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**ADDIS ABABA UNIVERSITY
COLLEGE OF SOCIAL SCIENCES
DEPARTMENT OF ARCHAEOLOGY AND
HERITAGE MENEGEMENT**

Accessibility of Museum Collections for Visitors with
Disability: A Case of Three Selected Museum in Addis Ababa

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IN MUSEUM STUDIES**

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Disability: A Case of Three Selected Museum in Addis Ababa

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Declaration

I, Abrham Tesfaye, do hereby declare to the Department of Archaeology and Heritage Management, College of Social Sciences at Addis Ababa University that in partial fulfillment of the requirements for the Degree of Master of Arts in Museum Studies this thesis entitled “ Accessibility of the Collection of Museum for Visitors with Disability: A Case of the Three Selected Museum in Addis Ababa ”is a product of my own work and that all sources of references used for producing the thesis have been appropriately acknowledged. Furthermore, the paper was neither submitted nor presented in full or in-part for the purpose of any academic achievement or to public audience. The whole research formats also do fulfill the expected standards and regulation of the University.

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Dedication

To the soul of my Mother, My Father and My Beloved Brother Hayiyeee, although it is late, I am so proud that I have made one of your dreams come true! `

Abstract

Throughout the world, the cultural and educational roles of museums are growing. But many museums do not carefully consider people with disabilities as their visitors, for their buildings and communication accessibilities are very limited in designing museums for all people. However, in this regard, the overall conditions of the Ethiopian museums are hardly studied. Having this in mind, this study adopted case study research design and explored three museums found in Addis Ababa, namely Ethiopian National Museum, Institute of Ethiopian Studies Museum and Addis Ababa Museum, in relation to their accessibilities to disabled visitors, and compliance with universal design principles targeting disabled museum visitors. To this end, the research employed a multi-method approach to gather appropriate data, including site survey/observation, interviewing, photographing, analysis of secondary sources directed at gathering facts regarding the experiences and viewpoints of existing museum visitors with disabilities, and museum professionals; multiple aspects of disability access, such as physical accessibility, inclusive exhibition design, and communication accessibility in each selected museum. Consequently, the findings of the research show that the three museums comply reasonably well when it comes to approachability of their buildings. On the other hand, the findings of this study reveal that the facilities and services provided by the three museums investigated were not designed to benefit people with disabilities. The result of the study also shows that the physical contexts of the three museums' exhibition spaces are not well planned and constructed to satisfy people with disability in terms of learning with convenience. In addition, the research found that the three museums investigated are not fully inclusive in creating a place and environment where the disabled visitors can access museum objects for several purposes, including education. For instance, none of the three museums have provisions for communication in sign language, Braille, tactile representations of some objects to make learning easier for hearing impaired and visually impaired visitors respectively. Thus, the research concludes that the three museums investigated are below average in light of fulfilling the requirements of accessibility guidelines, and being compliant with the Principle of Universal Design. Finally, this research recommends that the stated three museums and their stakeholders should carefully consider what they can do within their own limitations for disabled museum visitors to make each museum ameliorate its physical and communication barriers for disabled visitors and be inclusive. In addition, it is suggested that the three museums should adopt universal design principles, particularly as they relate to accessibility and usability requirements while retrofitting the existing ones.

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List of Acronyms

CRPD = Convention on the Rights of Persons with Disabilities

ENM = Ethiopian National Museum

IES = Institute of Ethiopian Studies

IESM = Institute of Ethiopian Studies Museum

AAM = Addis Ababa Museum

SIDA= Sweden International Development cooperation Agency

PwDs = Person with Disability

DMVs = Disabled Museum Visitors

WHO = World Health Organization

WB = World Bank

ADA = American Disability Association

VIMVs = Visually Impaired Museum Visitors

HIMVs = Hearing Impaired Museum Visitors

MIMVs = Moving Impaired Museum Visitors

FDRE = Federal Democratic Republic Ethiopia

CHAPTER ONE: Introduction

1.1. Background of the Study

All over the world, museums have become public institutions. Their cultural and educational roles are growing. Having this in mind, as Bennett (1995) underlined it was at the beginning of the 19th century that new ideas developed and museums were used for educating the general public and civilize people and make the then societies better. Thereby museums that housed heritage collections were given the role of serving as the main cultural institutions of various societies.

Furthermore, the number of museums all around the world increased considerably during the 20th century (Black, 2005). Through time, almost every aspect of museum operation has developed, as is the case with professionalism and different specialization within the field (Boylan, 2006). Accordingly, different types of museums are established in all parts of the world, but still there are several elements they all have in common which make the conception of a museum international and universal (Boylan, 2006).

It is also good to note that a museum's collection may include selected material evidence of human activity which is loaded with associated information. (Illeris, 2006). This is referred to as cultural heritage (Griffin, et.al., 2013).

Moreover, museums are complex organizations with various roles to perform. Allied with this, it is good to note that museums are effective political instruments. This is because they can be used to control, confirm or challenge ideas and beliefs. Museums can even be tools for self-expression and self-recognition. Accordingly, they can be used to create and represent identity (Crooke, 2006).

The core of the museum ideology can be described as intercultural and international, where museums serve as platforms, or neutral grounds for different types of peoples and cultures to meet on equal level (Greenhill, 2006). Hence, it is important for museums to consider placing in relation to local, regional, national and international conditions and necessities (Poria & Ashworth, 2009).

As Stam (2005) stated, the idea of museum changed radically, and the 'new museology' concept changed the traditional ideas of curatorial expertise and objectivity in the 1960 and 1970s. Since the last few decades, museums have grown in number, size and variety. As a result, more people

visit museums than ever before. Similarly, Black (2005) expounded that as the museum industry expanded, the range of different types of museums and their number overall has increased. For example, as stated by Fowler (1992), in England in the 1970s, 1980s, and 1990s more museums in more forms were available to more people than at any time in the past. Likewise, the number and type of museums in Ethiopia have been growing since 1950's. This fact includes the National Museum, Addis Ababa Museum and the Institute of Ethiopian Studies Museum.

It is obvious to expect that the number of visitors has also increased with the increasing number of the museums in Ethiopia. Indeed, museums today are among the fundamental public cultural institutions in almost every society.

Furthermore, A museum's operation is under constant development (Temesgen, 2004). One of the major trends within the museum world in recent decades has been regarding the public dimension and accessibility to the cultural heritage collections (Davis, 2011).

But, like some other public institutions, many museums disregard some groups within their audience, such as people with disability, who for various reasons are somehow unable to compete for their fair share of society's rewards (Dodd., et al, 2013).

Nevertheless, people with disabilities have similar motivations to visit museums as the rest of the population (Foggin 2001). But when many tourists might experience barriers to tourism participation, it has been known that these barriers disproportionately affect people with disabilities (Darcy, 2010).

Barriers can be defined as those obstacles encountered while participating or attempting to participate in a tourism experience (McGuire, 1984). It can be understood that groups of people with various impairments constitute a huge potential set of patrons in various tourism related activities (Zenko and Sardi, 2014). Owing to this, the current social changes and accountability in society create conditions for museums to actively work towards inclusion and accessibility. Today, In every facet of museum practice, the essential need to include the diverse voices and be accountable to communities is joining the dialogue (Sliverman , 2010). In fact, Sandell (2002) as museum theorist argues that museums have an obligation to develop an awareness and understanding of their potential to construct more inclusive, equitable and respectful societies.

On the other hand, Star (2016) underscored that through including disabled people, tourist organizations can stand to profit economically, while people with disability can benefit from the increased social inclusion. Indeed, as Star (2016), stated, accessible tourism allows for destinations, services, and recreational facilities to be usable and enjoyable for all people. Allied with this, Star added that museums have a particular interest in, and often-designated mission statement, to be available and accessible for everyone, and the issues of access should be paramount to museums' working practices.

Nevertheless, a wide-ranging survey on museum access issues and audience development has not been undertaken in the context of the various museums found in Addis Ababa. Thus, this research is aimed at assessing the current state of disability access to the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum as heritage institutions, and whether these museums comply with the Principles of Universal Design. The research is also directed at offering possible suggestions for how to make the three museums accessible and inclusive for disabled museum visitors with a focus on the research's targeted group of people who have sensory impairment (hearing and vision) and physical impairment which is mobility. Having this in mind, this research has the following statement of problem.

1.2. Statement of the Problem

Throughout the world, museums have become public institutions, which collect heritages and display them for public benefits. Thus, they conserve and help to promote the cultural inheritances of humanities. Above all, since museums usually house primary evidence, they are useful for establishing and broadening knowledge; providing opportunities for the appreciation, understanding and promotion of the concerned owners.

Similarly, the selected three museums in particular and other museums of the country in general do have such kind of significance for both disabled and enabled individuals. In reality, the cultural and educational roles of museums are growing. But like other public institutions, many museums neglect major groups within their audience-those who for various reasons are less able to compete for their fair share of society's reward (UNESCO, 1981).

Allied with the aforementioned idea, the nature of disabled museum visitors in Ethiopia as a whole has been hardly researched. In point of fact, Temesgen (2004), Belayneh (2016), Merkeb (2008)

who undertook museum related researches regarding museums found in Addis Ababa indicated that the museum/s they studied did not consider the possible interest of disabled visitors.

It is good to note that tourism for disabled people is a phenomenon that is strongly growing. However, despite its development the problem of disabled museum visitors is still prevailing. This is mainly because of the lack of knowledge on the market of tourist with special needs, the lack of dialogue, coordination and exchange of information between different levels of government, businesses, and tourism industry. Popiel (2014) also underscored that people with disabilities have the right and will to undertake the act of travelling to visit cultural institution like museums just like the rest of the society, for they can have the same needs and motives to take up tourism as their healthy and able counterparts Popiel (2014).

But during travelling, every visitor meets tourism related barriers and it is noticed that the barriers are especially affecting the tourist with special needs, i.e. disabled ones. One of the main barriers during museum visiting is associated with the nature of the building that houses heritage collections. Even buildings that are designed to provide physical access often have built within them exhibits that give limited or no access to those who are disabled museum visitors (UNESCO, 1981).

In fact, no museum, can logically hope to resolve all the difficulties in its building or situation that render disabled persons handicapped. What is needed is careful consideration of what the institution can do within its own limitations (Kotler and Philip, 2000). In addition, it is essential that museums set up communications in such a manner that persons with disabilities can get the information being made available (UNESCO, 1981).

In Addis Ababa in particular and in Ethiopia in general, the disabled people constitute a significant proportion of our population. However, a comprehensive research investigating how museums in the context of Addis Ababa in particular and Ethiopia in general are working to engage with people with disabilities is totally unavailable.

Therefore, this research work will be the first one in exploring the nature of disabled museum visitors and associated opportunities, strength and challenges of the selected types of museum.

Furthermore, the purpose of this research is to contribute to the academic field of museum studies by documenting the current state of engagement that the three museums have with their community

members who are living with disabilities and providing recommendations for future practice by filling the gaps revealed by this research work.

This research seeks to benefit professionals working in the industry, and further researchers on the topic. This research can also serve as a basis for further research on the inclusion of disabled peoples' representation in these domains.

1.3.Objective of The Study

1.3.1. General Objective

The general objective of the study is to explore to what extent is the current state of disability access to the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum as heritage institutions, and whether these museums comply with the Principles of Universal Design.

1.3.2. Specific Objectives

Their specific objectives of the study are:

- Identifying and stating the various objects and values of the selected museums.
- Identifying the factors that affect the practice of each museum
- Identifying the lived experiences of Disabled Museum Visitors in the study areas;
- Identifying the major barriers of the three museums encountered by Disabled Museum Visitors;
- See whether each museum comply with the principle of universal design in light of disabled visitors; and

- Seeing the strength, opportunities and challenges of each museum in relation to disabled visitors;

1.4.Research Questions

The central question of the study is: to what extent is the current state of disability access to the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum

as heritage institutions, and whether these museums comply with the Principles of Universal Design?

Hence, based on the central question, the research tried addressing the following additional questions.

1. Why disabled persons, whether they are local or foreigners, do visit or do not visit the museums under investigation?
2. What is the lived experience of the three museums in relation to disabled museum visitors?
3. What are the elements of environmental and communication barriers and their impacts for disabled museum visitors in the three selected museums?
4. How do people with disability experience museum visiting in the study area?
5. How much barrier free are the three selected museums located in Addis Ababa?
6. What is the strength, opportunities and challenges of each museum in relation to disabled visitors?
7. To what extent do the buildings and facilities of the museums under investigation comply with universal design principles?

1.5. Significance of the Study

As already stated, new museology is a new emerging concept in the area of museum research. However, researches conducted on museums in Ethiopia in relation to disabled museum visitors are few, which are not comprehensive in terms of their essences. Having this in mind, this study can have invaluable academic relevance in bringing new insight to the field of museum studies. As this research gives an insight to the extent of the problem of the investigated museums about their nature and accessibilities to disabled visitors, the study can serve as a spring board for further researchers. Moreover, the findings of the study are significant for the practitioners in showing the extent and the dimension of inaccessibility of the three selected museums for persons with disabilities and giving valuable recommendations that can, in turn, lead to necessary measures to ameliorate the problems faced by disabled museum visitors. It also contributes for policy makers in providing different valuable recommendations and best practices of other countries in order to revise the existing regulations and proclamations and implement them in a more inclusive way. The

study also can create awareness on concerned museums on the concepts of physical and communication accessibilities for persons with disabilities.

1.6.Scope of the Study

The study is limited in its scope and coverage. Accordingly, the research merely focuses on exploring people with disability and their experience as museum visitors in relation to the Ethiopian National Museum, Institute of Ethiopian Studies Museum and Addis Ababa Museum. Moreover, the study it is limited in studying only physical, environmental and communication barriers of the study sites in light of disabled museum visitors who are with visual, hearing and mobility impairments.

1.7.Limitation of the study

There are major points it should be considered as basic limitations of this research work. Accordingly, there were some challenges like shortage of time due to personal problems, which hindered the study to uncover some necessary data regarding auditing the compliance of the studied museums with principles of universal design in a complete manner. Furthermore, the researcher was unable to meet persons with disability during field observation at the three selected museums and learn from their experiences. Owing to this, researcher had to look for them at their associations' offices. The informants with disability that the researcher had interviewed were also found by chance though the sampling was purposive and their responses were subject to the ability to recall their experience of visiting museum. The other challenge was that as the study was based on field visit, the research faced financial constraints to move everywhere to find relevant respondents and gather the necessary data.

1.8.Organization of the study

This thesis comprises of three chapters. Chapter One dealt with the introduction part, which includes; background of the study, a statement of the problem, research objective, questions, methodology, scope of the study, limitation of the study, significance of the study and organization of the thesis. Chapter Two focuses on the review of related literature. Chapter Three dealt with research methodology of the study and chapter four dealt with description of the three selected

museums establishment and their collection. Finally, data presentation, analysis, discussion, conclusion and recommendation were organized on chapter five.

CHAPTER TWO: Review of Related Literature

2. Introduction of Review Related Literature

This literature review examines theoretical frameworks in the museum studies field, current definitions and models of disability, and literature on the topic of accessibility to museums, and universal design principles required by museums.

2.1. Conceptual framework on Museum Studies, Disability Study, Accessibility and Universal Design

2.1.1. Conceptual framework on Museum Studies

Museum studies describes the academic and critical examination of the history, theory and practice of museums and their values in society (McCarthy and Cobley, 2009). It is an interdisciplinary area that shares ideas of some fields such as art history, anthropology, archaeology and material and cultural studies, to mention a few. Accordingly, this broad scope includes a wide range of theories and methodologies which can be used to thoroughly inform working practice (Latham and Simmons, 2014). The field of museum studies includes both museology, describing the theory around museums and their functions, and museography, which details the practical and technical aspects of museum work (Latham and Simmons, 2014). This combination of theory and practice points to a framework that values the unique aspect of both approaches, with each informing the other (Davis, 2011, 459). Due to the complex nature of museums, which have a lot of functions and typologies, the field is dynamically evolving to include new characteristics and features (Latham and Simmons, 2014).

The development of museums was viewed as an essential instrument for teaching and research” (de Clercq and Lourenco 2004:8). This function is believed to be the policy that underpins the rationale for many museums. According to Weil (1999) the museum in the modern sense emerged 250 years ago in Europe and 150 years ago in North America, and in the 1940s in Ethiopia (Temesgen, 2004). The reason to the development of European museums was “The Enlightenment” with its emphasis on reason, science and a respect for humanity. The belief was that museums would welcome center for all visitors and be a vehicle for creating a more educated and enlightened society (McLean 1997).

But according to Bennett, (1995) it was at the beginning of the 19th century that new ideas developed and museums were used for educating and enlightening the general public in order to civilize people and make the societies better.

Then, the number of museums all around the world has grown considerably during the 20th century (Black, 2005). Through time, almost every aspect of museum operation has developed, as is the case with professionalism and different specialization within the field (Boylan, 2006). Today, different types of museums are found in all parts of the world, but still there are several elements they all have in common which make the conception of a museum international and universal. One of the best-known definitions of a museum is the one given by The International Council of Museums (ICOM), Hooper-Greenhill, 2007). It is a key-definition serving as a basis to the understanding of the term museum, which conveys the message that:

“A museum is a non-profit making, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of people and their environment” (ICOM, 2007).

The definition explains the fundamental nature and function of the museum. The element of “non-profit” is of utmost importance regarding the operation and it is also related to the governmental body of the museum and its financial responsibilities. As a non-profit organization in service of society the museum is dependent on society’s support, both public support and even political. The issue that a museum is to be a permanent institution does also address the governing body’s responsibilities to maintain and sustain the operation and its function (Hooper-Greenhill, 1994).

A museum's collection consists of selected material evidence of human activity which is loaded with associated information. (Illeris, 2006). This is referred to as cultural heritage (Griffin, Raj and Morpeth, 2013).

Cultural heritage is a complicated term but according to a definition by ICOM, cultural heritage is any concept or thing, natural or artificial, which is believed to have aesthetic, historical, scientific or spiritual significance. Owing to this, Museums are certainly complex organizations with multiple purposes and roles to perform (Griffin, Raj and Morpeth, 2013).

Furthermore, it is good to note that museums are effective political instruments, since they can be used to control, confirm or challenge ideas and beliefs. Museums can even be tools for self-expression and self-recognition – and they are used to create and represent identity (Crooke, 2006).

For the general public, museums have been defined as cultural institutions serving for education and enjoyment (Weil, 2002). In fact, a museum produces and offers to its users; recreation, sociability, learning, aesthetic, celebrative, and enchanting experiences (Kotler and Philip, 2000).

As earlier said, museums today are among the fundamental public cultural institutions in almost every society. A museum's operation is also under constant development (Temesgen, 2004). One of the major trends within the museum world in recent decades has been regarding the public dimension and accessibility to the cultural heritage (Davis, 2011).

Initially, the museum's major responsibility was to its collections, rather than to its visitors. Nevertheless, through time, the focus has also included giving the necessary care to visitor service (Davis, 2011). The new conception underlines that a museum should not be a store house, rather it should be more like a work-shop that educates its audience (Kotler and Philip ,2000).

Audience development is a term usually used to refer to the stated new conception and it has been adopted by many museums around the world. Moreover, according to the new ideology, museums

are to be accessible for the public at large by undertaking some major activities, such as interpretation, education, exhibition, outreach, documentation, research and publication (Ylva and Runyard, 1999).

According to Ylva and Runyard (1999), the term audience development also refers to how a museum achieves broader audiences. According to them, audience development may be understood as a part of the museum's overall mission and as a technique for it to communicate with the public which is one of the museum's central roles.

Furthermore, as Poria & Ashworth (2009) underscored the core of the museum ideology can be described as intercultural and international, in which museums serve as platforms, or neutral grounds for different types of peoples and cultures to meet on equal level (Greenhill, 2006). Therefore, it is important for museums to place themselves in relation to local, regional, national and international conditions and necessities.

As already indicated, traditionally, the museums role is to preserve and promote cultural heritage assets. But on top of this, the museums' response to the needs of concerned society in a way that how museums can assist local communities, and their development has been given attention (Davis, 2011).

One of the theories developed in museum studies framework is termed as the 'New Museology'. Conceptually, the New Museology shifted itself from earlier models by focusing on museum purposes, rather than analysis of methods and procedures. Accordingly, it considers that cultural heritage institutions should broaden their social values and influence leading to achieving development (Stam, 2005, 55).

It is also stated that museums as institutions, where social roles are regarded as integral to policy and presentation, must recognize social justice and community inclusion as part of political responsibilities (Stam, 2005, 55). In fact, as Witcomb, (2003) pointed out the idea of New Museology is an effort to focus on museums' work, and their required relationships with concerned communities.

On the other hand, the rapid rise of museum visitor studies as an aspect of museum development has given attention to the attitudes of the idea of the "New Museology". It is understood that questions around identity, social inclusion, and the political frameworks that museums are

oriented, can only be addressed when viewpoints of museum audiences are included (Hooper-Greenhill, 2006). Allied with this, so as to become more visitor-focused museums require both organizational and strategic shifts in professional practices (Boylan, 2006)

For museums to be inclusive in light of their visitors, a commitment must be made to understanding the varied nature of visitors, their contexts and needs (Hooper-Greenhill, 1994).

According to Sandell (2012) the political and social dimensions of a country shape museums uniquely towards challenging social justice roles within a society, and negotiating understandings and institutionalized concepts of rights. Thus, the real adoption of these principles can influence the everyday experiences of marginalized groups in positive ways.

In point of fact, museums should take in to account the interests of their stakeholders when they plan to work as institutions working within a human rights framework (Sandell, 2012). These ideas agree with the prevailing situation of disabled museum visitors.

Indeed, the Convention on the Rights of Persons with Disabilities (CRPD) was ratified by the United Nations in 2008. The Convention stipulates that States that are parties to the Convention agree to promote, protect and ensure the full and equal enjoyment of all human rights by all persons with disabilities (CRPD, 2008).

Allied with this, Article 9 of the convention is devoted to the issue of accessibility. The Article states that any State party must ensure that communications and information services, transportation systems, buildings and other structures are designed and built so that they can be used, entered or reached by persons with disabilities.

Furthermore, Article 30, stipulates that States parties must take all practicable steps to ensure the availability of cultural activities, such as theatre, museums and monuments in accessible formats (e.g., sign language, Braille, and closed-captioning).

On the other hand, the CRPD was endorsed by the Ethiopian government in 2010. On top of this, the country enacted the Ethiopian Building Proclamation No. 624/2009. Article 36 (1) (under Chapter Four) of this proclamation states that any public building shall have a means of access

suitable for use by physically impaired persons, including those who are obliged to use wheelchairs and those who are able to walk but unable to negotiate steps. Furthermore, Sub-Article 2 of the same Article underlines that where toilet facilities are required in any building shall be made suitable for use by physically impaired persons and shall be assessable to them.

Moreover, the Building Regulation No. 243, (2011), which was endorsed by Council of Ministers under “Land Use, Related Studies and Designs” stipulates that buildings shall have suitable access to stairs, parking lots, and toilets accessible for people with disability.

Similarly, the Construction Industry Development Policy of Ethiopia, which was ratified in 2014 by Ministry of Federation tries to look inclusion, safety and comfort in all buildings and infrastructure development process of all people, including people with disabilities. Its implementation strategies are creating a design system in which all building and construction activities can be accessible and inclusive for person with disabilities; and developing standard designs for public service institutions, and infrastructures, which in line with the principles of universal design for person with disability.

Article 41(5) of the Constitution of the Federal Democratic Republic of Ethiopia also obligates the provision of necessary support for persons with disabilities (FDER Constitution, 1995).

However, in Ethiopia, a lot of persons with disabilities lack an equal access to education, job opportunities and other necessary services. One of the major challenges that prevent their access to possible independence and their use of public spaces is lack of attention to their physical and mobility needs. So far, the issue of access to public buildings has not got enough attention. Thus, people with disabilities are denied of enjoying their legal rights on an equal basis with other able-bodied members of the Ethiopian society (Sirak, et al., 2021).

2.1.2. Disability Studies

Before describing the scope of disability study, it is good to define the term and nature of disability itself.

The social model approach stresses the notion that disability is a social construct. According to Burnett and Baker, (2001), disability refers to socially imposed restrictions, that is, the system of social constraints that are imposed on those with impairments by the discriminatory practices of society. Disability is globally extant, more so in some areas than others, and becoming increasingly visible (Goodley, 2011, 1).

Current international estimates place numbers of disabled people at over 1 billion, or 15% of the global population, which makes disabled people the world's largest minority community (World Health Organization, 2014). These rates are rapidly increasing due to aging populations and burgeoning chronic health conditions (World Health Organization, 2014).

Moreover, the World Bank and WHO (2011) stated that there are no reliable and up-to-date national statistics available on disability in Ethiopia. The most recent national census in 2007 found only 805,492 persons with disabilities in Ethiopia covering only 1.09% of the 86 million population. Observers in the disability arena of Ethiopia generally regard the census data to be skewed by under-reporting. This problem is associated with the way the census questions were formulated, lack of disability-related knowledge among those involved in census data gathering and analysis and the fact that a narrow definition of disability was applied (Swedish International Development Cooperation Agency, 2014).

The *World Report on Disability*, published jointly by the World Bank and WHO in 2011, also estimated that there were 15 million persons with disabilities in Ethiopia, representing 17.6% of the then total population. 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 (SIDA, 2014).

On the other hand, the 2007 Ethiopian population census of the Central Statistics Agency reported that the total number of disabled persons in Addis Ababa City Administration was 32,600. The types of their respective disability and total population size is presented as follow.

Type of Disability	Total Population Size
Blind	3,090
Difficulty seeing	4,149
Deaf	600
Difficulty hearing	2,929
Unable to speak	309
Difficulty Speaking	475
Deaf and unable to speak	1,273
Non-functional lower limbs, gripping, handling	224
Non-functional lower limbs, standing, walking	11,820
Body movement difficulty	2,404
Learning difficulty	2,550
Others	2,807
Total	32,600

Table. 1. Disabled persons in Addis Ababa City Administration by type of disability (2007 National Census).

It is prudent to note that disability studies identify a breadth of theory, research and practice that shifts perceptions of disability from personal narratives of tragedy to a cultural and political pathology (Goodley, 2011).

As a field, disability studies react to the social and political constructions of people with disabilities being subject to discrimination (Goodley, 2011). Such discrimination stems from processes of oppression and exclusions that are institutional as well as individual regardless of location and surrounding cultural conditions (Roulstone et. al., 2012).

Disability studies is diverse and multifaceted in approach, which makes every effort to understand the lives of disabled people and to examine cultural understandings of disability (Barnes, 2012). It has also been interdisciplinary in nature, providing various pragmatic solutions to contemporary issues (Roulstone, et.al. 2012).

The social model of disability states that cultural constructions build negative attitudes towards people with impairments. It asserts that disability exists in the public domain as a social construct (Dodd et. al., 2013).

On the other hand, the development of a medical model of disability was originated in the health and medical fields. This model focuses on the issue of medical impairments as a problem that required adaptation by the individual (Hughes, 2010, 508). However, as a response to this understanding of disability, in the second half of the 20th century, there was a considerable movement in the political activism of disabled people and the organizations they affiliated with (Barnes, 2012). Then, a difference between the biological conception of an impairment and the social construction of disability was cleared up - describing the drawbacks of the contemporary social platforms which exclude people from full mainstream participation. Due to this, the concurrent development in academic theory around the subject of disability saw the consolidation of the social model of disability (Hollins, 2010).

In reality, disability studies research looks for emphasizing the barriers put in place by various cultures and societies, in contrast to limitations individuals put on themselves, so that practices and policies that enable the dismantling of such obstacles can be developed (Barnes, 2012, 18).

Accordingly, in this study the social model, which uses the term 'disabled people' to describe those who have been disabled by societal barriers (Sullivan, 1991) is adopted.

2.1.3. Concept of Accessibility and Museums

It is known that some museums are building the framework conditions for museums to continue to play new roles in society. Accordingly, museums build on learning potentials, in which they constitute open social learning spaces for knowledge producing processes (Greenhill, 2007).

Above all, museums are democratic educational institutions that contribute to make culture an active resource in society. As a result, as they are social learning spaces for knowledge producing processes museums can create social change and sustainable growth (Greenhill, 2007)

The museums' role in society is changing in a way that all other parts of society are constantly changing. Due to this the museums are expected to reconsider their exhibition practice by developing their professional work as modern knowledge institutions, and ensuring access to current knowledge (Black, 2005)

It is good to underline that people with disabilities have the same motivations to travel like those people who are not disabled (Foggin, 2001). While visiting some sites a lot of tourists may experience barriers in their tour making activities. Nevertheless, it has been revealed that these barriers disproportionately affect people with disabilities (Starr, 2005).

Barriers can be defined as those obstacles faced when participating or attempting to participate in a tourism experience (McGuire 1984). Horn (2006) developed a framework for understanding and classifying the barriers that can be faced by disabled visitors. These barriers are classified as intrinsic barriers, environmental barriers, and communication barriers.

Intrinsic barriers are associated with an individual's own levels of physical, cognitive or psychological functioning. These barriers can be directly related to an individual's specific disability, but they may also be because of a lack of knowledge regarding tourism opportunities, ineffective social skills, physical and psychological dependency upon caregivers (Starr, 2005).

On the other hand, environmental barriers are external to a disabled individual. Rather, they include attitudes towards people with disabilities, architecture, ecological features, transportation,

economic elements, and rules and regulations (Foggin, 2001). Whereas, communication barriers result from the interactions of individuals and their social environments (Starr, 2005).

Since accessibility barriers can be considered as one major factor that can affect the travel experience of the people with disabilities, the term “accessible tourism” has been advocated in many tourism studies. Accessible tourism is a form of tourism that involves collaborative processes between or among stakeholders that enable people with access requirements, which include mobility, vision, hearing and cognitive dimensions of access, to function independently and with equity and dignity through the delivery of universally designed tourism products, services and environments (Buhalis & Darcy, 2010).

However, Hollins (2010) stated that despite issues of access and inclusion have developed in some museums, a few institutions take a holistic and comprehensive approach to their planning and practice. But improvements in accessibility are continuing to be small in scale and fragmented in delivery.

It is also indicated that physical access is only part associated with a barrier to access. Furthermore, it is stated that a suitable social environment is vital when creating an inclusive public space for diverse audience members (Sandell, 2002)

It is important to distinguish the various ways museums are approaching their relationships with disabled communities. As the topic of inclusion has become generally considered, and the benefits of this has been recognized, rigorous efforts have been made towards increasing the examination of previously excluded audiences, namely people with disability (Mace, 1985).

On the other hand, environmental and programming efforts have focused on increasing accessibility for disabled people (Sandell and Dodd, 2010). Nevertheless, broader aspects of access rather than physical mobility requirements are not always getting enough attention.

But some museums have worked to address the physical elements of accessibility as a result of the pressure to comply with respondent legislation around ensuring access. Owing to this, in concerned museums, ramps have been built, font size and type on exhibition labels have been monitored, and braille signage has been added to walls. Furthermore, tactile opportunities for experiencing

collections and exhibits have been developed, and sign language tours are appearing at a number of museums (Graham, 2013).

According to Bunch and Majewski (1998), accessibility in a museum context extends far beyond structural approaches to physical spaces. In agreement with this, museums can respond to demands for increased disability access through ensuring direct interaction with disabled visitors. Indeed as Graham (2013) underscored, beyond the structural components of access, like ramps and suitable restrooms, a multifaceted impairments, such as sensory or learning disabilities when designing and developing exhibitions should be taken in to account. Above all, the differences in learning styles should be considered by presenting information that appeals to multiple sensory responses (Bunch and Majewski, 1998).

In reality, museums have a particular interest in, and usually a designated mission statement i.e., to be available and accessible for everyone. Hence, the issues of access should be paramount to their working practices (Starr, 2016).

It is noted that accessible tourism can be realized if more details are allowed for understanding of the needs of Persons with Disability (PwD) (Darcy, 2010). Furthermore, tourism for PwD is not only removing physical barriers but also provide a meaningful experience to ensure their quality of life (Yau et al., 2004).

Many researchers and the disabled people themselves around the world have contributed to a growing change in social perceptions about disability. Although the academic interest in the field of the disabled travelers has been growing the studies for understanding the PwD as a consumer of tourism products are only a very recent phenomenon (Burnett and Baker, 2001). Owing to this, the disabled people have remained as a group to be more explored in relations to their interests in travelling and their attitudes towards their involvements in the tourism activities.

As Burns, Paterson and Watson (2009) underlined, people with disabilities are quite diverse group in terms of experiences, views and needs and nature of the disability. Accordingly, people with specific impairments may encounter specific barriers. As a result, it is necessary to identify different customers' needs and provide more detailed information about accessible facilities. The

tourism practitioners should be taken into account when designing and promoting various accessible tourism activities.

2.1.4. Principles of Universal Design

“Universal Design” is generally defined as “the design of products and environments to be usable by all people, to the maximum level possible, without the need for adaptation or specialized design” (Hartley, 2015). The phrase “Universal Design” was coined in the 1980s by architect, wheelchair user, and founder and program director of the Center for Universal Design at North Carolina State University, Ronald Mace. He succeeded in bringing a paradigm shift regarding the idea from one about meeting legally mandated requirements in the design of products and environments to one about designing products and environments that benefit everybody (Hartley, 2015).

According to Mace, (1985), universal design is the design and production of products and suitable environments that are usable by all people, to the maximum extent, without the need for adaptation or specialized design. This definition is very similar to that given by the Center for Excellence in Universal Design (2012) which views universal design as the design and composition of an environment so that it can be accessed, understood and used to the greatest extent by all people, regardless of their age, ability or disability.

Steinfeld and Maisel (2012) also defined universal design as the process of creating an environment that satisfactorily serves a diverse population by improving its human performance, health, and social inclusion. These definitions buttress the importance of a user-centered approach to environmental design and the production of products that are user-friendly and compatible with the needs, and expectations of all types of users.

2.1.5. Universal Design in Museums

Universal Design principles have been increasingly incorporated into the design of museum exhibits (York, 2015). To this end, several requirements have been identified by the Smithsonian Guideline for accessible exhibition design, “Exhibitions for All” by the National Museums of

Scotland (NMS) and the Americans with Disability Act (ADA). These requirements are directed at guiding designers and builders on how to achieve universal design in museum buildings and facilities, including all the spaces and functions that a museum building could contain, such as exhibition halls, exhibit stands, lobbies and circulation, toilets, parking accessibilities and others. Museum offerings and programs for people with disabilities are likely to be designated for use by the following audiences: individuals with mobility limitations; individuals who are blind or partially sighted; and individuals who are deaf or hard of hearing, to mention a few.

The guidelines for realizing a universal museum are focused on the basic requirements of an accessible route; approachability and accessibility, universal usability and communication (Eziyi O. et al, 2017)

Approachability and accessibility in a museum are relevant to vertical and horizontal travels within the building and access ways to the building. Horizontal travels could be from the car park to the main entrance of buildings or between interior spaces on the same level. For people with mobility impairments, people with fatigue or aged people, making long travel distances at a stretch can be exhausting. It is often considered better to reduce travel distances as much as possible and create resting areas where travel distances are too long (Buhalis and Darcy, 2010).

In addition, adequate spatial requirements are considered for pavements, corridors and other paths to accommodate mobility aids like wheelchairs, motorized scooters and others. Vertical travels between levels of the building or site are expected to be easy for people with different abilities or disabilities. It is also advocated that features, such as ramps, stairs, and elevators be incorporated in an inclusive manner and that the design should meet spatial requirements, gradients for ramps, riser and thread dimensions for stairs and the appropriate surfacing and detailing (Barrier Free NZ Trust, 2013).

Areas of concern in achieving an accessible route for approachability and accessibility in the museum include parking, footpaths, entrances, doors and corridors, ramps, stairs, lifts, public toilet, exhibition halls, and service points. Accessibility guides on how each of these areas in a museum building can be made accessible have been spelled out in the universal design

requirements (Smithsonian Accessibility Program, 1996, United States Access Board, 2004, Barrier Free NZ Trust, 2013, and City of Toronto Accessibility Plan, 2004).

Regarding usability of museum buildings and facilities, it is recommended that the peculiar requirements for each disability be carefully considered and addressed. Consequently, the factors affecting usability could be spatial or based on the physical, sensory, or intellectual abilities of the users. For instance, people using mobility aids, white canes, or guide dogs would require more space to perform some functions within the museum like making horizontal and vertical travels, using the restroom, corridors and others (Eziyi. et al, 2017). Furthermore, effective communication in museums allows every museum visitor to understand the environment, find his /her way around the building, perceive, and understand the information being displayed. It begins with enabling the museum visitors to find their way into and around the museum. This entails comprehensive exterior signage and way-finding system at every major point to assist visitors with varying disabilities to locate appropriate parking and accessible entrances. The street address of museum name should also be clearly visible from a street (Graham, 2013).

For this reason, it is noted that while designing or specifying signage, the size of the lettering should be legible at typical viewing distances (e.g., from the road, approach route, parking area, etc. (Roppola, 2012)

According to the City of Toronto Accessibility Plan (2004), signage should generally be in bold lettering and placed on a highly contrasting background so that people with impaired vision can easily see it. It is also stated that appropriate signage should be used to distinguish pedestrian, vehicular, and emergency routes on the site. In addition, one-way routes should be clearly marked with both paving markings and post-mounted signs; and consistency is very important so as not to confuse the museum visitors (Eziyi O. et al., 2017). This requires the adoption of "International Symbol of Accessibility" in identifying special amenities, such as accessible parking, accessible entrances, or accessible washrooms (City of Toronto Accessibility Plan, 2004). For example, the wheelchair symbol should be used to indicate access for individuals with limited mobility, including wheelchair users. This symbol is used to indicate an accessible entrance or bathroom for wheelchair users (Smothian, 2000).

As the topic of disability access in Ethiopian Museums is hardly studied, most critical literature is written from the context of other countries as already presented. In fact, Merkeb (2007) who examined problems of governance and cultural representation in the National Museum of Ethiopia stated that the National Museum should be inclusive for the disabled people to cultivate them with national identity. Furthermore, Atsbha (2013) who studied the establishment and economic significance of Addis Ababa Museum from 2005 to 2015, Ethiopia, underlined that one of the major challenges of Addis Ababa Museum is its building inaccessibility to peoples with disabilities.

On the other hand, Iyerus (2018) stated that the National Museum of Ethiopia is not accessible in terms of building structure, display techniques and facilities. She added that even if the concerned authorities of the stated museum are aware of that the museum is inaccessible for persons with disabilities, they have limited chance to made modification to the built environment as the building itself is a heritage that should be intact.

Thus, this thesis is aimed at undertaking a comprehensive assessment on the current state of accessibility and inclusiveness of the National Museum of Ethiopia, Institute of Ethiopian Studies Museum, and Addis Ababa Museum concentrating on their engagement statuses towards disabled museum visitors. I believe that focusing on museum accessibility for disabled people is a good beginning for future research, and to provide feedbacks for relevant stake holders to address the significance of the inclusiveness of people with disability as museum visitors.

CHAPTER THREE: Research Methodology

3.1 Research Methodology

Methodology describes “the theory of how inquiry that “involves analysis of the particular field of inquiry.” It involves the researchers’ assumptions about the nature of reality and the nature of knowing and knowledge. In other word, our assumptions about what we believe knowledge is embedded in methodological discussions and therefore have consequences for how we design and implement research studies (Graduate Studies and Research Office, 2016).

This part explains the entire approach to the research and how the researcher met intended objectives.

3.1.1. Research Design

The new disability paradigm that has emerged in the last two decades, describes disability not as a medical condition or a personal tragedy of the individual, but as the product of the interaction between the individual and society. This new paradigm, known also as the sociopolitical or social model of disability, also affects the types of questions that are being asked by researchers and the way in which answers to those questions are analyzed (Hancock and Windridge, 2009).

Qualitative methods are frequently used while researching the lived experience of people with disabilities because of their ability to examine the complexities of disability in social context. This method of inquiry examines phenomena in their natural settings and interprets them in terms of the meanings people bring to them (Denzin & Lincoln, 2000). Accordingly, this research employs a qualitative method. This research also adopted exploratory study approach, which is carried out when little is known about a situation.

3.1.2. Description of Study Participants

In this research there were number of participants were selected from different associations for disability; from the three museums who were comprised directors, curator, educator; and ARCCH directorates. The remaining informants were selected from Addis Ababa university Fine Art and Design school and from travel agency.

3.1.3. Eligibility criteria

Due to various reasons, site selection is limited to three logically selected museums in Addis Ababa, namely Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum, which are historical in nature. The selection is based on their location in which the researcher is able to employ the data collection techniques with minimum cost. Besides, the parameters such as popularity, number and frequency of tourists visiting, the amount of collections, which the selected museums have for displaying to visitors including for disabled museum visitors in a wider context are considered in the site selection.

3.1.4. Sampling Technique

As noted earlier on, the study was designed to address the research question of how selected museum buildings and facilities in Addis Ababa are accessible for disabled museum visitors comply with universal design principles. Consequently, the case study research approach was adopted in this study. According to Yin (2009), case studies can be categorized as explanatory, exploratory, or descriptive and are the preferred research strategy when the “how” or “why” questions are being posed; the researcher has little control over the events; and the focus of the study is on contemporary as opposed to historical phenomena or issues. Stewart (2013) also noted that case study research could be single or multiple sites, allowing researchers to explore issues, problems and concerns faced by the phenomena under investigation, and how these issues might be addressed. Furthermore, it is noted that a case study is the preferred method when the questions being asked are exploratory ‘how’ and ‘why’ questions, and the problem being addressed can improve future practice (Merriam, 2009; Yin, 1994). For these reasons, the current study is a multiple sites case study involving three main museums found in Addis Ababa. The museums investigated are the Ethiopian National Museum, the Institutes of Ethiopian Studies Museum, and the Addis Ababa Museum.

On the other hand, in this research the researcher employed purposive sampling technique which the researcher found is more appropriate due to effective use of limited resource, sensitivity to the question and based on knowledge and experience about the subject matter. This method is needed in identifying and selecting individuals or groups that have especial knowledge about or experienced on the subject. In addition, the method is also important to find people who are willing to provide confirmation by virtue of knowledge or experience. Purposive sampling indicates whom, where and how one does his/ her research (Hancock et al., 2009). Besides, it is used when conducting, attempting to question a group who may have sensitivities to the questions being asked. (Latham, 2007).

Thus, purposive sampling method has been used, for deep investigation, discovery and understanding of the topic under study through a sample that provides accurate information. In snow balling sampling, the researcher got both persons with disability with tour experiences in museums. This technique is adopted because respondents were not readily available at the study site.

3.1.5. Data Sources

Being a descriptive case study, the data used are derived from both secondary and primary sources. The secondary sources of data include sources like books, journals and documents related to the topic. Allied with this, Ethiopian Building Proclamation No.624.2009, Smithsonian Guidelines for Accessible Design and other accessibility guides were also analyzed to identify the basic concepts and requirements for universal design.

On the other hand, the primary data are derived using observations, interview, and photographic materials during the visits to the three museums investigated.

3.1.5.1. Site Observation

The researcher visited the three museums selected for this study in person and made direct observation regarding the presence or absence environmental and communication barriers for

disabled museum visitors. The observation included, the physical accessibility of collection of the three selected museums from approachability of these museums to the building entry, the interior space of the museums' building parts and supporting service provisions such as parking, seat, toilet, On the other hand, communication accessibility such as verbal and text languages, text font size, placements of labels; braille, sign language, audio, audiovisual, tactile texture, guide and object and light to explore how signs, signals, symbols, locate, narrate and warn in the museums under investigation.

3.1.5.2. Photographing

The researcher also took photographs of selected heritage collections of the three museums and the prevailing facts regarding the environmental aspects of the study sites.

3.1.5.3. Interview

Thus, semi-structured interview was managed with selected relevant administrative bodies of the Addis Ababa Museum, the Ethiopian National Museum, and Institute of Ethiopian Studies Museum, Ministry of Culture and Tourism, presidents of Associations for Disabilities, and Persons with Disability. In the process of interviewing these key individuals, some forms of open-ended questions were asked on certain topics on how they perceive accessible museum, to what extent their institutions were accessible for persons with disability, their interaction with persons with disability and the role of government in making tourism services and areas inclusive. Furthermore, the environmental and communication prevailing natures of the study sites and the need of inclusive museums was discussed with museum professionals working for the stated museums.

The interview is a two-way conversation, in which both participants have some goal. It has many advantages. For instance, questions that the respondents have not understood and need further elaboration can be discussed with the interviewer face to face (Seale et al., 2011). In this study, interview was conducted to the purposefully selected participants in order to get detail information. The justification for using interviews is that the study is interested in exploring the experiences of the participants.

The issue of this study needed to consider individuals and institutions which were stakeholders to engage both the selected museum and disabled museum visitors on having accessibility environment in which both were mutually benefitted. However, stakeholders in such cases are so many that this study might have not reached all. Accordingly, the study needed to limit the scope to the immediate individuals and institutions who were expected to have the experience of serving disabled museums visitors and those disabled museum visitors who had the know-how and experience of visiting museum. Hence, informants were selected, on the one hand from visually and hearing impaired and crutch and wheelchair users. Therefore, interview was conducted to eight individuals in this group. However, five of them were included due to their similar responses in all cases. On the other hand, informants were also selected from the three museums who were comprised directors, curator, educator and ARCCH directorates. The remaining informants were selected from Addis Ababa university Fine Art and Design school and from travel agency. In general, the above informants were distributed to 2 women and 9 men whose educational status ranged from B.A. Degree to PhD. Therefore, data regarding their experience and attitude towards the physical and communication accessibilities of collection of the three selected museums were collected.

3.1.6. Documents

Relevant materials used in this study comprise a range of media. these are: government and international and national organization reports and statistical information; theses and dissertations; books, articles from journals.

3.1.7. Data Analysis Method

The basic primary data collected were related to the approachability features of the museums; the accessibility within the museum buildings and their surroundings; and the usability of the museum facilities and services. This means that the data collected were mainly qualitative in nature. As a result, the data are analyzed in themes and sub-themes. Furthermore, the data gathered about the nature of the physical and communication accessibilities of the three museums are compared with

the established standards of universal design principle by the researcher as found in both theoretical and research literature.

CHAPTER FOUR: Description of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum

4.1. Establishment, Its Collection and Exhibition of the Ethiopian National Museum

4.1.1. Establishment the Ethiopian National Museum

It is good to note that the concept of museum was first introduced in Ethiopia in 1936 when exhibitions were opened so as to display ceremonial costumes donated by the then royal family and their close associates (Merkeb, 2007).

It was during the Imperial Era that royal objects and Aksumite artifacts that was displayed for the first time as a permanent exhibition in the main hall of the National Library and Archive (Temesgen, 2004).

This exhibition endeavor inspired the Emperor to generously dedicate the current National Museum of Ethiopia premises at Amist kilo (Belayneh, 2016).

The current National Museum of Ethiopia has started to grow since the establishment of the Institute of Archaeology in 1958. The institute was established by French archaeologists in order to promote and facilitate the archaeological research mission in the northern part of Ethiopia (Merkeb, 2007).



Fig. 1. Building of the National Museum of Ethiopia (Photo taken in 2021 by Abrham Tesfaye).

Then, the Antiquities Proclamation, No. 229/ 1966 set up the Ethiopian Antiquities Administration by bringing together archaeological research, monuments and antiquities, as well as museums under one authority (Belayneh, 2016).

However, in 1974 the administration was raised to the ministry level as the Ministry of Culture by incorporating arts and traditional culture. The Antiquity Administration was set up to monitor the country's cultural heritage (historical and archaeological artifacts) produced prior to 1850 in the Ethiopian calendar. After two years, major structural reorganization was made that led the Antiquity Administration to be a semi-autonomous institution and renamed the Centre for Research and Conservation of Cultural Heritage (CRCCH) under the auspices of the Ministry of Culture. The Center for Conservation of Cultural Heritage transformed into the Authority for Research and Conservation of Cultural Heritage (ARCCH) under the 209/2000 Proclamation (Merkeb, 2007, Belayneh, 2016).

Currently, under the organizational arrangement of the Authority for Research and Conservation of Cultural Heritage (ARCCH), the Ethiopian National Museum has two distinct venues for both

the temporary and the permanent exhibitions. The new building is dedicated entirely for permanent exhibitions, whereas the old building that was the Italian viceroy resident is left for temporary exhibition and administrative purpose (Belayneh, 2016).

4.1.2. Collection and Exhibition of the Ethiopian National Museum

The Ethiopian National Museum houses the country's heritage treasures. This museum has become rich with diversified collections by which the National Museum is ranked among the most important museums in sub-Saharan Africa (Merkeb, 2017).

The collection on show at the National Museum is ranged from the history of humanity in time immemorial to the contemporary ethnographic display. The Ethiopian National Museum organized its displays in four different floors under five big sections, namely Paleoanthropology and Paleontology section, Pre-historic and Historic section, Ethnographic section, Fine Arts section. These sections and the nature of their respective displays are described as follow.

A. Paleoanthropology and paleontology section

This section is located in the basement of the Ethiopian National Museum building appropriated for permanent exhibition. The Paleoanthropology and paleontology section consist of displays of the different paleontological and Paleoanthropological findings that were discovered mainly in the Awash and Omo valleys of East African. The paleontology display comprises of fossilized evidence of some amazing extinct creatures, like the massive sabre-toothed feline *Homotherium* and the gargantuan savannah pig *Notochoerus*. However, the most known displays are two remarkable casts of Lucy, a fossilized hominid discovered in 1974 and dated back to 3.6 million years (Merkeb, 2007). Whereas, the real bones are preserved in the archives of the museum.



Fig. 2. Cast of the remarkable fossil remain of Lucy (*Australopithecus afarensis*) displayed in the National Museum of Ethiopia (Photo taken in 2021 by Abraham Tesfaye).

B. Pre-historic and Historic section.

This section is situated in the ground floor of the building of the National Museum of Ethiopia. In this display section, the pre-Aksumite, Aksumite, Solomonic and Gonder periods, with a wide array of artifacts, including an elaborate pre-1st-century-AD bronze oil lamp showing a dog chasing an ibex, a fascinating 4th-century-BC rock-hewn chair emblazoned with mythical ibexes, and ancient Sabaean inscriptions are displayed. In addition, pre-Aksumite and Aksumite cultural achievements consisting of different archaeological artifacts, such as pottery products, and the sculpture named Hawiltiwoman. It also consists of royal objects of the different periods, ceremonial and festival clothes, crowns, administrative and military objects of the Ethiopian emperors and nobles, uniform clothes worn by higher military classes of the 19th C. The middle of the room hosts a collection of lavish royal paraphernalia, including Emperor Haile Selassie's carved wooden throne.



Fig 3. The sculpture known as Hawiltiwoman displayed in the Ethiopian National Museum (Photo taken in 2021 by Abrham Tesfaye).

C. Traditional and Modern Works of Art Section

This section is located in the first floor of the building of the National Museum of Ethiopia. The section displays both paintings and graphics comprising, traditional, and modern works of arts ranging from religious arts to secular ones.

Accordingly, there are the displays of Ethiopian arts ranging from early (possibly 14th-century) parchment to 20th-century canvas oil paintings produced by modern artists, such as Maître Artiste World Laureate Afeework Tekle and Gebrekirstos Desta. There is also a painting that depicted the meeting of King Solomon and Queen Sheba.



Fig. 4. Painting of the NME that shows the meeting of King Solomon of Israel and Queen Sheba of Ethiopia (Photo taken in 2021 by Abrham Tesfaye).

D. Ethnographic section

The second floor of the building of the National Museum of Ethiopia is devoted to the Ethnographic section. This section consists of cultural objects of the Ethiopian peoples which are produced for various purposes by different ethnic groups of the country. These objects include traditional weapons, jewelry, utensils, clothing and musical instruments.



Fig. 5. Some of the traditional music instruments of Ethiopia available in the permanent exhibition of the National Museum (Photo taken in 2021 by Abraham Tesfaye).

4.2. Establishment, Its Collection and Exhibition of the Institute of Ethiopian Studies Museum

4.2.1. Establishment the Institute of Ethiopian Studies Museum

Another important branch of national level government efforts in heritage conservation is the Institute of Ethiopian Studies (IES). IES is a research institute, library, and museum and is a major custodian in the actual housing of manmade artifacts in Ethiopia. IES was established in 1963 at Haile Selassie I University (formerly UCAA and subsequently Addis Ababa University), and came to house a significant collection of books and an ethnographical collection of artifacts that had been collected with initiatives of Richard Pankhurst its first curator, and Professor Stanislaw Chojnacki, Librarian of UCAA and founder of the Ethnological Society. (Chojnacki, 2007).



Fig. 6. The Building of the Institute of Ethiopian Studies where the IES Museum is found (Photo taken in 2021 by Abrham Tesfaye).

Ethiopia, in its past great movement of the political life intended, with her acute sense of history, to show the best of her cultural heritage. The Institute and its collections were to play their role, this time on a grand scale (Chojnacki, quoted in R. Pankhurst, 2000).

The early ethnographic and literary collection of IES was located in the former Imperial Geunete-Leul Palace, which is now a part of the Arat Kilo campus of Addis Ababa University. Through time, the IES Museum has expanded and accommodated historical and cultural objects (Getachew, 2000).

The mission of IES has been distinguished by its emphasis on research and conservation of cultural heritage. Accordingly, one of the major missions of the IES is contribute to the conservation of the Ethiopian cultural heritage by collecting, classifying, cataloguing, preserving and displaying in a museum objects reflecting the material and spiritual culture of the diverse nationalities of Ethiopia. (Statute of the Institute of Ethiopian Studies,

issued 16 August 1995 by the AAU Senate, quoted in IES 2006)

4.2.2. Collections and its Exhibition of the Institute of Ethiopian Studies Museum

The early ethnographic and literary collection of IES - located in the former Imperial Geunete-Leul Palace, which is now a part of the Arat Kilo campus of Addis Ababa University - has since expanded to accommodate a broad range items with increasing numbers of objects and icons considered under threat of illicit trafficking expatriation (Getachew, 2000).

At the Museum of the Institute of Ethiopian Studies, Christian heritages, and imperial legacy is heavily celebrated in its exhibits. Some of the collections are donations from Haile Selassie, which, in turn, were donated by foreign representatives (Belle, 2008.). Similarly, a large amount of floor space has been dedicated to a growing and diversified collection of other ethnic and religious heritages from all over the country; these heritages include musical instruments, every day and ceremonial vernacular art, and contemporary artwork that is presented with explanatory text in English and Amharic. (Belle, 2008.)

Today, the IES Museum collection continues to develop with the help of the Society of Friends of the Institute of Ethiopian Studies (SOFIES), which works to increase awareness and raise funds for the collections. Presently, in an area of over 500 square meters, the museum houses the most varied collection of quality artifacts, and fine art in the country, having "a representative sampling of objects of almost all cultures in Ethiopia" (IES, 2006).

Currently, the IES Museum has been divided into the following sections as presented below.

A. The ethnological section

This section of the museum has samples of objects representing the diversity of Ethiopian culture, from agricultural implements, fishing and hunting tools to household objects, traditional clothing, ornaments and jewelries. Also displayed are religious icons and crosses (some date back to the 13th and 14th century), Islamic calligraphy, model of mosque church wall paintings and folk paintings. In addition there are photographs of stelae structures (obelisks), and religious architecture showing rock-hewn churches, castles and mosques.



Fig. 7. Some of the Orthodox Christian crosses, dated back to the 13th and 14th century and displayed in the Institute of Ethiopian Studies Museum(Photo taken in 2021 by Abrham Tesfaye).

B. Sacred and Secular Art Section

This section is devoted for displaying sacred and secular art works, mostly executed on wood (panel paintings). Accordingly, there are some manuscripts and icon paintings, which show traditional indigenous art works including some samples of Ge'ez manuscripts and techniques of parchment preparation. The IES museum has also preserved medieval church artefacts, such as Lalibela crosses said to be dated back to the 12th century, different styles of religious crosses and other church objects. Furthermore, a painting of Madonna (15th century), and some religious and folk paintings are displayed in it.



Fig. 8. Some examples of Panel Paintings being displayed at the IES museum (Photo taken in 2021 by Abrham Tesfaye).

C. Music Section

The music section displays over 200 traditional musical instruments. Accordingly, the section displays some musical instruments, such as *Kerar*, *Begenna*, *Massenko*, *Washint*, *Embilta*, *Malaket* and *Kabaro*. It has also various recordings of traditional songs from all over the country.



Fig. 9. Samples of traditionally made Keberos(drums) found in the IES museum (Photo taken in 2021 by Abrham Tesfaye).

D. Stamp and Coin Collection Section

This section displays some stamp collections dated back from 1894 to 1974 E.C. The coin collection also consists of the Ethiopian primitive currency called salt bar, and metal made coins belonging to ancient Aksum and 20th and 21th centuries. There are also modern bank notes of Ethiopia used since the time of Emperor Menelik II.



Fig. 10. Samples of different types of Ethiopian paper moneys used in different regimes that are available in the IES museum (Photo taken in 2021 by Abrham Tesfaye).

E. Royal Collection Section

The Royal Collection Section is used to house and display a bed, safe, and clothes used by Emperor Haileselassie I. It also displays some objects obtained in the form of gifts from different foreign leaders, mirror, and the imperial and impress photographs. The section also includes the Bed Rooms and Bath rooms of Emperor Haileselassie and his wife- Empress Menen.



Fig. 11. Picture and the Royal Bed of Emperor Hailesilassie (Photo taken in 2021 by Abrham Tesfaye).

F. Noble Authors' Section

The Noble Authors' Section consists of collection of the works and clothes of some Nobel authors, such as Mamo Wudneh, Mengistu Lemma, Tsegaye Gebremedhin, SibhatGebre -egziabher, PawlosGnogno, there are also some other stuffs in the form of photographs, portrayals sculpture, typewriter, valise, medal, certificate, ad diplomas.



Fig. 12. Same examples among the collections of noble authors found at IES museum(Photo taken in 2021 by Abrham Tesfaye).

G. Adwa Corner

The section called the ‘Adwa Corner’ is a new section which is consisted of a few displays, such as photograph of Dejazmach Wondirad of Adwa warrior, Empress Taytu’s Robe



Fig. 13. Empress Taytu’s Robe being displayed at IES museum (Photo taken in 2021 by Abrham Tesfaye).

4.3. Establishment, Its Collection and Exhibition of the Addis Ababa Museum

4.3.1. Establishment the Addis Ababa Museum

Addis Ababa was established in 1879/1886 G.C. Few years later, in 1980 E.C., King Menelik II built a big house with a floor at a parallel hill which is viewed directly to the palace. This place is now located in Kirkos Sub-city at around Meskel Square.



Fig. 14. The Building of Addis Ababa Museum (Photo taken in 2021 by Abrham Tesfaye).

The purpose of building the house was that the King wanted to have arsenal. The house has extraordinarily thick wall to safeguard external attack and damage. Besides, the house is under daily surveillance by the King directly from his palace.

However, the house didn't meet its purpose. Because, after a while the King had changed his plan and gave it to Ras BiruWoldetsadik as a wedding gift on the latter's marriage to HE Woizero Amakelech Ali (Atsbha, 2014).

Ras Biru had been living in this house with his wife and children in the reign of Empress Zewditu and King Haile Silassie. During Italian invasion, Ras Biru who was then Defense Minister of Ethiopia migrated to Sudan and stayed there until Italy left Addis Ababa(Bahru, 2001).

The house continued in use as a residence until 1935 when it was captured by the Italians for use as a military clinic. After the country was liberated from the Italian occupation in 1941, the house became a private residence shared by his daughters Woizero Fikirete Birru and Woizero Zenebework Birru following the death of Ras Birru (Atsbha, 2014).

When the Derg controlled the government, many big houses were supposed to be taken by Proclamation as 'Feudal House' and given to the poor. Many households lived together in one big house. However, the Ras Biru's house was not given to the poor but served as Kebele Administrative Office, School, Dendi Sport wears factory, and finally, it was become a traditional Food and Beverage house with entertainment called 'Denbiya Maru' until 1979 (Atsbha, 2014).

The year 1979 was special day for Addis Ababa. Because, Addis Ababa's 100th year was celebrated widely in Addis Ababa. All provinces, government offices, and different foreign friend cities of socialist countries like Berlin, Budapest, Warsaw, Moscow, and Prague etc., participated in the festival by presenting gifts for Addis Ababa municipal. A big EXPO had also prepared (Brochure of the museum).

After the festival had finished, many of the collection, especially paintings were different in type and quality, used for the celebration kept temporarily in store. The question where to keep all the collected objects and the spirit of the 100th year celebration of Addis Ababa conceived Addis Ababa Museum (Atsbha, 2014).

4.3.2. Collections and its Exhibition of Addis Ababa Museum

The museum displays its collection in the 6 permanent display rooms under their own theme.

A. Nascent city Hall

This room is dedicated for the foundation of Addis Ababa. In this, hall, the photographs of King Sahilesilassie, King Menelik, *Etege*Taytu, the early settlement at Entoto Mountain, swords and shield used by King Menelik, saddles and ceremonial cloths of war lords, and modern dinning materials are displayed.



Fig. 15. King Minilik and Empress Taytu's Photograph displayed in Addis Ababa museum (Photo taken in 2021 by Abrham Tesfaye).

B. Development Hall

This hall displays the development of Addis Ababa through time. Accordingly, photographs of the first rail way stretched from Addis Ababa to Djibouti, the first Hotel of the City called Tayitu Hotel, the first Music Band of the City, the first institutions in Addis Ababa, such as Bank of Abyssinia, and Menelik II School, Postal office; the first car used by King Menelik, and some objects like the first telephone apparatuses are displayed.



Fig. 16. The First Postal Office building of Ethiopia (Photo taken in 2021 by Abrham Tesfaye).

C. Adwa Hall

In this hall, there are many displays that are related to the Battle of Adwa of 1896. Photographs and paintings showing when Emperor Menilik II scored colorful victory over the Italians at the Adwa are displayed. In addition, different types of military weapons and local made swords, shields, clothes, food and water containers made of hides etc., which were used during the Battle of Adwa are presented in this hall.



Fig. 17. Different clothes of warlords dressed during the Adwa war of 1896 (Photo taken in 2021 by Abrham Tesfaye).

D. Fascist Aggravated and Diplomatic City Hall

This section consists of materials associated with various diplomatic relations with other countries. This hall also displays the remaining of a bomb thrown on February 19, 1937 by the fascist Italy to kill innocent Ethiopians. All Ethiopian currency types ranging from the early days of salt bars to this present day are also displayed.



Fig. 18. Pictures showing the Diplomatic relationship of Ethiopia with AU, Cuba, and South Africa (Photo taken in 2021 by Abrham Tesfaye).

E. Fine Arts and Statuette Hall

Here, there are works of paintings, graphics, sculptures produced by Maitre Artiste World Laureate Afework Tekle, Bekele Abebe, Tadesse Belayneh, Buzuayehu Tadesse, Tefera Eshete, Girma Beyene. These works narrate patriotism, daily life, the city scape of the old Addis Ababa.



Fig. 19. The work of art of Maître Artiste World Laureate Afework Tekle (Photo taken in 2021 by Abrham Tesfaye).

F. Centenary Hall

In this room, various gifts presented by some sister foreign cities, such as medals from Munich, and the Coat of Arms from Nairobi are displayed. Moreover, some gifts presented by regional states like headseat, and Afar '*Gille*' (sword), ostrich egg, wooden headrest, wooden water container obtained from Afar Regional State, Gambella Regional State, South Nation Nationalities State, Oromiya Regional state are displayed in this hall. Photographs of the Mayors of Addis Ababa from the first Mayor Kentiba Bitwoded to the Mayor Kumsa Demeksa are also included in the exhibition. Furthermore, the corridor of the hall under discussion is also used to display some traditional household materials and musical instruments.



Fig. 20. Some of the gifts presented to Addis Ababa by different countries during its 100th Year Anniversary (Photo taken in 2021 by Abrham Tesfaye).

CHAPTER FIVE: Data Presentation, Analysis and Discussion

5.1. Physical and Communication Accessibility of the Collection of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum for Disabled Visitors

5.1.1. Physical Accessibility of the Collection of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum for Disabled Visitors

5.1.1.1. Physical Accessibility of the Collection of the Ethiopian National Museum

5.1.1.1.1. Approachability of the Museum Premises

The main gate of the museum is found immediate to the main road which is connected with asphalt road. The Ethiopian National Museum has one main compound gate for visitors. The main gate of the museum is found immediately to the main asphalted road stretched from Amist Kilo to Sidist Kilo. This gate has a path for visitors to walk in, driving or riding wheelchair and pushchair.



Fig. 21. The compound gate of the National museum of Ethiopia (Photo taken in 2021 by Abrham Tesfaye).

As I observed, the travel route in the compound taking to the museum building is partly asphalted and partly constructed with paved stone right after the end of asphalt path. This path takes all visitors including the three Disabled Museum Visitors to the permanent exhibition building.



Fig. 22. The Path to the entrance of the National Museum building (Photo taken in 2021 by Abraham Tesfaye).

Assessment of the approachability of this museum reveals that the entrance of the museum compound is adjacent to the main road located opposite its main gate. The road taking any one from this gate to the museum building devoted to the permanent exhibition is partly an asphalted and partly a paved stone path, right after the end of asphalted path which is accessible for wheelchair users, and cane users.

Based on the universal design of buildings and environments, access refers to approachability and accessibility. On the other hand, approachability refers to the accessible journey between the immediate surroundings of the building and the building itself and entails the presence of an accessible route from the street and car parking area through the public spaces of the building to the building entrances (Sholanke, et al, 2016)

In this regard, the approachability of the Ethiopian National Museum shows that all visitors including people with disability can actually gain access to this museum, which is consistent with one of the key objectives of universal design as already discussed.

5.1.1.1.2. Museum Building Entry

The Ethiopian National Museum building immediate to its door entrance has stairs with 16 set of steps and each with 3.40m length, 30cm width and 15cm height. On right and left sides of the set of steps there are handrails. In terms of accessibility, this stair is inaccessible for wheelchair users and challenging for blind if he or she uses to the handrail. Challenges for crutch users can depend up on their physical condition in using the crutch to move up or move down. Deaf visitors are free to fly up as they may have no mobility problem. However, there is no another alternative, like ramp for wheelchair users and crotch users for accessing the basement floor of the museum. Indeed, Mamitu Yilma (2016, Interviewed) the former Director of the National Museum of Ethiopia, was also interviewed about the nature of this problem. Accordingly, she replied that sometimes she even saw when the workers of the museum carried wheelchair user and their wheelchair via the staircase and enable these disabled individuals to access the building entry of the museum.



Fig. 23. The Building Entry of the National museum building (Photo taken in 2021 by Abrham Tesfaye).

But the entrance door of the building of the Ethiopian National Museum is wide enough and easily accessible for the disabled museum visitors under discussion.

In the context of Universal Design for museum buildings, it is underlined that some features like ramps, and stairs should be incorporated in an inclusive manner and that the design should meet spatial requirements, gradients for ramps, and thread dimensions for stairs and the appropriate surfacing (Barrier free NZ Trust, 2013).

Thus, regarding the accessibility to the door/ basement floor of the museum building, it was observed that despite the staircase taking to the first floor is supported by handrails it is not compliant with one of the universal design requirements, for the built staircase is difficult for crotch users and totally inaccessible for wheelchair users.

Furthermore, it was found that there is no a ramp to access the first floor of the museum; and hence wheelchair users that manage to find their way to the museum building cannot access it at all.

5.1.1.1.3. Accessibility of spaces within the Building Interior Parts

The permanent exhibition building of the Ethiopian National Museum is structurally square and curvy at each corner. The building is +2 with underground floor. Except the ground floor, the interior structure of the building has open space that shows the building roof from the basement. This open spaces of the three floors are structurally surrounded by areas that are purposely built for exhibition space. The National museum uses this exhibition space of the four floors for displaying its heritage typologically in four section. This building has big windows but has no door ready for in case of emergency.

There are three different staircases within the interior spaces of the museum building. One of them connects the basement down to the underground floor where archaeological, anthropological and paleontological heritages are presented. Furthermore, one of the staircases takes from the basement floor to the first floor where traditional and modern arts are displayed. Whereas, the third staircase takes anyone from the first floor to the second floor where ethnographic collection is displayed. Each of the three interior staircases equally have 20 set of steps which each has equal length, width and height of 120cm x 20cm x 15cm respectively.



Fig. 24. One of the similarly built interior staircases of the National Museum building (Photo taken in 2021 by Abraham Tesfaye).

All the staircases also have handrails. These stairs are totally inaccessible for wheelchair users. But they are safe for blind museum visitors who can use the handrails to move up and move down. On the other hand, the staircases are challenging and tiresome for the crutch user visitors. Only the deaf can easily access these stairs like other physically abled people. Similarly, Abdisa Assefa (2021, Interviewed) who has been working for Jacaranda Travel Agency stated that some disabled visitors who got the service offered by this travel agency usually came to visit the Ethiopian National Museum together with their friends, relatives or caregiver. Hence, those individuals who were wheelchair users, crutch users, and blind accessed the museum's building entrance and indoor exhibition hall with the support of other individuals who accompanied them. On the other hand, Nigus Mekonnen (2019, Interviewed) who is working as tourist guide for the Ethiopian National Museum stated that people with disabilities come to visit the museum. He added that those disabled visitors who come alone are sometimes helped to access parts of the museum's outdoor and indoor spaces by the goodwill of the workers of the museum under discussion. However, Nigus underlined that the wheelchair users visit only the exhibition displayed in the basement, for the museum's building has no ramps or a lift to access the floors built above the basement.

Furthermore, MamituYilma (2016, Interviewed) underlined that the physical structure of the building of the Ethiopian National Museum was not built having taken Disabled Museum Visitors into account. As Mamitu stated the interior sets of stairs are barriers for wheelchair users, and challenging for blind people to access the museum and enjoy it.

The wall sides of the Basement Floor are devoted for the purpose of displaying pre-historic and historic heritage collections. Some of these displays are hanged on the wall and others are in showcases. The space here is wide enough to move around for the three Disabled Museum Visitors.



Fig. 25. The Circulation Space in the Basement Section of the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

In the underground floor, some of the archaeological, anthropological and paleontological heritage collections are hanged on the wall in the form photograph, and pictures as their representatives. But the rest objects are either placed adjacent to the walls of the building or in glass showcases in the middle of the building. The available space of the basement floor is wide enough for all type of disabled visitors to move around and access the collections. The electric light is also brighter for partially visual impaired visitors that can move in the spaces between the glass showcases.



Fig. 26. The wider Circulation Space in the Ground Floor of the National Museum building (Photo taken in 2021 by Abraham Tesfaye).

As already stated, the first floor of the building of the Ethiopian National Museum is accessed just after climbing up the curvy staircase, which connects it with the basement floor. As previously described, in the first floor both traditional and modern arts are displayed in the form of painting, graphics, sculptures. Some of these works of art are hanged on the wall and others are placed on the surface along the wall sides of the building. The middle open space of this floor is wide enough for all types of Disabled Museum Visitors. However, there is a long-stretched rope with steel stands aimed to protect the heritages from human touch. As a result, blind visitors may encounter an obstacle when they move around to visit these collections.



Fig.27. The wider open space in First Floor of the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

The staircase taking someone from the first floor to the second floor dedicated for ethnographic collection is similar with the staircase just stated above. However, this floor has relatively wider space in the middle part of the floor, which makes the movement of Disabled Museum Visitors easier.



Fig.28. The wider open space in the Second Floor of the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

In the context of universal design principles, there are some accessibility elements to be considered in light of a museum building and its visitors who are people with disability. For instance, the Universal design principles for Australia's Aid Program (2014) underlines that a building in a way that can be used efficiently and comfortably and with a minimum of fatigue, and the design should provide appropriate size and space—for approach, reach, manipulation, and use, regardless of the user's body size, posture or mobility. The building should also provide ramped alternatives to ground floors, and level access to all rooms. Furthermore, it is stated that well-designed ramps enable people to deal with the level changes between pathways and street or building entrances with minimal disruption. The staircases also should provide accessible handrails on both sides to support some concerned disabled people to access the building.

In agreement with the idea mentioned above, a number of requirements have been identified by the Smithsonian guideline for accessible exhibition design, "Exhibitions for All" by the National Museums of Scotland (NMS) and the Americans with Disability Act (ADA). These requirements are directed at guiding concerned experts on how to achieve universal design in museum buildings

and facilities, including all the spaces and functions that a museum building should contain, such as exhibition halls, exhibit stands, circulation, services and others.

Having what is stated above in mind, regarding the accessibility of the indoor spaces of the building of the Ethiopian National Museum, it was observed that the museum under discussion has no a ramp to access the basement floor. Owing to this, the museum is totally inaccessible for wheelchair users. The museum has also neither lifts nor ramps to access its first and second floors. Hence, crotch users that manage to find their way to the ground floor of the museum can face a hardship to move up beyond this level via the set of steps built above it. But as the stair cases are supported by handrails blind visitors can access both the first and second floors of the museum.

However, all the staircases in the museum were found to be compliant with universal design requirements as they have supportive handrails at varying heights for visitors.

It was also found that the exhibition halls of the Ethiopian National Museum have sufficient spaces for circulation. This is because, the corridors within the museum are wide enough for all types of disabled visitors to freely use the spaces. As a result, the exhibition space of the stated museum is in lined with universal design requirement of exhibition spaces. However, the corridors do not have tactile guiding texture that can provide support to visitors with visual impairments to follow the visiting route. In addition, there is no provision for seating within the displaying rooms and corridors, which can be very inconveniencing and dangerous for people with physical disabilities. This means that visitors have to remain standing from the beginning of the museum visit until the end. This constraint is more challenging for crutch users and other aged disabled people.

5.1.1.2. Physical Accessibility of the Ethiopian Studies Museum

5.1.1.2.1. Approachability of the Museum Premise

Assessment of the approachability of this museum reveals the following features.

Addis Ababa University has two permanently useable compound gates. These gates, commonly known as the Main Gate, and the Amistegna Ber (Fifth Gate) are easily reachable for disabled museum visitors and others too. The three types of disabled people selected for the study can reach the IES museum through the asphalted car roads of the University stretched to it.



Fig. 29. The Main Compound Gate of Addis Ababa University (Photo taken in 2021 by Abrham Tesfaye).

It is good to note that only the main gate has a walking path that can take everyone to the museum building. However, this pass is used to take anyone only about half of the road. As a result, it creates a barrier for visually impaired museum visitors. In addition for old man/woman who is crotch user the long way to arrive at the museum is tiresome. This implies that people who are with kind of disabilities cannot easily gain access to this museum through the walking path. As a result, this inconsistent with one of the key objectives of universal design as previously discussed.



Fig. 30. The Path to the entrance of the National Museum building.(Photo taken in 2021 by Abrham Tesfaye).

5.1.1.2.2. Museum Building Entry

In order to enter the museum, building there are two alternative paths. The entrance to the museum is elevated and can be accessed using 9 set of steps in which each step has a 2.5m x 14cm x 40cm length, width and height respectively, and are ramps built on the left and right sides of the set of steps. Having this in mind, only using the ramps both wheelchair, and crutch users can easily access the museum's main get. Even, this ramped entrance is not completely accessible for wheelchair users to move up freely as there are no curb cuts on it. Hence, the ramps do not fit with the Principle of Universal Design as stated by Smithsonian Guidelines for Accessible Design for Facilities and Sites (2010).



Fig. 31. Set of stairs at the building entry of the Institute of Ethiopian studies. (Photo taken in 2021 by Abrham Tesfaye).

But, the stairs of the entrance of the museum taking to the main get is not so easy for crotch users. It is also challenging for the blinds, and unthinkable for wheelchair user museum visitors. But the staircase does not have handrails to support visitors with mobility impairments and other physically challenged persons as recommended by the Smithsonian Accessibility Guidelines (2002).



Fig. 32. One of the Ramps built at the building entry of the Institute of Ethiopian studies (Photo taken in 2021 by Abrham Tesfaye).

5.1.1.2.3. Accessibility of Spaces within the Building Interior Parts

It is good to note that the IES Museum structurally is G+2 and its door entrance with 2.78m height and 3.42m width is accessible the three Disabled Museum Visitors.

On the other hand, the museum's exhibition is presented partly in the basement, and partly in the 1st and 2nd floors of the building. The building has corridors. The first is stretched from the building's gate and turns right up to the stair taking to the first floor. On the other hand, the second one is on the first floor taking to the main exhibition hall. Allied with this, the corridor of the basement is wide enough for movement for the three types of disabled visitors who want to visit the heritage collections available in the corridor, Adwa Corner and the room dedicated to famous Ethiopian Authors in the basement. Both rooms have wide space for the three Disabled Museum Visitors to move around.

The museum displaying room in the basement is consists of some heritage collections, such as a sculpture, and objects in showcases. This basement has sufficient space (average 4m x 4m length and width) to move around for all 3 types disabled visitors in compliance with the universal design requirement of exhibition spaces.



Fig. 33. The wider open space in Basement of the Institute of Ethiopian studies (Photo taken in 2021 by Abrham Tesfaye).

In order to reach the 1st floor of the museum building, everybody is expected to pass via the 38 curvy stairs with each of them have 1.65m x 36cm x 15cm length, width and height. The staircase is built adjust to the right edge of the basement's wall. In the left side of these steps there is a handrail. But this staircase makes the first floor totally inaccessible to wheelchair users. This means that wheelchair users that manage to find their way to the ground floor of the museum cannot go beyond this level, which is a major restriction to disabled visitors.



Fig. 34. One of the Interior stairs of the Museum of the Institute of Ethiopian Studies (Photo taken in 2021 by Abrham Tesfaye).

The staircase is also more difficult to crotch users than the visually impaired visitors who may use the handrail to pass via it. In fact, Dr. Hassen Seid (2021, Interviewed) also stated that:

“I once became angry when I had observing a crutch user (he used two crutches) while standing the ground and watching the curved upstairs. I felt that he was saying "what on earth shall I do to visit the museum!! I couldn't have done anything. You see, this curving upstairs built approximately on 16 meters high”.

Allied with the aforementioned idea, Workinesh Bizuneh (2019, Interviewed), Directorate of the Women, Children, Youth and Persons with Disability of ARCCCH Directorate was interviewed about disabled museum visitors of the Ethiopian National Museum and replied that:

“We have been giving comments every time regarding meeting the physical accessibility of the museum to the demand of person with different disability. Nevertheless, we have not yet got response”.

On the other hand, so as to access the collections of the first floor of the IES museum everyone is expected to enter via the door built for it, which is with 1.35m width. Hence, the three Disabled Museum Visitors can move freely.

The first floor which is the main displaying room has a wider wooden door above 1.5m length and 2m width which is comfortable to the 3 types of disabled visitors. This hall has some partitions in which the collections are displayed typologically. Some of the collections are displayed adjacent to the wall sides of the floor, while others are hanged on the same walls. There are also the cultural objects of the Afar community displayed at the center of the hall. Hence, the displaying space is organized in way that helps disabled museum visitors to move here and there freely.



Fig. 35. The wider Space found in the First Floor of the Museum of the Institute of Ethiopian Studies (Photo taken in 2021 by Abrham Tesfaye).

There are also accessible corridors that can take all types of visitors to the Imperial and Empress bed rooms and their bathrooms. These rooms also have accessible doors and space move around which is consistent with the Principle of Universal Design.

The fact of the first stair is also true for the set of steps built at the center of the first floor and taking to the 2nd floor. The stair has 32 curvy steps with 1.40m x 32cm x 15 length, width and height supported by handrails. It is totally impossible for wheelchair user, and challenging for blind and crotch users to access this floor. Furthermore, there is no lift for accessing bot the first and second floors of the museum. But Fitsum Kibreab (2020, Interviewed) who is working as a guide for IES museum stated that the museum has a lift that was installed during the construction of the palace serving currently as museum. However, this lift does not work. In agreement with this, Dr. Hassen Seid (2021, Interviewed) whom I interviewed about whether there has been an effort or not to make the lift workable replied that:

“We had discussion once with the famous elevator maker and repairer known as Dan Techno-craft. The elevator is as old as the palace building and use too high power to maintain its engine. So, we are looking for other alternatives”.

Nevertheless, so far, there has not been any other alternative provided by IES yet. Hence, the IES Museum has failed to meet one of universal design requirements

The exhibition hall of the second floor consists of crosses in glass showcases, a few collections at its wall side and a room displaying musical instruments. This hall is accessible but needs care not to crush with the glass showcases when wheelchair user and blind moving between them.



Fig. 36. The wider circulation space in the second floor of the Museum of the Institute of Ethiopian Studies (Photo taken in 2021 by Abraham Tesfaye).

The musical instrument display room has doors with 83cm entrance, exit and between the partition, besides, doorsills at entrance and exit. There are also steel edges in the middle of the room, and doorsill at the entrance of the room that can be obstacles to blind visitors. But, the middle of the rooms is wide to move for all types of visitors.



Fig. 37. The Door, moving space and light in the musical instrument room (Photo taken in 2021 by Abrham Tesfaye).

In general, interestingly, the exhibition halls of the IES Museum have sufficient space for circulation in compliance with the universal design requirement of exhibition spaces.

5.1.1.3. Physical Accessibility of the Addis Ababa Museum

5.1.1.3.1. Approachability of the Addis Ababa Museum Building

Let us see first the situation of approaching the museum compound gate. The compound is situated on an elevated place when a visitor sees from the main road. The compound has 3 gates. The first walk path is adjacent to the main Bole road and has 40 steps with 2.70 meters length, and 12 cm height, which is totally inaccessible to wheelchair users, and very challenging to crutch users and visually impaired people to access the compound gate of the museum. This set of steps has supportive handrails on its right and left sides that can be helpful for the visually impaired individuals and for some crutch users who have serious physical disabilities to get their way to the

Addis Ababa Museum's compound. However, almost only half of the staircase is supported by handrails.



Fig. 38. Set of stairs taking to one of Addis Ababa Museum compound gates (Photo taken in 2021 by Abrham Tesfaye).

On the other hand, the second walk path is found along the road taking to the Meskel square. This foot path that is used to access the second compound gate is built with 51 steps having 4.15 m length and 1.15 width and 15 cm height.

The third path is found behind the Museum's building. This walk path taking to the Museums compound is without any staircase, rather it is with gentle slope through which people with disability easily access the compound of the museum under discussion.

Considering that the three selected visitors with disability (Deaf, Blind, wheelchair and crutch users) are at the foot point of the staircase that takes to the compound gate; the visually impaired museum visitors can easily climb all the steps. But they can be exposed for a risk when they climb

up and down nearly half of the already mentioned part of the staircase, which has no provision of handrails unless they are helped by anybody.



Fig. 39. The path to Addis Ababa Museum building. (Photo taken in 2021 by Abrham Tesfaye).

Each compound entrance has different width. The first one has a door with 3.45 m total width. The second gate has a door with 2.85m width, and the third gate has a door with 3.5m width. These all compound entrances are left open during working hours and are easily accessible to all types of visitors to arrive at the Museum's building.

However, within the compound of the Addis Ababa Museum, the walk path for accessing the main entrance of the museum via the 2nd Gate, anyone is needed to step up a set of 34 curvy steps, which is with 3.5 meter in length, and each step with 15cm in height and 40 cm in width.

This staircase has no also provision of handrails and ramps in either of its sides. Accordingly, this path creates a barrier to wheel chair users and could be difficult and dangerous for a cane user or a visitor using a mobility aid like a walking stick or crutches to independently access the Museum's entrance. But the walk path following the First Gate of the Museum compound is plain which is easily used by anyone to reach the main entrance of the museum under discussion.

According to Barrier Free NZ Trust (2013), approachability to a building is achieved when there is an accessible route from the transport systems that deliver people to the public spaces around the building, which include the walkways and to the building access points like vertical connections to the building entrances. In agreement with the stated facts associated with the approachability of the entrance of Addis Ababa Museum building, the staircases built inside its compound and partly built outside the compound are not compliant with universal design requirements as they are totally inaccessible for wheelchair users. They are also challenging for blind people, and crutch users to get their way to the main entrance of the museum as they have open risers without handrails at varying heights to cater for the height differences of the visitors.

Majority of the museum compound is paved with cobble stone and small green area. The pavement takes to the museum building. The front side of the building has walking path leveled 12 cm from the compound pavement.

5.1.1.3.2. Museum Building Entry

The Addis Ababa Museum's building is a G + 1 in terms of structure. The original wall of the building constructed using wood and mud was later covered with cement giving its current feature. The original floor constructed from timber is still intact. The building has many glass windows.

The museum building has 2 wooden doors in which one of them is used as an entrance door with 2 m height and 1.20 m width and the other as exit one, which is with 2 m height and 1.10 m width. But the entrance to the museum is elevated and without ramps and handrails. It can only be accessed after climbing up 3 steps. As a result, this constitutes a barrier to wheelchair users and could be a bit difficult and unsafe for blind individuals and crutch users to access and then visit the Museum's heritage collections. Similarly, in order to exit from the Museum anybody must step down the staircase with 4 steps that is built at the doorway. This staircase has no also provision of ramps and handrails.

The path ways taking to the door entrance and taking out via the exit door must be safe for all users, mainly for people with low vision and blindness or mobility disability (Brandt, et al, 2009). Consequently, the finding of the research shows that due to the nature of the aforementioned staircases, and absence of supporting ramps the Addis Ababa Museum is not designed in a way that in lines with accessibility requirements of universal design for the matter under discussion.



Fig. 40. The Building Entrance and Exit of Addis Ababa Museum building (Photo taken in 2021 by Abrham Tesfaye).

5.1.1.3.3. Accessibility of Spaces within the Building Interior Parts

The interior part of the Addis Ababa Museum building has two corridors and 7 rooms including the temporary exhibition room. The basement consists of 5 rooms and 2 corridors. On the other hand, the First Floor of the building has 2 rooms, and one corridor. The 7 exhibition rooms are named Nascent city Hall, Development Hall, Adwa Hall, Fascist Aggravated and Diplomatic City Hall, Fine Arts and Statuette Hall, Centenary Hall, and Temporary Hall.

In Addis Ababa Museum, after accessing the entrance door of the building anyone is needed to find his/her way to the interior door of the exhibition room located at the basement by stepping up 3 wooden made set of steps in which each step measures 7 cm height and 1.10 m width with no provision of handrails at all.

There is no also any ramp for accessing the door entrance of the basement floor of the museum. Hence, wheelchair users that manage to find their way to the first building entrance of the museum cannot go beyond this level. Furthermore, this set of steps can be a bit difficult for cane users and crutch users as well. Nevertheless, the corridors within the museum are wide enough in line with universal design requirements to allow disabled visitors to move freely and visit some of the collections displayed within these spaces.

Within the basement floor of Addis Ababa Museum, there are four rooms being used for a permanent exhibition. Among these rooms, the widest covers an area of 6m by 10m, whereas, the smallest room measures an area of 6meter square. In the same floor, there is also another room devoted to temporary exhibition covering an area of 9m by 11 m. however, the entrance of this room is elevated and accessed by passing only via a set of 9 steps supported by handrails in both left and right sides, which is completely impossible for wheelchair users and challenging for cane and crutch users.

On the other hand, the first floor of the Museum's building consists of two permanent exhibition rooms. The entrance doors of the rooms of the basement floor are wide enough for all types of visitors of the museum.

Regarding display objects space organization in the four permanent exhibition halls, it was observed that the Museum displays some of its heritage objects inside 4-6 glass showcases set in the middle parts of the surfaces of the rooms, and inside some other glass showcases, each covering a height of 1.5 m and installed on the walls. There are also some objects hanged on the walls with or without frames.

The spaces between the showcases set on the surfaces of the stated museum have a distance ranging from 1.5m and to 1m, making them wide enough for free movement for visitors including people with disability.

Inside the exhibition rooms, the light emanates from the lamps hanged on the ceilings make the displays move visible for visitors who are with normal sight.



Fig. 41. The Doorway of the exhibition hall entry of Addis Ababa Museum building (Photo taken in 2021 by Abrham Tesfaye).



Fig. 42. A Sample of a moving space at the Basement Floor of Addis Ababa Museum building (Photo taken in 2021 by Abrham Tesfaye).

On the other hand, the first floor that has similar displaying set up and space organization is accessed by passing via a set of 21 steps connecting it with the basement floor in which each step measures 32 cm length, 20 cm height, and 30 cm width. Moreover, this staircase is not supported by handrails at all. Owing to this, this staircase is totally inaccessible for wheelchair users and a bit challenging for the blind people and crutch users. Hence, in this regard, the finding of the research reveals that the Addis Ababa Museum fails to fulfill one of the Principles of Universal Design requirements for the issue under discussion, and is not fully inclusive for disabled museum visitors.



Fig. 43. The Exit doorway and set of stairs taking to the First Floor of Addis Ababa Museum building (Photo taken in 2021 by Abrham Tesfaye).

5.1.2. Communication Accessibilities and Supporting Service Provisions of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum for Disabled Visitors

5.1.2.1. Communication Accessibilities of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum for Disabled Visitors

5.1.2.1.1. Communication Accessibility within the Ethiopian National Museum

Medium of communication in this National museum is limited to verbal and text. From the compound gate: guards, ticket office, information desk, up to building entrance; communication is done through Amharic language verbally. Using verbal Amharic and English languages are medium of communication in the interior building. Such communication medium is accessible for all except deaf.

The other medium of communication is text. Text is used outside and inside museum building using both languages. In the outside part; the name of the museum is platted outside above the compound gate in both language, national museum ticket office in English, information desk in both language and the name of the museum platted above the entrance of the main building.

Within the interior part; Amharic and English texts are used for welcoming, directing, warning and for labelling and explaining displays. These texts are printed in different font size with different colour background at different height inside and outside showcases, and walls of the exhibition rooms.



Fig. 44. An example of a Text placed in lowered position at the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

Some of the objects that are displayed at proper heights are accessible to all kinds of visitors. But some other objects that displayed at heights not accessible to possible wheel chair users if they have the chance to enter the exhibition rooms.



Fig. 45. Samples on the nature of Font sizes, color and background at the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

Another medium of communication that connect visitors more is touching. Connecting with sense of touching objects is the very important medium for blind visitors but enjoyable for all Disabled Museum Visitors and the Abled one. But, touching heritage may cause damage so that museums have experience of presenting their heritage by producing replica, tactile or model. So, The National Museum in this case also could produce replica of Lucy's skeleton. However, this replica was made only for preserving the original heritage so that the replica is become untouched and locked in the glass showcase. Therefore, a chance of accessibility through touching tactile or replica in National museum for communication purpose are still not available.



Fig. 46. The untouched replica of Lucy found in the National Museum building (Photo taken in 2021 by Abrham Tesfaye).

Other communication alternative such as audio device that guide, direct, narrate or warn blind visitor is not available in this museum environment. When putting the deaf visitors' communication into account, neither guide who is trained sign language nor audiovisual supported by sign language is available. The only device in this museum is the audiovisual stands which is approximately two-meter-high above the ground narrate visually only about Lucy on its three screens set triangularly is also above wheelchair users' sight. In fact, as far as sign language is considered, Fanta Beyene, Public and International Relations Directorate (Interviewed, 2020) underlined that the media devices of Authority of Research and Conservation of Cultural Heritage (ARCCH), in particular and Ministry of Culture and Tourism in general do not consider people with hearing impairments. For example, Ministry of Tourism does not even have sign language interpreter for "Tourism Lelimat" (Tourism for Development) television program. Furthermore, he added that the Ethiopian National Museum also does not have information provision in braille and sign language formats that describe about the essence of the heritage objects for the blind and

the deaf visitors respectively. The museum under discussion has no also a guide trained in sign language.

In the context of Universal Design Principle, effective communication in museums allows every museum visitor to understand the environment, find his /her way around the building, perceive, and understand the information being displayed. Effective communication begins with enabling the museum visitors to find their way into and around the museum. This entails comprehensive exterior signage and way-finding system at every major point to assist visitors with varying disabilities to locate appropriate parking and accessible entrances. (City of Toronto Accessibility Plan, 2004).

Communication in buildings and environmental design refers to how perceptible information is to users of the built environment. However, effective communication in public buildings can be very difficult to achieve considering the variations in the sensory abilities and the intellectual or cognitive abilities of the users. Way finding in buildings can be difficult for users with impaired sensory abilities if necessary, information is not relayed in a perceptible manner. For example; the use of tactile signs, audiovisuals communication, sign language and proper lighting will enable users with impaired sensory abilities perceive building information better (Barrier free NZ Trust, 2013).

On the other hand, in terms of communication accessibility in general and object placing levels in particular, the findings of this study reveal that in the displaying rooms of the Ethiopian National Museum some of the objects are displaced at heights accessible to the crutch users, and people with hearing impairment. These displays are also accessible to wheelchair users if they have any chance to reach the exhibition floors of the museum. However, some of the artifacts were found in locations considered too high to be conveniently seen and appreciated by all types of visitors. Especially, the height level in which these objects are placed is more difficult to properly visit and appreciate the objects to partially sighted people, and to wheelchair users who can be carried by man to access the displaying rooms.

In additions, in the Ethiopian National Museum there are three televisions for audiovisual communication that only present about human evolution.

In fact, On the other hand, Workinesh, Directorate for Women, Children and Persons with Disabilities, (Interviewed, 2019), stated that:

“We conducted an assessment about disabled museum visitors of Ethiopian National Museum. The assessment indicated that the museum has not addressed the interest of visitors with disabilities. This is because the Ethiopian National Museum has no provision of a lift, texts in braille format, any guide trained in sign language. Due to this, when the deaf want to visit, they go with their own sign language interpreter”.

Hence, some areas of non-compliance with universal design principles were identified in this museum. These areas of concern include the absence of provisions for communication in sign language, Braille tactile representations of some objects, as the only communication tools used within the museum are only English and Amharic.

It is good to note that Deaf and hard-of-hearing people need audio information translated into print. But the Ethiopian National Museum has not provided an audio narration in a print format for the audio-visual that narrates regarding human evolution. Moreover, those who are deaf or hard of hearing visitors require the instructions in print which the Ethiopian National Museum lacks.

On the other hand, people with visual impairments need printed information in audio and tactile formats. Items essential to the exhibition's main theme must be accessible to people by tactile examination (e.g. touching artifacts, reproduction, models) and/or comprehensive audio description. But visitors who are blind and those who cannot read access the oral presentation of the guides of the museum.

However, as Fanta Beyene (Interviewed, 2020) put it clearly the Ethiopian National Museum has never achieved what is required for disabled museum visitors. Thus, exhibition organizers should consider some provisions, which make communication accessible for people with disabilities. Generally, based on the aforementioned facts, it is possible to conclude that the Ethiopian National Museum is incompliant with the Principle of Universal Design.

5.1.2.1.2. Communication Accessibility in the Ethiopian Studies Museum

As far as information and communication is concerned, there is no information outside the University's compound walls or around the compound gates that indicate the name of the museum or where the museum is found in any form like signage which is accessible for all visitors including people with disability.

Similarly, there is neither information desk nor other texts and symbols that help disabled visitors in particular, and others in general, to have enough information while going through the compound, and arrive at the entrance of the museum and within the museum building.

Nevertheless, as the Smithsonian Guidelines for Accessible Design for Facilities and Sites (2000) underlines, the most useful commodity of today's society is information in various forms, such as symbols. Above all, these are essential to a person with a disability. For example, the symbols may be used on signage to indicate the location of the information desk, where there is more specific information or materials regarding access accommodations and services. Furthermore, these symbols may be used to promote and publicize accessibility of places and other activities for people with various disabilities.

On the other hand, in the Main campus of the University in general and in the IES Museum building in particular, there is no provision of light and/or sound signals for deaf and blind respectively to react for a warning or an emergency.

It is good to underscore that an effective communication starts with enabling the museum visitors to find their way into and around the museum. This entails comprehensive exterior signage and way-finding system at every major point to assist visitors with varying disabilities to locate appropriate parking and accessible entrances. Furthermore, appropriate signage is recommended to be used to distinguish pedestrian, vehicular, and emergency routes on the site (City of Toronto Accessibility Plan, 2004). In this regard, the finding of the research shows that the IES Museum is not compliant with the Principle of Universal Design.

In the permanent exhibitions of Institute of Ethiopian Studies Museum, the only accessible way of information and communication for all types of visitors of the displays are in the form of personal observation, verbal guides and texts. Allied with this, a blind visitor accesses the display room and visit the heritage collections only through the guide's or friend's verbal information. On the other hand, those disabled people who have no visual impairments visit the heritage collections through direct observation without the help of a guide by imbibing information from available captions, and other written sources of information.

In the stated museum, Text is accessed for deaf, wheelchair and crotch users, including warnings that prohibit not to touch displays. As far as exhibition label texts or captions in light of people with disabilities are concerned, the Institute of Ethiopian Studies Museum uses appropriate languages. This is because essential information is also accessible in Amharic to people who have difficulty reading English. However, the museum lacks sign language in the form of written text to hearing impaired visitors to understand and appreciate the displays. In reality, the museum under discussion has no any trained sign language guide. In addition, being higher in position and varies in font size, all label texts cannot be accessible for wheelchair user.



Fig. 47. Example of Texts placed in lowered position at the Institute of Ethiopian Studies. (Photo taken in 2021 by Abrham Tesfaye).

Large-print versions of texts for individuals who have low vision and braille symbols for individuals who are blind, including exhibition labeling, and signage are not also available in the IES Museum.

As a result, this is not compliant with one major principle of universal design which underscores that any exhibition label information must be available within displaying halls in alternative formats, such as braille and audio for visually impaired people who cannot read print (Smithsonian, 2000).

One of the Principle of Universal Design states that some instructions in a museum should be presented in both printed, and an audio format (Eziyi O. et al, 2017). In fact, in the IES Museum, for people who are blind and those who cannot read, instructions are presented orally by its guides. However, for those who are deaf or hard of hearing the museum lacks instructions in print forms. The museum has no also a guide who knows sign language. Allied with this, Ato NigussieMoges (2020, Interviewed) who was former President of Ethiopian National Deaf Association, explained that:

“We once took our guests from abroad to the Institute of Ethiopian Studies Museum. They all are deaf. We communicate through international sign language. I myself also deaf but can talk in slow tongue and understand from lip reading. The receptionist understood and I also told her we all are deaf. Among our guests, he asked to ask if there was sign language guide. The receptionist said no one. I had tried my best. They learned something but they were not satisfied. They were happy if they learned more about our ethnographic displays and the imperial collections”.

However, the IES Museum has no enough provision of tactile objects designed for visually impaired visitors. In fact, Kassahun Bayelign(2021, Interviewed) who is a blind underlined that it is not enough to receive just descriptions of the exhibits. Allied with this idea, the Smithsonian Guidelines for Accessible Design for Facilities and Sites (2000) emphasizes that museum related exhibitions must make exhibit content accessible at multiple intellectual levels and present it through more than one sensory channel. Furthermore, exhibitions must take in to consideration the

experiences of people with disabilities within their content and presentation. This guide line adds that objects that are important to the exhibition's main theme must be accessible to people by tactile examination (e.g. touching artifacts, reproductions, models) and/or comprehensive audio description. In agreement with this, regarding the IES museum, Dr. Hassen Seid (2021, Interviewed) stated that:

“In the IES museum, there is a canopied of PawlosGnogno former journalist of Ethiopia. In addition, I once produced Axumite stelae in tactile model using fome. I added Daniel's wooden sculpture of a naked woman. Finally, few blinds started visiting by touching these objects. They enjoyed it. We got a good feedback in that experimental display”.

In fact, it is also emphasized that when objects are selected for inclusion in an exhibition, it is prudent to take in to account those objects that may be touched or reproduced for tactile examination. It is recommended to include touchable objects, such as models and reproductions that provide coherent explanations of the exhibition topics, within the actual exhibition space. This is because, tactile experiences are essential to people with visual impairments and greatly help many people with cognitive disabilities (Stein, J., 2009)



Fig. 48. Audiovisual at the Institute of Ethiopian Studies.(Photo taken in 2021 by Abraham Tesfaye).

Moreover, the IES Museum has no provision of audio route guide, and audio-visual devices with supporting sign language designed to some disabled museum visitors. The only device set in the Institute of Ethiopian Studies Museum is the audiovisual device that gives some information about the Hamar community.

On the other hand, the Smithsonian Guidelines for Accessible Design for Facilities and Sites (2000), underlines that museums must provide audio description for those objects that cannot be touched or that provide little information through touch. This is due to the fact that an audio description fills in what persons with low vision may not be able to see fully. It also offers details and compares new objects to familiar ones for people who are blind. Indeed, when tactile examination is possible, an audio description can serve as a useful complement. Nevertheless, on the topics discussed just above, the Institute of Ethiopian Studies Museum is not compliant with the Principle of Universal Design.

5.1.2.1.3. Communication Accessibility in the Addis Ababa Museum

The Addis Ababa Museum provides enough information regarding its name using signage installed on the wall of its compound found along the major road taking to Meskel Square. The name of the institution is promoted in both English and Amharic languages. However, the Museum has no information desk or braille and any other device that can help to provide information associated with the usability and the nature of its heritage collections. In point of fact, AbdissaAssefa(Interviewed, 2017), stated that the Addis Ababa Museum, the Ethiopian National Museum, and Institute of Ethiopian Studies Museum do not have their own respective website. Besides, travel agencies or others working in such tourism promotion do not have inclusive information providing electronic media. Thus, some interested stakeholders, such as tour and travel agencies should work on such information providing services.

In Addis Ababa Museum, the ways of accessing information about its exhibition are through, guides' verbal description, personal observation, and texts. Allied with this, the guides of the museum verbally describe about the essences of the various collections in both English and Amharic languages to visitors including people with disabilities who can access the exhibition spaces.

With regard to disabled visitors of Addis Ababa Museum, the blind accesses the display rooms and visits only through the guide's or friend's verbal communication.

But, Ato Nigussie Moges, former President of Ethiopian National Deaf Association (Interviewed) stated his knowledge and experience regarding disabled museum visitors as follow.

“There are different types of hearing impaired that ranges from totally deaf up to their hearing capacity in various range of decibel. Some use hearing device, others not. For example, I can hear if someone speak loudly. But I don't like asking person to speak loudly. At Addis Ababa Museum, I once asked the guide to speak loudly. He continued speaking with low voice. I was angry but continue visiting with my two deaf friends. You know, when you are challenged in such a way, you feel that you are neglected. No one doesn't care about deaf community”.

On the other hand, short texts providing information about many of the collections in the exhibition are accessed for deaf, and wheelchair and crutch users. Nevertheless, some of the label texts of the exhibition are not accessible for wheelchair users as the objects are placed in locations that are too high to be conveniently seen and appreciated by them.



Fig. 49. Text samples Addis Ababa Museum building. (Photo taken in 2021 by Abrham Tesfaye).

On the other hand, the physical context of the Addis Ababa Museum's exhibition space is wide enough and nicely organized. But since there is tactile guiding surface texture the space is inconvenient for blind visitors. Accordingly, the stated space helps all types of disabled people except the blind ones who may access the exhibition to visit it with maximum convenience.

In addition, it is underlined that exhibition objects essential to the exhibition's main theme must be accessible to people by tactile examination (e.g. touching artifacts, reproductions, models). In this regard, for individuals who are blind or partially sighted include large print labels, Braille labels and maps, and audio guides. Blind museum visitors can also be offered a touch tour, in which visitors are encouraged to explore different objects—either real or replicas—through touch (Marie-Pierre Gadoua, 2014). However, the Addis Ababa Museum has no provision for communication using audio devices, in sign language, Braille, and tactile that can help concerned disabled museum visitors to easily appreciate and learn about the essences of various collections. In reality, Abdissa Assefa (Interviewed, 2017), stated that :

“The Addis Ababa Museum and the Ethiopian National Museum as well, have similar information and communication service providing system. In my 17 years of experience, I have never seen deaf visitors served with sign language and also there is no audio device of any touchable access that connect the blind with the object”.

Furthermore, Eshetu Taye, Director of the Addis Ababa Museum (Interviewed, 2020) stated that the Addis Ababa Museum does not have provision of audio guide and tactile, and braille formats for blind visitors, and sign language format for deaf visitors to make communication easier in the museum. According to him, one of the major constraints to fill this gap is shortage of enough budget. In addition, Eshetu added that, it is the Addis Ababa Culture, Fine Art, and Tourism Office that employs workers for the Addis Ababa Museum based on defined criteria. As he stated, the criteria for employing guides for the museum consider only those individuals who graduated in tourism only. However, the criteria should include those individuals trained in sign language skills.

According to, Ato Agegnehu Adane , Addis Ababa University School of Fine Art and Design president (Interviewed, 2017), Addis Ababa Museum and other government museums are expected to work on becoming inclusive as much as their capacity allows rather folding their hands and continue working exclusively.

In reality, it is an established fact that museums serve as educational and cultural institutions and tourist attraction [Falk, & Dierking; 2000; Roppola, 2012). For this reason, museums should be accessible by every member of the public irrespective of sex, age, social status, and level of disability. Nevertheless, the finding of this research reveals that communication in the Addis Ababa Museum is not fully accessible for disabled museum visitors.

5.1.2.2. Supporting Service Provisions of the Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum for Disabled Visitors

5.1.2.2.1. ENM Supporting Service Providing Sections

The supporting service providing sections of the National Museum of Ethiopia are presented as follow.

Ticket Office: the Ethiopian National Museum has already built a ticket office near the compound gate and it is accessible for the three types of Disabled Museum Visitors.

Parking: The Ethiopian National Museum has parking area for all visitors. It is easy and short path to walk or ride forward to the permanent exhibition building.

Toilet: There is toilet outside the Ethiopian National Museum's building. It has a few centimeters ramped way with 80cm width. But the path is without handrails on its either sides. Inside the toilet room, there is a narrow corridor with 1.20m width. This room is partitioned in to two to be separately used by both males and females. But there is no free space to move around in the toilet rooms. So, the toilet is inaccessible for wheelchair user and challenging for both Disabled Museum Visitors and Abled visitors.

Regarding a function of a museum, it is stated that one of the universal design principles is related with the concept "Usability". The term usability refers to how the building or environment of a museum is conducive to satisfy the needs and goals of its users. Accordingly, the concept under discussion underscores on the provision of museum environments and products that can be effectively used by as many people as possible, including those with disabilities without the need for assistance. Above all, the practical application of the stated concept is very useful for a museum so as to provide a more comfortable learning experience for the disabled visitors and enhance their level of social interactions [Winnipeg Free Press, 2014; Boston MOS, 2015).

However, in agreement with the idea raised above, the Ethiopian National Museum building has no provision of seats in its exhibition halls aimed to meet the need of some disabled persons, such as crotch users who may need to take some rest while going through the exhibitions. Furthermore, Ato Nigussie Moges (2020, Interviewed) who was the President of the Ethiopian National Deaf Association stated that

“What I observed in my experience while taking our foreigner guests to the Ethiopian National Museum and the Institute of Ethiopian Studies Museum was that neither of the two museums have an emergency door, and a light signal that is crucial for deaf during state of emergency”.

On the other hand, according to Fanta Beyene (Interviewed, 2020), the Ethiopian National Museum has a serious problem on applying the policy related to people with disabilities and accessible museum. Partly, the Ethiopian National Museum has a lack of enough awareness about what disabled museum visitors need depending on the nature of their disabilities. Consequently, this implies that the Ethiopian National Museum is charging its responsibility keeping the rights of people with disabilities in accessing it.

Moreover, as Fanta Beyene underlined the other challenge for the Ethiopian National Museum to be effective on inclusive practices is related with autonomy. With regard to this, Fanta stated that the Ethiopian National Museum is not an autonomous institution. According to him, if autonomy is given for the museum the museum can fill and manage its gaps associated with the interest of disabled visitors and make itself an inclusive institution. Thus, all the stated facts are in contrast with the provisions designed by Smithsonian Accessibility guidelines

5.1.2.2.2. IESM Supporting Service Provision in Institute of Ethiopian Studies Museum

Parking: The Institute of Ethiopian Studies museum has a wider and comfortable space just opposite the building entrance that serves as a parking area, which can be used by visitors including disabled people who may arrive at the campus by a bus or private car.

However, the Institute of Ethiopian Studies museum has no provision of seats in its indoor spaces for those disabled museum visitors who may need to take rest during visiting it. As a result, this can be very incommoding and challenging for people with physical disabilities in general and crotch users in particular. Hence, this prevailing situation of the museum under investigation is against one of the requirements of the principles of universal design for facilities and sites that underlines that seats must be provided and accessible in each exhibition space, and in a nearby corridor (Mace, 1985).

Toilet: In Institute of Ethiopian Studies museum, toilets are available at the basement and second floors of the building. But the width of each toilet entrance door measures 65 cm. in addition, the indoor spaces of these rooms are very narrow and inaccessible wheelchair users and challenging for blind people.

Regarding usability of museum facilities, it is noted that the peculiar requirements for each disability should be carefully considered. For instance, people using mobility aids, white canes, and wheelchairs require more space to perform some functions within the museum like making horizontal travel, using the restroom, corridors and others (Eziyi . et al., 2017).

5.1.2.2.3. AAM Supporting Service Provision in Addis Ababa Museum

Parking: The Addis Ababa Museum has an area appropriated for parking. This reserved area is located behind the Museum's building, and used by all types of visitors including disabled people who may be transported by a car.

However, the Addis Ababa Museum is without provision of seats in its indoor spaces, including each exhibition hall. On the other hand, inside the compound, the museum has many stone chairs available for visitors. But, accessing them can be a challenge for blind visitors as there is no any walkway to reach there and take a rest.

Furthermore, in Addis Ababa Museum, there is a toilet serving its staffs and visitors. This room is found outside the Museum's building but within its compound. Nevertheless, the indoor space of the toilet is too narrower to be accessible for wheelchair users. It is also a challenge for blind people to freely move and access it.

It is good to note that one of the principle of universal design is the size and space for approach and use, which ensure that every user easily uses the environment and access spaces without any difficulty as a result of spatial constraint (Roppola, T. (2012). Nevertheless, the toilet of Addis Ababa Museum was designed in a manner that has little or no consideration for people with disabilities like wheelchair and cane users in mind.

Discussion

This study examined three major museums found in Addis Ababa, namely Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum in relation to their physical and communication accessibilities, and to what extent their approachability; accessibility and usability comply with the requirements of universal design based on accessibility and three key requirements of universal design, namely, approachability; accessibility and usability as identified in the reviewed literature. With regard to compliance of these museums, it is evident that all of them show a level of accessibility and compliance with the approachability requirements of universal design by having access roads, compound gates that are usable by all categories of visitors. This is evident in the provision of pedestrian access for visitors, bus stop for visitors coming with public transport system and car parks for those who visit the museums with private vehicles and hired taxis. This implies that on overall, the museums appraised in this research have complied moderately with the approachability requirements as identified in the previous literature (City of Toronto Accessibility Plan, 2004).

In terms of accessibility, the result reveals that for all the three museums, access to the different levels of the building appears to be convenient for only able-bodied persons but not for those with one form of disabilities or the others. This is because; access points to the building are through

steps with and without provisions for ramps to aid those on wheelchairs and the blind. The same is the case in the buildings with more than one floor. It was also found that for disabled visitors who managed to gain access to the ground floors of the museum buildings, there are no lifts to take them to the next floors. This is because the vertical circulation elements in the buildings are mainly stairs. In fact, the physically challenged people cannot easily access the museums investigated. Above all, accessibility to wheelchair users in all studied museums are not beyond the ground floor of the museums. This is in contrast with the recommendations regarding the features of access and exit points of public buildings as previously highlighted in the reviewed literature.

Regarding the usability of the museums and their facilities, the literature reviewed indicates that universal usability aims at designing environments and products that can be used by both able-bodied and disabled persons without the need for assistance (Eziyi O. et al, 2017). Findings of this study reveal that facilities and services provided by the three museums investigated were not designed to benefit the disabled people. For example, none of the three museums investigated provided alternative means of communication like sign language, Braille or tactile signs and warnings to aid people with sensory disabilities. Similarly, the toilet facilities in all the museums do not meet the need of disabled persons, and seats were not provided in the exhibition lobbies for the disabled persons who might need to take some rest while going through the exhibitions. All these are in contrast with the provisions of Smithsonian Accessibility Program, 1996, *United States Access Board*, 2004, *Barrier Free NZ Trust*, 2013, and *City of Toronto Accessibility Plan*, 2004.

Conclusion

This study examined three major museums found in Addis Ababa, namely Ethiopian National Museum, Institute of Ethiopian Studies Museum, and Addis Ababa Museum in relation to their physical and communication accessibilities, and to what extent their approachability; accessibility and usability comply with the requirements of universal design.

Accordingly, the findings of the research reveal that all the examined museums have access roads that are usable by hearing impaired, mobility impaired and visually impaired visitors. This is evident in the provision of walk path access for visitors, and car parks for those who visit the

museums with vehicles. Therefore, it is concluded that the stated three museums show a level of compliance with the approachability requirements of universal design.

In terms of accessibility, the result of the research shows that for all the three museums, access to the different levels of the buildings are totally inconvenient for wheelchair users as access points to the most parts of the buildings are through steps, with no provisions of ramps and lifts. Furthermore, the vertical access to the different levels of the buildings of the three museums, which are with more than one floor appears to be problematic for crutch users and cane users as some of their staircases are with no provisions of handrails to support them.

All in all, the physical contexts of the three museums' exhibition spaces are not well planned and constructed to satisfy people with disability in terms of learning with maximum convenience.

Moreover, it was found that the stairs provided in the three museums do comply very little with the accessibility requirement of universal design which underscores that the features of access and exit points of public buildings must be easily accessible for people with physical disabilities.

Regarding the usability of the museums and their facilities, the findings of this study reveal that facilities and services provided by the three museums investigated were not designed to benefit people with disabilities in terms of the usability of the services within the buildings. For example, none of the three museums studied have provisions of alternative means of communication like sign language, Braille or tactile signs and warnings to aid people with sensory disabilities.

Generally, the built environments of the three museums in relation to communicating information to their users are not designed to be inclusive and serve people with disability.

Similarly, the toilet facilities in all the three museums do not meet the need of crutch users and cane users, and seats were not provided in the exhibition halls for the persons with disability who might need to take some rest while going through the exhibitions. All these are in contrast with the accessibility guidelines and the requirements of the principles of universal design.

However, it was also found that the exhibition spaces of the three investigated museums were arranged in a manner that has nice consideration for people with disabilities like wheelchair user and blind visitors in mind.

On the other hand, the finding of the research shows that some of the exhibitions of the three museums are placed at heights that are inaccessible to be appropriately seen and appreciated by wheel chair users.

In addition, the three museums investigated have no provisions for communication in sign language, Braille, tactile representations of some objects to make learning easier for hearing impaired and visually impaired visitors respectively. The research also reveals that the museums do not provide instructions in print forms for hearing impaired visitors. This implies that these museums have no full communication provisions for a more comfortable learning experience for the disabled people.

As a whole, all the three museums are not fully inclusive in creating a place and an environment where the disabled visitors can assess museum objects for several purposes, including education. Thus, in this regard, the three museums are incompliant with the Principle of Universal Design.

Recommendations

The general implication of the findings of this study is that the three museums investigated are not effectively playing their roles in national developments. This is because they are not fully approachable, accessible, and useable by people with disabilities. In view of this, the following recommendations are made.

The three museums should provide guided tour in many languages that consider various types of disabilities;

The stated museums should also create local access guides and maps for foreign and local Visitors with disability;

Furthermore, the museums investigated should provide training for museum staff on how to handle visitor with disability, add more signage in public space and in public transportation to locate the museum;

The museums also should develop programs to raise awareness, sensitivity and skill levels to provide more appropriate services for persons with disabilities;

The mentioned museums ought to Communicate more with disabled persons and their organizations to exchange accurate and reliable information for strengthening museum services to better meet diverse consumer needs;

For better performance, the museums investigated should also involve disabled persons with the requisite experience and skills in conducting access surveys of premises and to serve as resource persons and advisors in improving tourism services;

The museums investigated ought to create a tourism environment that caters to the full range of consumer needs, for they are required to improve their respective physical and communication accessibilities and of usability;

All the three museums should be modernized and better maintained, with better access to information on these attractions through the provision of visitor's guides, maps, internet websites, and visitor's centers;

It is also important for all concerned stakeholders of the museums investigated to take into consideration the rights and needs of diverse persons with various disabilities; and

The three museums should work on the inclusion of universal design so that they may create environments, products and services that are useable by a wide spectrum of consumers, irrespective of their experience, knowledge, skills, age, gender, as well as their physical, sensory, communication and cognitive abilities.

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Appendix – 1: List of Informants

Name	Sex	Age	Educational status	Occupation
Abdisa Assefa	M	43	BA	tourist guide for Jacaranda Travel Agency
Agegnehu Adane	M	51	MA	Addis Ababa University School of Fine Art and Design president
Hassen Seid	M	57	Doctor	Museum of Institute of Ethiopian Studies curator
Eshetu Taye	M	49	MA	Director of the Addis Ababa Museum
Fanta Beyene	M	47	MA	Public and International Relations Directorate of ARCCH Directorate
Fitsum Kibreab	M	46	BA	a guide for IES museum
Kassahun Bayelign	M	54	MA	blind and member of Ethiopian National Association for Blind
Mamitu Yilma	F	56	MA	former Director of the National Museum of Ethiopia
Nigus Mekonnen	M	52	MA	tourist guide for the Ethiopian National Museum
Nigussie Moges	M	44	BA	former President of Ethiopian National Association for Deaf
Workinesh Bizuneh	F	57	MA	Directorate of the Women, Children, Youth and Persons with Disability of ARCCH Directorate