# African Perspective on Visual Impairments

## ICT's and Policies: A Personal Experience,

## A Variety of Perspectives and Technological Solution

**A Paper Presented To:**
**UNESCO at the World Summit on the Information Society**
**Workshop on ICT and persons with disabilities**
**Kram Exhibitions Park, Room Zaghouan**
**Tunis, Tunisia, 16 November 2005**

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## Background

Societies in most underdeveloped nations such as those in Africa and Asia look at disabilities as curses or punishment inflicted upon them for sins. They commit such beliefs and attitudes not only demoralize disabled people but also deny them the opportunity to participate in certain socio-economic activities, like in education and the job market. Disabilities are of varied types: physical, mental emotional, etc. The present paper would like to focus on the perspective of visual impairments, ICTs and policies in Africa.

## Introduction

In the world today many people are either partially or totally blind. Two studies and close observations made recently indicate that, in most developing nations, blindness results from a wide range of natural and man-made factors. Almost invariably, the causes for the loss of eye sight in these countries are, in one way or the other found to be linked with the long-persisting state of being underdeveloped.

Consequently, we perceive that the leading natural causes of visual disability in many African countries are the common eye diseases such as trachoma, cataract and river blindness, which are all results of poor economic, environmental and sanitary conditions. Besides these, landmines that are left behind wars and civil conflicts continue to pre-dominate the recurring major man-made agents, responsible for the needlessly multiplying cases of blindness in this part of the world. What is worse in areas with a history of violent conflict, serious eye injuries are common among the children.

The International Eye Foundation (IEF), based in the United States of America, reports that there are currently 45 million blind people in the world. It also states that every five seconds, one person in the world goes blind. A child goes blind every minute inspite of the fact that eighty percent of blindness is avoidable; 20 percent preventable and 60 percent treatable.

Another UN body, the World Health Organization (WHO), estimates that the number of blind or visually impaired people will double from 180 million to 360 million by 2020 unless joint action is taken to prevent it. As to WHO, ninety percent of the world's blind people live in developing countries: nine million in India, seven million in Africa and six million in China.

Ethiopia, Sudan, Liberia, the Democratic Republic of Congo and Rwanda which are only few of the nations in the African continent which have recently experienced some of the worst natural and man-made calamities, have also been found to have sustained a large percentage of blind people. For example, according to the latest census taken by the Ethiopian Central Statistical Office (CSO), well over a million people of the country's entire population of over

seventy-million are totally blind. Moreover, the number of those who are living with varying degrees and forms of partial loss of sight runs into the millions Signifying further the intensity of eye related problems in the country. In general, we can say that the political and ethnic conflict, and other kinds of civil unrest have left a large number of African men and women blind.

## African Perspective and Impact on Visual Impairments

One prominent scholar in Africa recently remarked, associating his distorted argument about blind people with the biblical quote in the book of Matthew (chapter 6, verses 22, 23), that "Loss of sight is a negation of one's value and status in society." He continued arguing that

When, in the full current of his sighted life, blindness comes on anyone, it is the end, the death, of that sighted life. However, it is obvious that it is superficial, if not naive, to think of blindness as a blow to the eyes only or to sight only. It is a destructive blow to the self-image of a man as well: a blow to his very being!

I believe that the scholar just referred to did not understand the theological meaning of what Jesus said in the bible. What Jesus actually said was, "The eye is the lamp of the body. If your eyes are good, your whole body will be full of light. But if your eyes are bad, your whole body will be full of darkness". It is clear, that in this context, Jesus was speaking in metaphors. Physical eyesight is equated with inner vision or understanding. However, this scholar was interpreting Jesus' words literally and perhaps is not aware of another instance where Jesus again uses the metaphor of physical sight to refer to spiritual sight. He explains why he is speaking in parables: "This is why I speak to them in parables: "Though seeing they do not see; though hearing, they do not understand." (Matthew 13:13) However, the mistaken view of the scholar mentioned above is a view widely shared by a substantial number of people in African nations as well as in other parts of the world. In my opinion, this can be taken as a correct view. What is blindness? Is it really death? Is it the end of one's value and status in society? No! It is neither death nor the end of one's values and status in society.

Heavy dependence on others for one's work and survival can be psychologically devastating to anyone, to say the least. True, inter-dependence constitutes a fundamental aspect of human co-existence. Therefore, it is only natural that human beings co-operate among themselves based on the principles of mutual interest & benefit. However, a persistent one-way dependence on others, especially that which results from one's physical circumstances, is different in its nature and impact. It tends to exert profound and multi-dimensional negative effects that are often hard to imagine or reverse.

Among other things, it can lead to the wrong assumption that the dependent or assistance seeker, regardless of his or her potential to sustain oneself, is incapable of doing a certain job on his or her own. In turn, the negative social

attitudes thus formed will have adverse consequences on the psychological state, productivity and relationships of the help recipient.

The fact that the state and feeling of dependence may have such serious implications is evident in the lives of the blind and other disabled groups in African countries. Mostly, Due to the effects of underdevelopment, visually impaired students and professional members of the society continue to rely heavily on volunteers and paid assistants in their education and employment. Such dependence often results in failure of self satisfaction or discontent on the side of for the victims. As a repercussion of this, the community develops wrong perceptions concerning the splendid efforts and achievements of these marginalized members of society.

Blindness is, as it were, a limitation on physical capacity. However, Are blind people more limited than are others? Blindness is a limitation and, indeed, it is so in quite the same way as innumerable other characteristics to which human flesh is heir. I believe that blindness has no more feeble consequence than any of a hundred other characteristics and that the average blind person is able to perform the average job in the average career or calling, provided (and it is a large provision) he/she is given the training or the opportunity to do it.

The societal attitudes about the blind community in Africa too often become the attitudes of the blind individuals themselves. That is to say, The blind tend to see themselves as others see them. Therefore, they are forced to accept the inverted public view of their limitations whereby they become unconsciously persuaded to do more to make those limitations a reality.

While, the foregoing facts call for swift control and prevention measures, they also forcefully draw the attention of people to look for a solution for the plight of those who have needlessly been affected already. At present, blind persons in Africa are not only the victims of their physical circumstances, but also the objects of both deliberate and inadvertent discriminations. In the majority of the cases, blind people enjoy little access, if at all there is some, to education, employment, information and other forms of social participation. They are, therefore, subject to a continuous process of marginalization, which in turn contributes to their state of deepening poverty, further exclusion and vulnerability to complex health hazards and other difficulties.

The current medical facilities can help many blind people in Africa to regain their sight. The process of curing eyes may take short or long time and varying amount of resources depending on the condition of the individual person’s eyes. However, not all blind men or women in Africa can be able to have their sight restored because of the little medical attention given to them by eye doctors. We should know one reality; that is, those who can have restored their sight restored must have a curable eye. No matter what medical facilities are available to have one’s sight, restored one must have renovatable eyes in order to see again.

The point I want to make here is actually not about the ability to regain sight or not. My point here is the perspective and impact environment has upon blindness. Blindness in Africa has too long been viewed as a problem of the individual and not the relationship between an individual and his/her environment.

It is necessary to distinguish between these two fundamental approaches: and for this, we need to define two things: blindness and handicapped-ness.

(A) Blindness is the functional limitation within the individual caused by either physical, or mental or sensory impairment;

(B) Handicap is the loss or limitation of opportunities due to physical and/ or social barriers to take part in the normal life of the community on an equal level with others.

The average blind person can compete in the socio-economy arenas of a nation with the ordinary sighted person, if he/she gets a proper training and opportunity to get into that competition.

We know that the average blind person can do the average job in the average place business, and do it as well as superbly his sighted fellow citizen. In other words, the blind person can be as happy a worker as anybody else contended by leading a sighted life.

What could be practical alternatives for those who do not experience restored sight? I believe that, an appropriate training with Information Communication Technology (ICT) will make a difference in the lives of blind individuals in Africa. Such training here refers to a process aimed at enabling a blind person to reach an optimum physical, mental and/or social functioning level in order to provide that person with the tools to direct his/her own life. Indeed, education can be used as a guiding light to help one to see not only one's environment, but also one's ability they are able to see and observe the other parts of the world.

Let me give a simple example here. Compare, for instance, an uneducated sighted person with educated blind person and see who can have a better understanding or view about his/her environment. Truly, the educated blind person can have this talent. If you hire someone in your community to teach basic health issues, history or basic science ETC, then you find that the sighted person is more limited or handicapped if he is one lacking basic education.

## **The ICT Policy in Capacity-building**

ICT, to a large extent remains out of reach in most African education systems although there is growing interest and commitment for it. The UNESCO's motto: "Education for All" has given "Special Education" a place in the agenda of many governments with some emphasis on providing learners with adequate teaching

and learning materials. What remains is the challenge on how to achieve these targets and commitments.

One problem is the Lack of basic means of communication and electronic infrastructure which remains a greatest obstacle for many African Governments; to implement their plans other challenges include the provision of adequate resourcing for low to medium technology applications such as teaching - learning aids. One has to look at only the limited access to computer and information technology to recognise the gap.

The most intimidating task for African Governments is to find the resources to ensure that teachers have relevant and appropriate teaching tools in the classroom. Currently, the vast majority of their budgets are spent on military hardware and unnecessary luxurious life infrastructure of Officials and state leaders with little left for "ICT" or other learning tools including textbooks in Braille and accessible writing equipments for the visually impaired students.

Despite their prevalence, a large majority of special schools are providing education only for a very small proportion of children with Special Educational Needs. Governments across the world are moving towards inclusive education. However, in the continent of Africa, they rarely accompany ICT policies with adequate resourcing, teacher training or policy changes.

On the other hand, governments in Africa render top priority to poverty and other basic needs. True that they do support and like to improve the ICT context. However, they have found it difficult to deal with the need to "bridge the gap". It has become a complex one requiring organic home grown solutions, particularly in the face of growing food insecurity, conflict and unsafe life pattern on the continent.

One promising case is the Ethiopian Government’s initiative to use ICT at the senior secondary level, which aims to provide over 500 high schools with access to plasma television and educational broadcasting in 2004. However, this new ICT initiative has not included blind students in the policy. Therefore, blind teachers and students have become victims of this new ICT educational policy in Ethiopia. The same is what is happening in the life of blind community in many African countries for last several years! Indeed, many blind students and teachers had to do for full academic years in their school with out textbooks and other reference materials in Brail. The Braille version of their textbooks don’t reach them until after the school years have ended.

The Information Communication Technology (ICT) has now been recognized as the driving force and primary gadget for almost all progressive initiatives that rely on knowledge-based and skills-oriented development activities in all spheres of human endeavor. That is why the issue of accessibility to information (communication technology has been brought to the forefront of human rights. In order for equal access to information communication technology to be a realistic possibility, different groups of people and sections of the society do require to

take part in and to be entitled for varying degrees of adaptive/ assistive technology depending on their special needs and particular circumstances. This, as a matter of fact, is the focus of attention of this paper.

Assistive Technology is a broad term often used to describe both the products and services given to people with special needs. It enhances the vocation, recreation, education, and independence of the user. A commonly quoted definition of Adaptive Technology derives from the American Disability Act, (ADA) of the 1998.

According to this act, the term "assistive technology device" refers to:

> "any item or piece of equipment, or product system, whether acquired Commercially off the shelf or modified, or customized, that is used to increase or maintain, or improve functional capabilities of individuals with disabilities."

Now that we have the definition as a basis for our discussion, the next thing that comes to our mind is the question of who, how, where or when should one require or be entitled for adaptive/assistive technology as well as to what extent and at what cost should it be available. Again, this issue has been effectively addressed by the same Adaptive/Assistive Technology Act when it deals with the concept of "Universality." The act refers to this concept as "Universal Design," and states this:

> "The term *universal design* means a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities. This includes products and services that are directly usable (i.e. without requiring assistive technologies) in addition to those that are made compatible with assistive technologies."

In order to alleviate the plight and disadvantage of visually impaired persons in Ethiopia, it becomes imperative to undertake feasible projects which empower them with information technology to enable them to realize equal opportunities with their sighted counterpart.

The legislation presently enforced in Ethiopia (Proclamation No. 101/94), provides equal opportunities in education and employment as well as giving financial, material and technical support for persons with disability. Understandably, this legislation was intended to contribute towards human resource development and thereby towards the reduction of poverty. Nonetheless, it's necessary to have certain prerequisites in place such as, equal opportunities in education provision of materials and human resources in order that the legislation could achieve its intended results.

Indeed, the process of rapid industrialization has already brought about wonderful opportunities in the field of information communication technology (ICT) for the visually impaired in the developed world. As a result of this, with the aid of especially designed and adapted computers, they almost equally and independently carry out various activities, unhindered by their disabilities. Thus liberated from the dependency that disability causes, such persons now endeavor to fully utilize their potentials thereby achieving success in their day-to-day, personal as well as professional lives. Consequently, the life of the blind in these affluent lands has greatly improved, thanks to the remarkable advances in varied forms of adaptive technology and those committed to design the policy and make them available as well as accessible to the visually impaired.

## The Adaptive Technology Center for the Blind in Ethiopia

Adaptive Technology Centre for the Blind (ATCB-http://www3.sympatico.ca/tamru), is a non-profit resource and Information Technology center in Ethiopia which was established in June 2000. The Center continues to operate with a legal license from the Ministry of Justice of the Federal government. It is registered as a non-business-oriented, non-governmental organization, specializing in the transfer and promotion of adaptive technology for the blind and those with impaired vision.

Since its establishment, ATCB has recruited an increasing number of blind people, who serve as volunteers on its Managing Board and Secretariat. Many of these are graduates from the country's institutions of higher education, employed in different professions and capacities, by government and non-government organizations. Others are blind women with high school education only or, are drop outs from various colleges for the reason of lack of financial support or educational materials. Despite their variations in educational backgrounds and living conditions, the members of ATCB work together with a common vision, to achieve equal accessibility for the blind to information, with the use of adaptive technology.

During the last five-and-a-half years of non-stop effort, the chief founder of ATCB Mr. Tamru E. Belay and his associates have accomplished important tasks such as giving the public awareness and ICT training activities for the blind. On the advocacy front, the Center has taken advantage of the opportunities it got at seminars, workshops and fund-raising events, as well as the various local and international media, to popularize its vision and programs. Hence, the public and government continue to be sensitized as vigorously as possible, concerning the rights and needs of the blind and visually impaired for unhindered access to information, by making use of computers and other technologies. Further activities will continue and successes are felt imminent in the area of awareness creation sustenance of community support, and ultimately in the realization of ATCB's vision and goals.

The advocacy campaign has consistently and effectively been backed up with six successive rounds of computer training for one hundred blind beneficiaries.
The training programs have enabled the participants to gain valuable knowledge and skills in fundamental computer applications. Thus, they can now comfortably work on their office and home PC's on their own, a reality that one would not even have imagined a few years ago. As well as using computer to create office and personal documents, these beneficiaries are already in a position to access information of their choice, by browsing the Internet and corresponding via the email. So not only have their competence and productivity increased, but also have made equal social participation a reality. With this capacity, these people do contribute a lot in giving service to entire society in which they live.

Of course, the activities carried out so far by the intervention of ICT at ATCB, for the blind and visually impaired is a big step forward in Ethiopia/Africa. However, both the promoter and beneficiaries understand that much can still be done to ensure the attainment of their goals and dreams. More trained labor force and facilities will be needed to expand the training service, so that it will be as widely accessible to the target groups as possible.

Equally vital for access to information as ICT training is the launching of a modern embossing service. This component of the adaptive technology project has facilitated the production and transcription of a whole range of Braille literature, needed by students, professionals, and the general blind reader. When this has been accomplished, Braille reading materials and references will no longer be in short supply in educational institutions and public libraries. In addition, the access of Braille users to general and special information will dramatically be enhanced, as they can read and retain knowledge on their own, i.e. without having to seek the assistance of others.

At this point one might ask, What has been achieved after the intervention of ICT at ATCB? With a special focus on the project's relevance to Information Communication Technology/ICT for blind people in Ethiopia, the following issues have been addressed to for the last five years in the history of ATCB.

- Easy access to information about the use of adaptive technology and Information Communication by blind people,

- The liberation of blind people from dependence on the support of voluntary readers and writers,

- Promotion of job security and the creation of employment possibilities for blind beneficiaries,

- Protection of the human rights of blind citizens to access information on Social & economic issues such as HIV/AIDS, reproductive health and family planning,

- Producing & distributing of high quality and up-to-date Braille material textbooks, magazines, brochures, newspapers for the blind community in Ethiopia.

## Recommendation

It is essential that Governmental, non-governmental and other International organizations and Academics understand and appreciate the complexity of the services available at ATCB for persons with visual impairment in Ethiopia.

The adaptive technological policy and solutions in Africa for visually impaired people are appropriate and useful in any country and they tend to dictate how individuals with sight problems fare within their community with the help of adaptive technology.

## Conclusion

The media and the medical community all have always taught the merits of a healthy, active life of the s person at any age. Although the ”Golden years" may bring some physical changes, most people young and old have come to expect that they will live long, healthy and unencumbered lives. Consequently, when we or someone we love is faced with a disabling illness or injury, we are taken by surprise. Having to deal with a disability is not something most people anticipate.

When people realize that a disability, their own or that of a loved one, is going to be permanent, they may express a variety of reactions from shock, to fear, to grief, to anger. There is no right way to respond. People generally react according to what the disability means to them and just how much it is going to affect or change their lives.

After the interventions of ATCB’s pilot project in the blind community, under the motto: "I don't have sight. However, I have a vision!" those who received the opportunity of computer training and computerized Braille services were better able to overcome diverse constraints and inequalities, which they faced at school and work place. In this ways negative social attitudes toward blindness do continue to be evaporating slowly but surely they will.

Hence, this is a clear indication that, the rights of the blind for equal access to information and a greater role in the development process are on the right track with the usage and implementation of the ICT technology for the blind.

It is evident that, successful projects are generally the result of multi-stakeholder initiatives involving governments, NGOs, academia, communities, and donors and funding agencies. In the same manner ATCB’S success been possible by being able to work jointly with Federal Government of Ethiopia, UNESCO/United Nation Education and Scientific Organization, ITU/International

Telecommunication Union and with the Government of Canada for the last five and a half years. The Feature plan of the Center was to organize the regional ATCB with the necessary labor, material and facilities at a regional level that can be exemplary to other African countries and to recruit blind candidates to become trainers of other blind people. These have been achieved thus far.

Those who have been benefited from the training offered by ATCB have accepted and made adjustments in their life goals academic performance and professional career. Many beneficiaries testify to this fact in local and international media releases. Their teachers/employers have also witnessed the reality of how blind people have been able to improve their performance after their training at ATCB and how well they could utilize their potential at school and in the office. It is also clearly demonstrated at workshops and seminars how blind people are able to show their skill on computers to the public. If one has developed a permanent sight injury, one should acknowledge one's limitations, but concentrate on what one can do and how one can adapt to do even more. It is healthy to set realistic goals and approach life as a challenge, not an effort.

*"I don't have sight. However, I have a vision!"*
Mr. Tamru Ewnetu Belay