Addis Ababa University

College of Social science

Department of social work

Assessing the Accessibility of Buildingsfor Persons with Physical Disabilities in Case of Yeka Sub-City

A Thesis Submitted to School of Graduate Studies Masters of Social Work DepartmentPresented in Partial Fulfillment of the Requirements for theDegree of Master of Arts in Social Work

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Addis Ababa University

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Approved by Board of Examiners Date

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Declaration

This thesis is my original work which has not been presented for a degree in any other universities and that all sources of material used for the thesis have been duly acknowledged.

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ABSTRACT

In this study, an attempt was made to assess the accessibility of buildings for people with physical disabilities in Yeka sub-city, in Addis Ababa. As the study employed descriptive method, the data were analyzed quantitatively that is frequency, percentage and qualitatively (thematically).Non-probability sampling technique was used to gather the data. The study covered the identification and ascertaining the accessibility of a total of 40 public buildings. The study involved twenty people with physical disabilities who lived in Yeka Sub-city and five construction officers. The required data were collected using observation check list and structured-interview for people with disabilities and semi-structured interview with construction officers. To consolidate the information obtained from the observation, a structured interview was conducted with twenty people with physical disabilitiesAbove all, the finding revealed that buildings in Yeka Sub-City are not accessible for people with disabilities. . That is to say, buildings in Yeekaub-city had no way findings, accessible path way, and outdoor facilities. Furthermore, buildings in yeka Sub-city had no easy to use ramps, entrance doors, and reception counter desk. In addition, the building in Yeka sub-city had no large enough corridor, elevator, and had no signage. In addition, buildings in Yeka sub-City did not have the required standards to be accessible for people with physical disabilities and this put a number of impacts on their lives. The researcher recommends contractors to consult the UNICIEF's standards of buildings. Finally, the researcher suggested future researchers to continue research on accessibility of buildings for people with disabilities in Addis Ababa.

Key terms: accessibility, buildings, physical disabilities, standards

CHAPTER ONE

1.1. Background of the study

Buildings are essential for social functioning with direct impact on our livelihood like social wellbeing, earnings, education and health. When a building is inaccessible to any social group, that group is likely to face social exclusion, cannot participate in and contribute to society. Infrastructure is critical, as it is the means by which other services are accessed, including health, education, employment, shopping, entertainment, etc. Urban environment without a universally accessible infrastructure is most likely to exclude people living with disabilities, limiting them and violating their human rights (Dungun and Heights, 2010).

As to WHO (2015), "approximately 15% of the world's population have some form of disability difficulty" such as seeing, hearing, walking or climbing steps, remembering or concentrating, difficulty (with self-care such as) washing all over or dressing, and difficulty communicating. Almost every person will be temporarily or permanently impaired at some point in life, and with an ageing population, the number affected will increase (Agarwal and Steele, 2016; WHO, 2015). Particularly, according to WHO (2015) report, around 15% about 1 billion people live with a disability; 80% of these live in developing countries. Globally, the UN suggests that there are 285million people who are blind, and 70million who are deaf, but without clarity on what constitutes 'blind' or 'deaf', these numbers are unclear and it can be assumed that there are many more whose access to a quality life is precluded by visual or hearing impairment. Disabilities related to physical impairments can range from difficulty in walking to the need for assisted mobility, such as a wheelchair (Agarwal and Steele, 2016).

The number is important here as it tells us that majority of the world's persons with disability live in the developing nations, Ethiopia is among them. The key issue is that anyone with any disability should be included in infrastructure design. Infrastructure needs to be made accessible to all, with attention focused on what people with disabilities can achieve, rather than considering only what they might be unable to achieve.

Furthermore, recent World Bank estimates indicate that persons with disabilities account for as many as one in five of the world's poorest. Researchers argue that "if international targets for poverty reduction are to be achieved, it is critical that specific measures are taken to reduce discrimination and isolation of persons with disabilities." One such measure is the provision of accessible public infrastructure, an important enabler that would improve mobility and, thereby, physical access to livelihood opportunities for persons with disabilities (Malhotra, 2010).

To put it in a nutshell, accessible infrastructure has paramount importance on every one's life particularly a person with disability. Therefore, as federally funded or private institutions the Addis Ababa city specifically Yeka Sub-City also has a responsibility to provide accessible infrastructure at built and open spaces for all persons with disability. Built and open spaces are private and public buildings, roads, including but not limited to homes, schools, clinics, banks, post offices, police stations, courts, gardens, parks and recreational centres (Agarwal and Steele, 2016). Thus, when any infrastructure is designed, it has to take into consideration persons with disabilities. It is, therefore, crucial to describe the status quo whether the public service providing buildings in Yeka sub-city are accessible for persons with physical disabilities or not.

1.2. Statement of the Problem

In Yeka Sub-City a few built and open spaces are accessible to persons with disabilities. Hence, the success of any person with disability is dependent upon the accessibility of infrastructure to lead their lives properly.

As there is very limited accessible infrastructure, it seems that many persons with disability have poor socio-economic status. People with disabilities are the most vulnerable to the effects of poverty and different types of violence, particularly in emergency situations. It is therefore necessary to promote their access to basic services and their inclusion in the social and economic life of the country (WHO, 2016). According to the Population and Housing Census of (1994), there were 988,849 persons with disability out of 53,477,265 total populations in Ethiopia. Besides, the World Report on Disability, published jointly by the World Bank and WHO in 2011, estimated that there were 15 million persons with disabilities in Ethiopia, representing 17.6% of the total population at the time. According to the Ministry of Labour and Social

Affairs, 95% of persons with disabilities in the country live in poverty - the vast of majority in rural areas, where basic services are limited and the chances of accessing rehabilitative or support services are remote.

The 2007 census estimated that the prevalence of disability in Ethiopia was slightly higher than 800 thousand showing that the prevalence was1.09 % (CSA, 2008). This figure was much lesser than the 1994 census by about 100,000 in the thirteen years interval. On the contrary, Tirusew, et al. (1995:28) found out in their base line survey 2.95% frequency out of 50,000, 000 people. No formal census of persons with disabilities has been done since then.

Furthermore, their survey base line reveals that the highest incidence of disability per household was found in Addis Ababa that was 17.7%. However, now a day the population has become double. As to WHO (2016), Ethiopia has the fourteenth largest population in the world with more than 100 million inhabitants. Thus it is clear that the numbers of people with disability has been increasing as there is population increment from time to time. Consequently, most persons with disability are seen supplicating in streets with the help of others and alone. The researcher's actual experience gives insight that those persons with disability are exposed to this activity because of different factors.

There could be different factors attributed to make persons with disability not involved in different socio-economic activities. Thus, the researcher's observation provides buildings inaccessibility or exclusiveness to influence persons with physical disability to be less involved in different socio-economic activities. Hence, unless public service providing buildings are inclusive persons with physical disabilities face different problems. These appear to provide a gripping need to explore accessibility of public service buildings for persons with physical disabilities in Yeka Sub-City.

In response to the demand for examining these prevailing infrastructural phenomena, a few studies have been carried out in relation to accessible infrastructure internationally and locally. Sawadsri (2010),conducted a research on accessibility and disability in the built environment: negotiating the public realm in Thailand. The researcher used mixed method approach and the data were collected via questionnaire, interview and observation and found out that disabled

people resist an idea of disability linked with individual tragedy and illness by changing language use and reproducing the self through daily life. Performing daily activities in public places can be a way to demonstrate to society as a whole that the common notion of disability is equal to dependency is mistaken.

In Ethiopian context, Adugna (2015) carried out a research titled 'The Conception of Disability and Challenges of Persons with Disability: In SebetaHawassa'. Field data were collected through interview, observation and focused group discussion methods. The research findings indicate that lack of accessibility and challenges related with accessibility of education, health care services, adequate school environment, school materials, and adequate information.

However, to the knowledge of the present researcher, none of these studies addressed accessibilities of buildings on the basis of clear standard stipulated by (UNICIEF, 2015; Goldsmith, 2000) and its facilities for people with physical disabilities. Thus, the current study is different from the previousones in that it mainly tried to assess accessibilitybuildings and its facilities for people with physical disabilities particularly the standards, and what makes it inaccessible as those research focused on the conception of people with disabilities.

1.3. Objectives of the study

1.3.1. General objective

The main purpose of this study is to investigate the accessibility of buildings for people with physical disabilities in Yeka Sub-City, in Addis Ababa.

1.3.2. Specific objectives

Pertaining to the general objective, the study aims to achieve the following specific objectives.

- Investigate the accessibility of buildings for people with physical disabilities.
- Examine the standards of buildings in the Sub-City.
- Investigate the challenges of people with physical disabilities face in their accessible in buildings.

1.3.3. Research questions

Given the above objectives, this study seeks to answers the following research questions.

- To what extent are buildings accessible for people with physical disability in Yeka Sub-city?
- Are their standards for accessibility of buildings for people with physical disabilities in Yeka Sub-city?
- What challenges do people with physical disabilities face due to inaccessible buildings in Yeka Sub-city?

1.4. Scope of the study

It is apparently difficult and complex in Addis Ababa to understand in one study all the inaccessibility of buildings for people with physical disabilities. Thus, so far as this study is concerned, the scope would be limited to problems that people with physical disabilities face with respect to access and mobility in the urban built environment specifically buildings. Due to practicality reasons; to consider other people with disabilities would be unmanageable given various methodological procedures the study would employ. Therefore, it did not include persons with multiple disabilities, people with hearing impairment, visually impaired, intellectual disability, speechand language disabilities.

Furthermore, the study is delimited to Yeka sub-city due to the following reasons. In Addis Ababa, there are ten sub-cities; as a result, it would not be to possible to make observation to all buildings which are found in Addis Ababa and encounter people with physical disabilities to collect the necessary data for this study.

1.5. Significance of the study

This study would benefit people with physical disabilities, policy makers and investors who are involved in constructing buildings. People with physical disabilities would be benefited morally and economically. People who are involved in the construction sector would think about the accessibility of buildings. Policy makers would incorporate and enforce accessible architectural

designs in buildings. Among other things, this work can contribute to some understanding of accessibility of buildings problem and its significance for people with physical disabilities. Accordingly, it would help to make some accessibility of buildings recommendations as regards people with physical disabilities.

It is also hoped that the study would serve as a preliminary work for further investigation in this area of study in a number of dimensions. Firstly, it would initiate other researchers to carry out similar studies on other sub-cities in Addis Ababa. Secondly, it would lead to more enquiries and theoretical and empirical arguments among researchers towards a complete and valid understanding on accessibility of buildings and its underpinning issues in the Addis Ababa context. Thirdly, it may initiate reflections and critical evaluations among scholars, researchers and architectures on the compatibility of the present status of accessibility of buildings in Addis Ababa with mobility needs of people with physical disabilities in the existing situations.

1.6. Limitation of the study

As this study employed qualitative research method the findings cannot be generalized. Besides, the study dealt only people with physical disabilities in Yeka Sub-City that is the subjects of the study are limited only 20 people with physical disabilities; 2 female and 18 male. Therefore, the study would have been more comprehensive if it had considered some more factors, and included more subjects such as people with other types of disability from other sub-cities in Addis Ababa

1.7. Operational definitions of terms

The following conceptual definitions are given regarding the major concepts and terms that are employed in this study and it is in the light of these explanations that the paper tries to analyze them.

Physical disability: the condition of facing difficulty in walking, sitting, eating and drinking forced to use aids such as crutches and wheelchairs

Accessible: making buildings accessible includes paying special attention to entrances, ramps, interior doors, lifts, elevators; stair lifts, corridors, and adapted toilets.

Building: In architecture, construction, engineering, real estate development and building technology, refers to any human-made structure used or intended for supporting or sheltering any occupant.

Ramp: A walking surface that has a running slope greater than 1:20.

Curb ramp: A short ramp cutting through a curb or built up to it.

Signage: Displayed verbal, symbolic, tactile, and pictorial information.

Standard: Suitable and standardized design for constructing elevators, wheelchair ramps, toilets, door handles, water taps and so on that should comply with global and accessible standards for all particularly persons with disabilities(Goldsmith, 2000).

CHAPTER TWO

2. Review of Related Literature

2.1 Introduction

This chapter deals with a review of related literature that is meant to provide background information. That means first, it presents the definition of disability, cause of disability, and types of disability. Then, it reviews models of disability. Besides, it examines the laws and proclamation in Ethiopia. In addition, it deals with the definition of buildings, building legislations, and accessible building. Finally, it discusses architectural and inclusive architectural facility design standards.

2.2. Disability

As Vehmas (2004) highlights, disability is basically related to the concept that reflects the idea of what kind of beings human ought to be, how society ought to be constructed to treat its members equally. It is important to note that disability is a social and cultural construct which influence the way that the society determines and implements disability policy. According to the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (2011), persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. The term disability is conventionally used to refer to attributes that are severe enough to interfere with, or prevent, normal day-to-day activities and can be permanent, temporary, or episodic. They can affect people from birth, or be acquired later in life through injury or illness.

Barking & Dagenham (2001) note that the social model of disability has the following contributions: Impairment is lacking part or all of a limb or having a defective limb, organ or mechanism of the body. Disability is the disadvantage or restriction of activity caused by a contemporary social organization which takes little or no account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities.

Physical disability is therefore a particular form of social oppression. Thus the researcher use the uses the latter definition throughout the paper.

2.3. Causes of disability

As to the Ministry of Labor and Social Affairs (MoLSA, 1996), Disability in Ethiopia (as it is elsewhere in poor countries) is caused by poverty, ignorance, war and drought and are aggravated by inadequate nutrition absence/limited medical facilities, harmful traditional practices,pre-natal and post natal medical problems. In a similar vein DFID (2000), disabilities are caused by due to malnutrition, accident/trauma/war, infectious diseases, non-infectious disease, congenital diseases and others including ageing. Thus, these causes can result in different types of disabilities.

2.4. Types of disability

There are different types of disabilities. To mention them, as to Tirussew et al. (1995:25),the following are common types namely, visual impairment (i.e., total blind weak sighted), hearing impairment which can be completely deaf or hard-of –hearing, motor disability,intellectual disability, behavioral problems, speech and language problems. As far as the researcher is concern, it is better here to define what it is.

2.4.1. Chronic illness

Chronic illnesses can begin at any time in life from childhood to old age. Some of these illnesses contribute to disabilities that are clearly seen, but others create “invisible” disabilities that may not be readily apparent. Family members and others who assist those with chronic illness also experience difficult challenges.

Chronic illnesses vary in their symptoms, treatment, and course. Some may be life threatening, and as they progress, the quality of life and ability to function deteriorate. Others, although persistent, may be less disabling and respond well to treatment. Examples of common chronic illnesses may include such varied illnesses as cerebral palsy, asthma, multiple sclerosis, epilepsy, cancer, diabetes, heart disease, and chronic fatigue syndrome (NEADS, 2019; Robichuad, 2017).

2.4.2. Physical disabilities

According to Steifield (1979) and Vujic (n.d.), physical disability includes physical impairments that can impede movement, coordination, or sensation. In other words , the following are the commonest manifestation of motor disability - limitations of stamina, difficulty moving head, difficulty reaching with arms, difficulty in handling and fingering, loss of upper extremity skills, difficulty bending, kneeling, reliance on walking aids, inability to use lower extremities, extremes of size and weight.

Physical disability is one that affects a person's mobility or dexterity. A person with a physical disability may need to use some sort of equipment for assistance with mobility. It also includes people who have lost limbs or who, because of the shape of their body, require slight adaptations to be made to enable them to participate fully in society.

Paraplegia and Quadriplegia are what many people first identify with a physical disability. Paraplegia results from injury to the spinal cord and occurs below the neck, while quadriplegia refers to damage to the spinal cord in the neck. Varying degrees of loss of limb and other mobility may result from either condition. Other forms of physical disability, such as polio (an acquired disease), cerebral palsy (damage to brain tissue during fetal stages) and some genetic conditions can result in loss of mobility (NEADS, 2019; Steifield, 1979).

In short, physical disabilities include physiological, functional and/or mobility impairments and it can be fluctuating or intermittent, chronic, progressive or stable, visible or invisible. Besides, Some involve extreme pain, some less, some none at all obliged those people to use mobility aid or others help (Robichuad, 2017).

2.4.3. Intellectual disabilities

Intellectual disability refers to significant limitations in learning, thinking, solving problems, making sense of the world, and developing everyday life skills. All people with intellectual disabilities are capable of learning and can live a worthwhile and happy life. Some people may require support in only a few specific areas, and others require support in almost every area of life. An intellectual disability often affects a person’s communication, social, and self-care skills.

It also affects a person’s ability to learn and remember. Common causes include head injuries, Down syndrome, and fetal alcohol syndrome. Intellectual disability is often associated with other disabilities as well (Robichuad, 2017).

2.4.4. Learning disabilities

Individuals who have learning disabilities may exhibit a variety of difficulties, including problems with reading, spoken language, writing, or mathematics ability. Hyperactivity and inattention may also be associated with learning disabilities. Coordination, behavior, and interactions with others may also be affected.An individual with learning disabilities may have average or above average intelligence. However, he or she may have difficulties in a classroom setting without appropriate support and accommodation.(National Educational Association of Disabled Students(NEADS) , 2019; Robichuad, 2017).

2.4.5. Memory loss

Sometimes, beyond the normal aging process, memory loss occurs as a result of brain disease or injury. Brain diseases like Alzheimer’s can cause increased memory loss. Strokes are another common cause. After a lifetime of independence, knowledge, confidence, and self-worth, an individual can find that memory loss unexpectedly brings confusion, emotional disturbances, and personality and behavior changes (NEADS, 2019).

2.4.6. Psychiatric disabilities

A psychiatric disability (or mental illness) can develop at any age and is often not apparent to other people. Psychiatric disabilities are often the most misunderstood disabilities in the community, and peoples' attitudes may be based on prejudice and myth. Mental illnesses can include stress-related conditions, major depression, bipolar disorder (formally called manic-depressive illness), anxiety, and schizophrenia. Depression is the most common non-psychotic mental illness (psychosis being a disorder which features the loss of contact with reality) (e.g. schizophrenics are potentially violent) (NEADS, 2019; Robichuad, 2017).

2.4.7. Visual impairments

Visual impairments can be caused by a multitude of factors. These include disease, accidents, and congenital illnesses. That is to say, there is a difference between the needs of visually impaired individuals and blind people (NEADS, 2019).

2.4.8. Hearing impairments

Deafness and hearing loss can be caused by a wide range of factors, including physical damage, disease during pregnancy, or exposure to very loud noises. There is a distinction between people who are deaf and those who have a hearing impairment. Those hearing up to three years of age (when language begins to develop) often have comparatively good speech and lip-reading ability (NEADS, 2019; Steifield, 1979).

2.4.9. Autism

Autism is a disability with characteristics that vary across a wide spectrum. While persons with autism can't be identified by their physical appearance, they usually have difficulties with language or communication, social skills, and behavior, often due to sensory difficulties. The different levels of autism range from mild to severe. Individuals with severe autism may be nonverbal and seem to be unaware of other people. Those with mild autism can appear to be incredibly smart but may seem odd in social interactions. Most people with autism are somewhere in the middle (NEADS, 2019; Robichuad, 2017).

2.5. Models of Disability

Imrie(2004) sees disability as falling into two main models: the medical and social models. While the former focuses on the medical condition of a person, the latter conceptualizes disability as an interaction between individual limitations and the environment, focusing more on barriers created by society (McClain-Nhlapo, 2006). However, over the years, several models of disability have been developed. Some of them are the medical, individual, social, religious/ moral, inter-cultural, market, , economic, spectrum, rights-based, charity and legitimacy models.

2.5.1. Religious/moral model of disability

The moral/religious model of disability is the oldest model of disability and is found in a number of religious traditions, including the Judeo-Christian tradition (Pardeck& Murphy 2012).In a similar vein, Black (1996) discusses the moral and/or religious model of disability, whereby the challenges associated with disability are viewed as a God given opportunity for character development. The moral/religious model of disability is the oldest model of disability and is found in a number of religious traditions, including the Judeo-Christian tradition (Pardeck& Murphy2012). According to one of the primary forms of moral and/or religious models of disability, disability should be regarded as a punishment from God for particular senior sins that may have been committed by the person with disability. Henderson and Bryan (2011:7) offer a thorough explanation of the moral and/or religious model of disability:

> Some people, if not many, believe that some disabilities are the result of lack of adherence to social morality and religious proclamations that warn against engaging in certain behavior. To further explain this model, some beliefs are based upon the assumption that some disabilities are the result of punishment from an all-powerful entity. Furthermore, the belief is that the punishment is for an act or acts of transgression against prevailing moral and/or religious edicts.

The moral or religious model considers the cause of disability is people wrong doing against the morale or religious behavior which in turn lead to punishment of God.

2.5.2. Medical model of disability

From the mid-1800s onwards, the medical (or biomedical) model of disability began to gradually replace the moral and/or religious model in lieu of significant advances in the field of medical science. Olkin (1999:26) outlines the basic characteristics of the medical model of disability:

> Disability is seen as a medical problem that resides in the individual. It is a defect in or failure of a bodily system and as such is inherently abnormal and pathological. The goals of intervention are cure, amelioration of the physical condition to the greatest extent possible, and rehabilitation (i.e., the adjustment of the person with the disability to the

> condition and to the environment). Persons with disabilities are expected to avail themselves of the variety of services offered to them and to spend time in the role of patient or learner being helped by trained professionals.

The model emphasizes that the cause of disability is medical problem which leads to the disfunction of body system.

2.5.3. Social model of disability

Inspired by the activism of the British disability movement in the 1960s and the 1970s, the social model of disability developed in reaction to the limitations of the medical model of disability (D'Alessio 2011).The social model emphasizes the removal of societal barriers that exclude people with disabilities, including environmental, institutional and attitudinal barriers. Hansen (nd) it is undeniable fact that a person becomes disabled by the barriers they face, not by their impairment. He further notes, "The policies, practices and values of built-environment professionals and disabled people's own reticence about articulating their needs then combine with self-limiting behavior to ensure that this unjust situation remains unchallenged".

One of the most important documents in the development of this approach is the Union of the Physically Impaired against Segregation's (UPIAS) manifesto document, Fundamental Principles of Disability (1976). Fundamental to the social model of disability is the notion that disability is ultimately socially constructed phenomenon. UPIAS (1976) emphasises the importance of this social dimension in its definition of disability:

> Disability is a situation, caused by social conditions, which requires for its elimination, (a) that no one aspect such as incomes, mobility or institutions is treated in isolation, (b) that disabled people should, with the advice and help of others, assume control over their own lives, and (c) that professionals, experts and others who seek to help must be committed to promoting such control by disabled people. (p. 3)

Oliver (1986), a disabled activist and lecturer, who also coined the phrase 'social model of disability', stresses the need to focus on the social aspects of disability, especially how 'the physical and social environment impose limitations upon certain categories of people'.

According to (walker, 1997:8), the definition of social exclusion is stated in as follow:

> Society and social exclusion as a more and comprehensive formulation which refers to the dynamic process of being shut out, fully or particularly, from any of the social, economic, political or cultural system which determines the social integration of a person in society.

The social model of disability not only recognizes the social exclusion of people with disability, stemming from existing social conditions and inequalities, but also their economic exclusion and inequalities. The social model highlights two key elements which cause disability, namely visible and invisible: the physical and attitudinal barriers. Thus the process of creating the built environment is clearly a key factor in enabling or disabling people with disability with regard to public space (Oliver, 1986).

As the social-model over emphasises built environment as the major barrier to people with disability (Dewsbury, et al., 2004; Miles, 2002), it is used as a conceptual framework for this research.

2.5.4. The identity model

Closely related to the social model of disability – yet with a fundamental difference in emphasis – is the identity mode l(or affirmation model) of disability. This model shares the social model's understanding that the experience of disability is socially constructed, but differs to the extent that it 'claims disability as a positive identity' (Brewer et al. 2012:5). Brewer et al. (2012) offer the following illuminating definition, which also explains how the identity model departs from the social model's approach:

> Under the identity model, disability is a marker of membership in a minority identity, much like gender or race . . . Under an identity model, disability is primarily defined by a certain type of experience in the world – a social and political experience of the effects of a social system not designed with disabled people in mind . . . *W*hile the identity model owes much to the social model, it is less interested in the ways environments, policies, and institutions disable people, and more interested in forging appositive definition of

disability identity based on experiences and circumstances that have created a recognizable minority group called ‘people with disabilities’.

Swain and French (2000:577–578) discuss a number of ways in which the identity model of disability, which they term the affirmation model, shapes the identity of PWDs:

2.5.5. The human rights model

The human rights model moves beyond explanation, offering a theoretical framework for disability policy that emphasizes the human dignity of PWDs (Degener, 2017). Degener goes on explaining the human rights model respects the fact that some PWDs are indeed confronted by such challenging life situations and argues that such factors should be taken into account in the development of relevant social justice theories. Besides, the human rights model offers constructive proposals for improving the life situation of PWDs(Degener, 2017).

2.5.6. The cultural model

The cultural model of disability developed in the North American context, where disability studies have been approached in an interdisciplinary manner by a number of scholars working in the social sciences and humanities (Michalko, 2002).It focuses on how different notions of disability and non-disability operate in the context of a specific culture. The work of Snyder and Mitchell (2006) has played a critically important role in shaping the theoretical contours of the cultural approach to understand disability. Snyder and Mitchell (2006) argue that particular ‘cultural locations of disability’ have been created on behalf of PWDs, locations where PWDs find themselves deposited, often against their will.

2.5.7. The charity model: Disability as victimhood

According to the charity model, PWDs are victims of circumstance who should be pitied. As Duyan (2007) explains, the Charity Model sees people with disabilities as victims of their impairment. Their situation is tragic, and they are suffering. Able-bodied people should therefore assist PWDs in whatever way possible, as they need special services, special institutions, etc., because they are different’ (Duyan, 2007). In contrast with the moral and/or religious model of

disability, which has a largely negative view ofPWDs, the charity model seeks to act to the benefit of PWDs, encouraging humane treatment of persons with disabilities' (Henderson & Bryan, 2011).

2.5.8. The economic model

The economic model of disability approaches disability from the viewpoint of economic analysis, focusing on the various disabling effects of an impairment on a person's capabilities, and in particular on labour and employment capabilities (Armstrong, Noble & Rosenbaum, 2006). While the economic model insists on the importance of respect, accommodations, and civil rights to people with disabilities, such concerns are subservient to the economic model's estimation of a disabled person's ability to work and contribute to the economy (Smart, 2004).

2.5.9. The limits model

According to the limits model of disability – a distinctly theological model of disability developed by Creamer (2009) – disability is best understood with reference to the notions of embodiment and limitless. According to the limits model, it is important that people accept the fact that all human beings experience some level of limitation in their everyday lives (Creamer 2009:109).Moreover, such limits are experienced to varying degrees during all the phases of our life (Creamer, 2009). Rather than being something foreign to human experience, limits are as a matter of fact 'a common, indeed quite unsurprising, aspect of being human' (Creamer, 2009).

In short, the religious/ morale model view disability as a punishment from the result of punishment from God for transgression against prevailing moral and/or religious edicts. On the other hand, the medical model sees disability as a medical problem that resides in the individual. It is a defect in or failure of a bodily system and as such is inherently abnormal and pathological. The social-model over emphasizes built environment as the major barrier to people with disability. However, the identity model affirms that experiences and circumstances that have created a recognizable minority group called people with disabilities. Unlike, the human right model argues that the factors should be taken into account in the development of relevant social

justice theories. The charity model sees people with disabilities as victims of their impairment. The economic model of disability approaches disability from the viewpoint of economic analysis, focusing on the various disabling effects in particular on labour and employment capabilities. The cultural model focuses on how different notions of disability and non-disability operate in the context of a specific culture; for example, PWDs find themselves deposited, often against their will. According to the limits model, it is important that people accept the fact that all human beings experience some level of limitation in their everyday lives.

2.6. Laws and proclamation on disability in Ethiopia

The Ethiopia Government is ordain into the United Nations conventions on human rights in general and the rights of persons with disabilities in particular. Article 9 of the UN (2008) convention on the rights of PWD on accessibility notes to enable persons with disabilities to live independently and participate fully in all aspects of life, appropriate measures should be taken to ensure persons with disabilities have access, on an equal basis with others, the physical environment, transportation systems, and other facilities and services open or provided to the public, both in urban and in rural areas. In a similar vein, the Constitution of the Federal Democratic Republic of Ethiopia (1995) has made progress in terms of addressing the concern of persons with disabilities. Article 41(5) of the Constitution sets out the State's responsibility for the provision of necessary rehabilitation and support services for people with disabilities: 'The state shall, within its available means, allocate resources to provide rehabilitation and assistance to the physically and mentally disabled'. Furthermore, FDRE proclamation No. 624/2009, part four Article 36 sub-articles 1 and 2: facilities for physically impaired persons crudely notes that "all public buildings should have facilities that allow access suitable for the use of PWD."

However it doesn't reveal the incorporation of barrier-free designs with clear standards of buildings. According to Imrier (2002), although there are various attempts in terms of legislation and the design of formal law building instruments, the built environment of many countries have remained largely inaccessible which is also true in Ethiopia. Imier (2002) goes on explaining that this situation is explained by the fact that the statutory and legal provisions underpinning the construction of barrier- free environments are absent in most countries. He maintains that, in the

UK, the building regulations, which are the main mechanism in requiring developers and designers to provide access to buildings for disabled people.

2.7. What is a building?

The word building, in architecture, construction, engineering, real estate development and building technology, refers to any human-made structure used or intended for supporting or sheltering any occupant. Buildings serves several needs of society-primarily as shelter from weather and as general living space, to provide privacy, to store belongings and to comfortably live and work (Kportufe, 2015). In a similar vein Wendt and Cerf (1979) in Kportufe (2015) state, a building as a shelter represents a physical division of the human habitat (a place of comfort and safety) and the outside (a place that at times may be harsh and harmful) for these reasons, buildings should be made accessible to everyone especially the disabled since they are the most vulnerable. Thus buildings need to be comfortable place to anyone above all to people with motor disability at any time including at times of emergency.

2.8. Building legislations

Apart from the legislations, various statutory building instruments, such as International Standards, Building Regulations and Guidelines, Codes of Practice, etc., have also been developed by several countries and organizations to achieve designs and features that are usable by persons with disabilities. Their main goal is to provide guidance as to how the built environment can be designed to anticipate and overcome restrictions that prevent disabled people from making full use of buildings and their surroundings.

Examples of such instruments are: British Standards Institution (2001) – Design of Buildings and Their Approaches to Meet The Needs of Disabled People [BS8300 (2001)], and Americans with Disabilities Act Accessibility Guide (2004) [ADAAG (2004)] and Accessibility for the Disabled, A Design Manual for a Barrier-Free Environment, Urban Management Department of the Lebanese Company for the Development and Reconstruction of Beirut Central District SOLIDERE (2004) – developed by the UK, USA and the UN, respectively, to provide guidance on good practice in the design of domestic and non-domestic buildings and their approaches so that they are convenient to use by disabled people. Their recommendations relate, not only to the

elements of construction and accommodations which are common to different types of buildings, but also to those that are specific to building types. They also deal with ways in which their management and maintenance can affect safe access and use of facilities by disabled people.

2.9. Accessible building

Infrastructure is the basic physical and organisational structure needed for the operation of a society or enterprise (Oxford Dictionary, 2015), or the services and facilities necessary for a society to function (Sullivan &Sheffrin, 2003). The term typically refers to the technical, organizational and service structures that support a society, such as buildings, roads, bridges, tunnels, water supply, sewers, energy supply, telecommunications, transport systems, health, education and social support systems, etc. Thus, in this research infrastructure refers the services and facilities necessary for a society to function particularly people with physical disability.

Murano (1995) identifies four characteristics of social sustainability; 'need-sufficient', 'reliable', 'adequate', 'equal'. The term 'need-sufficient' suggests every development has to provide physical and psychological satisfaction to human. 'Reliable' suggests that final deliverable has to be conveyed in a stable way and users also have to perceive this reliability. 'Adequate' is the property that consider user context such as culture, geography, economic situation and other user appropriate needs in the development process. 'Equal' has close relationship with universal design. It aims to enable every user to consume the resource or product equally and in this way, the basic user-ability has to be secured thus giving the user a feeling of 'convenience'.

2.10. Architectural Disability

As to Wylde et al. (1994), only 10% of individuals may not be architecturally disabled in one way or other at some time in their life. For this reason, it is imperative that the built environment is properly designed and made all- inclusive. Goldsmith (2000) coined the phrase 'architectural disability' to describe how the physical design, layout and construction of buildings and places can confront people with hazards and barriers which make the built-environment inconvenient, uncomfortable or unsafe and may even prevent some people from using it at all. Hansen (n.d.)

states one of the greatest flaws for the inclusive design of the built-environment is professional mindset and assumptions, encapsulated in the distinction between general and special needs. Similarly, Wijk (2001) explains ‘architectural disability’ by building designers to stubbornness and ignorance, and believes the ignorance can be cured by exposing these designers to good information and creative examples. Salmen (2001), on the other hand, claims that architects, engineers and other construction professionals do not often appreciate the changing needs and abilities of society and, therefore, of how to come out with suitable inclusive design solutions.

2.11. Inclusive architectural facility design standards

As to Goldsmith(2000), Handicap International(2016) and Americans with Disability Act (1980), and UNICIEF(2015), inclusive architectural facility design standards can be broadly categorized into four, namely, movement in the outdoor environment and outside buildings, entering, exiting and evacuating buildings, movement within buildings and use of individual rooms and facilities.

2.11.1. Movement in the outdoor environment and outside buildings

Movement in the outdoor environment and outside buildings require standards of design. Pedestrian routes in the built environment should be designed to guarantee easy movement from one entrance to the other. This should that pathways and routes should be easy to find, continuous, easy to use, free of obstacles, have a firm surface and be properly dimensioned. The following are applicable components to make movement in the outdoor environment and outside buildings. These are Way-findings, pathway, parking, gaps, grates and other openings outdoor facilities (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

A building need suitable provision of signboards at the entrance of the building and at decision points is of great importance for people to find their ways both in the outdoor environment and in buildings. In addition, the design of the path or route to the building from site boundary or from the parking area should be designed and constructed to enable all people to approach, enter and exit the building easily.To enable two wheelchair users to pass on a pathway, a minimum unobstructed width of 1800 mm is recommended. (UNICEF, 2015)

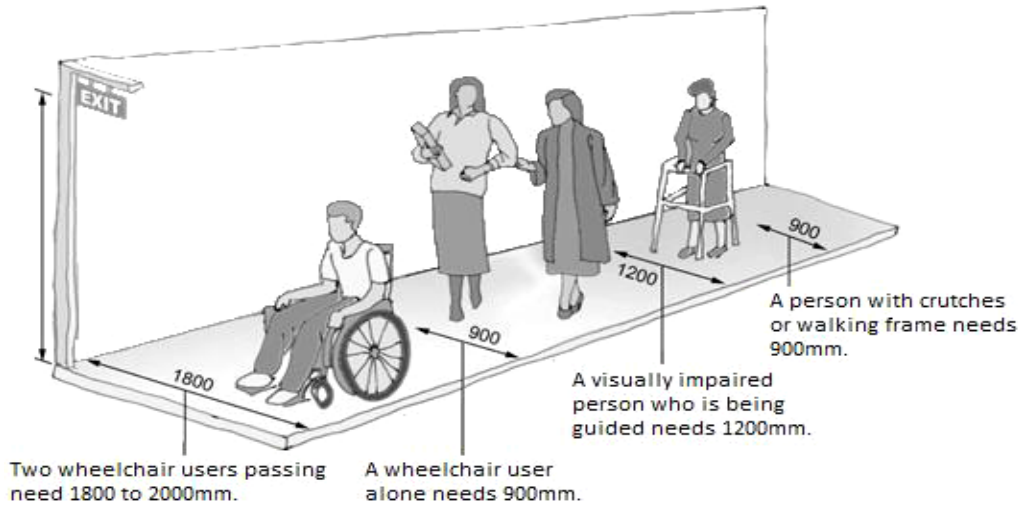

Figure1.Required width of pathway by different users (Source: Adapted from Oxley 2002, by UNICIEF, 2015)

Sufficient width and ensuring pathway is obstacle free (i.e. no protruding objects), continuous, firm, durable, slip resistant, level or adequately ramped with appropriately designed curbs, tactile surfaces and handrails to prevent falling (as required)(UNICIEF, 2015).

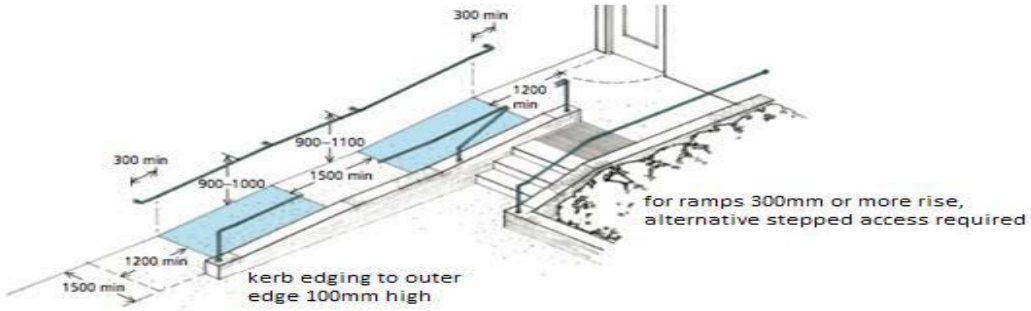

Figure 2: Gradients of pathway and handrails (Source: UNESCO 1990, by UNICIEF, 2015)

Furthermore, Where parking is provided, a minimum of one accessible designated parking space should be provided in every parking area for person with disability as close as possible (less than 50 m), to the principal entrance of the building. Parking space should be wide enough for car doors to be fully opened to allow drivers and passengers with disabilities to transfer to a wheelchair or other assistive devices parked alongside. The recommended minimum width of the parking space for a car is 3800 mm and the minimum length is 5400 mm. This minimum width includes the transfer area beside the car with a minimum of 1500 mm. And also there should not be openings, gaps, wide grates. Above all, there should be appropriate out door facilities like

outdoor bench/resting facilities: seats should be designed with armrests to facilitate sitting down and standing up, water supply facilities there should be ramp access to a hand water pump apron, playgrounds, etc. Location of outdoor facilities should always allow free passage and the safe use of site amenities in the outdoor environment and outside buildings (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act,1980 and UNICEF, 2015).

2.11.2. Entering, and exiting of buildings

The entrance(s) to a building should be easy to find and easy to use by any person irrespective of impairment. They should be easy to use even during an emergency evacuation. Thus ramps handrails, entrance door and door handles, reception counter desk, fire emergency warning systems and signals should be incorporated (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015.)

The path or route to the building from the boundary of the site or from the parking area should be designed and constructed to enable all people to approach, enter and exit the building easily. Ramps and stairs are the most hazardous places for falls. Ramps may be the only practical solution for people who cannot use steps or stairs, but other people may prefer to use stairs. In addition to a ramp, a flight of steps should be provided if the change in level is more than 300 mm (UNICEF, 2015).

A handrail provides a means of support, stability and guidance for the user. A handrail will help most people to go up or down a flight of steps or a ramp. Handrails should be provided for stepped and sloped paths, ramps and stairs and lift cars. Furthermore, A handrail within a building also provides an essential means of support, stability and guidance for all building users during an emergency evacuation (Goldsmith, 2000; UNICEF, 2015).

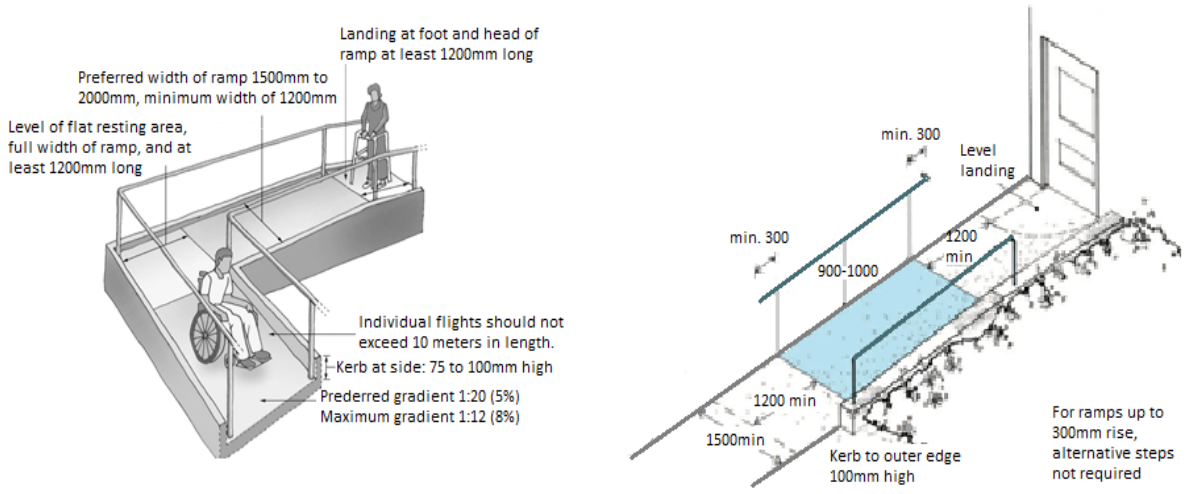

Figure3. Ramp with handrails (Source: UNESCO 1990, by UNICIEF, 2015)

Door locks, door handles, bells and other devices for gaining entry to a place should be easy to locate, identify, reach and use, and should be operable with only one hand .The furniture and door handle should be mounted approximately 800-900 mm above floor level to permit easy manoeuvring from both sitting and standing positions(UNICEF, 2015).

Above all, counters and reception desks should be located and clearly identified so that they are easily recognisable from a site and building entrance .Reception areas should be positioned near the main entrance .There must be space to manoeuvre: Counters and desks should be accessible to wheelchair users on both sides. A clear manoeuvring space at least 1500 mm square should be provided in front of the counter on the receptionist's side and on the visitor's side. 1800 mm square is preferred.The counter level should be between 740 mm to 800 mm from the floor. The clear knee space underneath should be at least 700 mm deep and 900 mm wide(Goldsmith, 2000; UNICEF, 2015).

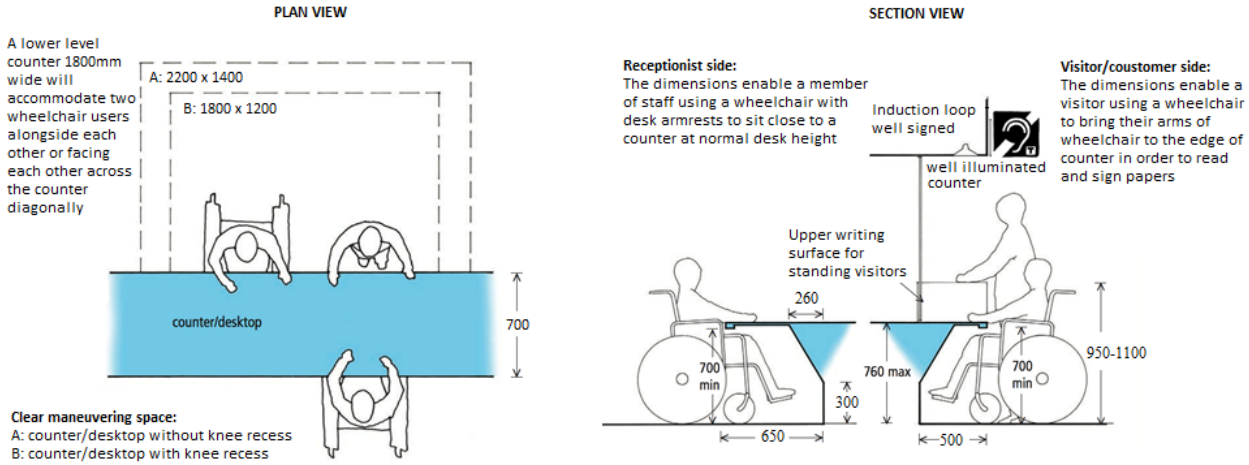

Figure 4: Reception desk (source: UNICIEF, 2015 by Centre for Accessible Environments and RIBA 2004)

2.11.3. Movement within buildings

Indoor communication linking the entrance area with the various parts of a building should be easy to find and follow, be well dimensioned, have a good standard of lighting and be easy to use even during an emergency evacuation by all. Differences in levels should be clearly marked and safe, adequately lit with well dimensioned staircases, ramps and lift should be provided with suitable handrails. Staircases should facilitate safe assisted evacuation/rescue in emergencies. Doorways should be large enough to facilitate use for wheelchair or other mobility aid users. Movement within the building can be made ease through using applicable components such as horizontal circulation (corridors), vertical circulation (stairs and lift), information, signage, and simple layout (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015.)

The minimum unobstructed width of corridors should be 1200 mm, with a preference for a width of 1800 mm .Where less than 1800 mm wide, a corridor should be provided with passing places, 1800 mm wide and at least 1800 mm in length at reasonable intervals. However, These dimensions should be exclusive of handrails and any other projections, e.g. portable fire extinguishers, notice boards, coat hooks, etc. (UNICIEF,2015).

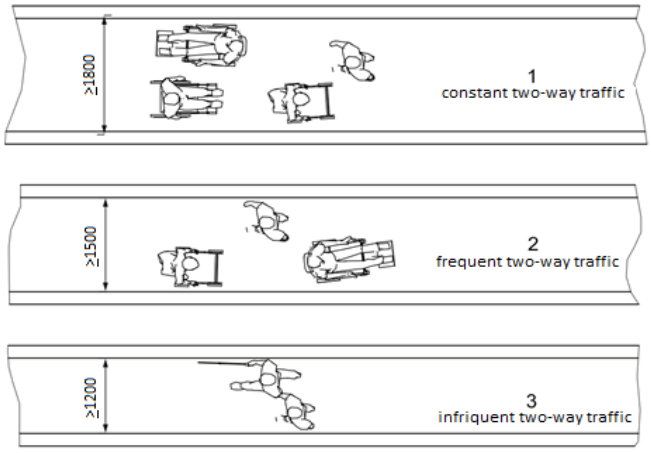

Figure 5: Required width of corridor (Source: UNICIEF 2015, by ISO 2011)

2.11.4. Use of individual rooms and facilities

Rooms should to be well dimensioned to allow for sufficient space for wheelchair users, a person using crutches or a person relying on an assistant. All fixtures and fittings should be appropriately designed and correctly positioned. In the individual rooms of a building the following components should accessible like windows, switches and controls, toilet and water supply facilities rooms, and cafeterias all these should be appropriately positioned for all people(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Windows should be easy to open and close by all. It should be possible to open and close the windows with only one hand. Besides, to enable wheelchair users to see through a window, the lower edge of the glazing should be positioned between 800 mm and 1100 mm from the floor depending on the target users' seat height (UNICEF, 2015).

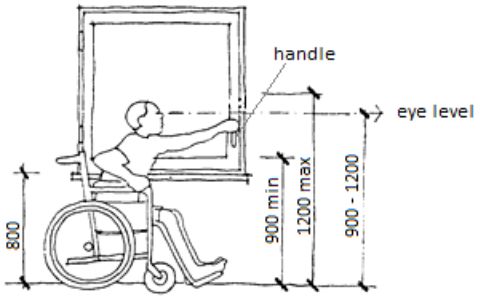

Figure 6: Height of window (Source: UNICIEF, 2015 by UNESCO 1990)

The design and construction of operating switches, controls and devices should be operated safely and independently by all, including people with disabilities. Switches and controls should be easy to use, e.g. by hands-free operation or by using the elbow. Besides, all switches and controls should be easy to understand without requiring specialist knowledge. Furthermore, Switches, sockets and other controls should be installed at an accessible height for reaching and operating, between 800 mm and 1100 mm above floor level and should be located a minimum of 600 mm from any internal corner, preferably 700 mm.However, as an exception, electrical wall socket outlets, telephone points and TV sockets could be located at a minimum height of 400 mm above floor level(UNICIEF,2015).

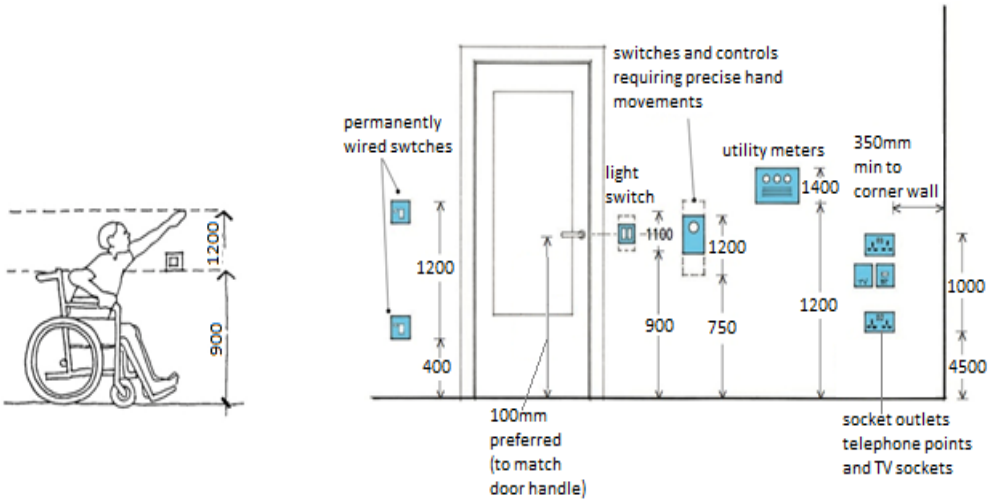

Figure 7: Height and location of switch (Source: UNICIEF, 2015, by Centre for Accessible Environments and RIBA 2004)

Sanitary facilities should be designed to accommodate a variety of users. The location of toilets should be selected to allow persons with disabilities (including wheelchair users) to approach and enter the facilities the minimum dimensions provided below are valid for the common low-level simple pit/hole latrines. However, it should be remembered that persons with physical disabilities have difficulties in sitting on heels, and therefore low-level type of toilet without seat may not be suitable to be used by persons with disabilities (UNICEF, 2015). Thus, there are a variety of approaches to providing wheelchair accessible toilet rooms and the selection should be carefully considered to meet the needs of target users. This process should involve consultation with persons with disabilities to determine their requirements alongside following technical

guidance. Accessible toilets that can be used by both sexes allow the greatest flexibility for people who require assistance. If no other national requirements or regulations are available, the following should apply: At least one wheelchair accessible toilet room should be provided in every accessible floor level. In addition, the wheelchair accessible toilet room should always contain a wash basin where public toilets are unavoidably located on sites not able to be accessed by wheelchair users (e.g. schools on significantly sloping land), an effort should be made to still provide sufficient space and accommodations for other people with disabilities, such as people with crutches or with assistants/carers(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

The International Standard gives the characteristics and requirements for the three types of toilet (pit/hole latrines, heels and low-level type of toilet) most commonly used in the world based on the options of wheelchair to toilet seat transfer Manoeuvring space in front of toilet seat (1500 x 1500 mm) reduced by washbasin (300 mm under the washbasin is accepted as part of the total manoeuvring space). The door should have an unobstructed width of at least 800 mm, with be easy to open and close. The top of the toilet seat should be between 400 mm and 480 mm from 850 mm as a recommended value. It should the floor. Furthermore, grab rail on wall beside the toilet seat .and also the vertical grab rail on wall beside the toilet seat for getting up and sitting down (slanted grab bars are not preferred). Above all, toilet paper dispenser fixed on the wall beside the toilet seat The minimum free clearance beside the toilet seat should be 900 mm - 1200 mm is preferred for lateral transfer and assistance (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

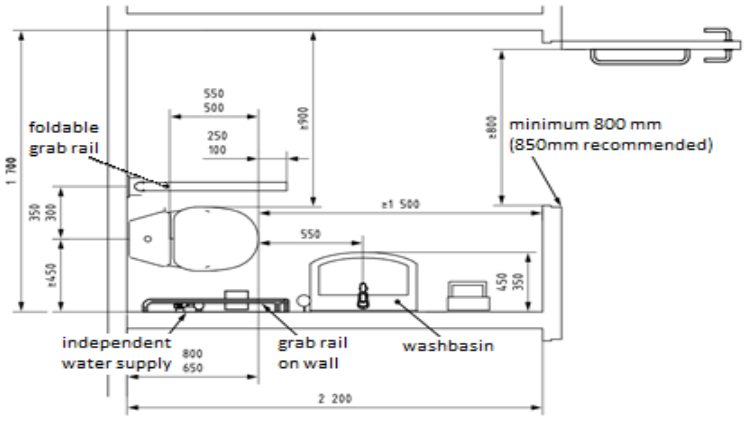

Figure 8: Floor plan of accessible toilet (Source: UNICIEF, 2015 by ISO 2011)

Besides, people with physical disabilities should be able to reach small wash hand basin when seated on toilet, with floor drain where necessary and the top of the wash basin should be located between 750 mm to 850 mm from the floor. Where available a ‘hospital tap’ with a long lever is recommended, as it is easy to operate with almost any body part(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

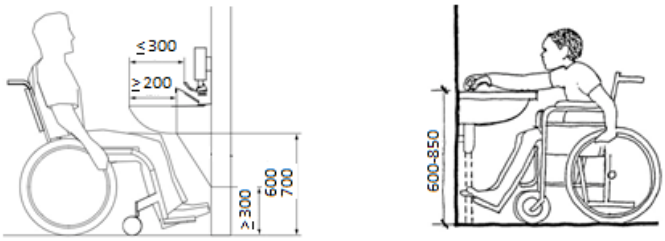

Figure 9: Accessible wash basin (Source: UNICIEF, 2015 by UNESCO 1990)

All equipment in conference rooms shall be usable by all people chairing or participating in the meeting. Meeting rooms, whether used by staff or visitors, should all be designed to be accessible to persons with disabilities, including persons using mobility aids, persons with visual impairments as well as people who have a hearing impairment and use a hearing aid to participate and communicate. Accessible seating should be distributed and integrated throughout seating areas of conference/meeting rooms with different vantage points available to all persons with disabilities. The stage in conference and meetings rooms should have a ramp allowing easy access to presenters using wheelchairs. All equipment in conference rooms shall be usable by people chairing or participating in the meeting and shall be at a height between 800 mm to 1100 mm(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Areas providing food or beverage services should be accessible to persons with disabilities, including persons using mobility aids, such as wheelchairs and crutches. Cafeterias should be designed and furnished to facilitate easy orientation; manoeuvring and use by persons with disabilities.A minimum of 25 % of the tables shall be usable by wheelchair users and shall have an unobstructed lateral access for wheelchair users. Sufficient manoeuvring space between tables, entrance and the route to the accessible sanitary facilities shall be provided. Accessible seating locations for persons using wheelchairs should be available in all areas or levels,

providing food or beverage services .Aisle spaces between furniture, equipment or other fixed objects should be wide enough to allow a person using a wheelchair and a companion, to pass, i.e., major aisles should be a minimum of 1065 mm wide. The narrowest aisle should be at least 810 mm wide. Where counter service is provided, at least one section of the counter should be no higher than 915 mm by 760 mm wide, to allow a person using a wheelchair to approach(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

CHAPTER THREE

3. Research Methods

3.1. Introduction

This part of the research encapsulates the methodology that was employed to carry out the research. Thus in this chapter, the methods and procedures that were employed to carry out the study to achieve the research objectives are described. First, the type of research design employed is indicated, and then the participants of the study are stated followed by the instruments used to collect data. After that, the data analyses techniques are discussed respectively.

3.2. Research Design

Descriptive research design was used to conduct the study. Descriptive study is helpful whena researcher wants to look into a phenomenon or a process in its natural contexts in order to get its overall picture instead of taking one or some of its aspects and manipulating it or them (Nassaji, 2015). Therefore, observation, interview and survey questionnaire tools are often used to gather data. In such research, the data may be collected qualitatively, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses or thematically (Gall, Gall, & Borg, 2007). In this view, thus, descriptive research design is felt appropriate and used to answer the research questions.

3.3. Study site

The study was conducted in Yeka Sub-city, which is among the ten sub-cities in Addis Ababa. According to the sub-city's Social Affair and Information Bureau, the sub-city has 14 districts with 85.98km2 area and about 501, 000 inhabitants. The sub city is chosen based on its proximity and the researcher used to work there as a result the researcher got appropriate support and cooperation from the research participants. These helped the researcher to gather the necessary data for the study.

3.4. Participants of the Study and selection criteria

The study participants were people with physical disabilities. They were selected purposely based on their willingness, their type of physical disability, their availability for the interview, their living place and living duration. Besides, the construction office officers in Yeka sub-city were participants of the study who were chosen purposely based on their experience (see appendix F).

3.5. Sampling

The researcher used non-probable particularly purposive sampling technique as people with disabilities are not found in a one area. Therefore, as it is not possible to find people with physical disabilities at the same place or organization, the researcher used non-probability purposive sampling technique. In short, as there is Association of people with physical disabilities in Yeka Sub-city the researcher went there and asked the number of people who are physically disable. Then, the researcher chose individuals with the help of the Association chairman when they had meetings. Based on Yeka Sub-city's Civil and Social Affair's Office data, there were 468 physically disabled people. From 468 people with physical disabilities the researcher purposely chose 20 interviewees from this 18 were male and 2 were female. Furthermore, from the 59 construction officers, 5 officers were purposely selected; 3 female and 2 male to illicit information whether the sub-city has standards of building and laws that enforce contractors to build inclusive buildings in the sub-city.

3.6. Data collection instruments

In order to collect the required data for this study, three types of instruments were used: structured interview and semi-structured, and observation checklist were used. These data gathering instruments are presented in the following sections.

3.6.1. Structured interview

According to kumar (2011) in Monette et al. (1986), 'an interview involves an interviewer reading questions to respondents and recording their answers". Kumar goes on saying that

structured interviews are very similar to questionnaires in that they use a standard format consisting of pre-determined questions in a fixed order (Miller and Brewer, 2003). In a similar vein, Kothari (2004) states that structured interviews involve the use of a set of predetermined questions and of highly standardised techniques of recording. Hence the interviewer in a structured interview follows a rigid procedure laid down, asking questions in a form and order prescribed.

Therefore, based on the above assumptions rating scale is used to capture the interviewees' reactions to a given item, for instance, a nominal scaled item which has a yes/no reaction was prepared - each interviewee answer item as "yes" if they view the item as being favorable to the construct and "no" if they see the item as unfavorable (Bhattacherjee, 2012).

The structured interview was prepared for people with physical disabilities. The structured interview initially was prepared in English based on the issues discussed in literature particularly from UNICEF(2015) standards of a building and translated into Amharic so as to enable the interviews understand and answer the questions easily. The structured interview consists of 19 questions which elicit the standards of buildings in general and the impacts of inaccessibility of buildings on their lives in particular (see appendix B and C).

Above all, semi- structured interview was also employed. Interview is an important data gathering tool to collect an in-depth qualitative data from few interviewees (Walliman, 2011; Creswell, 2012). Thus, a semi-structured interview considered suitable to this study for the followingreasons. First, the semi structured nature of the interview helped the researcher not to deviate from the issues under study and allowed probing. Second, as the format is open-ended, the interviewees were encouraged to elaborate the issues that were raised in an explanatory manner. Thus the interview was made with the sub-city's construction officers whether they have standards and laws which enforce contractors to apply the standards (see Appendix D).

3.6.2. Observation

Observation was taken as a major instrument to investigate the accessibility of buildings. Observation can be used for recording data about events and activities, and the nature or conditions of objects, such as buildings or artifacts (Walliman, 2011). Observation

is crucial in qualitative research for collecting genuine and relevant data from the actual situation observational data are impressive as they offer the researcher the opportunity to gather 'live' data from 'live' situations. Since observed incidents are less predictable, there is certain freshness to this form of data collection that is often denied in other forms, for example, a questionnaire (Creswell, 2012).

Thus, observation checklist was adopted from UNICEF (2015) premises and programme related construction and the ideas discussed in the review of related literature to obtain information on the accessibility of buildings and their functional requirements for physical disabled people. The check list covers facilities such as ramps, elevators/lifts restrooms, signage, corridors, entrances, stairs, water fountains etc. Functional requirements of the facilities are also drawn up for the purpose of the study.

Furthermore, to check the suitability of the observation checklist, it was reviewed by one prospective MA student in Social Work and my advisor. The drafts of the instruments were given to both of them that were constructed based on UNICIEF (2015) standards of building the insight got from the literature. Comments were received about the clarity and relevance of the items. Based upon the feedback, unclear items were modified, necessary items were added and items that were irrelevant were canceled. First, the items were twenty three. However, five items were redundant and canceled (see appendix A).

Forty purposely public service providing buildings were chosen and checked its accessibility for people with physical disabilities (see appendix H).

3.6.3. Validity and reliability of the structured interview questions

The structured interview questions were adopted from UNICIEF (2015) standards of buildings. In order to maintain the validity of the structured interview questions, the researcher translated the English version questions in to Amharic. Then the questions were given one prospective MA graduate student to translate the English version questions in to Amharic independently to check content validity. Furthermore the structured interview question was piloted in Bole Sub-City by asking five people with physical disabilities to check content, logical flow and face validity. Some items were modified and added based on the pilot study result and the helpful comments.

For instance, in the first draft the structured interview questions consisted of 23 questions. Four of questions were excluded as they were unimportant. Finally the researcher asked her advisor to give comments on the structured interview questions and the researcher considered the comments. Thus to assure the quality of the data, the researcher gathered the data through observation and interview which were triangulated in the data analysis.

3.7. Data collection procedure

The data for the study were collected over eight weeks from February March 01, 2019-April 08, 2019 using the following data collection procedure. After deciding the sample organizations, got the necessary permission, then the researcher decided the size of the subjects. Later on, the researcher made the interview with 20 people with physical disabilities. Soon the researcher conducted the interview with the construction officer. Finally, the researcher made the actual observation on the accessibility and facilities of buildings very carefully on the observation checklist and took photos for its reliability.

3.8. Techniques of data analysis

After collecting the different data from different sources using the data gathering instruments viz., structured interview questions , semi structured interview and observation check list, the data are organized and analysed both quantitatively(frequency and percentage) and qualitatively (thematically).

3.8.1. Data Analysis of people with physical disabilities' structured interview

The interviewees' responses to the items in the structured interview were tallied and then the frequency and the percentage were summarised to discuss how each item was responded. Qualitative data can be sorted and categorized and can even be given numerical values that lend themselves to quantitative analysis. You can also code the data—1 if a theme is present and 0 if not present—and then count the frequency of occurrence (Colton and covert, 2007).Then, onthe basis of analysis, that is, using frequency, percentages, and theme the data were interpreted (see appendix G).

3.8.2. Data Analysis of the construction officers' semi-structured interview

As the construction office officers' interview was employed to gather qualitative data, their responses for the interview were recorded in a note book. Then, the interview was discussed qualitatively using the exact words construction office officers' and the common ideas to substantiate the other data that were obtained via questionnaire and observation.

3.8.3. Data Analysis of the observed buildings

The observed buildings' accessibility for people with physical disabilities in public buildings and their functional requirements were recorded carefully in the category of Yes or No as they happened. Then, the frequency of the observed practices was summarised and tabulated for interpretation (see appendices E).

3.9. Ethical consideration

Disability is a sensitive issues thus the researcher collected the necessary data following the ethics of research. That is to say, the researcher took official letter of cooperation from the school of social work 'To Whom It May Concern'. Then, the researchers went to the research sites and informed to the research participants about the purpose of the research. Later on the researcher told the informants that any information they provide would be kept confidential. Finally, the researcher collected the data based the consent of the participants and all the concerned organization.

CHAPTER FOUR

4. Presentation and Discussion of the Data

4.1. Introduction

The main purpose of this research is to explore the accessibility of buildings in Yeka Sub-city. Hence, this chapter presents and discusses the data gathered through questionnaire, interview and classroom observation. The first section discusses the analysis and the findings of the participants' questionnaire. The second section discusses the results of the construction office officers' interviews, and the third section reports the data of the field observation. Finally, summary of the results is presented.

4.2. Interpretation and discussion of the observed buildings

A check list was designed based on the literature reviewed and UNICIEF's (2015) to gather information on the facilities of buildings in Yeka sub-city for physically disabled people in public buildings and their functional requirements. The check list covers generally movement in the outdoor environment and outside buildings, entering, exiting and evacuating buildings, movement within buildings and use of individual rooms and facilities. Functional requirements of the facilities were also drawn up for the purpose of the study. A total of 40 public buildings were observed. The study covered public buildings government administrative buildings, educational buildings, health center, banks, commercial buildings, hotels, cafeterias and restaurants.

The observations were carried out from March 25-April 8, 2019 for almost two weeks at 40 buildings which are found in Yeka Sub-City. The observations were conducted in order to answer the research questions. Thus, the field observation wasemployed to get data related to:Movement in the outdoor environment and outside buildings,entering, exiting and evacuating buildings, movement within buildings ,use of individual rooms and facilities, and movement in the outdoor environment and outside buildings

Movement in the outdoor environment and outside buildings require standards of design. Pedestrian routes in the built environment should be designed to guarantee easy movement from one entrance to the other. This should that pathways and routes should be easy to find, continuous, easy to use, free of obstacles, have a firm surface and be properly dimensioned. The following are applicable components to make movement in the outdoor environment and outside buildings. These are Way-findings, pathway, parking, gaps, grates and other openings outdoor facilities (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980 ;UNICEF, 2015).

A building need suitable provision of signboards at the entrance of the building and at decision points is of great importance for people to find their ways both in the outdoor environment and in buildings. In addition, the design of the path or route to the building from site boundary or from the parking area should be designed and constructed to enable all people to approach, enter and exit the building easily. To enable two wheelchair users to pass on a pathway, a minimum unobstructed width of 1800 mm is recommended (UNICEF, 2015).

Furthermore, Where parking is provided, a minimum of one accessible designated parking space should be provided in every parking area for person with disability as close as possible (less than 50 m), to the principal entrance of the building. Parking space should be wide enough for car doors to be fully opened to allow drivers and passengers with disabilities to transfer to a wheelchair or other assistive devices parked alongside. The recommended minimum width of the parking space for a car is 3800 mm and the minimum length is 5400 mm. This minimum width includes the transfer area beside the car with a minimum of 1500 mm. And also there should not be openings, gaps, wide grates. Above all, there should be appropriate out door facilities like outdoor bench/resting facilities: seats should be designed with armrests to facilitate sitting down and standing up, water supply facilities there should be ramp access to a hand water pump apron, playgrounds, etc. Location of outdoor facilities should always allow free passage and the safe use of site amenities in the outdoor environment and outside buildings (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980 and UNICEF, 2015). Sufficient width and ensuring pathway is obstacle free (i.e. no protruding objects), continuous, firm, durable, slip resistant, level or adequately ramped with appropriately designed curbs, tactile surfaces and handrails to prevent falling (as required)(UNICIEF, 2015).

Table 4.1: Observation of movement in the outdoor environment and outside of buildings

S.No	Statement	Frequency and percentage				Total
1.	Movement in the outdoor environment and outside buildings	yes	%	no	%	
1.1.	The buildings have way-findings.	10	25	30	75	40
1.2.	The buildings have accessible pathway	4	10	36	90	40
1.3.	The buildings have accessible parking.	9	22.5	31	77.5	40
1.4.	The buildings have gaps, grates and other openings.	27	67.5	13	32.5	40
1.5	The buildings have outdoor facilities	3	7.5	37	92.5	40

As Table 4.1 reveals that out of the forty observed buildings, only in 10 (25%) buildings, had way findings. Majority 30 (75%) buildings didn't have way findings. Furthermore, from the observed buildings 4(10%) of them had accessible pathways. on the other hand many, 36 (90%) of them had no accessible pathway. Furthermore, 9(22.5%) of the observed buildings had accessible parking but majority of them 31(77.5%) did not have accessible parking. Moreover, 27(67.5%) of the observed buildings had gaps, grates, and other openings. Above all, 3 (7.5%) of the observed buildings had outdoor facilities though 37 (92.5 %).did not have outdoor facilities.

In short, based on the field observation most of the observed buildings in Yeka sub-city do not have accessible movement in the outdoor environment of the buildings that is way findings, accessible parking, pathway have gaps, grates and openings and outdoor facilities which can prevent the movement of people with physical disabilities when they want to access them and get different services in the buildings.

Entering, and exiting of buildings

The entrance(s) to a building should be easy to find and easy to use by any person irrespective of impairment. They should be easy to use even during an emergency evacuation. Thus ramps handrails, entrance door and door handles, reception counter desk, fire emergency warning systems and signals should be incorporated (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015.)

The path or route to the building from the boundary of the site or from the parking area should be designed and constructed to enable all people to approach, enter and exit the building easily. Ramps and stairs are the most hazardous places for falls. Ramps may be the only practical solution for people who cannot use steps or stairs, but other people may prefer to use stairs. In addition to a ramp, a flight of steps should be provided if the change in level is more than 300 mm (UNICEF, 2015).

A handrail provides a means of support, stability and guidance for the user. A handrail will help most people to go up or down a flight of steps or a ramp. Handrails should be provided for stepped and sloped paths, ramps and stairs and lift cars. Furthermore, A handrail within a building also provides an essential means of support, stability and guidance for all building users during an emergency evacuation (Goldsmith, 2000; UNICEF, 2015).

Door locks, door handles, bells and other devices for gaining entry to a place should be easy to locate, identify, reach and use, and should be operable with only one hand .The furniture and door handle should be mounted approximately 800-900 mm above floor level to permit easy manoeuvring from both sitting and standing positions(UNICEF, 2015).

Above all, counters and reception desks should be located and clearly identified so that they are easily recognisable from a site and building entrance .Reception areas should be positioned near the main entrance .There must be space to manoeuvre: Counters and desks should be accessible to wheelchair users on both sides. A clear manoeuvring space at least 1500 mm square should be provided in front of the counter on the receptionist's side and on the visitor's side. 1800 mm square is preferred. The counter level should be between 740 mm to 800 mm from the floor. The clear knee space underneath should be at least 700 mm deep and 900 mm wide (Goldsmith, 2000; UNICEF, 2015).

Table 4.2: observation of entrances, exits and evacuating system of buildings

s.no	Statement	Frequency and percentage				Total
2	Entering, exiting and evacuating buildings					
2.1	The buildings have easy to use ramps	7	17.5	33	82.5	40
2.2	The buildings have easy to use handrails	18	45	22	55	40
2.3	The buildings have easy to use entrance door and door handles	6	15	34	85	40
2.4	The buildings have easy to use reception counter desk	4	10	36	90	40
2.5	The buildings have fire emergency warning systems and signals	0	0	40	100	40

During the field observations, as it can be seen in Table 4.2, 7(17.5%) of the observed buildings had easy to use ramps: conversely, 33(82.5%) of the buildings had no easy to use ramps. Again, 8(45%) of the observed buildings had easy to use handrails; indeed, 22(55%) of the observed buildings did not have easy to use handrails. In addition, of the observed buildings, 6(15%) had easy to use entrance doors and door handles, yet 34(85%) of them had no easy to use entrance doors and door handles. What is more, 4(10%) of the observed buildings had easy to use reception counter desk;on the contrary, 36(90%) of them did not have easy to use reception counter desk. On top of this, none of the observed buildings had fire emergency warning systems and signals.

In short, based on the field observation data presented above, it is possible to conclude that the buildings have no accessible entrances, exits and fire emergency warning systems and signals. That is to say, the buildings observed buildings have not easy to use ramps, entrance door and door handles, reception counter desk , handrails and fire emergency warning systems and signals.entrances, exits and evacuating systems and signals are not accessible.

Movement within buildings

Indoor communication linking the entrance area with the various parts of a building should be easy to find and follow, be well dimensioned, have a good standard of lighting and be easy to use even during an emergency evacuation by all. Differences in levels should be clearly marked and safe, adequately lit with well dimensioned staircases, ramps and lift should be provided with suitable handrails. Staircases should facilitate safe assisted evacuation/rescue in emergencies. Doorways should be large enough to facilitate use for wheelchair or other mobility aid users. Movement within the building can be made ease through using applicable components such as horizontal circulation (corridors), vertical circulation (stairs and lift), information, signage, and simple layout (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015.)

The minimum unobstructed width of corridors should be 1200 mm, with a preference for a width of 1800 mm .Where less than 1800 mm wide, a corridor should be provided with passing places, 1800 mm wide and at least 1800 mm in length at reasonable intervals. However, These dimensions should be exclusive of handrails and any other projections, e.g. portable fire extinguishers, notice boards, coat hooks, etc. (UNICIEF,2015).

Table 4.3: Observation of movement within buildings

S.No	Statement	Frequency and percentage				Total
3	Movement within a building	Yes	%	no	%	
3.1	The buildings have large enough corridor to facilitate use for wheelchair or other mobility aid users	13	32.5	27	67.5	40
3.2	The buildings have large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users	5	5	35	95	40
3.3	The buildings have signage to show buildings are accessible for wheelchair or other mobility aid users	1	2.5	39	97.5	40

Field observation was also made about the movement spaces within buildings. Thus, as Table 4.3 shows 13(32.5%) of the observed buildings had large enough corridor to facilitate use for

wheelchair or other mobility aid users, still 27(67.5%) of the observed buildings did not exhibit large enough corridor to facilitate use for wheelchair or other mobility aid users.in addition to this, 5(5%) of the observed buildings retained large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users; nonetheless, 35(95%) of the observed buildings did not retain large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users. Likewise, 1(2.5%) of the observed buildings possessed signage to show the building is accessible for wheelchair or other mobility aid users; in contrast, many, 39(97.5%) of them did not possess signage to show the buildings are accessible for wheelchair or other mobility aid users.

To put it in a nutshell, based on the observation data unveil above the observed buildings are not to the standards of buildings to make movement within a building. Even though some of the buildings have had large enough corridor to facilitate use for wheelchair or other mobility aid users, many do not have this facilities. Besides, it is possible to say that the observed buildings do not own large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users and signage to show buildings are accessible. Consequently, movement within the buildings by people with physical disabilities is not possible so far as the standards are not fulfilled.

Use of individual rooms and facilities

Rooms should to be well dimensioned to allow for sufficient space for wheelchair users, a person using crutches or a person relying on an assistant. All fixtures and fittings should be appropriately designed and correctly positioned. In the individual rooms of a building the following components should accessible like windows, switches and controls, toilet and water supply facilities rooms, and cafeterias all these should be appropriately positioned for all people(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Windows should be easy to open and close by all. It should be possible to open and close the windows with only one hand. Besides, to enable wheelchair users to see through a window, the lower edge of the glazing should be positioned between 800 mm and 1100 mm from the floor depending on the target users' seat height (UNICEF, 2015).

The design and construction of operating switches, controls and devices should be operated safely and independently by all, including people with disabilities. Switches and controls should be easy to use, e.g. by hands-free operation or by using the elbow. Besides, all switches and controls should be easy to understand without requiring specialist knowledge. Furthermore, Switches, sockets and other controls should be installed at an accessible height for reaching and operating, between 800 mm and 1100 mm above floor level and should be located a minimum of 600 mm from any internal corner, preferably 700 mm. However, as an exception, electrical wall socket outlets, telephone points and TV sockets could be located at a minimum height of 400 mm above floor level (UNICIEF, 2015).

Sanitary facilities should be designed to accommodate a variety of users. The location of toilets should be selected to allow persons with disabilities (including wheelchair users) to approach and enter the facilities the minimum dimensions provided below are valid for the common low-level simple pit/hole latrines. However, it should be remembered that persons with physical disabilities have difficulties in sitting on heels, and therefore low-level type of toilet without seat may not be suitable to be used by persons with disabilities (UNICEF, 2015). Thus, there are a variety of approaches to providing wheelchair accessible toilet rooms and the selection should be carefully considered to meet the needs of target users. This process should involve consultation with persons with disabilities to determine their requirements alongside following technical guidance. Accessible toilets that can be used by both sexes allow the greatest flexibility for people who require assistance. If no other national requirements or regulations are available, the following should apply: At least one wheelchair accessible toilet room should be provided in every accessible floor level. In addition, the wheelchair accessible toilet room should always contain a wash basin where public toilets are unavoidably located on sites not able to be accessed by wheelchair users (e.g. schools on significantly sloping land), an effort should be made to still provide sufficient space and accommodations for other people with disabilities, such as people with crutches or with assistants/carers(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

The International Standard gives the characteristics and requirements for the three types of toilet (pit/hole latrines, heels and low-level type of toilet) most commonly used in the world based on the options of wheelchair to toilet seat transfer Manoeuvring space in front of toilet seat (1500 x

1500 mm) reduced by washbasin (300 mm under the washbasin is accepted as part of the total manoeuvring space). The door should have an unobstructed width of at least 800 mm, with be easy to open and close. The top of the toilet seat should be between 400 mm and 480 mm from 850 mm as a recommended value. It should the floor. Furthermore, grab rail on wall beside the toilet seat .and also the vertical grab rail on wall beside the toilet seat for getting up and sitting down (slanted grab bars are not preferred). Above all, toilet paper dispenser fixed on the wall beside the toilet seat The minimum free clearance beside the toilet seat should be 900 mm - 1200 mm is preferred for lateral transfer and assistance (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Besides, people with physical disabilities should be able to reach small wash hand basin when seated on toilet, with floor drain where necessary and the top of the wash basin should be located between 750 mm to 850 mm from the floor. Where available a 'hospital tap' with a long lever is recommended, as it is easy to operate with almost any body part (Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

All equipment in conference rooms shall be usable by all people chairing or participating in the meeting. Meeting rooms, whether used by staff or visitors, should all be designed to be accessible to persons with disabilities, including persons using mobility aids, persons with visual impairments as well as people who have a hearing impairment and use a hearing aid to participate and communicate. Accessible seating should be distributed and integrated throughout seating areas of conference/meeting rooms with different vantage points available to all persons with disabilities. The stage in conference and meetings rooms should have a ramp allowing easy access to presenters using wheelchairs. All equipment in conference rooms shall be usable by people chairing or participating in the meeting and shall be at a height between 800 mm to 1100 mm(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Areas providing food or beverage services should be accessible to persons with disabilities, including persons using mobility aids, such as wheelchairs and crutches. Cafeterias should be designed and furnished to facilitate easy orientation; manoeuvring and use by persons with disabilities. A minimum of 25 % of the tables shall be usable by wheelchair users and shall have

an unobstructed lateral access for wheelchair users. Sufficient manoeuvring space between tables, entrance and the route to the accessible sanitary facilities shall be provided. Accessible seating locations for persons using wheelchairs should be available in all areas or levels, providing food or beverage services .Aisle spaces between furniture, equipment or other fixed objects should be wide enough to allow a person using a wheelchair and a companion, to pass, i.e., major aisles should be a minimum of 1065 mm wide. The narrowest aisle should be at least 810 mm wide. Where counter service is provided, at least one section of the counter should be no higher than 915 mm by 760 mm wide, to allow a person using a wheelchair to approach(Goldsmith, 2000; Handicap International, 2016; Americans with Disability Act, 1980; UNICEF, 2015).

Table 4.4: Observed buildings' use of individual rooms and facilities

S.no	Statements	Percentage and frequency				Total
4	Use of individual rooms and facilities	yes	%	no	%	
4.1	The buildings have accessible widows for wheelchair users, a person using crutches or a person relying on an assistant.	9	22.5	31	77.5	40
4.2	The buildings have accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant.	8	20	32	80	40
4.3	The buildings have accessible and water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant.	3	7.5	37	92.5	40
4.4	The buildings have toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant	0	0	40	100	40
4.5	The buildings have accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant.	0	0	40	100	40
4.6	The buildings have accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant.	2	5	38	95	40

Table 4.4, portrays that few 9(22.5%) of the observed buildings owned accessible widows for wheelchair users, a person using crutches or a person relying on others' assistant; in contrast with this, many,31(72.5% of the buildings did not exhibit accessible widows for wheelchair users, a

person using crutches or a person relying on others' assistant. Furthermore, 8(25%) of the observed buildings had accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant; however, 32(75%) of the buildings did not possess accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant. Additionally, very few 3(7.5 %) of the observed buildings owned accessible water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant, but many ,37(92.5%) of the them did not have owned accessible water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant. besides, none of the observed buildings had toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant. Similarly, no observed buildings possessed accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant. Above all , 2(5%) of the observed buildings had accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant, yet 38(95%) of the buildings did not exhibit accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant.

Consequently, from the above discussion, one can deduce that the observed buildings do not have accessible rooms and facilities. In other words, the observed buildings have no accessible windows, switches, controls and cafeterias. It is true that none of them have toilets with handrails and cafeteria and meeting rooms which are accessible for people for wheelchair users, a person using crutches or a person relying on an assistant.

4.3. Interpretation and discussion of the interviewees responses

Table 4.5: Interviewees' background information

Sex	Average Age	Type of aid used	Education level	Marital status	Cause of disability	Employment status
Male =18	29.9	Wheelchair=15	Degree =2	Married=5	Illness=9	Begging=3
		Crutch =4	Diploma =3		Polio=4	Unemployed= 12
Female =2	Average Age =29.9	Artificial leg=1	High school=2	Single =15	Car accident=2	Employed=5
Male =18	Total age of participant= 598	Wheelchair=15	Primary =6		War=2	
		Crutch =4	Read and write =1		Born disabled=2	
Female =2		Artificial leg=1	Illiterate =6		Medical erro=1	
Total=20		Total =20				
			Total =20	Total=20	Total=20	Total=20

Table 4.5 demonstrates the interviewees' sex, age, type of aids, education level, marital status, cause of disability and employment status. Thus, majority, 18, of the interviewees were male and the rest 2 were female and had 29.9 year average age. Besides, most of the interviewees, 15, of them used wheelchair as a moving aid, 4 of them use crutch and 1 had artificial legs. Furthermore, 2 and 3 of them had degree and diploma respectively. On the other hand, 6 and 6 of them were illiterate and had primary schooling in the order given. Still 2 of them went up to high school level of education and 1 of them could read and write. Moreover, 5 of them were married and 15 of them were single. What is more, 9 of them became disable because of illness, 4 of them were disable because of polio. Again 2, 2 and 2 of them became disable due to car accident, war and born disabled respectively and 1 became disable because of medical error. Above all, majorities, 12, of them were unemployed, 3 of them were beggars and 5 of them were employed. It is true that most of the interviewees are in their working age they 15 of them have no job.

For the interview the researcher prepared 19 structured interview questions which elaborate the accessibility of buildings in Yeka Sub-city and 1 open ended question that asks the impacts of inaccessibility of buildings on their lives. So the interview data can be presented and discussed as follows.

The researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have way-findings? Some, seven, of them said "yes" they had. On the other hand thirteen of them said that they did not have. I also asked, do buildings that you have been using in Yeka sub-city have accessible pathway? Three of them said "yes" and seventeen of them replied "no'. Furthermore, I raised the following question; do buildings that you have been using in Yeka sub-city have accessible parking? Two of them said "yes" and eighteen of them said "no". The interviewees were asked; do buildings that you have been using in Yeka sub-city have gaps, grates and other openings? Many of them (sixteen) said "yes" but four of them said "no". The interviewees were also asked; do buildings that you have been using in Yeka sub-city have outdoor facilities? Nineteen of them said "no" and only one interviewee said "yes" (See appendix G).

In sum, from the interviewees' replies on the buildings movement in the outdoor environment, one can say, most of the buildings that people with physical disabilities have been using had no way findings, accessible pathway, parking, outdoor facilities and had gaps, grates, and other openings that can hinder their access for people with physical disabilities.

Additionally, the interviewees were also asked different question about the accessibility of building entrances, exiting and evacuation. The researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have easy to use ramps? Seventeen of them said" no" and three of them said "yes". The researcher again asked the interviewees; do buildings that you have been using in Yeka sub-city have easy to use handrails? Four of them replied "yes" and sixteen of them replied "no". Besides, the researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have easy to use entrance door and door handles? Six of them replied "yes" and foteen of them said" no". Similarly, the researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have easy to use reception counter desk? Five of them said "yes" and fifteen of them said "no". Above all, the researcher

asked the interviewees; do buildings that you have been using in Yeka sub-city have fire emergency warning systems and signals? None of them said yes and all of them said “no”.

In general from the above discussion it can be concluded that most of the buildings which were used by people with physical disabilities had not easy to use ramps, handrails, entrance doors and door handles, receptionist counter desk and none of the buildings had fire emergency systems and signals.

Further, the researcher asked the interviewees in connection with movement within the buildings. First, the researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have large enough corridor to facilitate use for wheelchair or other mobility aid users? Seven of them replied “yes” and thirteen of them said “no”. The second question was, do buildings that you have been using in Yeka sub-city have large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users? Three of them replied “yes” and seventeen of them replied “no”. the other question the researcher asked is, Do buildings that you have been using in Yeka sub-city have signage to show buildings are accessible for wheelchair or other mobility aid users? Two of them replied “yes” and eighteen of them said “no” (see appendix G)

To put it in a nutshell, based on the interviewees’ replies the mobility spaces within the buildings that the interviewees used had no large enough corridors, elevator/ lifts to facilitate movement within buildings for wheelchair or other mobility aid users and had no signage to show buildings are accessible for wheelchair or other mobility aid users.

Moreover, the researcher interviewed the interviewees about the use and facilities of buildings’ room for them. To find out data about the above issue, the researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have accessible windows for wheelchair users, a person using crutches or a person relying on an assistant? An individual replied “yes”, but nineteen of the interviewees said “no”. Secondly, the researcher asked the interviewees; do buildings that you have been using in Yeka sub-city have accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant? Eight of them said “yes”, yet twelve of them said” no”. Thirdly, this question was asked; do buildings that you have been using in Yeka sub-city have accessible water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant? Two of them said “ yes” and eighteen of them

answered “no”. the researcher also asked the following questions: do buildings that you have been using in Yeka sub-city have toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant? And do buildings that you have been using in Yeka sub-city have accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant? All, twenty of the interviewees answered the above two questions by saying none of the buildings had toilet with handrail and accessible conference and meeting rooms. Above all, the interviewees were asked; Do buildings that you have been using in Yeka sub-city have accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant? For this question three of them said “yes” and seventeen of them said “no”.

To sum up,from the above discussion it can be deduced that the buildings which were used by interviewees did not accessible rooms facilities. That is to say, the buildings are not accessible for people with physical disabilities since the buildings have no accessible water supply, toilet with handrails, conference and meeting rooms, cafeterias and switches and controls.

Finally, the researcher asked the interviewees about the impacts of inaccessible buildings on people with disabilities’ life. Some of the interviewees answered as follows:

Interviewee4.Said, “The inaccessibility of buildings obliged me to be totally dependent on my family. For instance, when I want to buy clothes I can shop in buildings thus my family members do not buy what I am interfered in.”

Interviewee 9 Said, “When I think of using toilets, I feel stressed since I am supposed to travel afar. Additionally, I am frustrated to use in buildings as they have smooth surfaces.”

Interviewee 13 Said, “Because of the inaccessibility of buildings, I sometime send my family member to do perform a certain activity in the mean time I wait for them around the gate of the building for a long time as a result people give me money thinking that I am a beggar.”

Interviewee 17 said, “When I want to enter in buildings which have no ramps and lifts the watchmen ignore and have grimace assuming that I need help from them.”

However, most of the interviewees mentioned the following common issues and can bepresented as follow:

> The interviewees said that they face a number of problems; for instance, they said they had unemployment problem. Furthermore, they reported that they were unable to shop in most buildings. Besides, they replied that they were unable to use public services like banks, health center, schools, and cafeterias. In addition, they said that they were unable to participate in different social occasions such as edir, in funeral ceremonies, and encountered psychological problems for instanced stress. Above all, they mentioned that they became burden to their family when they wanted to access buildings. Those we were employed also said that they could not do their jobs by moving freely in the buildings.

Indeed, from the interviewees' answers it can be said that the inaccessibility of buildings clearly put much pressure on them not to be employed, not get public services, not to participate in different social occasions. Likewise, they became burden to their family and had psychological problem.

4.4. Discussion and presentation of the construction office officers' interview responses

In order to answer the second research question, it was mandatory to interview the sub-city's construction office officers. Therefore, the researcher asked five purposely selected construction office officers who were believed the right person to give answers. Thus, the researcher asked, do you have standard guidelines for contractors to make what they build accessible for people with physical disabilities?

The construction office manager said, "We have standards of buildings," however, the researcher asked him to show up the standards and he said, "We have Goldsmiths book." In addition, the researcher asked other four construction officers the same question and they said:

> We don't have ready- made standards of buildings particularly that dictate contractors what to include in the construction of buildings in order to facilitate access of buildings for people with physical disabilities. Further, they reported

though contractors show us some of the facilities like ram, they do not construct appropriately on the ground.

Therefore, based on the interviewees' ideas, it is possible to reason that the Sub-city had no properly prepared standards of buildings that could ensure the inclusion of access buildings for people with physical disabilities.

The research again asked the interviewees: is there any mechanism that you enforce to make buildings accessible for people with disabilities? They responded this question as follow:

> The interviewees replied that as sub-city level, we make close follow up about how buildings are constructed from the beginning to end. Again they said as far as there is a proclamation that is proclamation No. 624/2009, part four Article 36 sub-article 1, which notes all public buildings, should have facilities that allow access suitable for the use of PWD. Thus, they confirmed that they did not need to have other enforcement mechanisms.

From the data the interviewees forwarded it can be said that the sub-city construction office did not have other clear enforcement mechanism to make buildings being constructed in the sub-city accessible for people with physical disabilities.

According to Imrier (2002), although there are various attempts in terms of legislation and the design of formal law building instruments, the built environment of many countries have remained largely inaccessible which is also true in Ethiopia.

4.5. Summary of the Results

The purpose of this study was to explore the the accessibility of buildings for people with physical disabilities. Specifically, it was intended to address the following three research questions: To what extent are buildings accessible for people with physical disability in Yeka Sub-city? Are their standards for accessibility of buildings for people with physical disabilities in Yeka Sub-city? What challenges do people with physical disabilities face due to inaccessible

buildings in Yeka Sub-city? To answer these broad and specific research questions, the study was conducted in YekaSubcity, in Addis Ababa.

The results that were obtained through field observation and people with physical disabilities interview were similar. Thus, the field observation checklist was grouped under four categories. These were: the first section deals with movement in the outdoor environment and outside buildings. The second part is on the entering, exiting and evacuating of buildings. The third part is related to movement within buildings and the last section contains statements about the use of individual rooms and facilities.

From the field observation and people with physical disabilities interview responses, it was seen that the observed buildings in Yeka sub-city did not have accessible movement in the outdoor environment of the buildings. For example, as Table 4.1 reveals that out of observed forty buildings, majority, 30 (75%) buildings didn't have way findings and the other hand thirteen of the interviewees said that the buildings they have been using didn't have way findings. Furthermore, from the observed buildings 36 (90%) of them had no accessible pathway and similarly seventeen of the interviewees replied the buildings they have been using had no accessible pathway. Furthermore, 31(77.5%) of the observed buildings did not have accessible parking in the same vein eighteen of the interviewees said that the buildings they have been using did not have accessible parking. Moreover, 27(67.5%) of the observed buildings had gaps, grates, and other openings and man of the interviewees (sixteen) said the buildings had gaps, grates, and other openings. Above all, 37 (92.5 %) of the observed buildings did not have outdoor facilities and nineteen of the interviewees said the buildings they have been using had no outdoor facilities.

Based on the field observation and people with physical disabilities interview responses, on the entering, exiting and evacuating of buildings, it was confirmed that most of the buildings have no accessible entrances, exits and fire emergency warning systems and signals. For instance, Table 4.2, clearly shows 33(82.5%) of the observed buildings had no easy to use ramps and seventeen of the interviewees the buildings they have been doing had not easy to use ramps. Again, 8(45%) of the observed buildings had easy to use handrails; indeed, 22(55%) of the observed buildings did not have easy to use handrails alike seventeen of them confirmed the buildings they have

been using had no easy to use handrails. In addition, 34(85%) of them had no easy to use entrance doors and door handles; likewise, fourteen of the interviewees said the buildings they have been using had no easy to use entrance doors and door handles. What is more, 36(90%) of the observed buildings did not have easy to use reception counter desk; correspondingly, fifteen of the interviewees confirmed that buildings had no easy to use reception counter desk. On top of this, none of the observed buildings had fire emergency warning systems and signals and the interviewees also asserted this.

The researcher also gathered data on the movement spaces within buildings. Thus, the data confirmed that movement within the buildings by people with physical disabilities is not possible. Suppose, Table 4.3 shows 27(67.5%) of the observed buildings did not exhibit large enough corridor to facilitate use for wheelchair or other mobility aid users parallel to this thirteen of the interviewees also said buildings they have been using had not have large enough corridor to facilitate use for wheelchair or other mobility aid. In addition to this, 35(95%) of the observed buildings did not retain large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users and ,many, seventeen of the interviewees replied that buildings did not retain large enough elevator/ lifts. Likewise, 39(97.5%) of the observed buildings did not possess signage to show the buildings are accessible for wheelchair or other mobility aid users and eighteen of the interviewees confirmed that the buildings which they have been using had no signage to show the buildings are accessible for wheelchair or other mobility aid users .

In general, more or less, the results that were obtained through the field observation and interview made with people with physical disabilities coincided with one another though the teachers' responses in the interview slightly differ.

Further, the researcher gathered data about the use of individual rooms and facilities. Thus, Table 4.4 portrays that, 31(72.5% of the buildings did not exhibit accessible widows for wheelchair users, a person using crutches or a person relying on others' assistant and nineteen of the interviewees said that the buildings did not have no accessible widows for wheelchair users, a person using crutches or a person relying on others' assistant. Furthermore, 32(75%) of the observed buildings and twelve of the interviewees too assured that the buildings did not possess accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant. Additionally, 37(92.5%) of the observed buildings and eighteen of the

interviewees data manifested that the buildings did not owned accessible water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant. Besides, the data from the field observation and the interviewees' responses verify that none of the observed buildings had toilet with handrails and accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant. Above all, 38(95%) of the buildings did not exhibit accessible cafeterias for wheelchair users , a person using crutches or a person relying on an assistant and seventeen of the interviewees substantiate the above idea.

Data were also gathered through interview about the impacts of inaccessible buildings on people's with disability life. Thus the interviewees authenticate that the inaccessibility of buildings clearly put much pressure on them not to be employed, not get public services, not to participate in different social occasions. Likewise, they became burden to their family and had psychological problem.

Moreover, the researcher had interview with the construction office officers whether they have standard guidelines for contractors to make buildings accessible for people with physical disabilities. Thus, the interview data assures that the sub-city had no properly prepared standards of buildings that could ensure the inclusion of access buildings for people with physical disabilities. Again, the construction officers interview data assured that the sub-city construction office did not have clear enforcement mechanism to make buildings being constructed in the sub-city accessible for people with physical disabilities.

CHAPTER FIVE

5. Summary, Conclusions and recommendations

5.1. Summary

It is obvious that people with physical disabilities are part of every community. The acceptance and integration of the physically disabled people into the society in order to take an active part in the society and live a normal life is important. Thus, an emphasis on having accessible buildings helps people with physical disability to capitalize their access to buildings. Hence buildings should be accessible and barrier free to physically disabled people. In other words, the provision of all the necessary standards during the actual construction of buildings can foster the access of buildings for PWDs.

Therefore, the main purpose of this study was to explore the accessibility of buildings for people with physical disabilities in Yeka Sub-City. Specifically, it was intended to answer the following three research questions: To what extent are buildings accessible for people with physical disability in Yeka Sub-city? Are their standards for accessibility of buildings for people with physical disabilities in Yeka Sub-city? What challenges do people with physical disabilities face due to inaccessible buildings in YekaSub-city?To answer these broad and specific research questions, the study was conducted, in Yeka Sub-City, in Addis Ababa.

In line with these questions, two instruments were used: field observation, people with physical disabilities' interviewees, and construction officers' interview. The major findings obtained using these techniques are reported as follow.

The data obtained from field observation, people with physical disabilities' interviewees, and construction officers' interview, the buildings are not accessible for people with physical disabilities. In sum, the results that were from field observation and people with physical disabilities' interviewees were almost similar.

5.2. Conclusions

The study was carried out to investigate the accessibility of buildings for people with physical disabilities in Yeka Sub-City. In particular, the objectives of the study were:

- Explore the accessibility of buildings for people with physical disabilities.
- Examine the standards of buildings in the Sub-City.
- Investigate the challenges of people with physical disabilities face in their accessible in buildings.

As clearly stated earlier, in order to attain these research objectives, relevant data were gathered through field observation (40 buildings were observed), 20 people with physical disabilities' were interviewed, and 5 construction officers' were also interviewed. The data were analyzed with frequency, percentage and qualitatively. On the basis of the results, the following conclusions have been drawn:

1. The results of the study showed that the buildings in Yeka Sub-city did not seem accessible for people with physical disabilities. As a result, in Yeka Sub-city buildings did not have accessible outdoor environment and outside buildings moving spaces. Furthermore, the entrances, exits and evacuation of building were not accessible. Besides, moving spaces within buildings and the individual rooms and facilities were not accessible for People with physical disabilities.

2. The study showed that buildings in Yeka Sub-city did not have standards to make people with physical disabilities inclusive in their usage. The sub-city construction office had not ready made standards of buildings and law that force them to make buildings accessible for people with physical disabilities. For instance, the buildings' outdoor moving places were not easily useable by people with physical disabilities, the buildings entrances and exits were not built based on standards of buildings and none of the buildings had emergency evacuation. The buildings also had narrow moving spaces within the buildings which could let two or more wheelchair users to move at the same time. Above all, the individual room of the buildings were not built with appropriate standards

3. The findings of the study also suggested that the inaccessibility of buildings had many challenges to people with physical disabilities. The following were the commonest challenges unemployment, unable to use public services and participate in different social occasions. Likewise, they became burden to their family and had psychological problems.

In general, the Sub-city's public service providing buildings seemed to be inaccessible for people with physical disabilities. Furthermore, the sub-city's construction officers were less aware of the most important standards of buildings that could create access to people with physical disabilities as they mention few of the standards in their interview responses.

53. Social work implication

As the research finding indicated, person with physical disability faced challenges regarding inaccessibility of buildings. Thus social workers should make advocacy work for different kinds of societies including the poor, homeless children, and also for persons with disability. Since social work is a multidisciplinary field, social workers should work in team together with other disciplines such as medicine, psychology, law, sociology economics and engineering. In particular social workers should work together with civil engineers and construction officers who involved in building construction in order to facilitate, create different opportunities, and empower people with physical disabilities.

Furthermore, architects, engineers and other construction professionals in Yeka Sub-city should consult people with physical disabilities representative about their facility needs in and outside of buildings to make what they build inclusive. Besides, universities should send social work students to asses societal problems in the form of project work /field practice in order to depict problems the current study.

5.4. Recommendations

Based on the above conclusions, the researcher would like to forward the following recommendations:

1. The Ministry of Urban Development and Housing, and Federal Government Buildings Construction Project Office shall clearly enact laws and proclamations that should enforce the Addis Ababa Sub-cities' Construction Offices to make buildings accessible for people with disabilities.

2. Yeka Sub-city's Construction Office could prepare standards of buildings and should organize follow-up team who ensure buildings to be accessible for people with physical disabilities. The team may also change people's believes and ignorance who are involved in the construction sector.
3. Architects, engineers and other construction professionals could consult UNICIEF's standards of buildings.

4. As this study is not a large scale study and involved limited number of people with physical disabilities in Yeka Sub-city, further research including more subjects (visually impaired people) and more sub-cities in Addis Ababa may be necessary to be carried out. For instance, interested researchers can continue their study on accessibility of buildings for people with disabilities in Addis Ababa.

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Appendix A: Observation check list

Item No	Statement	responses	
		yes	no
1	Movement in the outdoor environment and outside buildings		
1.1	The Building has way-findings.		
1.2	The Building has accessible Pathway		
1.3	The Building has accessible parking for people with persons with physical disabilities.		
1.4	The Building has gaps, grates and other openings.		
1.5	The Building has outdoor facilities for people with physical disabilities.		
2	Entering, exiting and evacuating buildings		
2.1	The Building has easy to use ramps for people with physical disabilities.		
2.2	The Building has easy to use handrails		
2.3	Buildings has easy to use entrance door and door handles		
2.4	The Building has easy to use reception counter desk		
2.5	The Building has fire emergency warning systems and signals		
3	Movement within a building		
3.1	The Building has large enough corridor to facilitate use for wheelchair or other mobility aid users		
3.2	The Building has be large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users		
3.3	The Building has signage to show buildings are accessible for wheelchair or other mobility aid users		
4	Use of individual rooms and facilities		
4.1	The Building has accessible widows for wheelchair users, a person using crutches or a person relying on an assistant.		
4.2	The Building has accessible Switches and controls for wheelchair users, a person using crutches or a person relying on an assistant.		
4.3	The Building has accessible and water supply facilities for wheelchair		

	users, a person using crutches or a person relying on an assistant.		
4.4	The Building has toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant		
4.5	The Building in Yeka sub-city have accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant.		
4.6	The Building in Yeka sub-city has accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant.		

Appendix B: Interview question for people with physical disabilities

My name is AlemtsehayAlemayehu. I am a graduate student in Addis Ababa University and I am conducting a research on the accessibility of buildings in Yeka sub-city for people with physical disabilities for the partial fulfillment of my MA in Social work. The main purpose of this interview is to gather facts and evidences on the accessibility of buildings for person with physical disabilities in yeka Sub-city. Thus, your responses will have much contribution to the success of the intended research.

Thank you for your cooperation in Advance!

Personal information

- Sex _____
- Age _____
- Type of aid you use _____
- Educational level_____
- Marital Status _____
- The cause of your disability is _____
- Employment Status_____

This part of the interview has 19 questions, and please answer the questions by saying “yes” if you view the item as being right or “no” if you see the item as unfavorable.

Item No	Question	responses	
		yes	No
1	Movement in the outdoor environment of the buildings		
1.1	Do buildings that you have been using in Yeka sub-city have way-findings?		
1.2	Do buildings that you have been using in Yeka sub-city have accessible Pathway?		
1.3	Do buildings that you have been using in Yeka sub-city have accessible parking?		
1.4	Do buildings that you have been using in Yeka sub-city have gaps, grates and other openings?		
1.5	Do buildings that you have been using in Yeka sub-city have outdoor facilities?		
2	Entering, exiting and evacuating buildings		
2.1	Do buildings that you have been using in Yeka sub-city have easy to use ramps?		
2.2	Do buildings that you have been using in Yeka sub-city have easy to use handrails?		
2.3	Do buildings that you have been using in Yeka sub-city have easy to use entrance door and door handles?		
2.4	Do buildings that you have been using in Yeka sub-city have easy to use reception counter desk?		
2.5	Do buildings that you have been using in Yeka sub-city have fire emergency warning systems and signals?		
3	Movement within a building		
3.1	Do buildings that you have been using in Yeka sub-city have large enough corridor to facilitate use for wheelchair or other mobility aid users?		
3.2	Do buildings that you have been using in Yeka sub-city have large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users?		
3.3	Do buildings that you have been using in Yeka sub-city have signage to show buildings are accessible for wheelchair or other mobility aid users?		
4	Individual rooms facilities		
4.1	Do buildings that you have been using in Yeka sub-city have accessible windows for wheelchair users, a person using crutches or a person relying on an assistant?		
4.2	Do buildings that you have been using in Yeka sub-city have accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant?		
4.3	Do buildings that you have been using in Yeka sub-city have accessible water supply facilities for wheelchair users, a person using crutches or a		

	person relying on an assistant?		
4.4	Do buildings that you have been using in Yeka sub-city have toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant?		
4.5	Do buildings that you have been using in Yeka sub-city have accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant?		
4.6	Do buildings that you have been using in Yeka sub-city have accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant?		

This section of the interview question has one question which elicits the impacts of inaccessible buildings in Yeka Sub-city on your life.

1. What are the impacts of inaccessible buildings on your life?

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Appendix C: የአካልጉዳትላለባቸዉሰዎችየተዘጋጀመጠይቅ

ስሜአለምፀሀይአለማየሁይባላል፡፡ የአዲስአባባዩኒቨርሲቲየድህረምረቃተማሪነኝ፡፡

ስለሆነምለመመረቂያፅሁፍማሟያበየካከፍለከተማዉስጥየሚገኙህንጻዎችየአካልጉዳትላለባቸዉሰዎችተደራሽስለመሆናቸ ዉበሚልርእስላይምርምርእየሰራሁእገኛለሁ፡፡

የቃለመጠይቁምዋናአላማበየካከፍለከተማዉስጥየሚገኙህንጻዎችየአካልጉዳትላለባቸዉሰዎችተደራሽስለመሆናቸዉእዉነታና ማስረጃዎችንለመስብሰብነዉ፡፡በመሆኑምየአነቺ (ተ) ምላሽሊደረግለታሰበዉምርምርከፍተኛአስተዋጽዖይኖረዋል፡፡

ስለትብብርሽ(ህ) በቅድሚያአመሰግናለሁ፡፡

ክፍልአንድ

የግልመረጃዎች

- ጾታ_____
- እድሜ _____
- ለመንቀሳቀስየምትጠቀሚዉ(መዉ) _____
- የትምህርትደረጃ _____
- የጋብቻሁኔታ_____
- የአካልጉዳትሽ(ህ)መንስኤ_____
- የስራቅጥርሁኔታሽ(ህ) _____

ጥያቄዎቹንካነበብኩሉዎበኋላትክክለኛመልስብለዉለሚያሰቡትምላሽአላቸዉወይምከሌላቸዉደግሞየላቸዉምበማለትይመልሱ በትህትናእጠይቃለሁ፡፡

ጥ .ቁ	ጥያቄ	ምላሾች	
		አላቸዉ	የላቸዉም
1	በህፃዎቹዙሪያያሉመንቀሳቀሻዎች		
1.1	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችአቅጣጫጠቋሚአላቸዉን?		
1.2	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችለመጠምምቹየሆኑመተላለፊያመንገዶችአሏ ቸዉን?		
1.3	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎምቹየሆነየመኪናማቆያአላቸዉን?		
1.4	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችመተላልፍያችዉበብረትከዳንየተሸፈኑናሌሎ ችከፍተቶችአሏቸዉን?		
1.5	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉከህንፃዎቹዉጪየተለያዩአገልጊሎቶችአሏቸዉን?		
2	የህንፃዎችመግቢያናመዉጫ		
2.1	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችበቀላሉለመጠቀምየሚመቹመዉጫመዉረጃ መንገዶችአሏቸዉን?		
2.2	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችበቀላሉለመጠቀምየሚመቹየህንጻደረጃመደገ ፊአሏቸዉን?		
2.3	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችበቀላሉለመጠቀምየሚመቹመግቢያበርናየበ ርመያጣዎችአሏቸዉን?		
2.4	በየካክፍለከተማተጠቅሜተጠቅመዉየሚያዉቋቸዉበቀላሉለመጠቀምየሚመቹየእንግዳመቀበያ ደስክአሏቸዉን?		
2.5	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችየእሳትአደጋማስጠንቀቂያምልክቶችአሏቸዉ ን?		
3	በህፃዎቹዉስጥያሉመንቀሳቀሻዎች		
3.1	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዉስጥዊልቸርወይምሌላመንቀሳቀሻለሚጠቀ ሙሰዎችበቂየሆነመተላለፊያአሏቸዉን?		

3.2	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዉስጥዊልቸርወይምሌላመንቀሳቀሻለሚጠቀሙሰዎችለመጠቀምየሚመቹአሳንሰሮችአሏቸዉን?		
3.3	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዉስጥዊልቸርወይምሌላመንቀሳቀሻለሚጠቀሙሰዎችመጠቀምእንደሚችሉየሚገልፅምልክትአሏቸዉን?		
4	በእያንዳነዱክፍልዉስጥያልአገልግሎት		
4.1	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችተደራሽየሆኑመስኮቶችአሏቸዉን?		
4.2	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችተደራሽየሆኑማብሪያማጥፊዎችናመቆጣጠሪያዎችአሏቸዉን?		
4.3	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችተደራሽየሆየዉሃአገልግሎትአላቸዉን?		
4.4	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችየእጅመደገፊያ/መያዣያላቸዉሽንትቤትአላቸዉን?		
4.5	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችምችየሆኑየስብሰባአዳራሾችአሏቸዉን?		
4.6	በየካክፍለከተማተጠቅመዉየሚያዉቋቸዉህንፃዎችዊልቸር፤ክራንችወይምበሰዎችድጋፍለሚንቀሳቀሱሰዎችምቹየሆኑሻይቡናመጠቀሚአሏቸዉን?		

ይህየቃለመጠቅመጠይቅከፍልአንድጥያቄሲኖረዉጥያቄዉምበየካክፍለከተማያሉየህንፃዎችተደራሽአለመሆንበአንቺ(ተ) ህይዎትላይምንተፅእኖእንዳላቸዉየሚጠየቅነዉ::

በየካክፍለከተማያሉየህንፃዎችተደራሽባለመሆናቸዉምክንያትበአንቺ(ተ) ህይዎትምንምንተፅእኖአላቸዉ::

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Appendix D: Interview guide questions for construction office officers

My name is AlemtsehayAlemayehu. I am a graduate student in Addis Ababa University and I am conducting a research on the accessibility of buildings in Yeka sub-city for people with physical disabilities for the partial fulfillment of my MA in Social work. The main purpose of this interview is to gather facts and evidences on the accessibility of buildings for person with physical disabilities in yeka Sub-city. Thus, your responses will have much contribution to the success of the intended research.

Thank you for your cooperation in Advance!

1. Do you have standard guidelines for contractors to make what they build accessible for people with physical disabilities? If you say yes would you tell me some of the facilities that any building should fulfill?
2. Is there any mechanism that you enforce to make buildings accessible for people with disabilities?

AppendixE: Frequency and percentage of the actual observed buildings' standards

Item No	Standards	Presence facility		Total frequency and percentage				Total
		Yes	No	yes		no		
1	Movement in the outdoor environment and outside buildings			Yes	%	no	%	
1.1	The buildings have way-findings.	10	30	10	25	30	75	40
1.2	The buildings have accessible pathway	4	36	4	10	36	90	40
1.3	The buildings have accessible parking.	9	31	9	22.5	31	77.5	40
1.4	The buildings have gaps, grates and other openings.	27	13	27	67.5	13	32.5	40
1.5	The buildings have outdoor facilities	3	37	3	7.5	37	92.5	40
2	Entering, exiting and evacuating buildings							
2.1	The buildings have easy to use ramps	7	33	7	17.5	33	82.5	40
2.2	The buildings have easy to use handrails	18	22	18	45	22	55	40
2.3	The buildings have easy to use entrance door and door handles	6	34	6	15	34	85	40
2.4	The buildings have easy to use reception counter desk	4	36	4	10	36	90	40
2.5	The buildings have fire emergency warning systems and signals	0	40	0	0	40	100	40
3	Movement within a building							
3.1	The buildings have large enough corridor to facilitate use for wheelchair or other mobility aid users	13	27	13	32.5	27	67.5	40
3.2	The buildings have large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users	5	35	5	5	35	95	40
3.3	The buildings have signage to show buildings are	1	39	1	2.5	39	97.5	40

	accessible for wheelchair or other mobility aid users							
4	Use of individual rooms and facilities							
4.1	The buildings have accessible widows for wheelchair users, a person using crutches or a person relying on an assistant.	9	31	9	22.5	31	77.5	40
4.2	The buildings have accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant.	8	32	8	20	32	80	40
4.3	The buildings have accessible and water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant.	3	37	3	7.5	37	92.5	40
4.4	The buildings have toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant	0	40	0	0	40	100	40
4.5	The buildings have accessible conference and meeting rooms for wheelchair users, a person using crutches or a person relying on an assistant.	0	40	0	0	40	100	40
4.6	The buildings have accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant.	2	38	2	5	38	95	40

Appendix F: Interviewees' characteristics

S.no	Sex	Age	Type of aid used	Education level	Marital status	Cause of disability	Employment status
1	female	37	Wheelchair user	illiterate	single	Polio	begging
2	female	28	Wheelchair user	primary	single	Illness	unemployed
3	male	43	Crutch user	Degree	single	War	employed
4	Male	23	Crutch user	Diploma	married	Polio	employed
5	Male	39	Crutch user	High school	married	Polio	begging
6	Male	20	wheelchair user	Illiterate	single	Illness	unemployed
7	Male	27	Wheelchair user	Can read and write	single	Illness	unemployed
8	Male	22	wheelchair user	Primary	single	Illness	unemployed
9	male	35	wheelchair user	Illiterate	Single	Illness	unemployed
10	Male	23	crutch user	Diploma	married	Polio	employed
11	Male	41	Artificial legs	High school	married	War	unemployed
12	Male	25	wheelchair user	Diploma	single	Car accident	employed
13	Male	20	wheelchair user	Primary	single	Illness	begging
14	Male	26	wheelchair user	Primary	single	Illness	unemployed
15	Male	27	wheelchair user	Primary	single	Born disabled	Unemployed
16	Male	23	wheelchair user	Primary	single	Illness	Unemployed
17	Male	32	wheelchair user	Illiterate	single	Born disabled	Unemployed
18	Male	34	wheelchair user	Illiterate	single	Medical error	Unemployed
19	Male	26	wheelchair user	Illiterate	single	Illness	Unemployed
20	male	47	crutch user	Degree	married	Car accident	employed

Appendix G: Frequency and percentage of the interviewees' responses

Item No	Standards	Presence of facility		Total frequency and percentage				Total
		Yes	No	yes		no		
1	Movement in the outdoor environment of the buildings			Yes	%	no	%	
1.1	Do buildings that you have been using in Yeka sub-city have way-findings?	7	13	7	35	13	55	20
1.2	Do buildings that you have been using in Yeka sub-city have accessible pathway?	3	17	3	15	17	85	20
1.3	Do buildings that you have been using in Yeka sub-city have accessible parking?	2	18	2	10	18	90	20
1.4	Do buildings that you have been using in Yeka sub-city have gaps, grates and other openings?	16	4	16	80	4	20	20
1.5	Do buildings that you have been using in Yeka sub-city have outdoor facilities?	1	19	1	5	19	95	20
2	Entering, exiting and evacuating buildings							
2.1	Do buildings that you have been using in Yeka sub-city have easy to use ramps?	3	17	3	15	17	85	20
2.2	Do buildings that you have been using in Yeka sub-city have easy to use handrails?	4	16	4	20	16	80	20
2.3	Do buildings that you have been using in Yeka sub-city have easy to use entrance door and door handles?	6	14	4	20	16	80	20
2.4	Do buildings that you have been using in Yeka sub-city have easy to use reception counter desk?	5	15	5	25	15	75	20
2.5	Do buildings that you have been using in Yeka sub-city have fire emergency warning systems and signals?	0	20	0	0	20	100	20

3	Movement within a building							
3.1	Do buildings that you have been using in Yeka sub-city have large enough corridor to facilitate use for wheelchair or other mobility aid users?	7	13	7	35	13	55	20
3.2	Do buildings that you have been using in Yeka sub-city have large enough elevator/ lifts to facilitate use for wheelchair or other mobility aid users?	3	17	3	15	13	85	20
3.3	Do buildings that you have been using in Yeka sub-city have signage to show buildings are accessible for wheelchair or other mobility aid users?	2	18	2	10	18	90	20
4	Use of individual rooms and facilities							
4.1	Do buildings that you have been using in Yeka sub-city have accessible windows for wheelchair users, a person using crutches or a person relying on an assistant?	1	19	1	5	19	95	20
4.2	Do buildings that you have been using in Yeka sub-city have accessible switches and controls for wheelchair users, a person using crutches or a person relying on an assistant?	8	12	8	40	12	60	20
4.3	Do buildings that you have been using in Yeka sub-city have accessible water supply facilities for wheelchair users, a person using crutches or a person relying on an assistant?	2	18	2	10	18	90	20
4.4	Do buildings that you have been using in Yeka sub-city have toilet with handrail for wheelchair users, a person using crutches or a person relying on an assistant?	0	20	0	0	20	100	20
4.5	Do buildings that you have been using in Yeka sub-city have accessible conference and meeting	0	20	0	0	20	100	20

	rooms for wheelchair users, a person using crutches or a person relying on an assistant?							
4.6	Do buildings that you have been using in Yeka sub-city have accessible cafeterias for wheelchair users, a person using crutches or a person relying on an assistant?	3	17	3	15	17	85	20

Transcription of Some interviewees' responses

The interviewees were asked: whatare the impacts of inaccessible buildings on your life?

Appendix H: List of observed buildings

1. Bethlehem Plaza
2. Metebaber Building
3. Zefmesh Mall
4. Marathon Building
5. Menarol Building
6. City Government of Addis Ababa Yeka Sub-city
7. Menilik Hospital
8. Tamegas Building
9. Genet Commercial Center
10. KokebTsibah School
11. Vinvalue Hotel
12. Ararat Hotel
13. Taddesse Building
14. Federal First Instance Court
15. Meridian Convention Center
16. Dangote Cemetery Building
17. Gage College
18. Industrial Park Corporation
19. Cheshire Service Ethiopia
20. Management Institute

21. Beshalie Hotel

22. Top Ten Hotel

23. Kotebe Metropolitan University

24. Wonderad Primary School

25. Athletics Federation Building

26. De Noc Building

27. Hema Building

28. Tabor Building

29. TantosTawor

30. Mehir Building

31. Dawit Building

32. Rohebot Building

33. Champion Building

34. Cool Building

35. Kotebe Health Center

36. Yeka Health Center

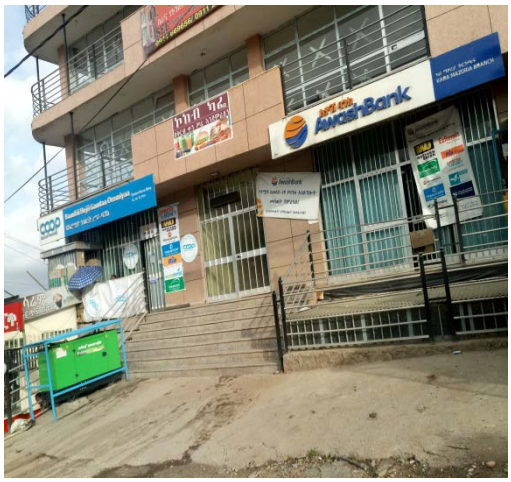
37. Pacific Hotel

38.Gentel Hotel

39. Yerer Building

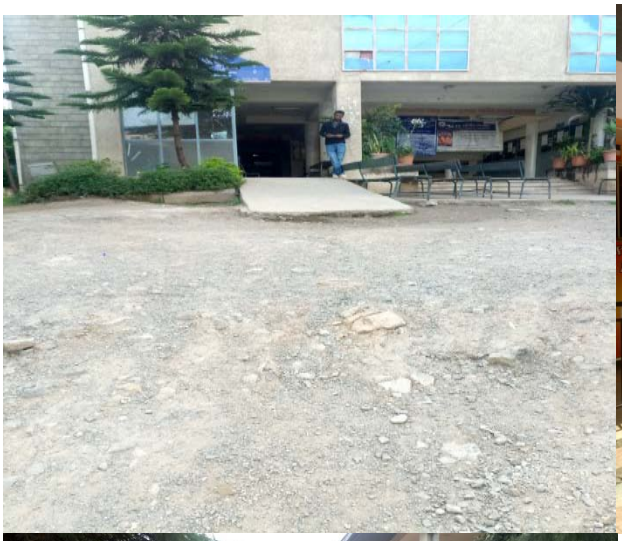
40. Nigussu Building

Appendix I: Sample observed buildings' picture



Buildings which had inaccessible movement in the outdoor environment and outside buildings, entering, exiting and evacuating buildings

Ramps that have no handrail, too sloppy and slippery surface



Buildings which had no accessible outdoor environment and outside buildings

Buildings that had no accessible use of individual rooms and facilities

Buildings that had no accessible use of individual rooms and facilities

Buildings which had inaccessible movement within buildings