25 Integration within Transport facilities.



Source: Author 2001

Fig 24 An Integrated Street



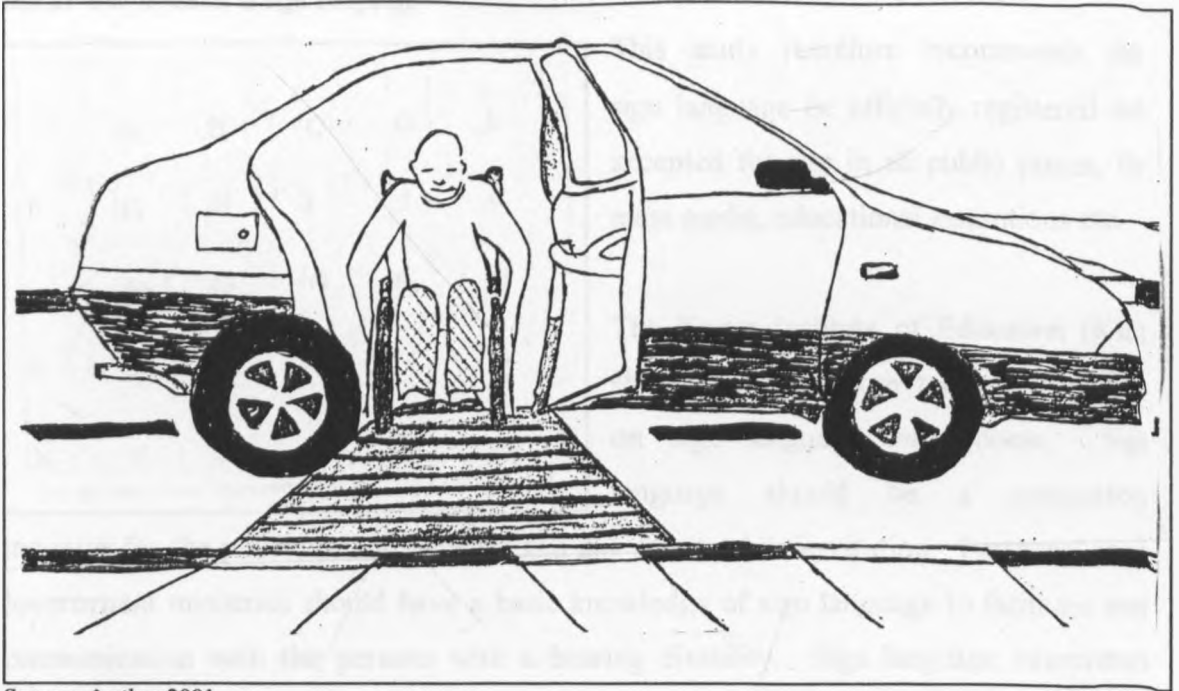
Source: Author 2001

Fig 25 Retractable Ramps in Public Service Vehicles



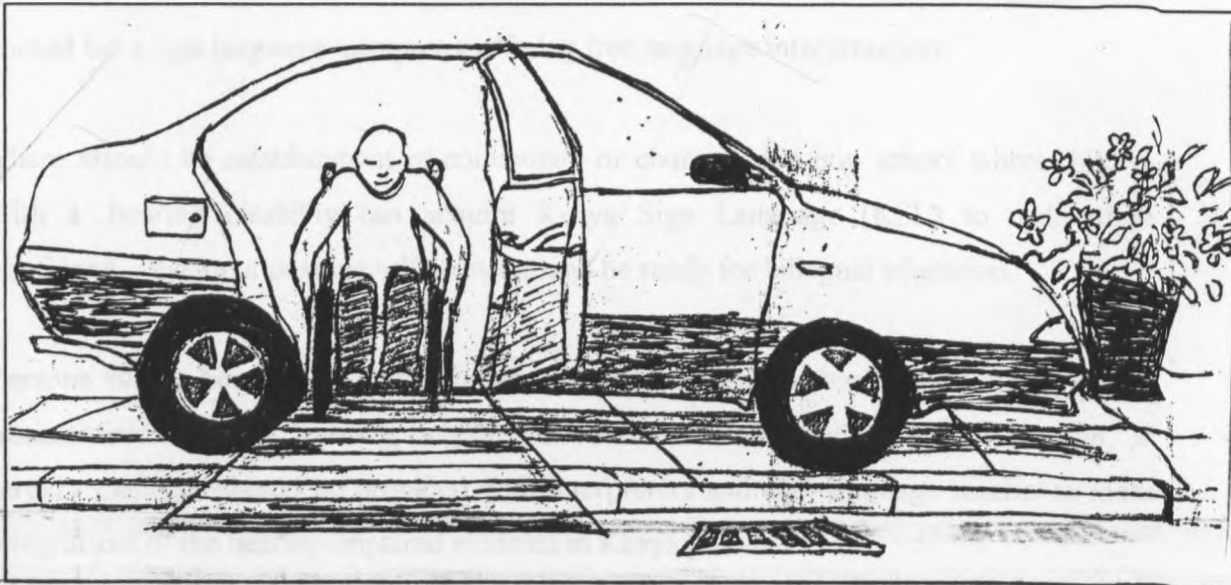
Source: Author 2001

Fig 26 A Ramp Facility On Kerbs Along the Streets



Source: Author 2001

Fig 27 Provision of a Ramp at Parking for the Disabled

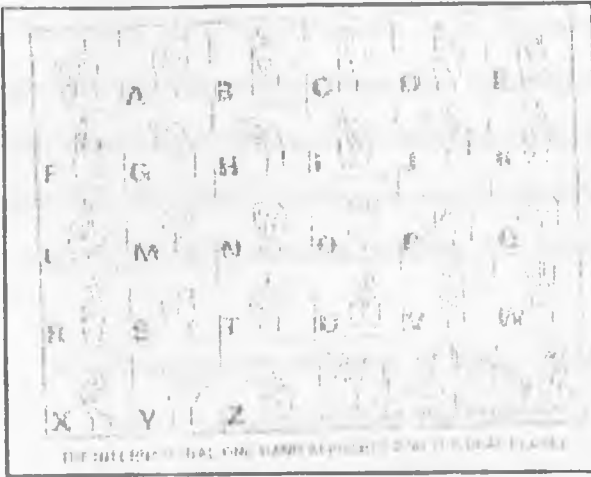


Source: Author 2001

5.4 Sign Language

As established from the study sign language has greatly hindered integration of the hearing impaired in most areas of community infrastructure. It is not officially recognized as the language of the hearing impaired. Consequently, not many people are familiar with the language.

Plate 27 The Alphabet in sign Language



This study therefore recommends that sign language be officially registered and accepted for use in all public places, the mass media, educational institutions etc.

The Kenya Institute of Education (KIE) should develop more teaching materials on sign language for schools. Sign language should be a compulsory

language for the police, prison colleges and any other public institution. Personnel in all Government ministries should have a basic knowledge of sign language to facilitate easy communication with the persons with a hearing disability. Sign language interpreters should be employed on a full time basis at the Kenya Broadcasting Corporation (KBC) and other TV stations for interpretation of news broadcast. In every law-court, there should be a sign language interpreter offering free language interpretation

There should be establishment of community or church aided pre- school where children with a hearing disability can acquire Kenya Sign Language (KSL) to make them confident, develop a positive self- concept and be ready for bilingual education.

Persons with a hearing disability who are lucky to continue with education mainly go to institutions of higher learning outside the country. To counteract such a situation, all tertiary colleges should be provided with interpreters and sign language teacher to make integration of the hearing-impaired students in Kenya possible.

Sign language interpretation should be established as a profession in Kenya Government and non-governmental bodies and other employment agencies can also train and employ Kenyans with and without a hearing disability in appropriately defined job categories.

5.4.1 Policy Formulation And Implementation.

This study also addresses the issue of policy formulation in guiding development and services offered within community infrastructure to favour persons with disabilities. The study found out that policies that should facilitate use of community infrastructure by the disabled are either lacking or incomprehensive. It therefore proposes that in order to promote disability sensitive planning the government should:

- Promote the adoption of laws, by-laws, standards and planning guidelines that take into consideration the specific development needs that touch on the welfare of persons with disabilities. For example, those that ensure persons with disabilities have full access to all new and existing public buildings and facilities and, public transport systems. Similarly, it should adopt and ensure the enforcement of appropriate standards relating to planning, design, construction, maintenance and rehabilitation of the urban built environment.
- Support non-governmental organizations and other groups advocating for the rights of persons with disabilities to ensure full and equal participation of persons with disabilities in the planning, design and construction of buildings to suit their specific requirements.
- Encourage and support research and studies that seek to promote planning and design opportunities/techniques that favour persons with disabilities.
- Involve representatives or parents of children with disabilities in the development of the school curriculum and education programmes with respect to their children's education. This way they will also participate in laying strategies of how integration can be achieved.
- Provide appropriate transport subsidies, social services such as exemption from taxation and various types of safety nets (e.g. subsidizing Medicare).
- Promote disaster preparedness and management to deal with the change in causes of disability arising from disasters.
- Address the cultural, ethnic, religious, social disability based causes that result in creation of barriers that lead to segregation and exclusion, of especially women

with disabilities by encouraging education and training for persons with disabilities.

- Carry a population census on disabled persons and their categories in Kenya.

Plate 28 Artifacts made by persons with disabilities



Source: Author 2001

exhibitions. Similarly, persons with disabilities should be represented in trade fairs outside the country, as a sign that they too can benefit Kenya economically. As shown on plate 28, persons with disabilities can produce competitive artifacts in the job market like anyone else (or even better)

- Ensure that persons with disabilities are represented in all National Development matters that equally include their needs.
- Discourage Street begging by persons with disabilities by putting beggars with disabilities in rehabilitation institutions and giving them meaningful training. After all, many that were interviewed admitted that they would accept an alternative if given a chance. It should also constitute a criminal offence for able-bodied parents to exploit their children with disabilities by turning them into beggars. As indicated in chapter 4 of this study, 14.7 % of beggars were encouraged to beg by their parents.

Develop policies that encourage urban sector informal training and employment strategies, for persons with disabilities who have not had an equal chance to education. For example, we should see more exhibitors with disabilities in *jua kali* and COMESA (trade)

5.5 Kenyan Laws Needing Amendment.

The other area that this thesis addresses is the legal system's effect on the disabled. To illustrate the scenario, eight specific legal instruments have been examined and recommendations consequently made as indicated below.

On the education sector, it was noted that legal provisions governing the operations of educational institutions do not offer adequate support for persons with disabilities. Consequently, this study recommends that the following three laws be reviewed:

Chapter (211) The Education Act.

It was established that the design element has not been given crucial attention in facilitating integration efforts within the education arena. Consequently, the Education Act should see to it that design elements (e.g. wide paths, ramps instead of staircases at entrances to buildings non-slippery floors, toilets that are wide and opening inwards etc) are adhered to in every educational institution. This will act both as a safety measure (for any temporary kind of disability and/or emergency likely to be experienced) and as an important consideration of integration efforts.

The delegated legislation introducing the cluster system of 8-4-4 education that has deprived many disabled persons to get higher education should be revisited. As authorized in section 4 (A) of the Act, the Minister of Education may also incorporate persons with various disabilities to point out the kind of difficulties persons with disabilities might face in educational institutions. The Act should also be amended to give guidelines and modalities on how educational institutions should address specific kinds of disabilities. For example, the cluster system should not be applicable for qualified university students with visual and hearing disabilities.

Chapter (210 (B) The Universities Acts

Provisions should be put in place to secure in the universities a friendly physical and social learning environment for university students with disabilities. For example, reserving some vacancies for them, ensuring that lifts in lecture halls are operational at all

times, all buildings are accessible, appropriate facilities for them like toilets exist and are in good condition, as well as provision of mobility and support equipments e.g. wheelchairs, white canes, hearing aids etc.

Chapter (213)- The Higher Education Loans Funds Act.

It was also established that this loan does not consider the special needs of people with disabilities. Persons with disabilities need mobility equipment, hiring of reader services for those with visual disabilities etc for their education. The law should be tailored to address this need. Giving such special considerations for persons with disabilities will attract more persons with disabilities to institutions of higher learning and make their lives easier.

Chapter (265)- The Local Government Act

Provides for the establishment of authority for Local Government to define their functions and to provide for matters connected therewith and incidental thereto. It is discriminatory in that it does not facilitate the provision of social services by Local Authorities to persons with disabilities within their areas. Such services would include attempts at housing and social care for needy cases.

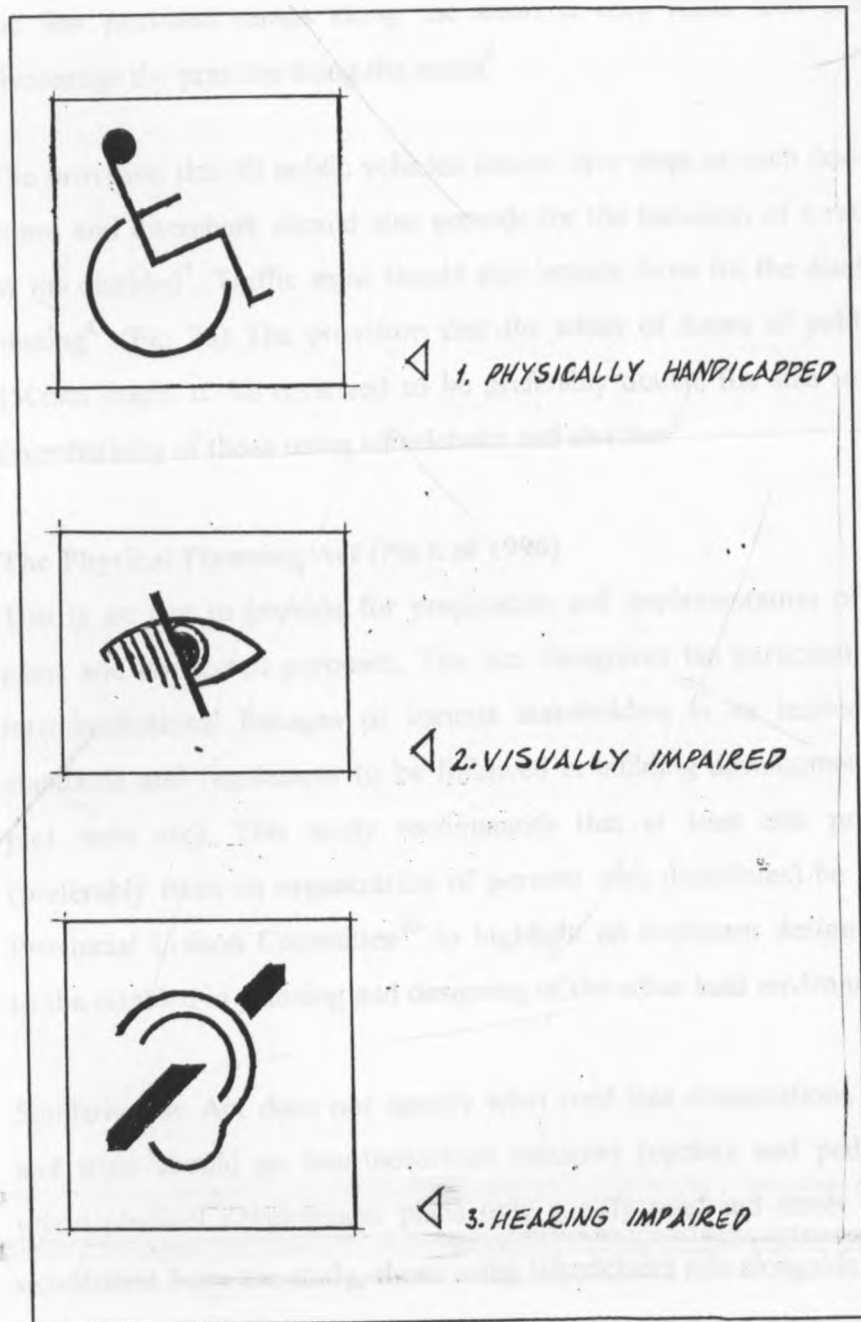
Section 152 provides that social services such as health and education are supposed to be within the jurisdiction of Local Authorities.³ However, evidence from the study shows that the Nairobi City Council (NCC) health clinics are collapsing due to lack of drugs and equipments. Similarly, most NCC schools have no arrangements in place to integrate disabled students. Thus, the facilities especially those that support health do not serve the urban persons with disabilities.

The law needs amendment to include needs of persons with disabilities in developments within the urban centers. For example, instead of harassing hawkers with disabilities NCC can come up with modalities for settling them in defined areas. The Council should for instance turn one of the streets within the C.B.D into a hawkers' precinct and bar the

³Local Government Act Cap 265 Section 152 (1)

use of vehicles on the particular streets⁴. The City Council can also permit hawking to take place during certain hours on specified streets within the C.B.D. for all hawkers.

Fig 28 Signs For the Disabled



Source: Author 2001

position of the pedestrian and cyclist in the use of roads. Priority has been 2001 given to the motorists even if pedestrians constitute the majority of traffic on the roads/ streets.

Nevertheless, since those hours may not be necessarily safe for persons with disabilities the City Council can put up “temporary” kiosks for them at crucial bus stops where their clients are mainly found as shown on fig 22. I say temporary because it is against Physical Planning Standards to have permanent developments along road reserves.⁵

Chapter (403) The Traffic Act.

This Act consolidates provisions relating to traffic on the roads. It does not address the

⁴ Local Government Act Cap 265 Part XII 182 (3)

⁵ The Physical Planning Act (No.6 of 1996 Subsidiary Legislation, 1998, Part II Section 12 (1) (2)

The Traffic Act should address the use of streets by cyclists and pedestrians who include disabled persons. Similarly, the fine for vehicles parked along the roads at times barring the few provided ramps along the kerbs is only Kshs. 200 should be increased to discourage the practice along the roads⁶.

The provision that all public vehicles should have steps at each door to enable persons to board and disembark should also provide for the inclusion of a retractable ramp for use by the disabled⁷. Traffic signs should also include those for the disabled that are presently missing⁸. (Fig 26) The provision that the width of doors of public service vehicles be 450mm ought to be reviewed to be preferably double the size to allow easy entry and disembarking of those using wheelchairs and clutches⁹.

The Physical Planning Act (No 6 of 1996)

This is an Act to provide for preparation and implementation of physical development plans and connected purposes. The Act recognizes the participation responsibilities and inter-institutional linkages of various stakeholders in its implementation. It also sets standards and regulations to be followed in building developments (for example siting, plot ratio etc). This study recommends that at least one person with a disability (preferably from an organization of persons with disabilities) be included in the Nairobi Provincial Liaison Committee¹⁰ to highlight on important design considerations relating to the disabled in planning and designing of the urban built environment.

Similarly, the Act does not specify what road size demarcations should go to motorists and what should go non-motorized transport (cyclists and pedestrians). Provisions in urban physical development plans only specify road and street sizes. Consequently, as established from the study, those using wheelchairs ride alongside the motorists. This is a cumbersome and dangerous move. As such, it is recommended that the Urban

⁶ Traffic Act Cap 403 Section 72G (1) (c)

⁷ Traffic Act Cap 403 Subsidiary Legislation Part V section 44 (3)

⁸ Traffic Act Cap 403 Schedule on Traffic and Signs rules (Rules 5, 8, 9)

⁹ Traffic Act Cap 403 Part V Section 44 (2)

¹⁰ The Physical Planning Act (No 6 of 1996)

Local Physical Development Plans¹¹ should indicate clear demarcations for motorist and non-motorist transport as illustrated on fig 24.

From the study it was established that over 70% of public buildings are problematic to the disabled. In development of multilevel buildings such as those of schools (especially within the city centre) and offices, ramps and operational lifts are often inexistent. Thus, a ramp should be a compulsory inclusion for all multilevel buildings in every "development"¹² of a public building while both a ramp and a lift should be included in every multi-level building. Enforcement of such a requirement can be achieved through approval of building plans as provided for in section 27¹³ of the Physical Planning Act and section 166 of the Local Government Act.

In review of the Physical Planning Handbook, standards on space requirements for roads and streets especially within the C.B.D. should be considered¹⁴. Currently, streets within Urban areas should be 7m with 2m foot paths on each side of the carriage way and a road reserve of 25m. Similarly, the design elements and use of appropriate building materials (e.g. wide paths, buildings close to one another, floor materials, use of ramps to access buildings, toilets etc) should be well laid out to act as guidelines on design considerations in the development of community infrastructure such as those of education and health institutions. Building By-laws can give guidelines on what to consider in authorization of such developments.

Chapter (472) The Customs and Excise Act

The Third Schedule in Clause 15 exempts "disabled" persons from tax on materials, articles and equipment which the Commissioner is satisfied are specifically designed for the use of persons with disabilities provided that the treasury has given their approval in writing where the duty would not exceed Kshs 10,000 on any consignment. This of

¹¹ Part IV B- Local Development Plan Section 24 (1), (2), (3)

¹² Part V Section 29 (a), (c), (d), (e)

Section 27 (1)

¹⁴ Section 27 (1)

¹⁴ Physical Planning Handbook, Infrastructure Standards Pg. 79.

course is very affirmative action but many disability related equipments are expensive. This Act should be reviewed to allow importation of the much-needed equipments.

Clause 16 exempts taxation on import materials and articles especially designed for the educational, scientific or cultural advancement of the persons with a visual disability, for the use of an organization approved by the Government for the purpose of this exemption. Currently, the cheapest wheelchair costs about Kshs. 25.000 that is relatively unaffordable to many people. Therefore, a person with a disability does not have to be within an organization or be visually impaired to require equipment that is necessary for his/ her career and life advancement. All disability related equipment needs to be exempted from taxation as it is specialized.

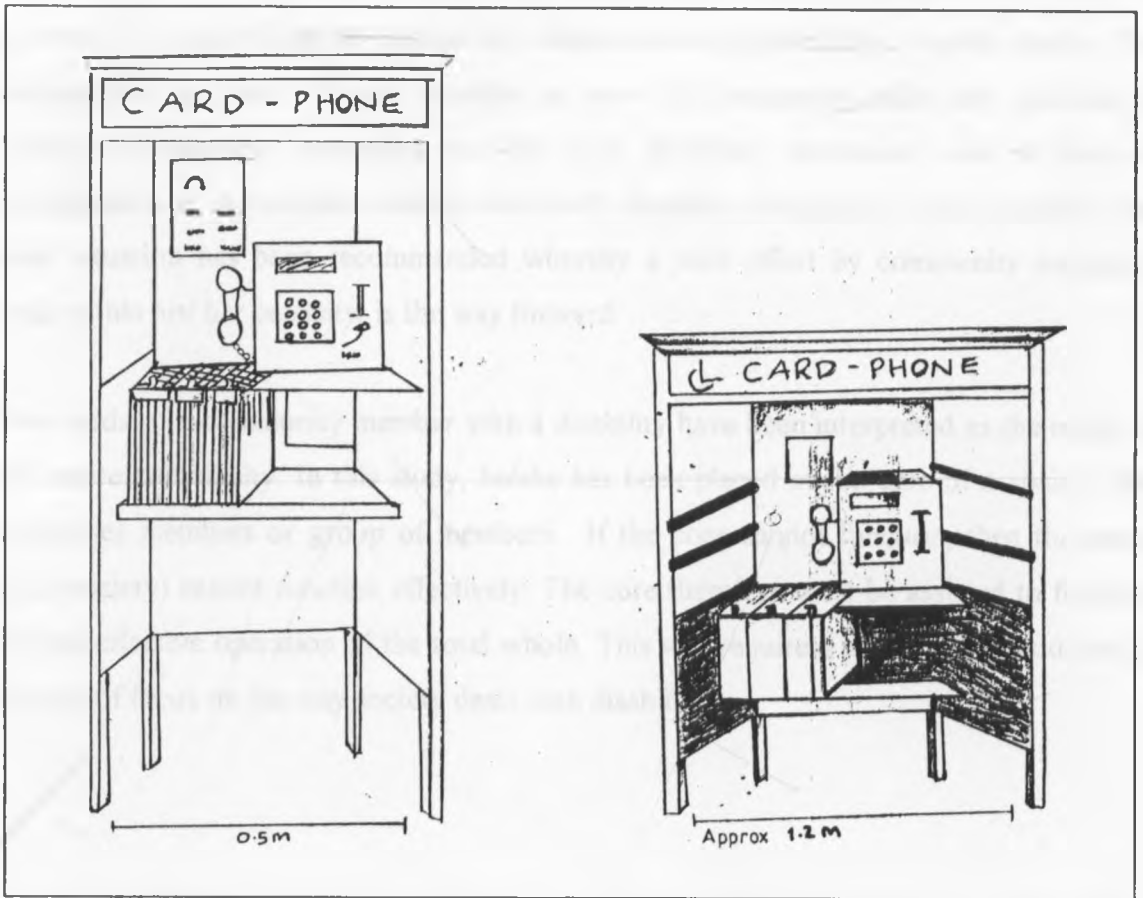
In a recent *jua kali* exhibition, *Growth Oriented Enterprises* in July 2001 in Nairobi, it was confirmed that the *jua kali* sector is already making wheelchairs that cost between Kshs. 10.000 to Kshs15.000. Though a positive move, the cost is still beyond the affordability of most persons with disabilities. Reduction on the cost of raw materials and improvement on the quality of the wheelchair (some are relatively heavy and difficult to propel) will make a major contribution to provision of the limited disability equipments and to the policy on industrialization by the year 2020. Equipments made locally will be more available to persons with disabilities who cannot afford cost of importation.

Chapter (473)- The Telecommunications Act.

This is an Act to impose on the provision of communications apparatus and services and for matters incidental thereto. It discriminates against persons with a physical disability. Findings of the study revealed that public telephone booths for the disabled within Nairobi are missing. Consequently, the Act should provide that all public telephone booths be designed to be used by all (Fig 29). Alternatively, it can provide that on every

street especially within the C.B.D. there should be at least 3 to 4 public telephone booths

Fig 29 Existing Versus Proposed Telephone Booths



Source: Author 2001

for the disabled. Similarly, where ordinary public telephone booths exist in public buildings at least one should suit the disabled if those existing do no favour use by all persons.

5.6 Gender

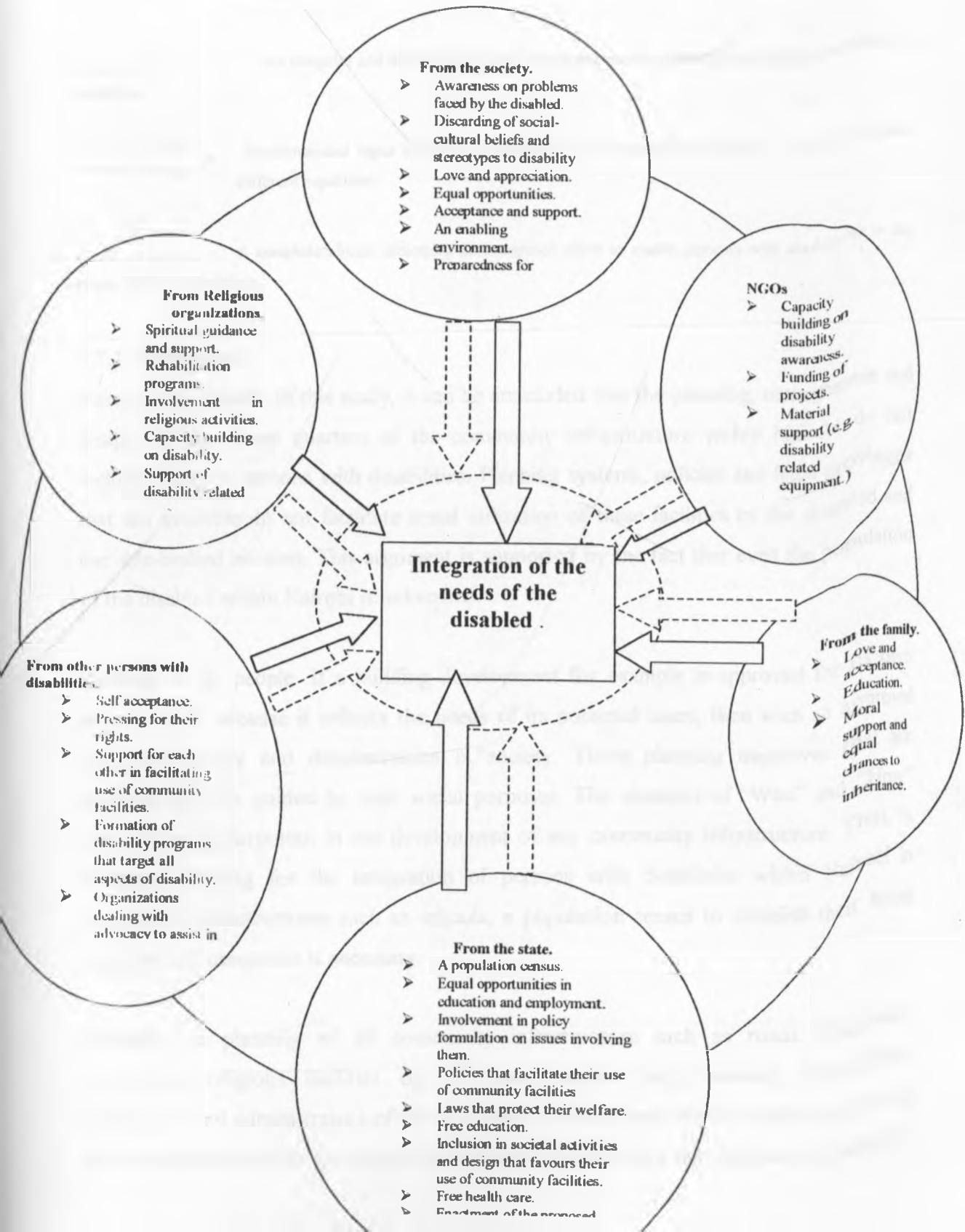
Strategies to improve the lives of women with disabilities should be articulated in the country's National Development Plan. More education opportunities should be availed to girls with disabilities. Employers should be encouraged to employ women with disabilities and those who discriminate against them be prosecuted. Customs and traditions that are repugnant, discriminative against or ridicule women with disabilities should be discouraged.

5.7 The Way Forward.

Fig 30 illustrates on the approach currently being used to facilitate integration of needs of persons with disabilities in community infrastructure as established by the study. The implications are that it is not possible to have full integration with only sections of society participating attempting to deal with disability. Moreover, due to lack of coordination in approaches used to deal with disability integration is not possible. An ideal situation has been recommended whereby a joint effort by community members, each within his/ her capacity, is the way forward.

The needs of a community member with a disability have been interpreted as the needs of the entire community. In this study, he/she has been placed at the core of a society that comprises members or group of members. If the core cannot function, then the entire unit (society) cannot function effectively. The core therefore must be assisted to function for the effective operation of the total whole. This will require a change of attitude and a change of focus on the way society deals with disability.

Fig. 30 Existing and ideal approach towards integration.



KEY.

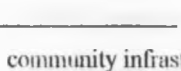
The people presently involved with welfare support of the disabled as established from the study.



An irregular and incomplete circuit illustrating current efforts in dealing with the aspect of disability.



Recommended input by various members within society to deal with disability in their different capacities.



A complete circuit indicating an integrated effort to enable persons with disabilities to use community infrastructure.

5.7.1 Conclusion.

Based on the results of this study, it can be concluded that the planning, management and design of over three quarters of the community infrastructure within Nairobi do not include needs of persons with disabilities. Planning systems, policies and legal provisions that are available do not facilitate equal utilization of these facilities by the disabled and the able-bodied persons. This argument is supported by the fact that even the population of the disabled within Nairobi is unknown.

Planning is for people. If a building development for example is approved for its own sake and not because it reflects the needs of its potential users, then such an approval promotes apathy and discrimination in society. Town planning objectives that are physical must be guided by their social purposes. The elements of "Who" and "How" must never be forgotten in the development of any community infrastructure. Thus, to facilitate planning for the integration of persons with disabilities within Nairobi in community infrastructures such as schools, a population census to establish their actual numbers and categories is necessary.

Similarly, in planning of all community infrastructure such as roads, educational institutions religious facilities etc, the constitution, policy makers, professionals, developers and administrators of the urban built environment should ensure that needs of persons with disabilities are considered alongside those of their able-bodied counterparts.

The study has also established that although persons with disabilities want their needs to be integrated in the entire society's community infrastructure and activities that take place there only sections of the society are making efforts towards the realization of this goal. Unfortunately, though positive, the efforts are not enough. The input of the state and the general society's is offered in piecemeal. Consequently, efforts to help the disabled have tended to be through institutionalization in special schools. These institutions are neither available nor accessible to all. Similarly, they do not provide an all rounded kind of development for a person with a disability. For example, as established by the study, once persons with disabilities leave special institutions they are faced with many problems of access, acceptance and integration in a society that is not fully prepared to receive them.

As such, development of the disabled has tended to lag behind that of their able-bodied counterparts. Moreover, this kind of development lacks proper coordination and comprehensiveness. Able-bodied persons have tended to forget that persons with disabilities are society members with equal rights to enjoy use of the facilities that a society provides. It is therefore necessary that a change of focus should be adopted whereby each member of the society contributes to handling disability through his/ her own capacity as shown in fig. 30.

It is possible to achieve such a situation through voluntary efforts of the members of the society or through application of state mechanisms such as policies and regulations. The society can also be involved in dealing with disability at the neighborhood level instead of having to rely almost totally on donors to bring about development related to persons with disabilities. This is particularly so for educational institutions. Thus, for full integration to be achieved the input of all persons in society is needed. Institutionalization should be a last resort. More persons with disabilities can actually be better accommodated in the city if planning ensures that provisions to suit their needs are put in place. Initial efforts should however begin with attitude change towards persons with disabilities and the recognition by all that disability is not inability.

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Appendix I

Participation In Education Of People With Disabilities By Age And Sex

Education level	SEX Male	SEX Female	TOTAL	%
Grand Total	166,092	135,966	302,058	100
No education	65,884	71,339	137,223	45.4
Total Std1-8	59,651	36,026	95,677	31.7
Std 1	5,866	3,865	9,731	3.2
Std2	6,541	4,403	10,944	3.6
Std3	10,082	7,384	17,466	5.8
Std4	8,865	4,734	13,599	4.5
Std5	6,144	3,846	9,990	3.3
Std6	6,676	4,259	10,935	3.6
Std7	10,329	5,419	15,748	5.2
Std8	5,148	2,116	7,264	2.4
Total Form 1-4	10,481	4,604	15,085	5.1
Form 1	1,384	777	2,161	0.7
Form 2	2,583	1,218	3,801	1.2
Form 3	1,179	600	1,779	0.6
Form 4	5,335	2,009	7,344	2.4
Total Form 5-6	995	294	1,289	0.4
Form 5	154	52	206	0.1
Form 6	841	242	1,083	0.4
Total University	451	141	592	0.2
Attending University	110	35	145	0.1
Completed University	341	106	447	0.2
Not Reported	947	900	1,847	0.6

Source: National Population Census 1989

Appendix 2

Vocational Rehabilitation Centres In Kenya (2000).

Province	Voc. Rehabilitation centre	Operational status
Nairobi	Industrial Rehabilitation Centre Kabete Orthopedic workshop (Makes orthopedic appliances)	Operational
Coast	Bura Vocational Rehab. Centre	Operational
Eastern	Embu Vocational Rehab. Centre. Machakos vocational Rehab. Centre.	Operational Under construction
Central	Muriranja Vocational Rehab. centre Nyandarua Vocational Rehab. Centre.	Operational Operational
North Eastern	Garissa Vocational Rehab. Centre	Under construction
Nyanza	Kisii Vocational Rehab. Centre	Operational
Western	Itando Women Vocational Rehab Centre (women only) Kakamega Vocational Rehab. Centre. Odiado Vocational Rehab. Centre	Operational Operational Operational
Rift Valley	Kericho Vocational Rehab. centre Kabarnet Vocational Rehab. Centre.	Operational Operational

Source: Ministry of Social Services 2000.

Appendix 3

Types Of Jobs Held By Persons With Disabilities And Institutions Of Training Attended.

Type of Employment	Type of training Acquired	Where Acquired.
Physiotherapist	Physiotherapy	Kenya Medical Training College
Computer operator	Information technology	Computer skill (commercial college Nairobi)
Secretary	Secretarial and computer courses	Mumias commercial college. Data centre Nairobi. Kikiwas computer college.
Leather artisan	Leather work	*Embu vocational rehabilitation centre
Accountant	CPA and computer courses	Strathmore college.
Hawker	Tailoring NB: could not complete course due to lack of funds.	Kiambu (in an entrepreneurs shop)
Sign language instructor	Sign language	Nyandarua school for the deaf (NB: Did not complete school for lack of school fees and cannot access school certificate to be able to pursue further training).
Computer analyst (NB: until blindness struck after the 1998 bomb blast)	Information Technology	Data Centre Nairobi
Sign language Evangelist	Evangelism	St. Andrews
Hawker	Tailoring	*Muriranja Vocational Rehab. Centre
Computer operator	Computer courses	Computer training centre
In training	Embroidery computer	Eastleigh Computer training centre
Secondary school teacher	Bachelor of Education	Kenyatta University
In training	Bachelor of Education	Kenyatta University

Source: Author 2001

Appendix 4.

Religious organizations that support institutions of persons with disabilities

- The Catholic Church
- The Presbyterian Church of East Africa
- The Salvation Army Church
- African Inland Church
- The Lutheran Church
- The Anglican Church of Kenya.
- The Methodist Church of Kenya

Donors and sponsors who assist organizations and institutions that deal with the disabled.

- Kinder off German Organization.
- International Labour Organization (I.L.O).
- Danish Church Aid.
- Swedish Organization of the Handicapped International Aid founded (SHIA)
- Swedish Deaf Association
- Christian Aid.
- Norwegian Church Aid.
- AMREF.
- UNDP
- OXFAM
- Sight Savers International of Britain
- Christoffel Blinden Mission (CBM) of Germany
- Rotary club.
- Embassies and governments of different countries.
- Bread for the world.
- United Church of Canada
- Action Aid
- IDF.
- Lions club of Kenya.
- Round Tablers.
- The Aga Khan Foundation

Appendix 5
Type Of Organization Respondents Belong To And Kind Of Help Offered.

Organization	Location	Assistance Offered
Disabled Kenya Talents & Treasures.	Rongai	Advocacy Interaction
Kenya National Association for the Disabled (KNAD)	Ngara	Advocacy Assistance in getting employment. Provision of interpretation services
Kenya Society for the Physically Handicapped (KSPH)	Westlands	Advocacy
Association for the Physically Disabled (APDK)	C.B.D	Advocacy Physiotherapy
Disabled for Economic and Education (DEEDS)	C.B.D	Capacity building Advocacy
Tumaini Disabled Group	-	Interaction Self help
Mwanzo Disabled Group	-	Self help
Kenya Union of the Blind (KUB)	Embakasi	Advocacy
Deaf Congregation of St. Andrews	C.B.D	Sign language interpretation Sporting activities
Wendani Disabled Group	Dagoretti	Self help
Kenyatta University Resource Centre for the Blind.	Kenyatta University	Provision of equipment.

Source: Author 2001.