A MEDICAL AND SOCIO-ECONOMIC HISTORY OF EYE DISEASES (TRACHOMA AND GLAUCOMA) AND BLINDNESS IN ADDIS ABABA (1941-2013)

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KEY TO TRANSLITERATION SYSTEM

I. The seven sounds of the Ethiopian Alphabet are represented as follow

1st	*Geez*	ለ	*BE*
2nd	*Kaeb*	ለ፡	*BU*
3rd	*Salis*	ለ፣	*BI*
4th	*Rabi*	ላ	*BA*
5th	Hamis	ሌ	BE
6th	Sadis	ሊ	BI
7th	Sabi	ሎ	BO

II. Regarding the sixth form in the above list, it must be noted that letter "i" will be suffixed to the letter only if the letter is vocalized or stressed. As a general rule, the "i" is not required when the sixth form is the last letter of a word.

Example: ብር= Birr

ድርጅት= Dirigit

III. Palatalized sounds are represented as follows

ቸ =CHE

ሸ =SHE

IV. Glotalized sounds are represented as follows

ቀ =KE

ጨ=CHE

ጸ=TSE

ኘ =GNE

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ABSTRACT

Trachoma and glaucoma are the oldest eye diseases and consequently blinding scourges that man has known since ancient times. The medical history of eye diseases in general and trachoma and glaucoma in particular is very much lagging and even ignored in Ethiopia. Data pertaining to the incidence, prevalence and situation of eye diseases in general and trachoma and glaucoma in particular in Ethiopia are fragmentary, incomplete and not sequential. Most researches on eye diseases in Ethiopia have been conducted by medical doctors and medical practitioners who have little or no interest in reconstructing medical history.

Most of the researches done so far have focused on the prevalence of eye diseases in rural areas, especially trachoma. However, trachoma was prevalent in Addis Ababa in the past and still is prevalent. Glaucoma is also prevalent in rural and urban areas and it was and still is a major health problem but is a neglected area of study. This historical study attempts to fill this gap based on the available sources.

Modern medical practice in the 20th century expanded under emperor Menelik II and his activity was continued by Emperor Haile Selassie I. The Menelik II Hospital and Haile Selassie I Hospitals are my focus of study in which eye treatment service was given.

In the past Ethiopians used to rely on traditional medicine and medical practitioners for all kind of diseases using traditional materials. This study discusses some traditional healing mechanisms to treat eye diseases in general. In addition to these traditional treatments in recent time Ethiopians have been utilizing modern medical treatment for eye diseases and the thesis attempts to reconstruct the progress of modern eye treatment and some problems related to medical treatment of eye diseases. Finally, the thesis looks at the social and economic problems of the blind and the institutional and medical response to these problems, with attempts at empowerment of sufferers from blindness.

PREFACE

This thesis has attempted to give a brief account in medical and socio-economic history of eye diseases (trachoma and glaucoma) in Addis Ababa with particular reference to 1941 – 2013 in an effort to reconstruct the medical history of eye diseases (trachoma and glaucoma). I reviewed different historical and medical sources newspapers, periodicals and Ethiopian medical journals: *Ethiopian Bulletin of Ophthalmology, Addis Zemen, Ethiopian` Observer, Ethiopian Herald* and *Yezareytu Ethiopia,* besides archival documents, annual reports and books.

Archival sources in Menelik II Hospital are deplorably exposed to damage and disorderly arranged. It is very difficult to find relevant materials. There was a locked box full of archival sources which are related to glaucoma but I could not access the sources because the Hospital authorities and Record Office workers did not at first allow me to get those sources. However after long discussions and requests I got access to these and some other sources. The management of Menelik II Hospital tried to organize those sources for me, but numerous valuable archival sources were damaged so as unusable especially those materials kept in a closed box

Records of the Ministry of Health are also very disordered because of restructuring of offices in the Ministry. The Archival sources were kept in a locked container and due to this I could not get access to these sources despite my requests.

On the other hand, I found some useful materials in the (ENAB), (AHCB) and SENM archives. Oral informants including blind informants were valuable source for my thesis. Dr. Paulos Quana'a was particularly a valuable informant. He was one of the few ophthalmologists in the Haile Selassie I Hospital till the 1960s and then he worked in the Menelik II Hospital from 1964 until he retired. He contributed a lot for the development of eye care and treatment in working, facilitating and mobilizing human and material

resources with a close cooperation of MoH and other local and international NGOs. Therefore he gave me valuable historical information concerning eye diseases, treatment and other related issues.

In chapters I and II, I give a general background on the nature and history of trachoma and glaucoma globally and in Ethiopia with an explanation of the reason for the prevalence of trachoma in Ethiopia in general and Addis Ababa in particular.

I have tried to see the problem of Addis Ababa by reviewing some of the existing source materials related to the environmental conditions of Addis Ababa but my thesis concentrates on glaucoma and trachoma and I have not been able to do research of my own on Addis Ababa's environmental conditions.

In chapter III, I describe the establishment and development of institutions for the treatment of eye diseases in Menelik II Hospital and Haile Selassie I Hospital (as it was then called).

In chapter IV, I discuss the progress of the treatment for trachoma and glaucoma, first traditional, then modern. In chapter V,I describe the social and economic problems of the blind with attempts at education and rehabilitation. In my thesis my comments on socio-economic aspects focus on visually impaired people.

I have used the words blind and blindness in most parts of my thesis but I have used also visual impairment. These terms are frequently used interchangeably but it is often regarded as politically correct to use visual impairment. However, most people easily understand the word blindness because it is widely used by members of the society. I have no personal objection to the use of the term blind and blindness and in my experience other blind people have no objection. It is true that visual impairment may indicate only partial blindness and this is area son for preferring it. However, for the reason given my thesis also uses blind and blindness. I may note also that

(AHCB), (ENAB) and the (NPPB) organizations and programs for the blind, use the word blind without objections from the blind. We need not, therefore, be more sensitive to terms than blind people themselves.

ACRONYMS

AFUB- African Union of the Blind

AHCB-Addis Hiwot Center for the Blind

BMM- British Military Mission

CBM- Christofel Blindness Mission

DNA-Deoxyribonucleic Acid

EMCF- Edna McConnell Clark Foundation

ENAB- Ethiopian National Association for the Blind

GET-Global Elimination for Trachoma

IAPB- International Association for the Prevention of Blindness

IEF- International Eye Foundation

IOP-Intra Ocular Pressure

ITI- International Trachoma Initiative

LDCs- Least Developed Countries

MoH -Ministry of Health

MoJ- Ministry of Justice

MoLSA- Ministry of Labor and Social Affairs

NGOs -Non-Governmental Organizations

NPPB- National Program for the Prevention of Blindness

OPD-Out Patient Department

OSE –Ophthalmology Society of Ethiopia

RAD- Rehabilitation Agency for Disabled

RNA-Ribonucleic Acid

SAFE- Surgery, Antibiotics, Facial Cleanliness and Environmental Improvements .

SEM- Swedish Evangelical Mission

SENM-Swiss Evangelical Nile Mission

TT-Trachomatous Trachiasis

UDPO-Urban Development Project Office

UPM -United Presbyterian Mission

WB- World Bank

WHO- World Health Organization

CHAPTER ONE

1.1. GENERAL BACKGROUND

Trachoma and glaucoma are the oldest known eye diseases and consequently causes of blindness that man has known since ancient time. Trachoma is able to infect denser population with extensive contacts because of its communicable capacity. "Trachoma has blinded great thinkers, traveled across continents and inspired a vigilant medical inspection process".[1]On the other hand glaucoma mostly affected the older population and it is known as the "silent thief of sight"[2]due to its progress at first hard to notice, and leading to complete blindness.[3]Trachoma can now be treated easily using different medical methods but glaucoma still cannot be treated when it becomes acute and critical.[4]As indicated above, the two eye diseases, trachoma and glaucoma have been eye diseases of human beings causing most human blindness if left untreated. In developing countries like Ethiopia due to lack of awareness, the low level of living standards of much of the population and shortage of trained manpower, many people suffer from trachoma and glaucoma.

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[1]Katerine Schlosser, "History of trachoma". Special edition www.TrachomaCoalition.Org.accessed Nov 4.2013.
[2]Robert Folberg, "The Eye". In F.Robin and E Cortran *Pathologic Basis of Diseases.*(Philadephia: Elsevierinc. 8th ed.2010),p.1345.
[3]*Ibid.*
[4]A.Hyndink and F.Tabarad, *Infection of the Eye.*(New York: Little Brown Company 2nded. 1996), pp.433-445.

1.2 SOCIAL AND RELIGIOUS ASPECTS

In some ancient societies blindness was believed to be a punishment for wrong doing. One example of this is from the New Kingdom period of Egypt (c.1550-1069B.C), "The stele of draughtsman Neferabu, who was struck blind because he swore a false oath".[5]

Christianity and Islam did not accept that blindness or disease was necessarily a punishment from God for sin as in John's Gospel Chapter 9 verses 1-8[6] and Sura Abassa of the Holy Quran part 30(856).[7]

In the northern part of Ethiopia visually impaired people were respected and could get Church education and served in the Church as will be explained further in chapter v, though the society did not allow them to be involved in other economic activities like agriculture. The society believed that visually impaired people should serve in the Church.[8]

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[5]Amelie Kuhrt, *The Ancient Near East c.3000-330 B.C Volume I* (London: Routledge, pbk. Ed. 1997), p.222

[6]John 9: 1-8 *New Revised Version.* (London: Collins, New Testament section ,2007), p.109

[7]Mohammed Khan, *International Meaning of Noble Quran in the English language. Holy Quran.*(Riyadh: Saudi Islamic University , Daru Salam Pub.,2009)p.15.

[8]Informant, Ato Amare AssefaHe is the Director of Misirach Center and was one of the third batch of blind students of Haile Sellassie I .University, April 22, 2013 .

After the Italian occupation there was the expansion of urbanization and many visually impaired people moved from different parts of the country and stayed in Addis Ababa. Some of these people lived by begging. However, after the liberation Emperor Haile Selassie I and missionaries tried to establish a Rehabilitation Center and School for the Blind. This was a beginning of a modern approach to visual impairment but inspired by the traditional Christian attitude.[9]

1.3. PATHOLOGICAL ASPECTS OF EYE DISEASES

1.3.1. TRACHOMA

Trachoma is a chronic infection of the part of the eye called the conjunctiva and cornea caused by the micro-organism *Chlamydia trachomatis.* It may produce significant conjunctival scarring.[10]"Trachoma is considered to be the most common human eye infection. The disease affects millions of people and is considered to be a leading cause of preventable blindness"[11]. Trachoma is widely prevalent in less developed countries of the world and is responsible for blindness on a large scale. "In the early stages of infection the trachoma agent that infects the conjunctiva can be recognized from the proliferating

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[9]Informant, *Ato* Gebre Teshome, He *is* Public Relations Officer in the Ethiopian National Association for the Blind.
[10]Harsh Mohan, *Textbook of Ophthalmology.* (New Delhi: Jaypee Brothers Ltd. 5thed. 2005) pp.180-183.
[11]*Ibid.*

microorganisms within the cells".[12] Later the conjunctiva thickens and the end result is extensive corneal and conjunctival scar formation resulting in complete blindness in trachoma.[13]Trachoma is a communicable disease. If one of the members of the family suffers from trachoma, it easily infects the other members of the family. Therefore trachoma can spread in a very short time. And many people suffer from trachoma. (See appendix 1)

1.3.2. GLAUCOMA

The word glaucoma is used for a group of ocular diseases with the common features of "abnormally elevated intra ocular pressure" (Iop).[14] The gradual increase in pressure is not accompanied by pain. Such an increase in intra ocular pressure appears because of the increased rate of blood flow to the head of the optic nerve. The conditions which share this label are diverse, as shown by the following simplified clinical classification. Primary glaucoma causes what are called angle closure glaucoma, sub-acute glaucoma and open angle (chronic) glaucoma. Secondary glaucoma may be caused by eye injuries or the use of steroid eye drops or rarely may be congenital (present from birth and inherited).[15]Glaucoma can affect 20% of the population over the age of 40 years. If it remains untreated blindness develops.[16](See appendix 2.Glaucoma has severe effects on the glaucoma sufferer. Because of its often unnoticed

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[12]John Parr, *Introduction to Ophthalmology.* (Oxford: Oxford University Press, 3rded. 1989), pp. 205-206.
[13] *Ibid.*
[14]Folberg, p.1345.
[15]*Ibid.*
[16]Parr, pp.205-206.

progress, it suddenly takes the sight of the person. According to our informants they did not have awareness about glaucoma until it had made them blind. Consequently these people lose their jobs, suffer psychologically and stay at home separated from society. According to an informant who suffers from glaucoma and lost his sight, previously he was a technician but after he became visually impaired he lost his job and became isolated and demoralized.[17] Moreover, another informant described to me how she suffered from glaucoma and lost her sight. She stated that she had no awareness about the disease in advance although she was a nurse and due to her visual impairment she lost her job.[18]These are two instances among many which could be cited. There will be more on this question in chapter five below.

1.4. HISTORICAL CONTEXT OF TRACHOMA

Trachoma has been causing blindness for several millennia. The history of trachoma cannot be pinpointed precisely because scientists have only gained a thorough understanding of the disease within the last several decades. Through records and a modern understanding of trachoma the history of this ancient disease can be to some extent reconstructed. [19]

The most probable geographical origins of trachoma can be established by analyzing the prevalence rate among ethnic groups. After looking at the distribution of trachoma among different people, a researcher, Taborisky,

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[17]Informant, *Ato* Solomon Melaku, July 2,2014.
[18]Informant, *W/ro* Asegedech Tefera, July 2,2014.
[19]H.Taylor, *Trachoma Blinding Scourge from Bronze Age to 21st century.*(Melbourne: Heddington Press, 2008), p.262.

determined that Central Asia is the most likely place where trachoma originated.[20]Written therapies for trachoma from 600 B.C have been found in Egypt. Trachoma was present in ancient Greece and Rome. Written accounts of the disease have been found from the years 1200 B.C to 400 A.D. The Hippocratic corpus, the collection of work from Hippocrates' school of medicine (5th Century B.C), contains sections about trachoma. Several doctors including Celsus (first century AD) and Chauliase (1300-1368 A.D) mention trachoma in their work. Discorides was the first person to use the word trachoma around 6 A.D. in his work *Materia Medica.*[21]

Before the 19th century trachoma spread throughout the world because of mass movement of people as a result of war. For instance the Peloponnesian war (431-404), the Crusades (beginning in 1095 A.D) and Napoleon's campaigns in Europe and Egypt increased the prevalence of trachoma.[22]

Though trachoma existed in Europe before the Napoleon's campaign it was not considered as a problem. During the war many people moved from place to place. The contact with those people with trachoma allowed spreading the disease rapidly. In addition many soldiers with trachoma were recruited into European armies. This condition allowed trachoma to spread in military camps and places where soldiers stayed. When infected soldiers returned back to their home they brought the disease with them and spread it to their family. This

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[20]Schlosser, accessed from internet as above. Nov 4.2013.
[21]*Ibid.*
[22]*Ibid.*

condition allowed trachoma to spread rapidly throughout Europe and other places where trachoma patients moved.[23]

The cause of transmission of trachoma was not clearly identified by the researchers until the end of the 18th century. "The concept of contagiousness and the idea of each disease having a unique cause were still topics being debated by doctors of the 19th century"[24]but trachoma was believed to transmit from person to person through the air. One of the first researchers to recognize both the cause and the characteristic feature of transmission was John Vetch at the turn of the eighteenth century. Vetch did much to destroy the belief that trachoma could be transmitted through the air by only looking at the ill eye. Vetch noted that soldiers of Napoleon with trachoma lived in insanitary conditions which favored the spread of infection through sharing common washing water, towels and bed linen contaminated with pus.[25]

Consequently in 1810 the English government appointed a team of professionals to investigate the cause of transmission of trachoma. The team recommended that infected people should be isolated and emphasized cleanliness including frequent face washing and not sharing linen or towels.[26]

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[23] *Ibid.*
[24] Schlosser, accessed from internet as above. Nov 4.2013.
[25] Tefera Sahlu, "Prevalence and Risk Factor for Trachoma in a Rural Southern Ethiopia, Sidama District".(Master's Thesis, Department of Public Health, Addis Ababa University 1989), pp. 9-10.
[26] *Ibid.*

The opening of ophthalmic schools at Swanley and other places in England was one of the actions taken by the British government in order to control trachoma. The schools accepted the guidelines given by the expert committee and took serious measures in improving sanitation, hygiene and treating trachoma patients separately. Due to such measures the schools were able to minimize or stopped the transmission of trachoma. Even the staff nurses and other members were not infected and it proved that trachoma is not an airborne disease. On the other hand researchers recognized that sanitation and hygiene is a key to control trachoma.[27]

In Britain the central London Ophthalmic Hospital was established in 1805, which is still an active ophthalmological hospital (Moorfield Eye Hospital) today. In Egypt trachoma was very common. In 1903 the banker Sir Ernest Cassel provided £40,000 to train Egyptian ophthalmologists probably because Egypt was then under British control. The Egyptians benefited from Cassel's donation. The high prevalence of trachoma facilitated all these developments in the field of Ophthalmology.[28]

After the cause of transmission was identified the American government started an inspection program and rejected immigrants having trachoma. Once, trachoma represented the leading medical cause for rejection of immigrants at the US border. Immigrants practiced various actions to cover trachoma

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[27] *Ibid.*, p.7.

[28] Schlosser, accessed internet as above. Nov 4.2013.

symptoms and deceive inspections. Although preventing immigrants from entering the country with trachoma certainly helped minimize new cases, however, emigrants were not the only people suffering from trachoma in the United States.[29] "A survey in Kentucky in 1912 found that more than 12% of those surveyed suffered from trachoma. Trachoma rates were higher in Virginia, Kentucky, Tennessee, Missouri, Arkansas, Alabama, and Oklahoma, which became known as the Trachoma Belt."[30] Additionally, the prevalence of trachoma reached 90% on some Native American reservations while surveys of the students in New York City public schools found that about 10% of students suffered severe or mild trachoma.[31]

The 19th century researchers focused more on finding the cause of the transmission of trachoma and they were successful in achieving their aim. However, they were not successful in finding effective treatment among many attempts. American scientists and doctors applied different therapies for trachoma patients. The treatments included removal of the diseased part, rupturing of granule and washing the eye lid with "blue stone". It is cooper sulphate in crystalline form.[32]

The year 1913 brought three important things helpful in the process of prevention and cure of trachoma. The first one is the opening of the first trachoma hospital in the USA and the four stage Maccallan's classification of

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[29] *Ibid.*
[30] *Ibid.*
[31] Francis Head Adler, *Text Book of Ophthalmology* (London: W.B.Saunders Company,1992),pp.186-189.
[32] Schlosser, accessed internet as above. Nov 4.2013.

trachoma, the second one is the donation of President Wilson for research which advanced the trachoma elimination effort and the last one is the spread of trachoma through travelers, soldiers and migrants throughout the world helped those in the field to look for the treatment of trachoma at the global level.[33]

The trachoma control activities were carried out in different places by different NGOs and institutions for instance *La Lutte Contre le Trachome* (the Struggle Against Trachoma) was organized and worked with the International Organization Against Trachoma which was founded in 1929 and they continued their work until the beginning of World War Two. Later on in 1948 the World Health Organization (WHO) was formed and immediately labeled trachoma a serious health problem and the need for combating it.[34]

There were a number of scientific investigations carried out to find an effective treatment and which could support the efforts to eliminate blinding trachoma in different countries in the world. There was a debate and disagreement among scientists about the nature of trachoma. Though in1907 trachoma was identified as probably caused by a bacterium, however, until the 1950s trachoma was still often considered as a virus. In the 1970s scientists agreed that *chlamydia trachoma* is a bacterium because it has a good response for

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[33] *Ibid.*

[34] Sisay Birhanu, "History of Rehabilitation for Blind in Ethiopia" (Master's Thesis: Department of History, Addis Ababa University, 2006),p.15.

anti-biotic therapy, though it is now known that a virus and a bacterium can both possess DNA.[35]

After the identification of the agent and cause of transmission different attempts were made to provide effective medical therapy for trachoma. In 1973 the WHO included trachoma in the general efforts in prevention of blindness and trachoma was given a special attention to eliminate it.

The International Association for the Prevention of Blindness (IAPB) was established in 1975. This association was established in order to support the global effort to struggle against treatable blindness from cataract and trachoma. In the 1980s the WHO started a joint work with Edna McConnell Clark Foundation (EMCF). The EMCF support researches focused on trachoma and gave funds for trachoma elimination programs developed by WHO. It worked with WHO to implement the WHO's SAFE strategy, which combines prevention (Facial cleanliness and Environmental Improvement) and cure (TT Surgery and Anti-biotic therapy). SAFE was first described in the WHO manual, *Achieving Community Support for Trachoma.* [36]

The 1996 global scientific meeting on trachoma and other health problems was organized jointly by the WHO and EMCF. The meeting brought change in the elimination efforts against blinding trachoma. During the meeting azithromycin was recognized as a valuable medication for trachoma and the use of

[35]Schlosser, accessed internet as above. Nov 4.2013.
[36]Informant, Dr. Abate Mulugeta, WHO Staff in Ethiopia, Sep.18, 2014.

azitromycin made trachoma elimination effort easier. During the meeting participants identified that trachoma affects many different places of 46 countries. Among those countries 16 countries need serious support to control trachoma. Then WHO gave priority for those 16 countries in the trachoma elimination program because trachoma was prevalent in those prioritized countries. Ethiopia was one the prioritized countries which needed immediate support and follow up. In 1997 the WHO re-established cooperation with government organizations of countries as well as NGOs for the elimination of trachoma by 2020 (GET2020) by implementing the "SAFE" strategy.In1998, a World Health Assembly resolution called for 57countries where trachoma remains endemic to take steps to eliminate blinding trachoma by 2020. The WHO started the GET 2020 program with other national health programs of each country, NGOs, research institutions and others. In the year 2000 the WHO launched Vision 2020 and continued this trachoma prevention and elimination program in a more organized and cooperative manner.[37]

1.4.1 TRACHOMA IN ETHIOPIA IN THE PAST

Nothing was studied about the situation of trachoma in Ethiopia before the Italian occupation. Lack of medical staff and specially eye specialists and nurses did not permit Ethiopia to run even minor projects to survey or attack trachoma. The Italians did little except to open some eye clinics as described below in chapter III.

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[37]Schlosser, accessed internet as above. Nov 4.2013.

After the Italian occupation there were some attempts made by the Imperial government to give attention to health problems in general and eye disease in particular. Consequently, from 1958 to 1961 there was cooperation between the Imperial government and the World Health Organization to combat trachoma and other communicable eye diseases. The project was called the Eye Diseases Prevention Program. To accomplish this project two Ophthalmologists, Dr. Delon and Dr. Laufer, came and started a pilot project in schools at Gonder, Harar and Addis Ababa. However this cooperation stopped in 1960 when the pilot project finished.[38] After two years, in 1962, the Ministry of Health launched the fight against trachoma and communicable eye diseases within the framework of Ethio-Italian technical cooperation.[39] The Ministry wanted close cooperation with health centers to help them introduce eye treatment in schools because eye problems specially affect the elderly, school children and people with a poor socio- economic standard of living.[40]

According to Feitelberg in Ethiopia we have "the same kind of trachoma perhaps in a milder form as conjunctivitis which occurs after the rain and shows the same severe corneal complications but it has good response to antibiotic treatment"[41]. The prevalence of trachoma was in the 1960s believed to be between thirty and hundred percent, while 6% of those affected had a

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[38]Menelik II Hospital Archive File No 186, Report dated,25/06/86E.C.
[39]I. Feitelberg, "Fight Against Trachoma in Ethiopia", *Ethiopian Medical Journal.* Vl. 2 No. 3 (September,1964)pp. 229-231.
[40]Yilikal Adamu, "School Eye Screening in Slums of Central Addis Ababa", *The Ethiopian Bulletin of Ophthalmology* (September 2000), p. 15.
[41]Feitelberg, pp.229-231.

severe visual loss. The low level of living standard contributed to the high prevalence of trachoma.[42]

According to different surveys trachoma is endemic in Ethiopia and also the leading country among African countries for trachoma. According to an Ethiopian nutrition survey report cited by Richard Pankhurst the common communicable diseases in Ethiopia can be arranged according to the number of infected people and the frequency of the diseases occurring. For instance in the year 1962 there was a list of 12 most frequent communicable diseases. Among these diseases infectious eye disease was in the fourth rank. In 1963, the percentage of active trachoma between the ages of 1-8 was 40%.Inaddition corneal scarring (which is the chronic type of trachoma) was the cause of 46.3% of childhood blindness.[43]

In 1973 a trachoma control project involving a limited region of the country was established with the assistance of the Italian government and a bilateral agreement was signed between the Ethiopian and the Italian governments. The 1974 revolution delayed the implementation of the project. The actual work started in 1976. Dr. Fabrize Bassian was the medical coordinator of the Italian medical team in Ethiopia. By1982 the Ethio-Italian trachoma control project was aided by WHO.[44] The high rate of acute eye infections might be attributable to crowded living condition and problems of hygiene because it can

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[42] *Ibid.*

[43] Richard Pankhurst, "The Beginning of Modern Medicine in Ethiopia", *Ethiopian Observer* Vl. 9 No.2,(June 1965) p.12.

[44] Menelik II Hospital Archive,FileNo.19Report,dated 25/06/83E.C.

easily transmit through flies, sharing a common towel or bed linen and simply touching the infected eye.[45]

The World Health Organization, in cooperation with various non-governmental organizations and national health services, has continued its work and recently began implementing a program to eliminate blinding trachoma-Global Elimination of Trachoma by 2020 (GET 2020). The program has adopted a strategy of WHO called SAFE, consisting of the following control measures: Surgery for entropion trichiasis, Antibiotics for infectious trachoma, Facial cleanliness to reduce transmission and Environmental improvements such as control of disease spreading flies and access to clean water.[46]

1.5. HISTORICAL CONTEXT OF GLAUCOMA

The word glaucoma derives from the Greek *glaukos*. The word entered ophthalmology when Hippocrates in his *Aphorisms* used the term glaucoma to describe "blindness coming in advancing years associated with a glazed appearance of the eye".[47]

In the ancient world doctors could not clearly identify glaucoma. Ancient Greece used the term glaucoma for an eye disease which gave the eye a clouded or blue green color. Hippocrates also did not make difference between glaucoma and cataract.[48] Aristotle did not use the term glaucoma for any

[45]Informant, Dr. Paulos Quana'a, May 15,2013.
[46]Menelik II Hospital Archive,FileNo.19Report,dated 25/06/83E.C.
[47]"The study of glaucoma has long history", www.gblankin@med.auth.gr accessed Nov. 2013.
[48]*Ibid.*

disease but his writing helped researchers to identify pathology of the eye and which part of the eye was affected by disease.[49]

The ancient Romans and Arabs used the term glaucoma for cataract and they continued following the view of ancient authors. Archigenes around 100A.D used the term "Ophthalmos Glaucos"[50] for eye disease which was different from cataract and he used amydriatic (dilating agent), the juice of deadly nightshade, to treat this eye disease.

Around 200 A.D Galen (129-216 A.D) used the name glaucoma for eye disease caused by change in the fluid of the eye and responsible for the change in the color of the pupil into grey. He also suggested mydriatic pupil dilations as treatment. Another ophthalmologist Aetius (482-565 A.D) described glaucoma in two forms. According to him the first one can be treated and the other one cannot be cured. He also explained that the disease affected the lens and causes the pupil to become "thickly coagulated and dried".[51]

Ophthalmology did not progress during the long time that followed the beginning of Greek and Roman medicine. "It had little to gain at the Renaissance by looking backward"[52]. Further advance in Ophthalmology was made possible by the study of the anatomy of the eye and by understanding of the mechanism of vision. This was the work of the 16th and 17th centuries.

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[49]Nick Mantzioros, *The History of the Meaning of the Word Glaucoma*(Melbourne: Cawifled, 2013),p.15.
[50]*Ibid.*
[51]*Ibid.*
[52]*Ibid.*

What also paved the way for the great pathological and clinical progress of the 19thcentury was the innovation of cataract extraction. "The first half of the 19th century was a remarkable period of consolidation and the second half brought operative treatment of glaucoma".[53] In the year 1851 Herman Von Helmholtz invented the ophthalmoscope. It is an instrument used to detect the diseased eye with glaucoma and it is considered as the beginning of the modern era in definition, diagnosis and treatment of glaucoma. It was a big step forward in the field of ophthalmology. Since the invention of the ophthalmoscope improvement in diagnostic technology has provided "an increasingly more refined definition of glaucoma".[54] But as noted above in the centuries prior to that the term glaucoma had earlier been applied for eye diseases which are completely different characteristic feature from glaucoma, like cataract.[55]

In the 19th century medical science began to describe and investigate in a consistent way the condition now known as glaucoma. In 1622 the English physician Richard Banister (1570-1626) who was an ophthalmologist wrote the first book of ophthalmology in England. He recognized the four (tetrad) features of glaucoma as; eye tension, severe and long continuance of eye disease, not giving response to the light and the pupil not moving. He noticed a "hardness of the eye in patients for whom a cataract operation did not improve vision".[56]

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[53] *Ibid.*
[54] *Ibid.*
[55] Paul A. Chandler, *History of Ophthalmology Progress*(Boston: Elsevier, 1977),p.55.
[56] *Ibid.*

All through the 18th century the term glaucoma was merely a label applied to an inflamed eye wherein the pupil became greenish blue and there was bad visual prognosis. It was Sir William Lawrence in 1832 in his book *A Treatise on Disease of the Eye* who gave a complete description of the symptomatology of glaucoma. He was the first to use the terms "glaucoma" and "acute glaucoma" for the condition. [57]

Around the 1830s Slittell described the same condition of glaucoma in his manual of eye diseases at Wills Eye Hospital. He suggested that glaucoma caused blindness without making any change in the eye, which was like "amaurosis" (partial or complete vision impairment, especially when there is no obvious damage to the eye) and the symptoms were change in the color of vitreous humor and visual field loss. He also gave a more detailed and precise definition of glaucoma.

William McKenzie (1791-1868), gave a detailed description of glaucoma. He also distinguished glaucoma into two; acute and chronic (open angle) glaucoma. He also described the last stage of glaucoma (absolute glaucoma) and the greenish color of the pupil. Dr. Mckenzie was the first ophthalmologist who suggested eye surgery for secondary glaucoma in order to cure abnormal hardness.[58] Dr. McKenzie did not accept the ophthalmoscope because he thought it might harm the retina. In the year 1857 two scientists described closed angle

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[57] *Ibid.*
[58] Chandler, p.57.

glaucoma: Albrecht Von Graeffe and Franciscus Cornelis Donders. They identified pathology of an eye with open angle glaucoma.[59]

The 1920s is considered as a "Period of great progress" in the course of diagnosis and treatment of glaucoma with the invention of genoscopy and the slit lamp. Later on in 1973 glaucoma was defined as a disease of optic nerve by Dr. Drance. According to him glaucoma can be caused by numerous factors which are called risk factors.[60]

1.5.1 GLAUCOMA IN ETHIOPIA IN THE PAST

According to Dr. Abiy Mulugeta, who is glaucoma specialist at Menelik II Hospital, in Ethiopia, glaucoma was not for a long time recognized as a serious eye problem. No one gave serious attention for the disease although it is a severe eye problem which causes loss of sight. Dr. Abiy also stated that in Ethiopia there was nothing studied about glaucoma until recently.[61]

Glaucoma is a severe eye problem and affects a number of people. In African countries glaucoma is the third most common cause of blindness next to cataract and trachoma. According to Dr. Abiy in Ethiopia the prevalence rate is

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[59] *Ibid.*
[60] *Ibid*
[61] Informant, Dr. Abiy Mulugeta. See also Yemane Birhan... *etal.* "National Survey of Blindness Low Vision and Trachoma" (Addis Ababa: Ministry of Health Survey, 2006) p.1.

5.2% based on the 2005 National Survey of Blindness Low Vision and Trachoma in Ethiopia.[62]

Previously the society was not aware of glaucoma and there were no trained specialists to treat glaucoma until 1990.[63]In the year 1990 there was one glaucoma specialist in the Eye Department of Menelik II Hospital, Dr. Bayuh, who had been trained by sponsorship given by Orbis International. After four years in 1994, two further eye specialists for glaucoma, Dr. Abiy and Dr. Ababa, joined the Eye Department of Menelik II Hospital.[64]

[62]Informant, Dr. Abiy Mulugeta, April 14,2014.
[63]Informant, Dr. Bayuh Alemu, Dec 20,2013.
[64]Informant, Dr. Abiy Mulugeta, April 14,2014.

CHAPTER TWO

TRACHOMA AND CONDITIONS CONDUCIVE TO TRACHOMA IN ADDIS ABABA

2.1 THE BEGINNING OF URBANIZATION IN ADDIS ABABA AND GROWING URBAN PROBLEM

Addis Ababa was founded by Menelik II at the request of *Etege* Taitu, the wife of Menelik II, in 1886. During the cold months Menelik and Taitu had the habit of visiting their temporary settlement and enjoying the hot springs of Filwoha. Finally Taitu decided to make a settlement there as the capital of Shewa. The city of Addis Ababa initially grew around two nodes; the palace *Gibbi* the political center, and around St George church (Arada) the commercial center.[1]

The *sefers* (villages/districts) were the nodal points of settlement which grew in relation to one another. The general feature of housing conditions was relatively backward. Most of the houses were made of *chika* (mud and grass or straw). There was an absence of proper disposal of human waste. The heavy seasonal rain made the city healthier however, and the cooler climate in the high elevation was also conducive to the avoidance of some diseases.[2]

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[1]Serkalem Birhanu, " The Development of Addis Ababa as a City" (BA Thesis, Department of Sociology and Social Administration, Addis Ababa University, 1992),pp.16-19

[2]*Ibid.*,p.8

Sarategna Sefer around St. George church acquired its name from the word *sarategna* (worker) because the people who lived in the village were engaged in handicrafts. They made swords, knives, spears, *shamas*, (cotton robes) leather products and saddles and repaired rifles for the palace. *Saratagna Sefer* was also called *Katkachoch Sefer* (the village of craftsmen) or *Dehoch Sefer* (village of the poor), because the people of the village had a very poor standard of living and it was also then the densely populated slum area of Addis Ababa.[3]

In the early days of Addis Ababa, however, the problem of sanitation could not have been so severely noticed because there was no population pressure and houses were kept scattered. Resulting wastes could have been absorbed by the space around and dried by the hot sun and washed away by rain. But in time the continuous flow of migrants into the city and resulting urban growth led to many economic, social and physical problems.[4]

One of the characteristic features of Addis Ababa is that it was founded in accordance with the traditional Ethiopian pattern though not planned in the western sense.[5] The deteriorating housing and environmental conditions of Addis Ababa were mostly because of the sanitation and waste management

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[3]Daniel Tesfaye, "History of Sarategna Safar" (BA Thesis, Department of History, Addis Ababa University,1991),p.19

[4]Sitataw Assaye, " The Study of Slum Areas in Addis Ababa With Particular Reference to Basha Woldie Chilot" (BA Thesis Department of Sociology and Social Administration Addis Ababa University, 1992),pp.6-10

[5]Seifu Wolde, "Assessment of Housing Condition in Woreda 34 Addis Ababa" (BA Thesis Department of Geography, Addis Ababa University 1993)p.16

problems which resulted in air and water pollution problems.[6] There was inadequacy of facilities like sewage disposal, garbage collecting system, public toilets and public water taps. Even though some public toilets were available some inhabitants of Addis Ababa used streets as latrine and waste disposal and others make a pipe line to dump their wastes in rivers around them. These things contributed to the increasing seriousness of the problem in most *sefers* of Addis Ababa and inhabitants were affected by different diseases.[7]

Disease can be classified into communicable diseases and non-communicable and also chronic and non-chronic diseases. However, many diseases are associated with poverty. These diseases are diseases caused by poor hygiene and lack of balanced diet. Diseases associated with poverty can be divided into five categories: intestinal and abdominal infection, skin diseases, eye diseases, nutritional diseases, tuberculosis and bronchitis. Most of the above diseases are communicable and most research results show that such diseases are prevalent in areas with poor socio-economic background.[8] My thesis is concerned with the diseases trachoma and glaucoma, and trachoma is an eye disease definitely associated with poor environmental conditions, poor hygiene and poverty.

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[6] Eshetu Hassen, "History of the Municipality of Addis Ababa 1910- 1941" (BA Thesis Department of History, Addis Ababa University, 1986),p.3.

[7] Michael Shiferaw, "Environmental Protection in Addis Ababa with Special Reference to the Activities of Ethiopia Heritage Trust" (Senior Essay, Department of Geography, Addis Ababa University , 1999), p. 27.

[8] Birhanu Solomon, "Household survey on Prevalence of Disease in High and a Low socio-economic neighborhoods"(BA Thesis, Department of Geography, Addis Ababa University 1986),p.2.

People in slum areas were exposed to those poverty diseases and had least access to medical service. The slum areas of Addis Ababa were the dirtiest parts of the city, characterized by poor health and the worst sanitation. In these areas the incidence of diseases, chronic illness and infant mortality was exceptionally high. [9]

2.2. THE SITUATION OF TRACHOMA IN ADDIS ABABA AND AROUND THE CAPITAL

A number of researches and findings have been conducted in many countries showing a strong correlation between housing and disease, i.e. poor housing resulting in poor health.

Tefera Sahlu, in his study, which uses a community-based epidemiological survey of trachoma in Southern Ethiopia, also concluded that there is a high prevalence of communicable diseases in general and trachoma in particular in communities with socio-economic problems and poor personal and environmental hygiene.[10] Tefera Sahlu also cites figures for Addis Ababa and Shewa.

In Addis Ababa there is lack of sequential information which shows the prevalence, geographical distribution and risk factors for trachoma. According to Tefera there was a study reported in 1959 showing the prevalence of

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[9]Sitotaw Asaye, p.6.

[10]Tefera Sahlu, "Prevalence and Risk Factors for Trachoma in Rural Southern Ethiopia, Sidama District"(Master's Thesis, Department of Public Health, Addis Ababa University,1989),p.7.

trachoma in Addis Ababa to be 42% of those examined, and in another study in 1961 the prevalence of trachoma among government school children was found to be 62% in the schools investigated. According to Tefera Sahlu in 1980 the prevalence of trachoma was amazingly high, 92.2 %, in Shewa.[11] This shows that trachoma was epidemic in Addis Ababa and other places. The work progress report of Menelik II Hospital (Ethio-Italian Trachoma Project) showed that in 1980 there were 93,748 patients with trachoma.[12] Due to this there were some measures taken by the Ministry of Health and other NGOs that I will discuss in chapter 3. Furthermore, Addis Ababa had already been included in the pre 1960s pilot project of WHO led by Dr. Delon and Dr. Laufer to combat the prevalence of trachoma in which there were some satellite clinics established by the Ministry of Health in slum areas of Addis Ababa to treat trachoma. [13] My informant Dr. Paulos Quana'a supports this idea and mentioned some places where such satellite clinics were found like Atikilit Tera (around Piazza) and Mesalemia (around Emanuel Hospital).[14]

There was an assessment of eye diseases using intervention-based school eye screening by the Ophthalmologic Society of Ethiopia (OSE) in Alemaya Primary School, which was in the slum area of central Addis Ababa in December 1997. The result showed that among 2,260 students who studied 608 were (26.8%)

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[11] *Ibid.*
[12] Archive Menelik II Hospital, File No 51,Report Dated 15/0//76E.C.
[13] Feitelberg, pp.229-232.
[14] Informant Dr. Paulos Quana'a May 15,2013.

had eye problems. The leading cause of eye morbidity among students was trachoma with 14.9%.[15]

OSE also assessed the prevalence of trachoma in towns around Addis Ababa in May 2000.According to the assessment in school eye screening in primary schools of Butagera town, of the whole of the students 62.6% had trachoma at different stages.[16]My informant Dr. Abate Mulugeta also mentioned that there is a high risk of trachoma in towns around Addis Ababa. According to WHO these two cases show us that trachoma was a major health problem because the prevalence rates are more than 10%.[17]

In addition OSE also assessed the prevalence of trachoma in primary school students of Holeta Genet town. Trachoma was found to be prevalent with 25% of children affected in the age range of 5-10. The risk factors for active trachoma were found to be low socio-economic status of the family, infrequent face washing, absence of toilet and waste disposal in the family compound.[18] Moreover trachoma was included among the major causes of childhood blindness as demonstrated by analysis of a ten years data from the Department of Ophthalmology in Menelik II Hospital.[19] Another study shows that in central Ethiopia the prevalence of trachoma was 34.5%.It was found

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[15]Yilikal Adamu, "School Eye Screening in Slum of Central Addis Ababa. "*Ethiopian Bulletin of Ophthalmology*, Vl.1 No.1 (September 2000) p.15.
[16]Yosef Worky, "Screening for Common Ocular Abnormalities in Primary School Children of Buttajera Town" *Ethiopian Bulletin of Ophthalmology* ,Vl.1 No.1 (September,2000)p.71.
[17]Informant, Dr. Abate Mulugeta, WHO Staff in Ethiopia.Sep18, 2014.
[18]Aster Abate, "Prevalence of Trachoma among Primary School Students in Holeta Genet Town", *Ethiopian Bulletin of Ophthalmology*, Vl.1 No .1 (September,2000)p.49.
[19]Wondu Alemayehu, "Childhood Blindness" *Ethiopian Bulletin of Ophthalmology*, Vl.1 No.1 (September 2000),p.3.

that women were more affected by trachoma and transmitted the disease to their children and other members of the family. The study suggested the need for community-based lid surgery to prevent blindness from trachoma.[20]These figures show us that trachoma was the prevalent eye disease in Addis Ababa. By seeing these figures we can trace back to the 1940s and earlier, the situation of trachoma in Addis Ababa because of the poor socio-economic situation of Addis Ababa at that time and later.

Most of the blindness in Ethiopia is from avoidable causes. Therefore intervention programs targeting cataract, glaucoma and trachoma can significantly decrease the burden of visual impairment in vulnerable, underprivileged, poor and elderly members of the society. [21] Furthermore blindness has profound human and socio-economic consequence in all societies and must be considered from the perspective of the visually impaired individual and the country as a whole. Most causes of blindness in our country are preventable. Therefore there is need for preventive mechanisms which can promote the well-being and health of the country.

2.3 SOME ACTIONS TO IMPROVE THE SOCIO-ECONOMIC PROBLEMS OF ADDIS ABABA

Alleviating the socio-economic problem of the urban slums would improve the living standards of the slum dwellers. At the same time it could prevent

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[20]Negussie Zerihun, "Impact of Trachoma among Rural Ethiopian Women" *Ethiopian Bulletin of Ophthalmology. Vl. 1 No. 1(*September,2000),p.20.

[21]Assegid Agga, "Avoidable Causes of Visual Impairment Among Elderly people in Urban Slum" *Ethiopian Bulletin of Ophthalmology*Vl.1No.1 (September 2000),p.71.

infection by communicable diseases caused by poor hygiene, overcrowding and a low socio-economic standard of living.

It is a slow process to take action and to solve problems of urban housing and hygiene in Least Developed Countries (LDCs) like Ethiopia. There have been government policies to deal with the housing situation as well as the diffusion of knowledge but the political change and instabilities have also caused major problems.[22]Despite much new buildings the housing situation in Addis Ababa is still (2014) dire.

2.3.1. PROVISION OF PURE WATER SUPPLY IN ADDIS ABABA

Shortage of water supply implies poor hygiene and water supply is crucial in halting trachoma transmission. Water is essential but not sufficient by itself to control trachoma. Access to water is usually less among the poor and likewise, poor hygiene cannot improve without water. This was the clear intention of the WHO in developing a strategy that incorporated the three major elements of public health improvement: primary, secondary, and tertiary preventive measures. SAFE strategy was WHO's resolution on Global Elimination of Blinding Trachoma. Among the components of WHO's SAFE strategy two of them are directly related to improving environmental condition and personal hygiene (i.e. F and E). (F) Face washing or improved facial cleanliness (primary prevention); and (E) environmental change including access to water and

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[22]Taye Mekonen, "Housing Problems and Condition in Addis Ababa with Particular Focus on Kebele 17 Kefetegna 11"(BA Thesis Department of Sociology and Social Administration ,Addis Ababa University, 1992),p.30.

improved sanitation (primary prevention).The availability of adequate pure water supply is one of the basic needs for sound urban growth, urban health and, as explained above, for the elimination of trachoma. However, adequate pure water supply has been one of the major problems of Addis Ababa the rapid rise of the population of Addis Ababa was a result of a constant immigration and the high birth rate. The residents of Addis Ababa first used and sometimes still use water from springs, streams and wells. The dwellers used often to travel a long distance to fetch water.[23]

Two important dams were constructed in Addis Ababa in order to solve the shortage of water supply in the city. In 1942 the Gefersa dam was constructed and in 1970 the Legedadi dam was constructed. The shortage of water was only partially solved. According to the Municipality of Addis Ababa 97 % of Addis Ababa in 2006 used piped water for domestic purposes.[24] This helps the prevention of some diseases caused by poor hygiene like trachoma, because people can use water for washing their body, specially their hands and face, frequently, However, as the city continues to grow and is anticipated to reach a population of 12 million, one of the cities expected to "experience truly dramatic increases" by 2050, water is a problem.[25] The water supply stops for long periods in some areas and people who have no water reservoir(tank) to store water have to buy water brought in jerricans, the pipes in the system are

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[23]Eshetu Hassen. p.3.

[24]Medhin Fisseha, "Household Demand for Improved Water Supply in Urban Areas the case of Addis Ababa." (Master's Thesis in Environmental and Resource Economics, Department of Economics, Addis Ababa University,2006),p.48.

[25] Stanley D. Brunn, Maureen Hays- Mitchele and Donald J.Ziegereds.,*Cities of the World Regional Urban Developmen*t (Lanham,Md.:Rowman and Littlefield, 4th ed.,2008),pp.567-568.

old and there is massive waste of water from leaking and unrepaired pipes. All this we know from our personal observation. Moreover in Addis Ababa as in other African cities solid wastes can and do pollute water supplies.[26] These wastes are now often toxic but trachoma and other eye diseases come from organic (human and animal) wastes and unhygienic environmental conditions. Flies are also important agents for the transmission of trachoma. Flies swarm in urban slums. Poor sanitary conditions with masses of dirt and rubbish especially organic material lying around result in swarms of flies. The flies are attracted to the moisture of human eyes and spread trachoma.[27]

2.3.2. SANITATION AND WASTE DISPOSAL

One of the easiest ways to improve the human environment and reduce factors that cause the transmission of communicable diseases in general and trachoma in particular is to ensure that the human settlements are free from human and animal waste, that house rubbish does not accumulate in the street and communal areas are kept clean. [28]

According to my informants the majority of Addis Ababa people live in areas which have serious deficiencies in infrastructure and which have deficient access to municipal services such as circulation drainage system, pure water, refuse collecting and disposal arrangements and modern toilet facilities.

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[26] *Ibid.*,p.378.
[27] Tefera Sahlu,p.8.
[28] Informant Sister Mulu Zewde. April 8,2014.

Therefore there was and is a great need for such facilities for both new and upgraded housing in many areas of the city.[29]

After the end of the Italian occupation in 1941 the Ethiopian government expressed some intentions about city planning including sanitation. The Municipality of Addis Ababa had the responsibility to look after urban health and improve the poor sanitary condition, particularly waste disposal practice. However, the Municipality was unable to provide the facilities for the establishment of a modern sewage system for the reasons of inadequate finance and lack of expert knowledge and instead allowed sewage to be dumped in streams whose water was used by people for domestic purposes.[30]

2.3.3. URBAN RESETTLEMENT AND HOUSING PROBLEM.

The development of urban centers, particularly Addis Ababa, created high demand for new dwellings. Such constructions as have been undertaken by government agencies and private individuals cannot satisfy the ever increasing demand for housing. The problem is more crucial for the lower income group than other segments of the urban population who could and can better afford to build or rent houses, though house rents compared to the 1940s, 1950s and 1960s are now terribly high.

According to my informants the poorer section of the society, who are the majority of urban dwellers in Addis Ababa in the past and now, have lived in

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[29]Informants, *Ato* Hyralah, *W/ro* Admasua Asmare July 17,2014.
[30]Eshetu Hassen,p.3.

joint occupation of a very few small rooms or even one narrow room which is rented. If one of the members of the family holds the house there will be a number of his relatives, not just his own nuclear family, who lives with him in that usually small house.[31]

The Imperial government realized the seriousness of the problem. It also noted it in the Second Five Year Development Plan of 1963-1967 as a problem although the plan did not contribute much to solve it. In Ethiopia the first slum upgrading scheme was undertaken by the Urban Development Project Office (UDPO) and one Norwegian non-governmental organization (NGO) in Teklehaimanot area of Addis Ababa. The scheme adopted by the Urban Development Project Office (UDPO) was financed by the World Bank (WB) and the Ethiopian government. The principal aim of the slum upgrading scheme was to minimize housing costs and avoid the residential and job dislocation that are likely to result from large scale government resettlement schemes.[32]

The slum upgrading scheme was probably the only solution, given the widespread slum conditions and low economic achievement of the country. However, the scheme has not been continued to other slum areas of Addis Ababa and therefore it has not solved the continuing urban slum problems with their effect on health in general and trachoma in particular. In conclusion we have to admit that in terms of adequate pure water supply, waste disposal and decent, sufficient housing, Addis Ababa's problems have continued as the

[31]Informants *W/ro* Shemesia Bushra, *Ato* Kebede Andarge and *Ato* Bulcha Gutema.
[32]Kebreab Abebe, " Urban Public Housing in Ethiopia An Overview" (BA Thesis Department of Sociology and Social Administration, Addis Ababa University,1987),p.19.

city expands. This situation has serious consequences for health conditions and trachoma in particular. As we now see, there is massive clearance of low standard housing in central areas of the city with resettlement for some in new condominiums but these are insufficient for all who need resettlement. Therefore the rest have to find their housing and this increases overcrowding in conditions detrimental to health, including the problem of trachoma.

CHAPTER THREE

ESTABLISHMENT AND EXPANSION OF INSTITUTIONS FOR EYE DISEASES

3.1. THE BEGINNING OF MODERN MEDICINE IN ETHIOPIA

Ethiopians have long had some experience of the use of "modern" medicine in addition to their traditional medical practice to be discussed in chapter IV. The reign of Emperor Libne Dingel (r.1508-1540) has been called a turning point in the introduction of modern medicine in Ethiopia. In his reign there was the arrival of the first medical practitioner and a barber surgeon, Jao Bermudez, who came with the Portuguese mission.[1]However, this is a rather exaggerated view. Only some medical practitioners came from Europe. Few Ethiopians can have had contact with them and for much of the early modern period European medical practice was hardly "modern" in the sense of being at all scientific.

A century later there was the arrival of Peter Heyling who was a German Lutheran missionary who also served as a medical practitioner. Emperor Iyasu (r.1682-1706) wanted to bring modern medical skill to Ethiopia.[2] He sent his agent to Cairo in order to get medical support like medicines. The French Consul there also sent Charles Poncet to Ethiopia in 1699 to practice modern

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[1]Zain Ahmed Zain,*The Ecology of Health and Disease in Ethiopia* (Addis Ababa. Ministry of Health, 1980), p.1.

[2]WondwosenTeshome,*Medical Pluralism in Ethiopia* (Germany: Verlag Shaker, 2006.),pp.130-136.

medicine in the country. James Bruce, who was in Ethiopia 1769-71, also served as an amateur physician on his travels.[3]

There were a number of modern health care facilities brought to Ethiopia from different countries by different European travelers, missionaries and members of diplomatic missions. Successive Ethiopian rulers in the nineteenth century, Sahle Selassie, Tewodros, Yohannes and Menelik were enthusiastic to introduce modern medicine for the benefit of themselves and their people.[4]

Among the above Ethiopian rulers Menelik II has larger credit in promoting and encouraging modernization in general and modern medicine in particular. Menelik II contributed a lot for modernization in the field of medicine. The introduction of modern vaccination, modern health facilities including the first hospital in the country and the first Leprosarium, clinics, pharmacies and the first health department under the Ministry of Interior came in his reign.[5]

3.2. THE ESTABLISHMENT AND EXPANSION OF THE MENELIK II HOSPITAL.

Menelik II Hospital was the first modern Ethiopian-founded hospital in Ethiopia established by Emperor Menelik II in1909|10 after the Russian Red Cross Hospital had provided a model in 1897. [6]It was operated by French

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[3]Richard Pankhurst, *An Introduction to the Medical History of Ethiopia*(Trenton: Red Sea Press, 1990) p.139.
[4]*Ibid.* p.140.
[5]*Ibid.*, pp.139-141.
[6] *Ibid.*

doctors at first, then some Ethiopian doctors, however, there was no special treatment for eye diseases.[7]

3.2.1DURING THE ITALIAN OCCUPATION

During the occupation of Addis Ababa the Italians put all hospitals under their control and they converted some buildings for medical use. Hospitals were reserved for the treatment of Italians. Menelik II Hospital was expanded and given a new name, Duca Degli Abruzzi Hospital.[8] The Italian colonial authorities in Addis Ababa brought a number of doctors from Italy primarily to treat Italians who were sick or wounded soldiers. Their wounded and sick soldiers stayed in schools or other non- medical institutions. To solve the problem of inadequate hospital accommodation and to provide better treatment for their soldiers the Italians built a relatively better equipped new hospital near the existing Menelik II Hospital. The construction of the hospital was finished after one year of Italian occupation (1936) and it was later known as Ospedale San Marco (St. Mark's Hospital).At the same time the Italians took some health measures like the decree that the people should report any kind of contagious disease.[9]

Perhaps the greatest medical progress in the Italian period was in the ophthalmic field. Dr. Paolo Guera, a notable specialist, claimed that by May

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[7] Informant, Dr. Paulos Quana'a.May 15, 2013.
[8] Pankhurst, "Medical history of Ethiopia During Italian Occupation...", p.109.
[9]Wondwosen, p.134.

1937 a "regular service" [10]had been established and that evidence collected by it demonstrated that medical facilities were truly necessary not only for the assistance of the patients but also to give an understanding of the grave dangers to which his Italian compatriots were exposed by the widespread diffusion of trachoma, which was "one of the most serious and contagious"[11] of diseases. It was therefore necessary to take action with "the greatest possible speed" to shield Italians from "this great threat".[12] Seven free eye clinics were soon established for Ethiopians. These clinics gave free trachoma and other communicable eye diseases treatment every Tuesday.[13]

3.2.2AFTER THE ITALIAN OCCUPATION

According to Dr. Paulos Quana'a the Italian government as a countermeasure established the Trachoma Prevention Center in the Menelik II Hospital in order to prevent the transmission of trachoma. Professor Cherlio was a trachoma specialist who later served in the Menelik II Hospital in1962. This activity was considered as medical support and aid of the Italian government.[14] At that time the hospital was directed by a Greek named Dr. George Dasius. Italian doctors served the hospital [15] Among these Italian staff Dr. Pace served as

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[10]Wondwosen, p.135.
[11]Pankhurst, "Medical history of Ethiopia During Italian ..., p.108-110.
[12]*Ibid.*
[13]Informant, Dr. Paulos Quana'a, May 15,2013.
[14]Informant, Dr. Paulos Quana'a, May 15,2013.
[15]Pankhurst, *Introduction to the Medical History of Ethiopia...*, p.175.

ophthalmologist in the Hospital. Dr. Pace worked at school screening and screened out many people having trachoma in Addis Ababa.[16]

The hospital gave different medical treatment to different health problems. Menelik II Hospital was the only hospital in Addis Ababa where eye treatment was given. The eye treatment was given not only for residents of Addis Ababa but also for many people who came from different parts of the country. However it is difficult to discuss the progress of the eye treatment due to lack of adequate data.

According to my informant Dr. Paulos Quana'a, there were foreign physicians who gave medical treatment for eye diseases like the Italian physician Dr. Waera who came from Asmara and gave medical service. There were also Professor Jacurento, Dr. Mikiya Elidis and Feitleberg. Feitleberg was also the Ophthalmetrist. In 1957 there was an Ethiopian medical doctor named Dr. Tadesse W/Michael who gave eye treatment together with the foreign doctors.[17]

In 1964 Dr. Paulos Quana'a came from Haile Selassie I Hospital and joined the Menelik II Hospital. Dr. Paulos played a very influential role in improving the medical care and facilities of Menelik II Hospital related to eye disease. He was the first Ethiopian ophthalmologist and the founding head of the Department of Ophthalmology in Menelik II Hospital. He has devoted most of his working life in providing eye care service and producing a number of young Ethiopian

[16]Informant, Dr. Paulos Quana'a,May 15,2013.
[17]*Ibid.*

ophthalmologists who are now following his footsteps. Dr. Bayuh Alemu and Dr. Wondu Alemayehu were the first students of that time. After four years Dr. Abebe Bejiga and Dr. Sisay also graduated.[18]

Based on his experience Dr. Paulos Quan'a tried to present different problems of the hospital by cooperating with the Ministry of Health and other NGOs. He had also foreign contacts with WHO, the International Eye Foundation (IEF), and Helen Keller Foundation in order to get medical, technical and financial support related to manpower. Dr. Paulos Quan'a in collaboration with the Ministry of Health sent students to different countries to learn about medical treatment of eye disease,(to specialize in Ophthalmology) namely Dr. Tsadqan to Russia, Dr. Fikadu and Dr. Tewolde to Israel and the other four doctors, Dr Mohamed, Dr. Ahmed, Dr. Yunus and Dr. Bayuh, who were sent to other countries.[19] Dr. Paulos also brought back different medical equipment when he went to the USA in order to minimize the shortage of medical facilities.[20]

Two of my informants served the hospital for a longer time as nurses, namely Sister Mulu Zewde and Nurse Abebe Tesema. These two informants support Dr. Paulos's idea. According to these staff, there was a problem related to budget, medical facilities and personnel. According to these informants Menelik II Hospital also gave higher medical service for the whole country.[21]

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[18]Paulos Quana'a, "Aspects of Manpower Development in Ethiopia", *Ethiopian Bulletin of Ophthalmology,*Vl.1.No.1(September 2000)*p.*41.
[19]Informant, Dr. Paulos Quana'a. May 15,2013.
[20]Menelik II Hospital Archive File No 334 Report dated 6/6/75 E.C.
[21] Informants Sister Mulu Zewde and Nurse Abebe Tesema, April 8,2014.

In the year 1976 there was a new National Program. The program was known as the Ethio-Italian Trachoma Project. The Project was centered at Menelik II Hospital. Menelik II Hospital allocated a building for the project at the request of its coordinator *Ato* Sahle Seifu. The building's initial maintenance was given by the contractor at the cost of 1,660.18 *birr.*[22] But an *Addis Zemen* article about the Hospital also shows us in the year 1978 what was called the "trachoma prevention project"[23]did not have a manager and was unable to make transactions of official business.[24]There were Italian doctors and Ethiopian laboratory technicians and other staff in the Project. Ten years after its establishment in 1986 the project was upgraded to the National Program for the Prevention of Blindness (NPPB) in Ethiopia.[25]

In the year 1980 the Eye Department of Menelik II Hospital was established with 9 eye clinics namely glaucoma, retina, anterior segment, pediatric, ogloplastic, cornea, optometry, general OPD and eye surgical.[26]In the year 1981 the Trachoma Project started to give service in the whole country which had previously only been given in Menelik II Hospital.[27] Concerning glaucoma, I could not get any archival document that mentioned the activities taken to prevent and cure glaucoma because of the inadequacy of the recording system

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[22]Menelik II Hospital Archive No 144/11 report, dated 8/2/67 E.C.
[23]" Dagmawi Menelik Hospital",*Addis Zemen*, (Menelik II Hospital) No.344 (*Yekatit* 1954 E.C) pp.1-5.
[24]*Ibid.*
[25]Gebremeskel H/Mariam,"Eye Health Annual Report" (Ministry of Health(MoH),Addis Ababa,2006),p.1.
[26] Informants, Sister Bizualem Yigezu,May 15,2014, Sister Mulu Manaleh,May 15,2014 and Sister Mulu ZewdeApril 8,2014.
[27]Menelik II Hospital Archive File No.5327, report 5/06/86.

of Menelik II Hospital. However, my informant told me that before 1980 glaucoma patients were treated with other patients and there was no special treatment for glaucoma. After the opening of the Eye Department the glaucoma clinic was and has been treated a number of patients even though because of the shortage ofa glaucoma specialist patients have been treated by the joint effort of the resident doctor of Addis Ababa University and Menelik II Hospital's staff.[28]There was, and still is, a backlog of patients awaiting treatment due to shortage of medical doctors and other personnel serving in the Eye Department in general and glaucoma ward in particular.[29]

There were about 20 beds reserved for the Eye Department and the payment was different based on the ranking of the beds. The first class bed was charged 20 *birr* per day, for the second class bed 15 *birr* and for the third class 4 *birr* was needed. My informant told me that the cost of beds has been increasing from time to time.[30] The number of beds is very few related to the number of patients needing treatment. To solve this problem the management of Menelik II Hospital in collaboration with the MoH is constructing a new building. My informants told me that the new building will hopefully solve the problem of beds and wards in general and the Eye Department in particular.[31]

Recently the referral system was established all over the country. Menelik II Hospital became the only tertiary referral hospital. Due to this the Eye

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[28] Informant, Dr. Bayuh Alemu,Dec 20,2013.
[29]Informant, Dr. Mihret Deesa, April 8,2014.
[30] Informant, Dr. Paulos Quana'a, May 15,2013.
[31] Informants, Sister Mulu Zewde April 8,2014 and Sister Bizualem Yigezu May 15,2014.

Department is expected to give medical service for those patients who have been referred from other clinics and hospitals. Due to the referral system the number of trachoma patients attending in Menelik Hospital has amazingly decreased because trachoma, but not glaucoma, is easily treated in other health centers and hospitals.[32]

In 2010 the Menelik II Hospital also began to give part-time medical service in what is called the private wing for those patients who could afford the medical cost. According to my informant the patients pay 50 *birr* for a card and additional payment for different services that they receive.[33]

3.3 ESTABLISHMENT AND EXPANSION OF HAILE SELASSIE I HOSPITAL

Emperor Haile Selassie I, like his predecessor Menelik, wanted to expand modernization in Ethiopia in general and modern medicine in particular. He tried to continue the modernization started by Emperor Menelik II. There were significant changes in the political, economic and medical fields.

Based on his strong interest Emperor Haile Selassie I built the well-equipped Bet'a Sayada Hospital in 1924, which is now Yekatit 12 Hospital. The Hospital was directed by a Swede, Dr. Kurt Hannor, from its establishment to the Italian

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[32]Menelik II Hospital Archive, File No.md.fac.0023/80 Letter from Addis Ababa University Medical Faculity to Menelik II Hospital(Ophthalmology Department) dated 13/09/80E.C.
[33] Informant, Sister Ababa G/Kidan (Metron)April 8,2014.

occupation. Dr. Kurt Hannor arrived with two nurses. Later on Dr. Harold Nystrom and engineer Herrstift joined the hospital.[34]

Beta' Sayada Hospital was well equipped with medical facilities. At the beginning the hospital had 30 beds but later these increased to 120. The hospital had its own electric system and water supply. The rooms were clean. The expatriate doctors and their Ethiopian assistants worked hard and gave good medical service for their patients.

However the service charge of the Hospital was relatively expensive for the time. It was different from one class to another based on rank. The first class charged 10*birr* per day, the second class charged 5*birr* and the third class charged 3*birr* though the Hospital gave a medical service free of charge for those who could not afford the cost.[35]Few of the poor could have been benefited by this, however, because of the number of poor patients compared to beds available to them.

3.3.1. DURING ITALIAN OCCUPATION

The well-equipped Bet'a Sayada Hospital was taken over by the Italians as they did to the other Addis Ababa hospital. The hospital was renamed as Victor Emanuel Military Hospital. The hospital's beds were expanded to 300 and then

[34]*Addis Zemen* No. 344 (*Yekatit*1954E.C) pp. 1-5.
[35]*Ibid.*

400. The hospital was exclusively reserved for the treatment of Italian soldiers and white civilians.[36]

3.3.2. AFTER LIBERATION

There were some Italian and British doctors who supported the Ethiopian government but due to World War II the Italian doctors soon left the country and British personnel left the country with the British Military Mission in 1947. Then Emperor Haile Selassie asked support from the Swedish Government. The Hospital started treatment and changed its previous name to Haile Selassie I Hospital. Concerning eye treatment, there was the Haile Selassie I Foundation which supported the Eye Department in Haile Selassie I Hospital. There were foreign medical doctors who came from different countries, like Dr. Babor from Germany and other doctors from England and Sweden. The head of the Hospital was Dr. K. Jacob.

These doctors gave medical service for trachoma and other eye diseases for members of royal family and other Ethiopians who could afford the cost. In addition to foreign medical doctors there were Ethiopian assistants, janitors and others.[37]

In 1964 the Haile Selassie I Humanitarian Foundation managed by *Ato* Abebe Kebede provided health facilities and gave medical support by collecting foreign

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[36]Pankhurst, "Medical History of Ethiopia during Italian Occupation..., p.112.
[37]Pankhurst, *Introduction to Medical History of Ethiopia...*,p.172.

donations and technical support from different countries. For instance, in September 1965 Dr. Patrick Trobrorev came from the UK and gave medical treatment along with other medical doctors from England and Colombia. These doctors gave medical treatment (surgery) for 27 patients having eye diseases. Among these patients 4 were cured. At the same time in March 1965 there were two eye specialists and these medical doctors provided technical support by giving cataract surgery and providing material used for cataract surgery. Among those 32 patients who took cataract eye surgery 18 patients were cured. The others were not cured probably because they did not follow the post-operative instruction given to them. According to *Addis Zemen* newspaper one of the visiting doctors, Dr. Muler, hoped that there would be an eye clinic founded by Emperor Haile Selassie I.[38]

The then manager of Emperor Haile Selassie I Foundation, *Ato* Shimeles Adugna, stated that the Eye Department of the Emperor Haile Selassie I Hospital was intended to be built by using foreign donations. However, due to the availability of money and property of *W/ro* Tessemie the member of a royal family, and her daughter *W/ro* Kebebush, who gave their money and property for Haile Selassie I Foundation, using this money and other financial support the Eye Clinic of Haile Selassie I Hospital was founded with 270,000*birr*. The cost was also raised from different institutions like Lions Club and individuals like *Ato* Keder he was one of the businessmen of that time. After the Eye Clinic

[38]*Addis Zemen,* No 389*(Megabit* 1958E.C), pp.1-5.

of Haile Selassie I was founded Lions Club continued its donation of 15,000 *birr* every year.[39]

The official name of the Eye Clinic was *W/ro* Tessemie Abayerga and Kebebush Desta Eye Hospital (See Appendix 3). Emperor Haile Selassie gave 300,000 *birr* for building and equipping the first class eye hospital. The hospital had a special room for consultation, examination and eye operations and wards for patients.[40]

The Eye Clinic was one of the most modern clinics. Many people came from all parts of the country to get medical treatment. The clinic gave eye treatment not only for Ethiopians but also for many people who came from neighboring countries like Somalia, Djibouti, Aden and Yemen.[41] According to the *Ethiopian Herald* the hospital treated 50 to 60 patients a day. In 1967 the Hospital gave 10,268 therapies for 8000 patients. 225 patients were inpatients. In the year 1969 the outpatient service reached 80-100 patients a day and 30,000 eye patients received treatment. Of these patients 30% were free of charges. [42]

The clinic had three eye specialists from Czechoslovakia, Bulgaria, and West Germany. In addition there were 4 nurses, 3 dressers and 12 other staff. Of the clinic's beds 15 beds were reserved for poor patients which were free of charge.

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[39] "Tena Tibeka"(Health care) *Addis Zemen* No 454 (*Tikimt*1962), p.7.
[40] *Addis Zemen .No(*1962) p.5and*Ethiopian Herald.* VI.1 No. 370, (July1969). p. 7-8.
[41] *Addis Zemen* No 282 (*Tikimt*1958 E.C), pp.1-4 and *Addis Zemen* No. 389,(*Megabit* 1958 E.C) pp.1-5.
[42] *Ethiopian Herald.*VI.1 No. 370, (July1969). p. 7-8

The hospital's annual budget was 200,000 *birr* and it was well equipped with up to date technologies including a cryosurgical eye magnet and Tonometer.[43] However, due to the Ethiopian revolution and the change of the Imperial regime to the *Derg* military government, there was an institutional change in1975 and the Eye Clinic of Haile Selassie I Hospital was transferred to Menelik II Hospital and incorporated with the Menelik II Hospital.[44]

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[43] *Ibid.*

[44] Informant, Dr. Paulos Quana'a, May 15,2013.

CHAPTER FOUR

4. TREATMENT OF EYE DISEASES

4.1 TRADITIONAL TREATMENT OF EYE DISEASES IN ETHIOPIA

Ethiopians have for centuries been practicing traditional medical treatments. Some historians estimate that Ethiopian pharmacopeia dates back to the 15th century.[1] The people depended on a system of traditional health care made up of both empirico-rational and magico-religious elements.[2] A considerable variety of remedies employing traditional plants and animal medicines besides inoculation, thermal water, cauterization, counter-irritation and surgery was involved in the treatment of diseases.[3]

The sources of remedies are not only diverse but it is also interesting to ponder why they are chosen for what particular anatomical organs though there is no information on this. Gender was also considered as an important parameter when animals served as source of *materia-medica,* for example the blood in drops of a male donkey for eye diseases.[4]Pankhurst cites Bottango for the use of melted butter for a "sore eye".[5]

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[1]Dawit Abebe and Ahadu Ayehu, *Plants and Enigmatic Health Practice of Northern Ethiopia(*Addis Ababa: Pasteur Institute, August *1993),p.3.*
[2]Zain Ahmed Zain, p.1. See also *Yezareytu Ethiopia*, "Behagerachin 605 Hospitaloch, Clinikoch ena TenaTabiyawoch Chimir Yigegnalu"*(*there are 605clinics, hospitals, and health centers in Ethiopia*)* No. 14(*Yekatit* 1957E.C),pp.1-3.
[3]Informant, *Ato* Jemal Butemo, who is one of traditional healers in south Ethiopia. Sep 18,2014.
[4]Dawit Abebe and Ahadu Ayehu, p.5.
[5]Richard Pankhurst, *Economic History of Ethiopia 1800-1935* (Addis Ababa: Haile Sellasie I University Press,1968),p.637.

Though there were diversified species of medical plants to cure different diseases, Ethiopians were lagging in cure of eye diseases in general and trachoma and glaucoma in particular. In the case of glaucoma the traditional healers could not help the patients. Most of the time patients went to those healers after they had lost their sight. This was because previously many people did not have awareness about glaucoma and the patient could not notice the onset of the disease early enough. In any case, no traditional treatment is effective for glaucoma, which needs modern treatment, undertaken early.

Medication in traditional Ethiopia was administered with available local materials. Eye diseases were treated through the use of fresh goat milk as a lotion and putting a slice of potato shaped to the size of the eye on the infected eye. There was also an important mineral widely used to treat different types of infectious eye diseases, which was *kibra semmai* (silver nitrate). In some parts of Ethiopia people burn around the patient's eye to cure some kinds of eye disease. Abayneh Abera also mentions some plants to cure different eye diseases in his book *Metsehafe Medhanit* (the Book of Medicine): mango for different eye diseases, carrots for night blindness and tomatoes were also supposed to be helpful for different eye diseases.[6] Carrots do in fact contain beta-carotene with vitamin A, which is a nutrient of eye health. Intake of

[6]Abayneh Abera, *Metsehafe Medhanit* (Addis Ababa: Nigid Printing Press, 2001),p.34.

vitamin A in carrots and from other sources can help prevent cataract and maintain healthy vision. However carrots cannot cure eye disease.[7]

Gelahun Abate in his book *Este Debdabe* (Letter of Plants) also mentions different medical plants which supposedly cured different eye problems. According to Gelahun those medical plants have been used in our country since antiquity and knowledge of their use was transferred from generation to generation.[8]

Most of the traditional eye remedies were given in the form of drops, ointment and by using eye liner (*kull).*According to my informant different kinds of leaves and roots were used to cure different eye diseases by preparing them as drops. Some powdered plants were also used as a remedy by mixing them with *kull* and honey mixed with other plants and used as ointment.[9]

According to my informant, these treatments are still carried out. In Addis Ababa currently most patients go to traditional healers after they have tried modern medical treatments and could not be cured by modern medication. This is true for me. When my eye was sick first I went to hospital to get modern treatment but unfortunately I could not be cured. Then I went to a traditional healer hoping for a cure. The traditional healers ask the patient about the

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[7]Mr.D. Joseph, an informant who was approached because of his knowledge of stories about carrots in World War II, the propaganda story about carrots improving the vision of night fighters of the Royal Air Force(RAF)pilots.
[8]Gelahun Abate, *Etse Debdabe Ketint Eske Zare* (Addis Ababa: Department of Biology, Addis Ababa University Press 1989EC),p.12.
[9]Informant, *Ato* Nuru Jemal, traditional healer in Addis Ababa, He is a university graduate of plant science.

disease that he/she has been diagnosed from modern medical service and sometimes the healers order a laboratory test for their patient.[10]

According to my informants Dr. Paulos, Dr. Abebe and *Ato* Amare, Ethiopians used traditional medicine and practiced traditional surgery in order to cure trachoma. The surgery is scraping the eyelid with various tools to detach the eyelashes from the eyeball to prevent scarring.[11]

This kind of surgery is called eplilation using forceps, and it was also known in Egypt as early as 2600 B.C.[12] Ethiopians used an instrument commonly called *Werento (*forceps)in order to bend the eyelashes and perform traditional surgery. There was also bloodletting which involved making cuts around the eye and allowing the blood to flow. Unfortunately most of the traditional methods of curing eye diseases were not successful. According to my informant many people have tried to use traditional methods of treating trachoma and other eye problems but the treatment was not successful. One of the major problems of traditional medicine is the use of an overdose of medicines.[13]

4.2 HISTORICAL PROGRESS OF MODERN TREATMENT OF TRACHOMA

As explained above, trachoma has been the most blinding eye disease in the history of ophthalmology. Until the initiation of more modern specific treatment the only "expedient was to destroy the diseased tissue containing the infectious

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[10]*Ibid.*
[11]Informants, Dr. Paulos Quana'a, May 15,2013, Dr. Abebe Bejiga, May 13,2013and*Ato*AmareAssefaApril 22,2013.
[12]Taylor, p.262.
[13]Informant, Dr. Paulos Quana'a, May 15,2013.

agent, so hopefully rendering the disease virtually inactive".[14] All medical and surgical treatments were however unsatisfactory.[15]

As mentioned earlier, the therapeutic regimen for the treatment of patients with trachoma should be simple, effective, free from side effects and inexpensive. One of the problems in choosing a drug for the treatment of trachoma is lack of good comparative trials. Effective treatment methods have come about entirely through the development and use of antibiotic therapy.

The first line of therapy was medical. Physicians in the 1930s relied on essentially the same agent used by ancient Egyptian, Greek, Roman and subsequent physicians, copper sulphate in crystalline form, known as the "bluestone". This chemical placed on a small wooden or metal instrument was used to scour the conjunctiva daily for months or years until the disease became passive. [16]

Even if there was a cure, it may take months or years for this cure and re-infections were common. "The process was painful and medical therapy was prolonged because no means existed to eradicate the infectious agent of trachoma without causing further injury to the ocular surface".[17]

In the latter half of the 19th century a new concept was developed in which the conjunctiva would be treated to destroy the disease with the application of

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[14] Taylor,p.263
[15] *Ibid.*
[16] *Ibid*
[17] *Ibid.*

copper sulphate, using many different newly invented techniques. "Roller forceps were closed on the everted eyelids and decisively drawn over the eyelid. The diseased follicular materials were scooped out with forceps or curettes"[18]. The raw areas were massaged with various antibiotic agents, such as "copper sulphate or treated with galvanic current, carbon dioxide ice, diathermy or even radium or later radiotherapy".[19] According to my informants, Dr. Paulos Quana'a and Dr. Wondu Alemayehu, in Ethiopia doctors used copper sulphate to treat trachoma before the introduction of tetracycline.[20]

4.2.1. THE USE OF ANTIBIOTIC THERAPY.

In the late 1940s, Dr. Benjamin Duggar discovered chloro-tetracycline. It was the first member of antibiotic therapy. Dr. Duggar and his friend derived Streptomyces from bacterium found in soil. After two years of scientific examination they successfully produced tetracycline.[21]

From 1952 until the early 1990s, the recommended treatment for trachoma was topical tetracycline ointment four times a day at first, later reduced to twice a day for 6/8 weeks. Tetracycline ointment could be effective when applied correctly but, "when ointment was just given to children or patients, the results were often poor because the ointment disturbed vision and because it also causes eye irritation so that it was discontinued as soon as any

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[18] *Ibid.*, p.265.
[19] *Ibid.*
[20] Informants, Dr. Paulos Quana'a, May 15,2013, and Dr. Wondu Alemayehu, Dec 20,2013.
[21] Accessed Internet www.tetraphase Pharmaceutical.Com. Nov, 2013.

improvement in symptoms was obtained".[22] My informant Dr. Wondu Alemayehu also mentioned that due to lack of awareness and sanitation the patients did not use the tetracycline ointment properly and consequently most of the time re-infection occurred.[23]Later doxycycline, and oral tetracycline with a long half-life, was found to be effective if given once daily for 2 or 3 weeks.[24] However, since the target population was young children, it was not suitable for wide use (or use at all) because of the dental damage in children as well as photosensitivity caused by doxycycline.[25]

4.2.2 SYSTEMIC THERAPY

Systemic therapy is given for intense inflammatory trachoma along with topical treatments.[26] Among such systemic therapies oral azitromycine (it is tablet type medicine) was the most effective treatment which was discovered by the research team led by Dr. Slobdan Dokik in 1970. They had been working in the area of macro lid antibiotics. In 1981 Dr. Slobdan's team synthesized a valuable antibiotic named azitromycine in Pliva, Croatia. Because of its exceptional therapeutic property azithromycin transformed antibiotic treatment and became one of the most successful drugs worldwide.[27]

The Ethio-Italian Trachoma Project was established by the technical cooperation of the Ethiopian and the Italian governments in 1973 because

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[22] *Ibid.*
[23] Informant, Dr. Wondu Alemayehu, Dec. 20,2013.
[24] Informant, Sister Mulu Zewde, April 8,2014.
[25]Informants, Dr. Mihret Deesa and Sister Mulu Zewde, April 8,2014.
[26]Pradeep Sharma, *Essentials of Ophthalmology.* (Delhi: Modern Publisher, 2005),pp 88 – 89.
[27] Informant, Dr. Wondu Alemayehu, Dec 20,2013

trachoma was the most prevalent eye disease at that time. However the project did not start its actual work until 1976.This was mainly because of the 1974 revolution and consequently the political instability after 1974.In addition the project spent some time for preparation of the medical facilities.[28]

Initially the project centered at Menelik II Hospital. Later on it expanded its activity to other regions. From October 1976 to 1979 the project conducted the Trachoma Control Program in Wollo, Keffa and Southern Showa. In 1979 the project extended its contract for two years until 1981 because the project did not finish its work within the contract period.[29]

In1981 there was a survey which studied the cause and the magnitude of blindness in Ethiopia with the close cooperation of WHO. This study identified the level of blindness as 1.5% of the sampled people and trachoma, cataract and glaucoma with childhood onset, as the leading causes.[30]The NPPB started coordination activities for prevention of blindness and eye care promotion activities in October 1985. Prior to that time the project had operated for 9 years as the Trachoma Control Project.[31]

In Ethiopia the use of azithromycin started in the 1990s. According to Dr.Wondu Alemayehu azithromycin is effective in treating trachoma because the patients take oral azithromycin once in six months or a year. It is not used

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[28]Menelik II Hospital archive, file No.51, Report From *Ato* Assefa Cherenet to the Director of NPPB. Dated15/8/76 E.C.
[29]*Ibid.*
[30]Menelik II Hospital Archive, file no 57, December 4/1985.
[31]Menelik II Hospital Archive,No.130, Report August 10 1987.

continuously on a daily basis. Therefore the patient does not neglect taking it as in the treatment requiring a daily use.[32] In the mid-1990s, three randomized trials of azithromycin showed that azithromycin in a single oral dose was at least as effective as tetracycline ointment. Community use of azithromycin in trachoma control was successfully carried out for three weeks.[33] Since the founding of the WHO's GET 2020 alliance and the Pfizer donation of azithromycin through the International Trachoma Initiative (ITI), 18 countries have embarked on national trachoma control programs using mass treatment with azithromycin in the SAFE strategy.[34] Dr. Abate Mulugeta said to me:

> This extraordinarily successful means of treating trachoma was enthusiastically supported by the trachoma control community and at least four large units of studies have been carried out in Tanzania, Ethiopia, and Gambia, showing reduced prevalence of chlamydial infection or signs of active trachoma after community-wide treatment with single-dose oral azithromycin.[35]

This was part of the 1976 WHO's blindness prevention program which aimed to minimize the problem of eye diseases and blindness.[36]The distribution and use of azithromycin was dramatically increasing from the year 2003 with the joint effort of the MoH and NGOs like Carter Center, Orbis International, and World Vision.[37]

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[32] Informant, Dr. Wondu Alemayehu, Dec 20,2013.
[33] *Ibid.*
[34] Menelik II Hospital Archive, File No.130, Letter from *Ato* Assefa Cherinet to CBM, dated August 10 1987.
[35] Informant Dr. Abate Mulugeta Sep. 18,2014.
[36] Menelik II Hospital archive file no.195, report dated 25/06/80E.C.
[37] Oumer Shafi, "Trachoma National Overview" (Addis Ababa: Federal Ministry of Health, April 2014) ,p.14.

4.2.3 SURGICAL TREATMENT OF TRACHOMA

Surgical treatment is used for correcting the eyelashes which have become stuck to the eyeball. It is a relatively simple eyelid surgery if it is done properly; it can prevent the person with trachomatous trachiasis from becoming blind.[38]

Trachomatous Trachiasis (TT) surgical service is one of the four major components of SAFE strategy of WHO. In Ethiopia in the 1950s and 1960s the surgical service was given to trachoma patients by local doctors and foreigners in the form of aid and technical support.

Lions Club International is one of the supporters of trachoma surgery and treatment.[39]ORBIS international has also been one of the supporters of medical activity in Ethiopia in general and the prevention of trachoma in particular since the 1990s. Ethiopia was the first country in the world in which ORBIS established in a country presented and developed a comprehensive country program.[40]

The Christofel Blindness Mission (CBM) is an international non-governmental organization which has its overseas department located in Bensheim, Germany. The mandate of CBM centers on prevention and cure of blindness and the education and rehabilitation of blind and other disabled people. In

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[38]Gebremeskel H/mariam, "Eye Health" Annual Report(Addis Ababa: Ministry of Health, August 2013), p.3.
[39]*Ethiopian Bulletin of Ophthalmology*VI.1 No.1(September 2000), unpaged.
[40]Menelik II Hospital archive, file no 51. Letter of commitment from ORBIS to Menelik II Hospital dated March 28/2014.

Ethiopia CBM has operated since 1967. CBM has been and currently is supporting over 40 Project partners, of which 21 are operating in the field of prevention of blindness.[41] Medical assistance that the CBM has given for the improvement of the eye care system of Ethiopia is the local production of eye drops, models for the establishment of optical workshops, assignment of ophthalmologists and subsequent cooperation in eye care management. For instance in 1987 the CBM assigned Dr. Abera Ambayea for the NPPB who had previously worked with CBM[42] and he was the staff member of Menelik II Hospital who served as Ophthalmologist.[43] These supports were to last for some years until the local capability had been insured.[44]

4.3 MODERN TREATMENT OF GLAUCOMA.

It is very difficult and complicated to treat glaucoma and needs careful patient selection, use of proper procedure and sound medical technique. A period of great progress in diagnosis and treatment of glaucoma began in the 1920s with the development of genioscopy apparatus (it is an operating microscope and it is important instrument in diagnosing and monitoring various eye conditions associated with glaucoma) and the slit lamp. (The slit lamp is an instrument consisting of a high-intensity light source that can be focused to shine a thin beam of light into the eye) and the first application of epinephrine (a synthetic

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[41] *Ethiopian Bulletin of Ophthalmology* VI.1 No.1(September 2000), unpaged
[42]Menelik II Hospital Archive file no.130. Letter from *Ato* Assefa Cherinet to CBM, dated August 10 1987.
[43] Informant, Dr. Abera Ambayea May 24,2014.
[44]Menelik II Hospital, Archive file no.130. Letter from *Ato* Assefa Cherinet to CBM, dated August 10 1987.

form of adrenaline, use to relax the air ways and constrict blood vessels) in the treatment of the disease. As it was now possible to examine patients better it became possible to see the difference between different kinds of glaucoma. Then different methods of treatments were used, though they were not always successful. These treatments were both medical and surgical.[45]

When knowledge of the nature and progress of the disease became available, medical and surgical approaches for treatment were developed with varying degrees of success.[46]

Modern treatment of glaucoma in Ethiopia started in the 1960s. According to Dr. Bayuh the treatment of glaucoma is to normalize the pressure in the eye using different treatments like medical and surgical treatment.[47] Menelik II Hospital was the only hospital for glaucoma treatment; medical diagnosis was given using the tonometer and ophthalmoscope. These were used by the doctors to detect the disease of the eye.[48]

The invention of ophthalmoscope transformed the practice of ophthalmology. It was the ophthalmoscope that "allowed the development of a new surgical procedure called irridectomy or removal of part of the iris in order to enhance

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[45]B.Houser Jnr, *Eye Surgery Innovation and Trend, Pitfall and Complications*(Springfield: Charles C. Thomas pub.,1977), pp 55–58.
[46]Chandler, pp.412 – 428.
[47]Informant, Dr. Bayuh Alemu Dec 20,2013.
[48]*Ibid.*

the drainage of excess fluid from the eye and thus lower intraocular eye pressure in the treatment of acute glaucoma".[49]

A community-based survey in Ethiopia in 1998 reported the rate of glaucoma had increased from 7.6% to 27.7% among the blind population.[50] My informant also mentioned that glaucoma cases had dramatically increased from time to time.[51] Most people with glaucoma were not aware about the disease and they usually sought treatment very late in the progress of the disease.[52]According to my informant Dr. Mihret almost all patients did not know anything about glaucoma before they attended the health centers or hospitals.[53]Analysis of cases of glaucoma revealed that 33.5% of the total patients had finally painful blind eyes (absolute glaucoma) in Addis Ababa.[54]

According to Dr. Paulos Quana'a tonometer was brought to Ethiopia about 50 or 60 years ago. The first tonometer used to detect the diseased eye was called the schlotz tonometer. The tonometer was improved from time to time. There were other improved tonometer types like applamation tonometer, non-contact air pufg tonometer and tono-pen tonometer.[55]

According to my informants Dr. Mihret Deesa and Nurse Dulla Kusseta recently the tonometer has been replaced by eye care which is more suitable to

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[49] Albert M. Daniel, *The History of Ophthalmology* (Cambridge: Blackwell Science Print, 1996) p.65.
[50]Wondu Alemayehu and Samson Bayuh."Ecology of Health and Diseases... ,p. 33.
[51] Informant, Dr. Mihret Deesa, April 8,2014.
[52]Wondu Alemayehu and Samson Bayuh, p.38.
[53] Informant, Dr. Mihret Deesa, April 8,2014.
[54]Wondu Alemayehu and Samson Bayuh, p.39.
[55] Informant, Dr. Paulos Qnana'a, May 15,2013.

measure the pressure of the patient's eye.[56] Previously the tonometer was used to measure the pressure of the eye which was less comfortable for the patient. My informant told me that he felt eye irritation when he was taking diagnosis using a tonometer and it made him uncomfortable and even feel pain.[57]

4.3.1MEDICAL THERAPY

In 1979 Topical Timolol (Timoptic) was the first medicine approved for lowering intraocular pressure. It remains the "gold standard of glaucoma therapy"[58]. However, it has its adverse effects like dizziness, fatigue, aschema and so on.

Until the mid-1990s timolol was king of ocular antihypertensive treatment. Then the prostaglandin analog came. Doctors like to use this new medication because it has minimum side effects. Though the developed countries use prostaglandin and other up to date medicines to normalize pressure[59], in Ethiopia doctors still use different medications like timolol, enzalatan and diamox. We are still lagging in new therapy.[60]

Dr. Bayuh Alemu states that there are different medicines used to treat glaucoma.[61] According to Dr. Abeba T/Georgis, who is a glaucoma specialist at Menelik II Hospital, pilocarpine is one of the commonly prescribed topical anti-glaucoma medications for primary open angle glaucoma in our country.

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[56] Informants, Dr. Mihret Deesa and Nurse Dulla Kusseta, April 8,2014.
[57] Informant, *Ato* Gezahegn Taddese, Sep 7, 2014.
[58]Houser Jr., p.78
[59]*Ibid.*
[60] Informant, Dr. Mihret Deesa, April 8, 2014.
[61] Informant, Dr. Bayuh Alemu, Dec 20, 2013.

However patients often miss significant numbers of their dose. According to the cross-sectional study held from September 1999 to February 2000 at Menelik II Hospital's glaucoma clinic, patients who have omitted more than two doses a week are considered as non-proper utilizers. Of the total of 78 patients 36 were found to be non-proper utilizers. The main reason for omitting doses were: using up the drug, unaffordability of the drug, forgetfulness, inconvenience, unavailability of the drugs, and fear of side effects and lack of information.[62] According to my informant most glaucoma patients have not properly used their medicine because most of the time medicines are not available in public pharmacies and they are too expensive to buy in private ones. [63]These kinds of problems were also common in using other anti-glaucoma drugs and reduce the therapeutic effect of the drugs and hence prevention of the progression of the disease.[64]For instance in the early period of therapy pilocarpine eye ointment was given to the patients in order to normalize the pressure, with the same problems.[65]

4.3.2 SURGICAL TREATMENT

Surgical treatment of glaucoma is complicated and it may result in sudden loss of vision immediately after surgery. To avoid such complications in glaucoma surgery there should be careful patient selection with proper procedures for each particular patient and there is a need for "knowledgeable and meticulous

[62]Abeba T/Giorgis, "Factors Affecting Proper Utilization of Medical Treatment in Glaucoma" *Ethiopian Bulletin of Ophthalmology, Vl.3, No.3,*(September 2002), p.5
[63]Informant, Dr. Mihret Deesa April 8, 2014.
[64]*Ibid.*
[65] Informant, Dr. Bayuh Alemayehu, Dec 20,2013.

surgical techniques and thorough pre-operative and post-operative care".[66] In Ethiopia this was impossible because of the absence of a specialized ophthalmologist in glaucoma in the 1940s, 1950s, 1960s and 1970s.

According to my informants, in Ethiopia there have been few doctors who specialized in glaucoma. On the other hand the number of patients increased from time to time so that patients could not get proper treatment and follow-up.[67]My informants *Ato* Tsegayea Bekele and *Ato* Kedir Bargicho told me that in the year 2000 they were wrongly diagnosed and given wrong treatment. When they attended hospital the doctors did not detect the disease and told them their disease was cataract. Then they took cataract surgery. However their disease was glaucoma and due to that they lost their sight immediately after the operation.[68]This dreadful mistake was not necessarily common, or typical of what happened to blind people seeking treatment, but my informants insist that this is what they experienced.

4.4 SOME PROBLEMS IN TREATING TRACHOMA AND GLAUCOMA

4.4.1 LACK OF PROFESSIONAL DOCTORS

In the early 1940s and 1950s there was lack of professional doctors to treat eye diseases in general and trachoma and glaucoma in particular. There were few medical doctors to accommodate the massive eye problems in the country.

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[66]Sharma.p.120.
[67] Informants, Dr. Mihret Deesa,April 8,2014 and Sister Bizuayehu YigezuMay 15,2014.
[68] Informants,*Ato* Tsegayea Bekele,July15,2014 and *Ato* Kedir Bargicho,Sep. 16,2014.

Resident doctors of Addis Ababa University Department of Ophthalmology have given medical support to Menelik II Hospital to solve the shortage of manpower. In addition there were some students who were trained abroad and joined the Hospital to help their people. However due to the increase in number of patients the doctors could not serve the people adequately. Consequently patients could not get proper diagnosis and treatment on time before their illness became critical.[69] In the case of trachoma, there was a project centered in Menelik II Hospital. Since trachoma was endemic in the country many people flocked to Addis Ababa Menelik II Hospital to get treatment but due to the availability of only a few doctors, the doctors could not serve all the patients. To solve the overcrowding of the Hospital the Ministry of Public Health aimed to provide a trachoma treatment program through the pilot project throughout the country in the year 1987 called NPPB. The MoH with several non- governmental organizations (NGOs) are working in various parts of the country on Blindness Prevention and Control programs focusing mainly on cataract and trachoma through SAFE strategy. Planning and following up the progress of this program were difficult due to shortage of appropriate information on the magnitude of the problem and lack of awareness of the public at large.[70]

When we come to glaucoma the problem of shortage of medical doctors is very critical. The nature of the disease needs specialists to treat glaucoma.

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[69] Informants, Dr. Paulos Quana'a, May 15,2013. and Dr. Bayuh Alemu April 8, 2014.
[70]Yemane Birhan... *etal.*"National Survey of Blindness Low Vision and Trachoma"(Addis Ababa: Ministry of Health Survey 2006), p.1.

According to Dr. Paulos Quana'a, Dr. Bayuh Alemu was trained abroad and graduated as a glaucoma specialist in 1990. He was the only specialist until recently. Before Dr. Bayuh joined Menelik II Hospital glaucoma patients were treated by a general ophthalmologist. Due to this the patient could not get appropriate medical and surgical treatment. Glaucoma also occurs in childhood and therefore needs pediatric ophthalmologists but in Ethiopia there is lackof pediatric ophthalmologists to treat the eye problem of children in general and children with glaucoma in particular.[71]For instance 2006 among the total number of the glaucoma patients, 2% of them were children and they took treatment with adults in the glaucoma clinic of Menelik II Hospital.[72]

The management of eye problems which require surgical intervention is more complex in children than in adults and requires a team of well trained and well equipped personnel. "An examination of past routine management practice dealing with three surgically treated common eye problems in children (childhood cataract, strabismus [squint], corneal scarring (trachoma) and glaucoma at Menelik II Hospital clearly shows the problem".[73]

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[71] Informant, Dr. Paulos Quana'a,May 15,2013

[72]Fikru Melka. And Bayuh Alemu."The Pattern of Glaucoma in Menelik II Hospital Addis Ababa, Ethiopia." *Ethiopian Medical Journal,*(April 2006),p.159-165.

[73]Abonesh Girma, "Let the Children See",*Ethiopian Bulletin of Ophthalmology,* Vl. 1, No 1,(September 2000),pp. 26 -27.

4.4.2 LACK OF AWARENESS

In Ethiopia, most of the people live in rural areas and even in urban areas there is lack of awareness about the eye diseases trachoma and glaucoma their cause, transmission and cure.

In the case of trachoma, it is easily transmitted from one infected person to another. Due to lack of awareness and effective care previously in Ethiopia 1.3 million people have had trachoma and among these people 70% were women. Those women had direct contact with their children. This situation makes trachoma easily transmitted from the mother to child by direct contact. The OSE report tells us that women in general have higher prevalence rates of trachoma than men. This higher risk among females is thought to be related to their close relationship with children who are known reservoirs for trachomatous-trachiasis. [74]

Another contributing factor is low utilization of available health facilities by women because of lack of awareness, remoteness of the medical centers, low economic status of many women, cost of treatment and the time consuming responsibility for rearing their children.[75]

In Ethiopia in the 1940s, the Menelik II Hospital was the only hospital which gave eye treatment for the whole country. The rural women mostly could not leave their home to get treatment in Addis Ababa. The problem of

[74]Nigussie Zerihun, "Impact of Trachoma Among Rural Ethiopian Women", *Ethiopian Bulletin of Ophthalmology, Vl.3,*(September 2002), p.20.
[75]*Ibid.*

transportation cost was also another problem for the poor rural women. Furthermore, even if women came from the rural areas and got treatment, most of the time they did not meet their doctor continuously according to their appointment and stopped their follow-up.[76] According to my informant Dr. Wondu Alemayehu, in the 1950s and 1960s the medicine which was used to cure trachoma was tetracycline ointment which was applied two times a day. However those women did not properly apply the medical procedure and due to this most of the time re-infection occurred.[77]

The problem of awareness was not only seen in women but also in men but blindness in women is a critical problem for the rural community. A blind mother has dramatic economic implication for her family. The economic implication may in general be so great that the father or the entire family in some cases migrate to Addis Ababa to try to get more income. Children are the first to suffer from this economic problem in the form of malnutrition accompanied by different types of morbidity and eventual mortality, since poverty is often not relieved by migration to Addis Ababa.[78]

In the case of glaucoma most people who live in rural areas as well as urban areas do not have awareness about the disease. My informant, *Ato* Tesfaye Degefa, is 56 years old. He has glaucoma and was treated at Menelik II Hospital. He mentioned that there was and still is nothing known about

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[76] *Ibid.*
[77] Informant, Dr. Wondu Alemayehu, Dec 20,2013.
[78] Nigussie Zerihun, p.20.

glaucoma in the countryside so that the poor agrarian societies were suffering from the disease.[79]

In countries like Ethiopia, attendance at clinic is often delayed so that patients are brought late for treatment. This is because of patient ignorance, the use of traditional medical alternatives, remoteness of the medical centers and the crowdedness of the health centers. Since glaucoma is progressive, if the patients lose time before being treated it becomes harder to treat and as a result blindness develops.[80]According to my informant he had no way to have awareness about the disease before he came to Menelik II Hospital. He attended the hospital after he already lost one of his eyes.[81]There is a need to carry out intensive work to increase public awareness on the nature of the disease, in addition to improving the diagnostic and therapeutic facilities and expanding the infrastructure and to develop and wisely organize the required human resources.

4.3.3 LACK OF MEDICAL FACILITIES

The political instability of the country has added to the problem of shortage of medical facilities and trained manpower. For instance the 1974 Revolution was an obstacle for the medical field because many NGOs left the country.[82]The 1977-78Ethio-Somali War also had a negative impact on the medical history of Ethiopia because the hospitals were busy in treating wounded soldiers. For

[79] Informant, *Ato* Tesfaye Degefa, July 2,2014.
[80]Negussie Zerihun, p.20.
[81]Informant, Wubelew AdalJuly 2,2014.
[82]Informant, Dr. Paulos Quana'a, May 15,2013.

instance at the Menelik II Hospital, 303 beds were given to wounded soldiers and civilian patients were left untreated. In addition most of the medical equipment was used for the treatment of wounded soldiers.[83]

According to my informant and an archival document of Menelik II Hospital there was a shortage of medical facilities in Ethiopia in general.[84] Menelik II Hospital reported that the Ethiopian Medical Equipments Manufacturing Enterprise had budget problems which prevented production of medical equipment.[85] In another letter Dr. Paulos Quana'a and Dr. Fekade Mengistu presented their request for medical facilities as follows, "As per our previous discussion and agreement we are sending you some items of ophthalmic medicine the description and quantity of which is enclosed".[86] However the request was not answered on time due to different problems. The request was often repeated to get the necessary medical facilities but it was not answered.[87] Consequently the department could not carry out its work very well. The department again and again requested to get the medical facilities but without response.[88]

To solve the medical facility problem Dr. Paulos Quana'a has played a crucial role in mobilizing the provision of different medical facilities and ophthalmic

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[83]Menelik II Hospital's file No 36 አጠ 17/40/154 letter 28/8/7E.C and Informant, Dr. Paulos Quana'a,May 15,2013.

[84]Menelik II Hospital Archive, file No. ሚዲ/ፋክ/ አፕ/መ 23/80, Report dated 23/09/80E.C and Informant, Sister Mulu Zewde, April 8, 2014.

[85]*Ibid.*

[86]Menelik II Hospital Archive No file መአ 39/47/869 letter from Dr. Paulos Quana'a and Dr. Fikade Mengistu to the Management of Menelik II Hospital.dated13/10/81E.C.

[87]Informant, Dr. Paulos Quana'a, May 15,2013.

[88]Menelik II Hospital Archive File No አጠ 3 2/40195፣ letter 12/06/76 E.C.

medicine with the Ministry of Health, Non-Governmental Organizations (NGOs) the Lions Club, Helen Keller Foundation and others.[89]ORBIS International is also playing a crucial role in the prevention of blindness.[90]

Since in the absence of adequate medical facilities and ophthalmic medicine patients with trachoma and glaucoma, could not be treated properly this condition made the problem more critical and serious. In the case of trachoma it is taken as a major public health problem by WHO, the MoH, and different NGOs and given special attention but in the case of glaucoma the MoH has given little or no attention.[91]

[89]Menelik II Hospital Archive file No (ሥጠ/17/40/154,letter dated24/04/95 E.C.
[90]Menelik II Hospital Archive No72,Or06/1913, letter dated 20/07/05E.C.
[91] Informant, Dr. Paulos Quana'a, May 15, 2013.

CHAPTER FIVE

5. SOCIO-ECONOMIC ASPECTS OF EYE DISEASES AND BLINDNESS AND ATTEMPTS AT EDUCATION AND REHABILITATION.

5.1 TRADITIONAL ATTITUDES AND THE BEGINNING OF CHANGE

Among many disabilities blindness occupies a special place because the human being is visually oriented. The loss of sight transfers a person to a world that is strange, smell, touch and sound oriented. The incidence of blindness in African countries is higher than in most other parts of the world, but, because of lack of appropriate statistical data we cannot find figures that show the magnitude of the 1940s, 1950s and 1970s problem of visual impairment (blindness).

According to the study of Rokos there are three main causes of blindness in Ethiopia. Cataract has been found to be the major cause of blindness in Ethiopia. Trachoma is another major cause of blindness. The other cause of blindness in Ethiopia is primary glaucoma.[1] These are still the major causes of blindness now, as explained in the above chapters.

Newly blind people enter a new world and start a new life which is different from their previous life. They need some kind of rehabilitation mechanism in order to adjust themselves to the new conditions. However, society has often in the past in Ethiopia disregarded blind people. According to one of my

[1]L. Rokos, "Blindness in Ethiopia", *East African Medical Journal,* Vl. 6, No.14, (June 1968), pp. 407 – 409.

informants when he became blind his relatives and neighbors said that instead of living with disability it was better for him to die and they wished him to die because they thought blindness to be the sign of bad luck for themselves as well as for him.[2] According to some traditions blindness is associated with bad luck or unfortunate circumstances caused by evil spirits. It is believed that those who become blind are unblessed and they sometimes do not try to go for medical services of any type. This feeling is deeply embedded. Also the family of the sufferer is believed to be unblessed. There is the need for awareness creation through education because there are different causes of blindness but the society is highly influenced by traditional superstitions.[3]Blind people are also sometimes believed to be totally incompetent. I can also mention my own experience about the situation when I became blind. My mother completely believed that I could not do anything and she thought that I was useless. Even now she lacks confidence about me in doing anything, even minor tasks.

The Muslim community has practiced religious support for the blind. As a result of this belief the blind person and his family members were treated in accordance with one of the five pillars of Islam which is called *Zekat* (alms giving).[4] In this way the blind person is socially protected. This system was and is reflected in the absence of Muslim blind beggars and less migration of Muslim blind people in search of a better life. Among Muslims there was a lower problem of discrimination, stigmatization and ostracism. However, this

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[2] Informant, *Ato* Melaku Gebeyehu, Dec. 20, 2013.
[3] Informant, Professor Tesema Ta'a Oct. 25, 2014.
[4] Informant, *Haji* Tofik Salah, July 17, 2014.

system did not enable the blind to work and it encouraged dependency.[5] Begging and migration were common historical phenomena of the blind in traditional Ethiopian Christian society. Compassion and charity towards the blind were encouraged by the Gospel accounts. For example the many incidents of Jesus Christ restoring sight to the blind.[6]

In traditional Orthodox Ethiopia if traditional medical treatments failed (as they usually did) there was some educational rehabilitation. The provision of educational rehabilitation was given by the Orthodox Church. The compounds of the Ethiopian Orthodox churches and monasteries served as the major centers of medical treatment and educational rehabilitation and residence of the newcomer blind people.[7]

Foreign missionary expansion was an important event in the introduction of modern rehabilitation for the blind in Ethiopia. The United Presbyterian Mission (UPM) and the Swedish Evangelical Mission (SEM) played an important role in the introduction and expansion of modern rehabilitation for the blind. The United Presbyterian Mission was an American mission which arrived in Ethiopia in 1918 and the Swedish Evangelical Mission, which was initially established to spread the Gospel, also, like the UPM, concerned itself with the blind.

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[5] Informant, *Ato* Kedir Bargicho Oct. 5, 2013.
[6] Informants, *Ato* Amare Assefa and *Ato* Gebre Teshome, April 22, 2013.
[7] *Ibid.*

Urbanization was another important factor in the history of modern rehabilitation for the blind in Ethiopia. Immediately after the end of the Italo-Ethiopian War (1935-41), there was a flow of blind people from rural to urban centers. Those migrants often became beggars. The introduction of Braille in Ethiopia in 1924 by the American Presbyterian Mission had also its own impact on modern rehabilitation for the blind because the introduction of Braille transformed and modernized traditional blind education in Ethiopia. Braille in fact, was a basic turning point and gave real possibilities of opening rehabilitation for the blind in Addis Ababa and Ethiopia as a whole.[8]

5.2 BLINDNESS AND EDUCATION

The major successful traditional attempt at rehabilitation of the blind in Ethiopia was in the field of education. The Ethiopian Orthodox Church provided almost all kinds of traditional education for the blind except the art of writing. Blind students' enrolment in traditional Church education depended on the competence and ability of the individual. The first stages lasted between two or three years and qualified the students for the next stages. For most non-blind students the end of first stage was the completion of formal Church education. In the case of the blind most of them went to the more advanced stages and their success helped the blind students to get a better social status and acceptance compared with people with other disabilities.[9]In the case of trachoma and glaucoma however, most of the victims became blind at older

[8]Bairu Tafla, "The blind in Ethiopia", *The Braille Monitor*, Ink print ed. (Berkley: California National Federation of the Blind, September 1967), p. 588.
[9]Bairu Tafla, p. 588.

age. In this case most of the victims were not able to learn and might have to live by begging or a dependent life with their family. The absence of social workers in the past and shortage of them still now made the problem more acute.[10]

Modern educational rehabilitation for the blind in Ethiopia based on schools for the blind was the major innovation given by missionaries of the United Presbyterian Mission of North America, the Swedish Evangelical Mission and the Seventh Day Adventist mission. This service began in 1925 with UPM missionaries giving education to blind children. This foreign mission also trained some blind persons through Braille as priests, translators and evangelists.[11]

The activity of missionaries was interrupted when they were expelled as a result of the Ethio-Italian war of 1935-41. The Italians did not carry out any activity that could support the blind. Furthermore, the Italian fascist government gathered all disabled people in general and blind in particular and put them around the Teklehaimanot area in Addis Ababa. These disabled inhabitants of Addis Ababa were very much discriminated against by the Italian administrators.[12] The blind and disabled in this area were marginalized and they engaged in begging.[13]

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[10]Assegid Agga, p.71.
[11]Fikru GebreKidan, "Blindness and oral education in Ethiopia before the introduction of Braille". Accessed from Internet www.singer–polignac.org. August 6 2014.
[12]Bairu Tafla, p.590.
[13]Informant, *W/ro* Messeret Tadesse, Sep. 5,2014.

After the Italian occupation, according to my informant *W/ro* Messeret Tadesse, many of those previously segregated blind people were engaged in begging except some individuals who engaged in different work like teaching, trading and one legal councilor.[14]

Emperor Haile Selassie I showed interest in and tried to expand the development of modern education and rehabilitation for the blind from 1948.The Emperor collected the blind from different parts of Ethiopia and at his expense opened *Intoto* Swedish School for the blind around *Intoto* it is the hill side of northern Addis Ababa. There were at first 27 blind students in the school. The school's teaching was undertaken by Swedish missionaries and *Ato* Siyum W/Mariam was the first Braille instructor at its opening. At the beginning the mission trained blind students to make brushes and gave Braille instruction after class. However, the blind students were only up to 12 years old. The school was not allowed to accept older blind students. After finishing the *Intoto* School blind students were admitted to other Addis Ababa schools as explained below or went to vocational training.[15]

In 1952 the *Merha Ewuran* (Guide for the Blind) Haile Sellasie I School for the Blind was opened at Casa Inches. The number of students was 60 at the opening of the school. From its opening until 1955 the school was administered by the royal family and government officials. In 1955 the school administration was taken over by the Haile Selassie I Foundation.

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[14]Informant, *W/ro* Messeret Tadesse Sep 5, 2014.
[15] Informant, *Ato* Amare Assefa, April 22, 2013.

The educational activity of the Casa Inches *Merha Ewuran* Haile Selassie I School for the Blind was under the management of the Mennonite Mission of North America. The mission provided skilled manpower to serve the blind students until the Ethiopian teachers were ready to teach.

The Casa Inches *Merha Ewuran* Haile Selassie I School for the Blind was a boarding school. The school was run with the financial support of the Mennonite Mission and Haile Selassie I Foundation. The school lessons were based on the doctrine and tradition of the Ethiopian Orthodox and Protestant Churches. Students attended classes in their religious group rather than a normal grade system. Consequently Muslim blind students were not selected for the school, because the school was run entirely on Christian lines.[16] Although blind students were brought from different parts of Ethiopia, there must have been more blind children than places available in the school.

The initial plan of the Mennonite Mission in Casa Inches *Merha Emuran* Haile Selassie I School for the Blind was to teach academic and vocational subjects. Students who completed their elementary education spent some years in grade four, five and six and then went on to other schools or vocational training.

The Mennonite Mission developed education for the blind from the primary to junior secondary level because of the absence of any other school which could

[16]Informant, *Ato* Tariku Bekele, He was one of Braille instructor who worked in the Mennonite Mission, Mar. 4 2014.

accommodate the needs of blind students. The school continued to support students to continue their education.[17]

Haile Selassie I Foundation and the Mennonite Mission asked Asfaw Wossen School to allow the entry of blind students who had completed grade six to join grade seven. After a long argument and the pressure of government officials the school admitted the first group of more than 20 blind students in 1957. Those students who passed continued their secondary education in Menelik II Senior Secondary School. The students were allowed to enter Menelik II Senior Secondary School through the pressure of the officials of Haile Sellassie I Foundation. The first group of blind students who successfully completed grade twelve in 1969 joined the Haile Selassie I University.[18]According to my informant *Ato* Amare Assefa, Bairu Tafla and Tariku Bekele were among the first students of that time.[19]

Those students and their juniors played a crucial role in persuading the University to provide reading materials and books in Braille. The John F. Kennedy Library of Addis Ababa University now has rooms reserved for blind students with different facilities helpful for blind students like books, tape recorders and others. Though the rooms have been giving service for blind students since 1970, the University was not providing enough reading materials for blind students which were relevant for their studies.[20]My

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[17] Informant, *Ato* Amare Assfa, April 22,2013.
[18] Informants, *Ato* Tiuma Lissan, and Taye Alemu cited in Sisay Birhanu, p.61.
[19] Informant, *Ato* Amare Assfa, April 22,2013.
[20] Informants, *Ato* Abebe Molla, and Ato Nuru Bedru, Oct. 9,2014.

informants, who were blind students of Addis Ababa University in1995, told me that there were many challenges they faced during their studies such as lack of reading materials, the problem of readers and even the poor quality and quantity of the reading matter in Braille. This was also my own experience in 2005-2009. Owing to these and other problems many blind students were unable to continue their education.[21]This problem is also very critical in Hawasa University and probably therefore other universities outside Addis Ababa.[22]

According to my informant there was also a rehabilitation center established by Haile Selassie I for blind students who were unable to continue their education. Around 1961 this rehabilitation center was established at Mekanisa. The center trained the blind to make umbrellas. There was also a "rehabilitation" center called Kolfe Rehabilitation Center. The center was managed by Addis Ababa City Municipality. Disabled persons were brought to Kolfe from different parts of Addis Ababa by the police in order to avoid and minimize the begging in the city due to more migration to Addis Ababa, and consequently more begging, after the liberation. The center provided food, shelter and medical care. Among the residents of the rehabilitation center, there were blind persons of both sexes and all ages. The major problem of the blind was their complete lack of interest to work or learn because most of them were elderly and they left the center and begged along the major roads and at the churches. The Kolfe

[21]Informants, *Ato* Abebe Molla, *Ato* Nuru Bedru, Oct 9, 2014 and *W/ro* Fikirte Tibebu, Sep. 15, 2014.
[22] Informant, *Ato* Melkamu Gebeyehu, Oct. 9, 2014.

Center was therefore not really a rehabilitation center at all, but just a depository for the blind and other handicapped people.[23]

The role of the Emperor in development of education of the blind was not limited to the establishment of the residential school at Casa Inches. The Emperor also followed up the activity of the school and the progress of students in their education and at times visited the blind schools (see Appendices 4 and 5). The Emperor did not, however, give any attention in the rehabilitation of older people who became blind because of different eye diseases like trachoma and glaucoma except giving some vocational training in Mekanisa for a few of these.[24]

Subsequent Ethiopian governments had their own contribution for blind education but there were very few fields of studies allowed for the blind students, mainly History, Law, Education and Language. According to my informant most of the blind students were not successful in their education because of shortage of learning materials in Braille, lack of supportive materials, readers, and even moral support. According to my informants and my own experience before, blind students suffered from some readers who were just irresponsible or even *khat* or alcohol addicts. For example some readers tried to read after taking *khat* or alcohol and some did not even know how to

[23] Informant, *Ato* Gebre Teshome, April 22,2013.
[24] *Ibid.*

read properly. They did the work just to get money but did it badly. Sometimes also they did not turn up for the reading.[25]

5.3 BLINDNESS AND WORK

According to my informants most of the time there was lack of job opportunities for those blind students who successfully completed university. The blind students also had to be strong academically to pass at all. The situation was worse for newly blind people who had previously been engaged in different types of work like accounting, engineering, medicine and farming: their blindness resulted in inability to continue their work. Though trachoma sufferers can participate in economic activities like farming, trade and other activities if they have not completely lost their sight.[26]

The Imperial and the *derg* governments did not give attention to the employment of persons with disability (including visual impairment) except giving aid in cash and in kind.[27]After 1991 the Constitution of the Federal Democratic Republic of Ethiopia stated the right to employment of persons with disability.[28] The blind and other people with disabilities are enjoying this right in some governmental organizations but some employers do not want to hire persons with disability in general and blind workers in particular. This condition is very critical for workers who have lost their sight while they are

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[25] Informants, *Ato* Abebe Molla and *Ato* Nuru Bedru, Oct. 9,2014 and my own experience as a BA student

[26] Informant, *Ato* Gebre Teshome, April 22,2013.

[27] Informant, *Ato* Amare Assefa, April 22,2013.

[28]The Federal Democratic Republic of Ethiopia, *Negarit Gazeta.No.*20 Addis Ababa, March 25 2008.Proclamation No.568/2008.

working. For instance my informants, *Ato* Kedir and *Ato* Mohammed Hassen, they lost their job when they became blind due to glaucoma. The former was a driver and the latter was an accountant.[29] Some work, like being a driver, is obviously impossible for a blind person but some employers are not interested in employing blind people for work they can do. Some self-employed blind people, especially lawyers, are extremely competent. Problems are with blind people employed by some NGOs, which refuse to employ blind people. In addition the blind workers were and still are undervalued by their managers and given lesser regard than other staff, with a bias against promotion for competent blind workers.[30]It is mainly because of the fear of the managers that they will have to face extra cost to provide the necessary material help for the blind when they employ them and lack of managers' confidence in the capabilities of the blind.[31]However, there are many disabled persons who are effectively engaged in different work. For example my informant *Ato* G/tsadik Yahoche is a blind person who is engaged in repairing wheelbarrows in Merkato Koricha Tera without getting any technical training except his personal experience.[32]

Therefore it is worth noting that giving a "right" to blind and other disabled people is not of much use if the right only exists on paper and is not implemented by real opportunities. It seems the right given may be just for appearance, at any rate still at the moment. There are limited kinds of

[29] Informant, *Ato* Kedir Bargicho, Oct. 5, 2013and*Ato* Mohammed Hassen, July 2,2014.
[30] Informant, *W/ro* Fikirte Tibebu, Sep. 15,2014.
[31] Informant, *W/ro* Aynalem Birhanu, Sep. 15,2014.
[32]Informant, Ato G/tsadik Yahoche, Nov. 24 2014.

employment which blind people can do but these could be increased by real rehabilitation, good vocational training and more sympathetic attitudes from employers. Moreover, the partially blind could do more jobs but are denied opportunities like completely blind except some attempts currently made by ENAB and the Ministry of Education to involve visually impaired students in technical and vocational training like giving training in music.[33]Currently some government organizations are being ordered to employ blind persons. This is probably not the best way to integrate them into work. They may be employed in this way but are not likely to be treated on an equal footing or given serious work to do.

Many people who suffered from glaucoma, trachoma and other eye diseases became bind. After they became blind they lost their job and became dependent. According to the study of the Ophthalmology Society of Ethiopia blindness has been associated with an increase in mortality among visually impaired people when compared to their age peers. It has been shown that with increasing severity of visual impairment there was progressive increase in mortality because of despair, hopelessness and a feeling of nothing to live for.[34]

5.4 THE FORMATION OF THE ASSOCIATION FOR THE BLIND.

The formation of an association for the blind was a recent activity but the movement for the blind started in 1957 with ten blind people. These people presented a petition to the Emperor to get equal educational and job

[33] Archive of ENAB, File No.92.Annual report. dated 2013.
[34]Assegid Agga, p.71.

opportunities for the blind. The petition was aimed at solving the problems of blind people, who were begging and living in illiteracy and poverty. They wanted to get rights as blind citizens and also to participate in the socio-economic development of the country. The petition was accepted by the Emperor.

After the presentation of the petition in 1957 there was a new development. Nineteen blind people, among whom were the previous ten, held a meeting in the Arada Giorgis Cathedral compound. At this meeting they raised the issue of establishing a representative body of the blind. This idea was the basis for the establishment of an association but the establishment of a representative body for the blind community was not realized for some years.[35]

In the year 1958-59 there was a problem of unity in action because of the difference in religion among the blind people that is Orthodox and Protestant, in order to work together. The disagreement was mainly for power struggle within the association, Protestants against Orthodox.[36]The majority of the members were at first ex-students of the blind schools and therefore there were at first no Muslim members of the association though now there are Muslim members. Finally, January 1st 1960, was the day of the establishment with official government approval of the association named *Ye Ethiopia Ewuran Tarad'o Dirijit* (Ethiopian Cooperative Union of the Blind), established in Casa Inches Merha Ewuran Haile Selassie I School by 29 blind members and 1

[35]Informant, *Ato* Gebre Teshoma, April 22, 2013.
[36]*Ibid*

volunteer sighted person.[37] The association was basically established for awareness creation, fund raising and rehabilitation.[38] Any blind person can join the union but there had to be an application to join which could however be verbal and membership was acquired with the payment of 25 cents per year. The membership fee has increased from time to time and reached 24 *Birr* per year in 2013.[39]

The association launched a fund raising campaign and strengthened its finances through lotteries, sponsorship and financial aid from governmental and non-governmental organizations. The association was able to collect more than one hundred thousand *birr*. The fund raising lasted up to the beginning of 1964. This financial and organizational success did not solve the fundamental problems of the blind like education, rehabilitation, and employment but rather it led to dependency because the collected funds were simply distributed as alms.[40]

In October 1964 another Managing Board was set up because of the continuous conflict among the blind members for control. All members of the board were sighted and the blind were marginalized as regards participation and empowerment because the new board members were all government officials and members of the royal family. There was also unilateral government

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[37] Archive of ENAB, File No. 9: Annual Report, dated 2013, and File No 19.Head Office and Branches Work Schedule,(*Megabit*,2002).
[38] Informant, *Ato* Gebre Teshoma, April 22, 2013.
[39]Archive of ENAB, File No.34.Letter from *Ato* Gebre Teshome to Finance Office, dated 19/12/06E.C.
[40] Informant, *Ato* Amare Assefa, April 22, 2013.

intervention in matters affecting the blind. In the year 1969 the government established a new board composed of sighted members and only one blind representative. Bairu Tafla was the blind representative and Vice President but he did not actively participate in the activities of the board because of his personal work. Generally the period 1964-1974 was the period of high government intervention in every matter of the association and the blind were greatly alienated. The Revolution of the year 1974 brought a new development in the history of the blind association.[41]

After 1974 the association acted as a legal protector of its members and the post-1974 history of the association has been characterized by the expansion of education for the blind in line with the entire education policy of the country.[42]However, as described above, education for the blind still has shortcomings.

In 1980 the association established an educational department to coordinate educational activities. It also provided white stick (cane) for the blind to help them to move alone, organized a literacy program and produced Braille books for students. However, at this time the association did not and still does not provide those materials for free and even at a lower price to the blind students and the cost of such materials is very high. For instance the cost of a white stick (cane)is now more than 350 *birr.* The current inflation and the increase in value of dollars relative to the *birr* could be the major reasons. In addition, after

[41]Informant, *Ato* Gebre Teshome, April 22, 2013.
[42] Archive of ENAB, File No.29.Letter from ENAB to AAU dated 14/01/2007E.C.

2009 the government's Proclamation No 621/2009 called Charities and Societies Proclamation says Ethiopian charities or aid societies should generate income from local sources and only 10% of their funds can be obtained from foreign sources.[43] This Proclamation hinders the Association from mobilizing material and financial support from foreign sources. For instance currently the Association is working with a few NGOs like CBM and AFUB (African Union of the Blind).[44]AFUB mainly supports the association in HIV/AIDS prevention and gender affairs and the CBM mainly supports educational activities.[45]

In the year 1980 the Ethiopian Cooperative Union of the Blind became the Ethiopian National Association of the Blind (ENAB) with its office at Sidist Kilo near Belay Zeleke Primary School.[46](See appendix 6) Initially the association had financial and material problems and was unable to pay the rent of its office. The government then allowed free use of the office for the Association. However, the government policy did not allow missionaries to carry out different activities to support the blind, as they had done before. The *Derg* military government had allowed the CBM to get material and financial support for the Association.[47]

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[43] Federal *Negarit Gazeta* of the Federal Democratic Republic of Ethiopia, Proclamation No.620/2009 (Addis Ababa February,2009),pp.4521-4522.
[44] Archive of ENAB File No 98.Report from Edmund Gabriel to ENAB. dated April 2010.
[45]Archive of ENAB File No.93.A Memorandum of Understanding between AFUB and ENAB. Dated October, 2013.
[46]Archive of ENAB File No.136.letter from Colonel Ambellu Werkneh to ENAB. Dated 30/04/73E.C.
[47] Informant, *Ato* Abebe Molla, Oct. 9,2014.

In 1980 the association got material and financial support from the CBM based on the agreement signed in1979 between the two organs. The association also tried to generate income from local sources like from its music orchestra called *Wagagen (*Dawn*).* At the end of the 1980s the Association faced a challenge from some of its members. They were the uneducated, unemployed and elderly members of the association who were alienated from and ignored by the leaders. They called themselves *Ye Dabo Felagioch Mahiber (*Association of Bread Seekers*).*Those members believed they needed the support of their association to supply their basic needs rather than education. The leaders made some response to the "bread seekers" and tried to solve the problem by financial and material support but it was not sufficient.[48] The problem of many blind people was getting material support to live, and for them, this took precedence over education and programs which gave no immediate prospect of improvement in their life. Opportunities for work for blind people were few and the longer the blind person was unemployed, the more he/she sank into and accepted dependence.[49]

After 1995 the Association's attention was more on education and legal affairs. The Association made efforts to get really implemented the "Right to employment of a person with disability" according to the Constitution of Ethiopia. The Association in collaboration with the Ministry of Education set the points qualifying for university entrance for blind students. This is part of

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[48] Informant, *Ato* Amare Assefa, April 22,2013.
[49] *Ibid.*

an affirmative action policy of the government and also facilitated scholarships for its members.[50] Though the Association played and still plays a valuable role for its members it has no rehabilitation program for those blind persons who do not get access to education and rehabilitation.[51]However other rehabilitation centers were established to give support for blind by local NGOs and foreign missions.

The Swiss Evangelical Nile Mission (SENM) is a charitable organization with its head office Switzerland founded in 1900 in Aswan. It has the aim to preach and to help the needy and the poor in the fields of health, education, rehabilitation and agriculture. The mission is still working in Egypt, Sudan Ethiopia, Eritrea, Tunisia and Rwanda. In 1962 the Mission was invited by Haile Selassie I to start a school together with an orphanage and medical service.[52] The mission accepted the request of the Emperor and engaged in some activities in northern Ethiopia.

During the *Derg* regime the nationalization policy of the government hindered the work of many NGOs, missions and projects for the disabled. Several foreign mission and welfare organizations left the country and their projects were closed except a few NGOs and projects which worked with serious restrictions.

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[50] Informant, *Ato* Abebe Molla and *Ato* Nuru Bedru, Oct 9, 2014.
[51] Informant,*Ato* Melkamu Gebeyehu, Oct 9,2014.
[52] SENM (Misrach Center), Archive, no file number. "Ten Years Activity Report" 2000, p.3.

One of those missions was SENM which started and engaged in rehabilitation efforts for the disabled in Addis Ababa in 1980.[53]

In 1982 an old house was purchased and named Misrach Center around Amist Kilo. The rehabilitation workshop was built up and Misrach Training and Rehabilitation Workshop started in Addis Ababa by the effort of the board of SENM and a few government officials, even though there was no official government policy which supported the project (Misrach Center). The Center started work with 12 blind students in 1983. In 1984 a brush workshop was established and the optical section started with the help of CBM. By the end of 1989 there were 68 disabled involved in the workshop and 128 blind benefited.[54]

Later on the Ministry of Labor and Social Affairs (MoLSA) supported the center's effort and the Rehabilitation Agency for Disabled (RAD) became the government link to engage with the implementation of the mission's activity.[55] In July 1990 an agreement was signed between MoLSA and SENM (Misrach Center) for ten years. According to the recently issued rule for NGOs registration SENM (Misrach Center) has been registered by the Ministry of Justice (MoJ) since 1998. This center is still giving vocational training for adults who are deaf, blind and others who are physically handicapped in its brush section, optical section, sewing section, frame section and other training

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[53] SENM (Misrach Center), Brochure "Misrach Center, A Future for Disabled People". Addis Ababa, 2014.
[54] SENM (Misrach Center) Archive no file number . "Ten Years Activity Report" 2000.p.8.
[55] SENM (Misrach Center) Archive no file number . "Terminal Report for Evaluation", October 2010.p.5.

programs like computer training[56] and food preparation.[57]In addition the Center has 5 classes for blind persons to teach Amharic and English Braille. An Amharic Braille primer manual has been developed by special experts of SENM. In addition the center has been giving scholarships and financial support for blind students who cannot attend regular classes.[58]The Center generates income from the production of those handicapped persons, by printing Braille duplication and donations from individuals and other organizations.[59]

Addis Hiwot Center of the Blind (AHCB) is also another local NGO established in 1999 by the lately visually impaired people.[60] The center was mainly established to give rehabilitation and support for newly blind people. The center gives training to blind people to be able to move alone with the help of a white stick (Cane) and how to read and write with Braille.[61] These canes which previously were donated free by NGOs to blind people now have to be bought. They are special sticks because they are light in weight, flexible, easy to handle and the white color is a warning to other people that there is a blind person.[62] In addition this center has been helping newly blind students to continue their

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[56]SENM(Misrach Center)Archive File no.1027.letter from Tigray Regional State to Misrach Center,dated260/07/06E.C.
[57]SENM(Misrach Center)Archive File no 3/2 letter from Finote Rehablitation for Handicapped Association to Misrach Center. dated 26/12/2006E.C.
[58]SENM(Misrach Center)Archive File no 00/77.Letter from Menelik II School to Misrach Center.dated20/02/04E.C.
[59] Informant *Ato* Amare Assefa, April 22,2013.
[60]Informant, *W/rt* Atsebayush Abebe, Sep. 16,2014.
[61]Archive Addis Hiwot Center of Blind , File No.30-108/9189 Letter from *Ato* Afework Gilay to *Ato* Alemayehu Agonafer dated 23/9/92E.C.
[62]Informant, *W/rt* Atsebayush Abebe Sep 16,2014.

education.[63] This center also gives orientation for the blind and startup funds to help themselves economically by giving and facilitating loans.[64]It has also been giving training for women in home management.[65]

5.5 EXPERIENCE OF SOME PEOPLE WHOSE VISUAL IMPAIRMENT HAS BEEN CAUSED BY GLAUCOMA, TRACHOMA AND OTHER DISEASES.

W/ro Meaza Alem is aged 24.She is a young member of Addis Hiwot rehabilitation center. She lost her sight due to corneal infection. According to her, when she became blind she felt very sad but through time she adjusted herself to the situation. She was a teacher so she was able to resume her teaching work by learning how to read and write with Braille in Addis Hiwot rehabilitation center.[66]

W/t Atsebayush Abebe is 39 years old. She lost her sight because of an eye nerve problem. She felt very sad because she was then unable to work. She felt bad and lonely. She was a secretary but when she became visually impaired she lost her job. After some time she adjusted herself and learned how to write and read with Braille in Misrach Center and she became the Director of Addis Hiwot Center for the blind.[67]

Ato Hairalah Hussen is 58 years old. He lost his sight because of glaucoma. According to him he was a farmer and painter. Before he became blind he used

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[63]Addis Hiwot Center of Blind Archive, File No.አህ /64/06 Letter from the manager of the center to the Menelik II School.
[64]Addis Hiwot Center of Blind Archive ,FileNo.አህ/561/06 Letter from W/ro Atsebayush Abebe (Manager of AHCB) to finance office dated dated2/4/05E.C.
[65] Addis Hiwot Center of Blind Archive ,File No ህን/30/08/89 Letter dated 23/09/92E.C.
[66] Informant, *W/ro* Meaza Alem, Sep. 16,2014.
[67]Informant, *W/ro* Atsebayush Abebe, Sep. 16,2014.

to live and work in the Southern part of Ethiopia during harvest time but at other times he worked in Addis Ababa to give financial support to his family by painting. After he became blind he could not do his previous work. He feels very sad and hopeless.[68]

Ato Deguale Dejenu is 80 years old; he lost his sight because of trachoma. Before he became blind he lived in the northern part of Ethiopia. When he became ill he came to Addis Ababa to get medical treatment. Due to the delay in getting medical treatment he could not get his sight back. Then he would not go back to his province but rather stayed in Addis Ababa. He became and still is a beggar.[69]

Ato Kedir Bargitcho is 72 years old. He was a driver but after he became blind he lost his job and lives in his house without any rehabilitation. According to him he leads a dependent life with his children even unable to walk alone around the house and feels very angry.[70]

Ato G/tsadik Yahoche is 56 years old. He lost his sight due to trachoma when he was 11 years old. After he became blind he came to Addis Ababa and started living with his uncle and he stayed at his uncle's work place and tried to learn identifying different kind of wheelbarrow, just by touching and he learned to repair them. Then he mastered his uncle's work and helped himself and his parents financially. At this time he has his own workshop and house to

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[68] Informant, *Ato* Hairalah Hussen, July 17,2014.
[69] Informant, *Ato* Deguale Dejenu, July 2,2014.
[70] Informant, *Ato* Kedir Bargitcho, Oct. 5, 2013.

live with his family after his marriage.[71] This last example shows that in favorable circumstances, with determination to help themselves, victims of trachoma and glaucoma can became self-supporting and a life not so different from sighted people.

CONCLUSION

Compared to political and economic history social history has in the past been less covered by historians especially medical history. I have tried to cover this neglected area of part of social history. My thesis mainly focuses on medical history of eye diseases (trachoma and glaucoma), their treatment and socio-economic aspects of eye diseases and blindness. The thesis covers the years from 1941 -2013.

The thesis has tried to review different literature to examine the historical progress of the two eye diseases, trachoma and glaucoma. According to the literature central Asia was the area where probably trachoma originated. Trachoma was transmitted rapidly due to the mass movement of people as a result of war. Napoleon's campaigns across Europe and Egypt contributed to the increase in and prevalence of trachoma. It was the chief cause of treatable blindness in some parts of the world like Egypt, Palestine and Northern America. However although trachoma is no longer considered to be a health problem in developed nations, it is a major health problem in developing countries.

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[71]Informant, *Ato* G/tsadik Yahoche, Nov. 24 2014.

WHO with different NGOs is trying to eliminate blinding trachoma through its strategy called SAFE. In Ethiopia the MoH in collaboration with NGOs is trying to implement WHO's SAFE strategy but most of the activities carried out in rural areas and the urban slums of Addis Ababa are still inadequate.

An eye disease, glaucoma, is also part of my study. It has been a blinding scourge from antiquity and many researches have been carried out by different researchers. They found glaucoma is very complicated and it needs a very careful procedure to detect the disease and to treat it. Treatment in Ethiopia is still inadequate for lack of funds and personnel.

Menelik II Hospital and Haile Selassie I Hospital were the only two medical institutions which gave medical service for eye diseases in the 1940s. These two institutions served patients from different parts of the country and neighboring countries. The latter Hospital stopped giving eye medical service in 1975 and the medical equipment was transferred to the Menelik II Hospital. The former has been giving medical treatment till now and it is also one of the specialized referral Hospitals and training centers.

Ethiopians used traditional way of medication to treat different eye diseases using plants, animals and different materials around them. However, most of the traditional healers focus on other eye diseases than glaucoma and trachoma. Treatments were usually not successful. Particularly in the case of glaucoma the traditional healers were totally unable to give successful treatment for their patients. The traditional surgery given for the treatment of

trachoma using *Werento* (forceps) is not also a successful treatment and causes severe pain and re-infection.

After the introduction of modern medicine Ethiopians flocked to different health centers to get treatment for their diseases in general and eye diseases in particular but the facilities were and are too few still.

The social and economic problems of blindness are highlighted in the thesis. Charity was traditional in Orthodox and Muslim areas but brought dependence. Traditional attitudes to blindness could be, and still often are negative. Modern efforts by the government, NGOs and the blind themselves are for better education, rehabilitation, and training and concentrate on developing self-support and self-respect for the blind. But there is a long way to go in achieving these objectives.

GLOSSARY

Allah	Almighty God
Bureaud' Hygiene Publique	Office of Public Health.
Chika	Mud.
Dabo	Bread
Debdabe	Letter.
Dehoch	Poor.
Est	Plant.
Ewuran	Blind people.
Felagioch	seekers
Glaukos	Glaucoma.
Hakim	Doctor.
Hidar	November
Katkachoch	Craftsmen.
Kibra semmai	Silver Nitrate.
Kull	Eye Liner.
Mahiber	Association

Meda Field.

Medhanit Medicine.

Merha Guide.

Metsehafe Book.

Muazzin A person who calls for prayer in Islam.

Mydriatic Dilating Agent

Saraţegna worker

Sefers villages/districts

Shama Ethiopian traditional cloth made of cotton

Sura Article chapters in Holy Quran

Wagagen Dawn

Werento Forceps

Ye Hidar Beshita "Spanish flu" epidemic which affected the whole world 1918-19

Zekat Alms giving

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LIST OF INFORMANTS

No	Name of informant and title	Sex	Age	Date interviewed	REMARK
1.	Ababa G/Kidan (Sister)	F	27	April 8,2014	Staff nurse at Menelik II Hospital since 1990s.
2.	Abate Mulugeta (Dr)	M	42	Sep18, 2014	W.H.O Staff in Ethiopia since 1990s.
3.	Abebe Bejiga (Dr.)	M	53	May 13,2013	One of the senior Ophthalmologist in Menelik II Hospital.
4.	Abebe Molla*(Ato)*	M	36	Oct 9,2014	ENAB inclusive education department officer.
5.	Abebe Tesema (Nurse)	M	50	April 8,2014	Staff nurse at MenelikII Hospital Since1980.
6.	Abera Ambayea (Dr)	M	62	May 24,2014	One of senior Ophthalmologist in Menelik II Hospital and The Trachoma Project.

7.	Abiy Mulugeta (Dr.)	M	50	April 14,2014	Glaucoma specialist at Menelik II Hospital
8.	Admasua Asmare *(W/ro)*	F	72	July 17,2014	Resident of Addis Ababa since1960
9.	Amare Assefa (Ato)	M	70	April 22,2013	He is the Director of Misirach Center and was one of the third batch of blind students of Haile Sellassie I. University.
10.	Asegedech Tefera *(W/ro)*	F	47	July 2,2014	glaucoma sufferer.
11.	Atsebayush Abebe *(W/ro)*	F	39	Sep 16,2014	Manager of Addis Hiwot Rehabilitation center.
12.	Aynalem Birhanu *(W/ro)*	F	36	Sep 15,2014	Blind Teacher at Balcha Abanefso Secondary and Preparatory School.
13.	Bayuh Alemu (Dr.)	M	70	Dec 20,2013	Glaucoma specialist at Menelik II Hospital since 1980s.

14.	Bizualem Yigezu (Sister)	F	30	May 15,2014	Staff nurse at MenelikII Hospital since 1980s..
15.	Bulcha Gutema *(Ato)*	M	82	July 17,2014	Resident of Addis Ababa since 1960s.
16.	Deguale Dejenu *(Ato)*	M	80	July 2,2014	Trachoma sufferer since 1940s.
17.	Dulla Kusseta (Nurse)	M	32	April 8,2014	Staff nurse at Menelik II Hospital Ophthalmology Department since 2010.
18.	Fikirte Tibebu(*W/ro)*	F	26	Sep 15,2014	Blind member of AHCB.
19.	G/tsadik Yahoche (Ato)	M	56	Dec 9 ,2014	Blind person engaged in repairing wheelbarrow.
20.	Gebre Teshome *(Ato)*	M	53	April 22,2013	Public Relation officer in Ethiopian National Association for Blind.
21.	G/tsadik Yahoche *(Ato)*	M	56	NOV 24 2014	Trachoma Sufferer.

22.	Gezzahegn Taddese(*Ato)*	M	42	Sep 7,2014	glaucoma sufferer.
23.	Hyralah Hussen *(Ato)*	M	58	July 17,2014	Resident of Addis Ababa since 1960s.
24.	Jemal Butemo *(Ato)*	M	60	Sep 18,2014	one of the traditional healer in south Ethiopia.
25.	Joseph, Donald. (Mr.)	M	87	July 5,20014	He has knowledge of stories about the carrots in World War II, the propaganda story about carrots improving the vision of night fighters of the Royal Air Force (RAF) pilots. I got this Informant by the help of my advisor. Through Email contact.
26.	Kebede Andarge *(Ato)*	M	78	July 10,2014	Resident of Addis Ababa since 1960s.
27.	Kedir Bargicho *(Ato)*	M	72	Oct 5, 2013	glaucoma sufferer.
28.	Meaza Alem *(W/ro)*	F	24	Sep 16,2014	Member of Addis Hiwot center for Blind.
29.	Melkamu	M	20	Dec 20,2013	Blind student of

	Gebeyehu(*Ato)*				Hawasa University 2012/13.
30.	Messeret Tadesse *(W/ro)*	F	35	Sep 5,2014	Visually Impaired woman engaged in teaching.
31.	Mihret Deesa (Dr)	F	27	April 8,2014	Resident doctor at Menelik II Hospital
32.	Mohammed Hassen *(Ato)*	M	53	July 2,2014	glaucoma sufferer.
33.	Mulu Manaleh (Sister)	F	36	May 15,2014	Staff nurse at Menelik II Hospital since 1980s..
34.	Mulu Zewde (Sister)	F	48	April 8,2014	Staff nurse at Menelik II Hospital since1980.
35.	Nuru Bedru *(Ato)*	M	36	Oct 9,2014	Staff member of ENAB.
36.	Nuru Jemal *(Ato)*	M	35	July 2,2014	Traditional healer in Addis Ababa, He is a university graduate of plant science.
37.	Paulos Quana'a (Dr)	M	70	May 15,2013	One of the senior Ophthalmologist in Menelik II Hospital.
38.	Shemesia Bushra *(W/ro)*	F	80	July 10,2014	Resident of Addis Ababa since 1960s.
39.	Solomon Melaku (Ato)	M	52	July 2,2014	is one of the glaucoma sufferers.

40.	Tariku Bekele *(Ato)*	M	68	Mar 4 2014	He was one of the Braille instructors who worked in the Mennonite Mission.
41.	Tesema Ta'a (Professor)	M	67	OCT 25,2014	Staff of Addis Ababa University Department of History.
42.	Tesfaye Degefa (Ato)	M	56	July 2,2014	Glaucoma sufferer.
43.	Tofik Salah *(Haji)*	M	65	July 17,2014	Resident of Addis Ababa since 1960s.
44.	Tsegayea Bekele *(Ato)*	M	53	July15,2014	Glaucoma sufferer.
45.	Wondu Alemayehu (Dr.)	M	56	Dec 20,2013	Country director of ORBIS International.
46.	Wubelw Adal *(Ato)*	M	82	July 2,2014	Glaucoma sufferer.

Appendix 1

Fig. 1a.
Image of Normal eye

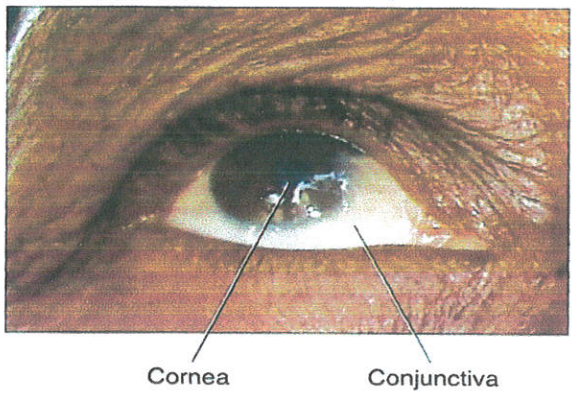


Fig. 1b.
normal eye

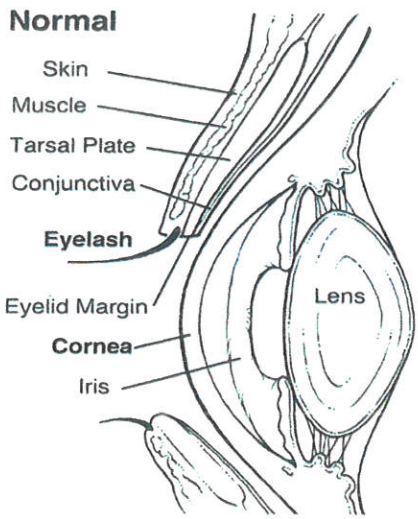
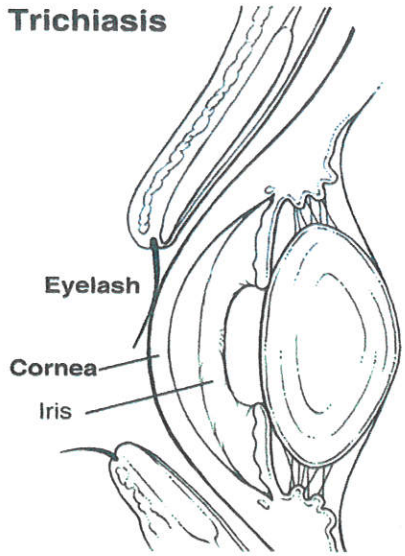


Fig. 1c.
Image of abnormal TT eye

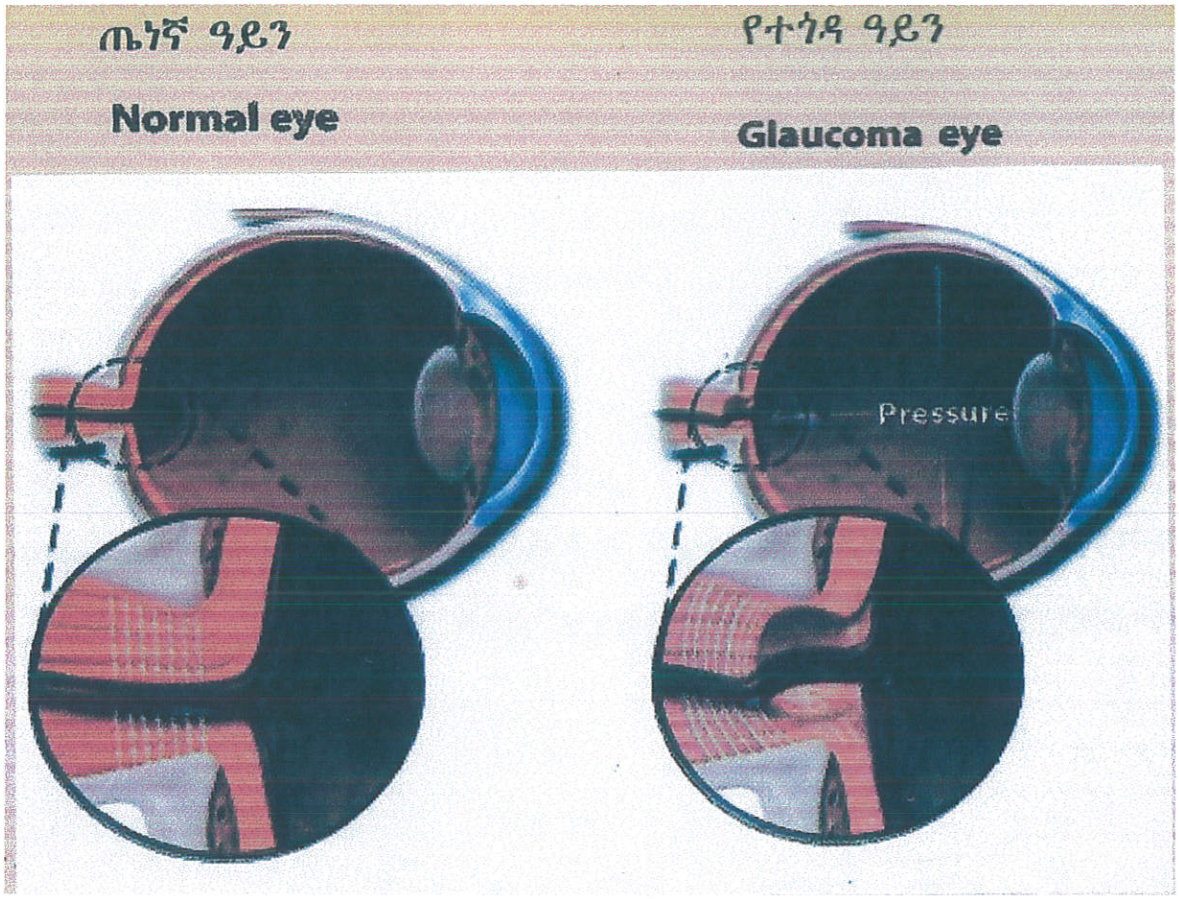


Fig. 1d.
abnormal eye showing entropion and trichiasis



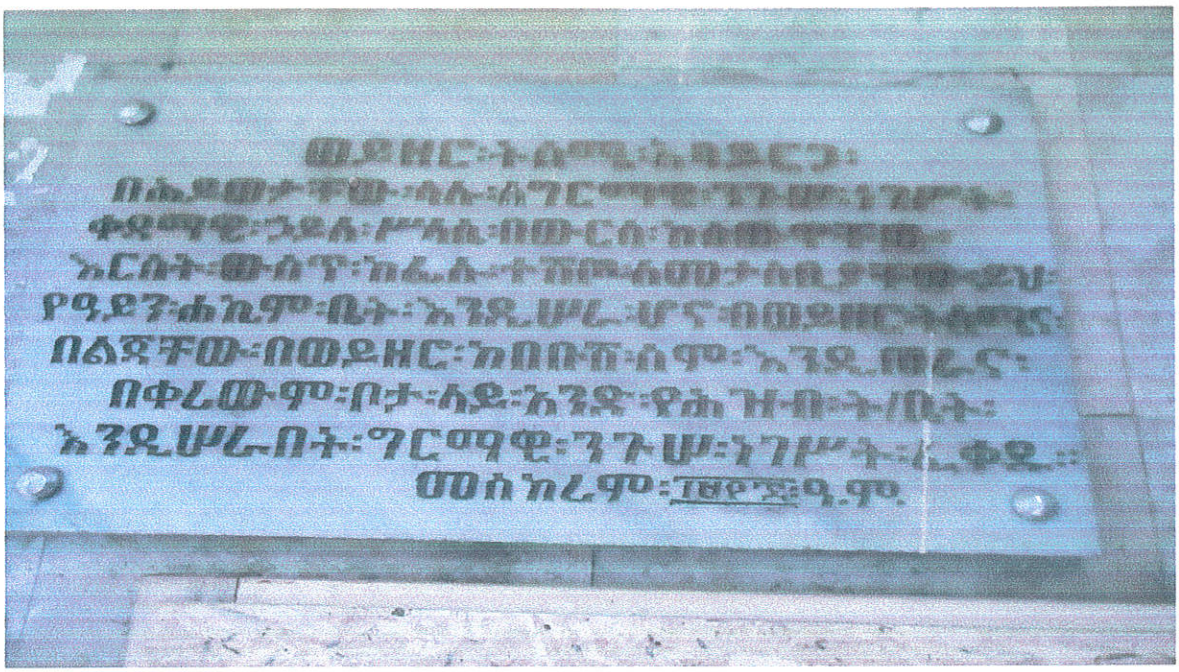
Source: Trachiasis surgery for trachoma Manual World Health Organization (WHO) 2013

Appendix 2



Source: Ophthalmology Society of Ethiopia Brochure 2013
"የዓይንዎን ብርሃን በዓይን ግፊት ህመም አይጡ!"

Appendix 3



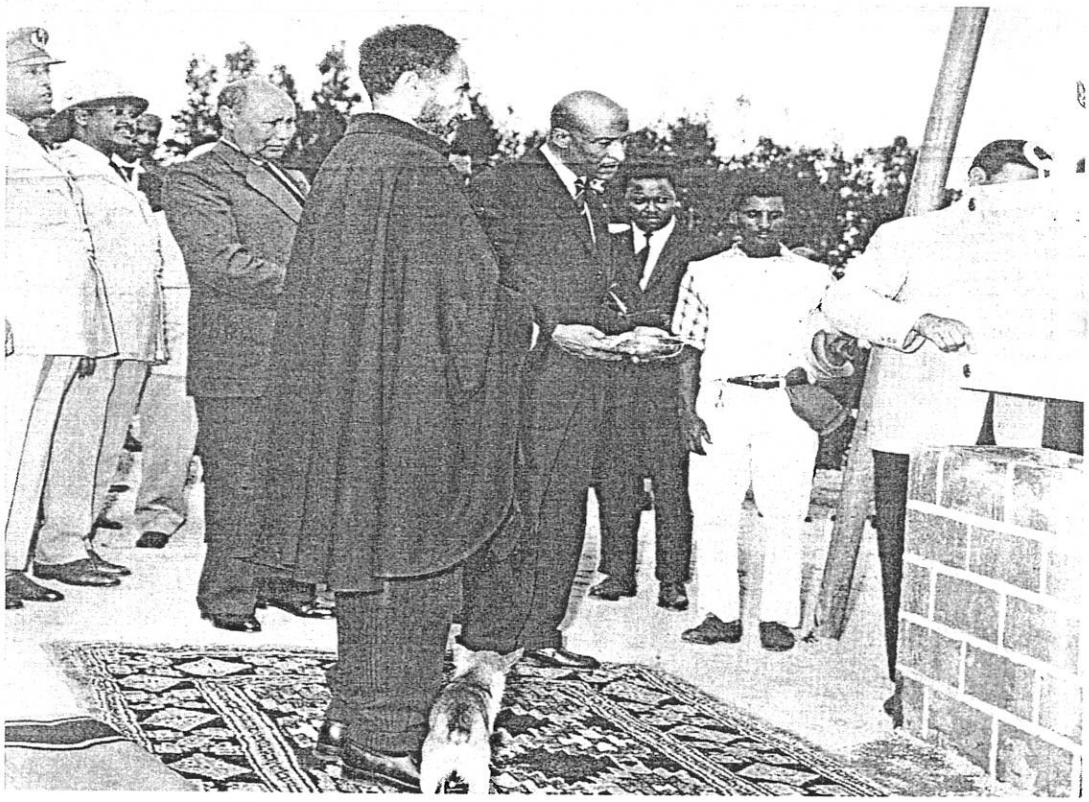
Source. A photo graph taken by myself from Yekatit 12 Memorial Hospital March 20, 2014

Appendix 4



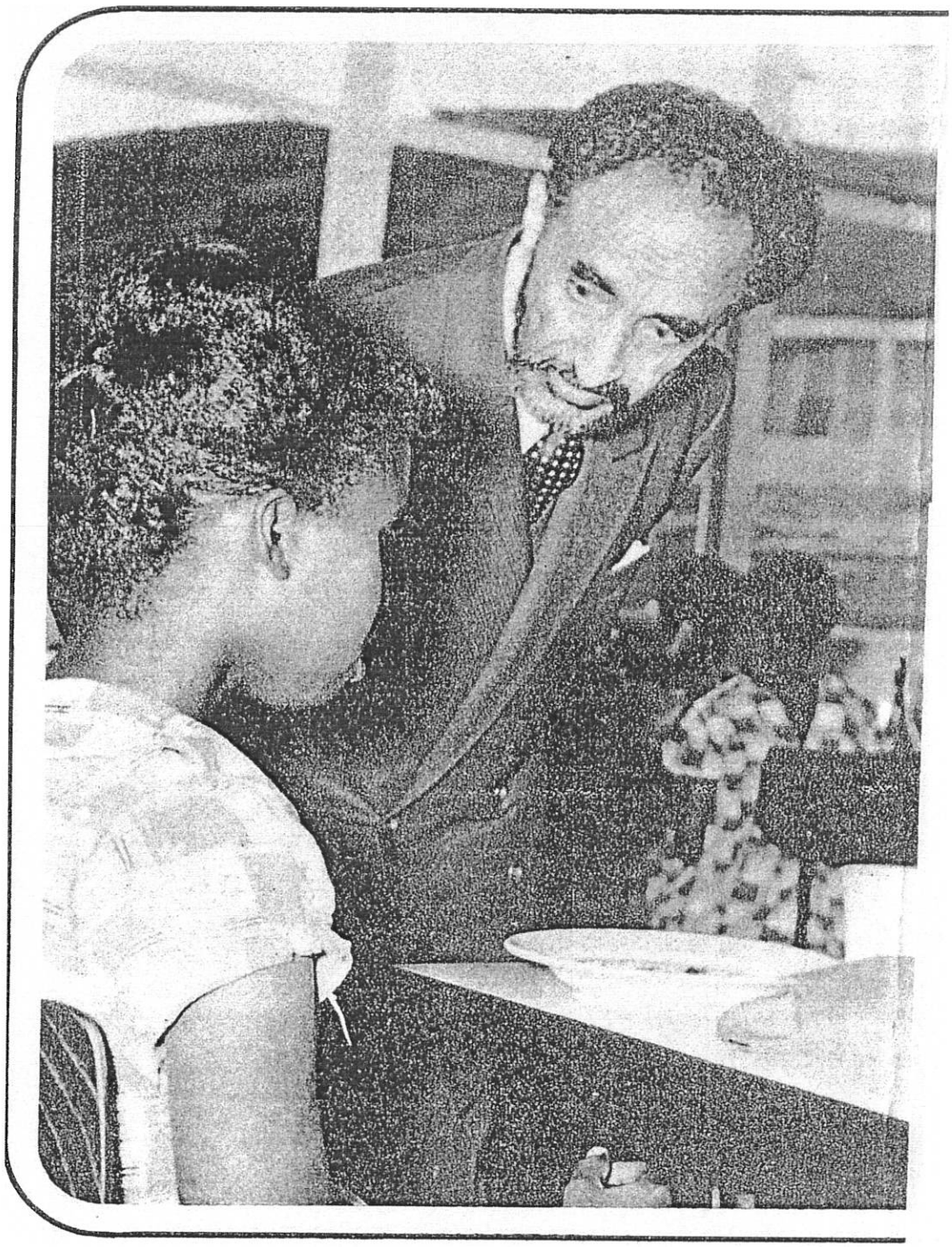
At left, the Emperor participates in the activities of students of a Sch Deaf; and below His Majesty lays the cornerstone of a School for the Blind.

A gauche, l'Empereur participe aux activités des élèves d'une école de sourds Sa Majesté pose la première pierre d'une école pour d'aveugles.



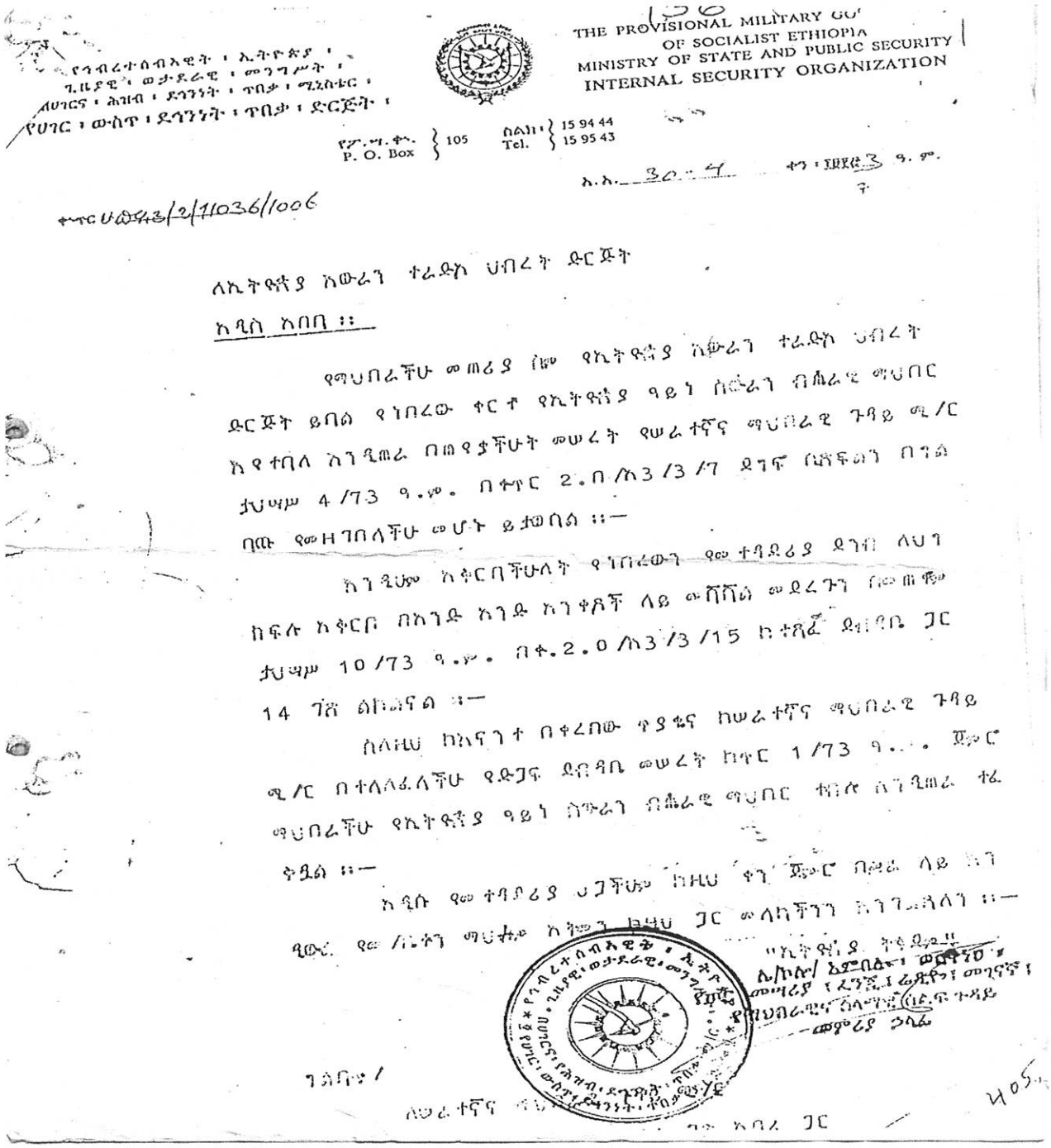
Source: Haile Selassie I University, A volume with no definite title telling story of Haile Selassie's life. Dedicated to the Emperor by HSIU on the occasion of the summit conference of Independent African States held in May 1963 in Addis Ababa.

Appendix 5



Source: Ministry of Information. *Biography on Idea- story of a vision achieved.* (Addis Ababa: Arthistic printers, 1973).

Appendix 6



የጊዜያዊ ወታደራዊ መንግሥት ፣
ለሀገርና ሕዝብ ደኅንነት ጥበቃ ሚኒስቴር ፣
የሀገር ውስጥ ደኅንነት ጥበቃ ድርጅት ፣

THE PROVISIONAL MILITARY GO
OF SOCIALIST ETHIOPIA
MINISTRY OF STATE AND PUBLIC SECURITY
INTERNAL SECURITY ORGANIZATION

ፖ.ሣ.ቁ. P. O. Box 105 ስልክ Tel. 15 94 44 / 15 95 43

ቁጥር ሀወዳ3/2/11036/1006

ለኢትዮጵያ አውራጎ ተራድኦ ህበረት ድርጅት

አዲስ አበባ ::

የማህበራችሁ መጠሪያ ስም የኢትዮጵያ አውራጎ ተራድኦ ህብረት ድርጅት ይበል የነበረው ቀርቶ የኢትዮጵያ ዓይነ ስውራን ብሔራዊ ማህበር እየተባለ እንዲጠራ በጠየቃችሁት መሠረት የሠራተኛና ማህበራዊ ጉዳይ ሚ/ር ታህሣሥ 4/73 ዓ.ም. በቁጥር 2.በ/ስ3/3/7 ደብዳቤ ስለፍቃዱ በጎል በጡ የመዘገበላችሁ መሆኑ ይታወሰል ::—

እንዲሁም አቅርበችሁለት የነበረውን የመተዳደሪያ ደንብ ለህገ ከፍሉ አቅርቦ በአንዱ አንዱ አንቀጾች ላይ ማሻሻል መደረጉን ስለመጠቆሙ ታህሣሥ 10/73 ዓ.ም. በቁ.2.0/ስ3/3/15 ከተጻፈ ደብዳቤ ጋር 14 ገጽ ልኮልናል ::—

ስለዚህ ከእናንተ በቀረበው ጥያቄና ከሠራተኛና ማህበራዊ ጉዳይ ሚ/ር በተለለፈላችሁ የድጋፍ ደብዳቤ መሠረት ከጥር 1/73 ዓ.ም. ጀምሮ ማህበራችሁ የኢትዮጵያ ዓይነ ስውራን ብሔራዊ ማህበር ተብሎ እንዲጠራ ተፈ ቅዷል ::—

አዲሱ የመተዳደሪያ ህጋችሁም ከዚህ ቀን ጀምሮ በሥራ ላይ እን ዲውል የመ/ቤታችን ማህተም አትሞንበትና ጋር መለከችንን እንገልጻለን ::—

የኢትዮጵያ ትግል ...
ሊ/ኮሎኔ/ አምበሉ ወልተንዶ
መሣሪያ ፣ ደንብ ፣ ሬጂስትራ ፣ መዛግብ
የህብረተሰብና ሰላማዊ ህልውና ጥበቃ ጉዳይ
—ሚኒስቴር ጋሻሬ

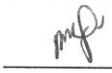
ግልባጭ /
ለሠራተኛና ማ
ጉዳይ ሚ/ር አባላ ጋር

Source: ENAB archive File no.136 Dated 30/04/73

Declaration

I hereby declare that the work now submitted for the degree of MA in History to the department of history, Addis Ababa University is the result of my own original work with all sources used in the research duly Acknowledged.

Name: Mufteh Umer

Signature: 

Date Monday April 6, 2015