



Project Proposal for Assisting the Blind from Less Privilege Families

By

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November, 2019

Introduction

Blindness and visual impairment is a serious problem affecting large populations in Nigeria. Statistics show whopping 4.5 million Nigerians are blind or visually impaired. The causes of about 80 percent of blindness are avoidable. Poverty being a cause and effect of blindness, a cycle is created that can be hard for communities to break out of. However, we do believe that by educating them or through vocational training, they will have opportunities as everyone else to excel in life,

This project will assist blind children of school going age out of the street, those from very poor family and in remote villages. Selected blind children will be enroll into schools for the blind while some will be enrolled in vocational training, then after businesses will be set-up for them.

The project is tailored towards BREAKING THE BARRIERS OF BLINDNESS, assisting the blind towards the use of assistive technology to enable them get education and productive which will foster independent living.

Overall Objective

To assist the blind and people with low vision to enroll in school and participate in other skills acquisition trainings

Specific Objectives

1. To identify children with blindness and visual impairment in selected local government areas (LGAs) in Nigeria
2. To find children with treatable blindness and visual impairment and refer them for appropriate treatment
3. To find children with irreversible blindness for enrolment in an inclusive education program in the selected LGAs

Justification

People with low vision include those that cannot have their sight fully corrected by regular eye glasses, medicine or surgery, thus interfering with daily activities such as reading, writing, shopping, watching television, driving or recognizing faces. Low vision can occur as a result of conditions such as macular degeneration, glaucoma, diabetic retinopathy, injury to the eye, cataracts etc. People with low vision especially students from various schools in Nigeria struggle to keep up with their studies and maintain good grades despite their disability and inability to afford expensive eye medications, which could eventually lead to blindness if untreated.

Visually impaired persons have limited educational resources and this limits their career perspectives and quality of life. Between 2014 and 2015 we developed a carefully research in some special schools for visually impaired people from Romania and it was born an innovative concept and a list of technical specifications to develop an educational app for iPad and iPhone: THATS (Touch and Hear Assistive Teaching System).

THATS comprises an encyclopedia of images and audio tracks with information about interest images. By edit module, anyone can contribute with educational materials and by read module; visually impaired people can study topics they are passionate about. By using THATS, visually impaired people will integrate better into educational system, will be better trained and they will have more jobs opportunities. The prototype was developed in 2015 and can be downloaded from THATS website.

Humanity has always-high importance and the blind community is an essential part of the humanity. All the innovations and technologies are developed to make the human life easier and comfortable with each aspect. However, the blind community visionary disability would reduce their chance of using such innovated products. Therefore, blind community considered themselves as a burden for the society and they do not engage in basic routine activities which results in isolating the blind people from the society.

Visual impairment can result at any stage of life. For example, it can result by birth borne blind naturally. The visually impaired community can be specified in three different groups as follows:

Visually impairment people by birth (VIB): Generally, this group of community is less enthusiastic to participate in additional normal life activities. The VIB

community mainly faces severe problem to navigate the surrounding environment easily. As this group is not familiar with the architectural structure of paths, roads, buildings and different kinds of obstacles, it is hard for this group to recognize the intensity of loss caused by any accident with obstacles. They are only aware of obstacles within their building by their counted steps. This is achieved by feeling those obstacles which are touchable and elevated on ground. A comprehensive smart and intelligent system support is required to enable appropriate navigation for this community group.

Visually impairment people caused by accident (VIA): This group of community is highly enthusiastic to participate in normal and additional life activities. The VIA community group can navigate the surrounding environment. Because, this group is familiar with the architectural structure of paths, roads, buildings and different kinds of obstacles. A simple smart and intelligent system support is required to enable appropriate navigation for this group.

Partially visually impairment people (PVI): This community group has very low or weak vision capabilities by birth or caused of any accident. This group of community is also enthusiastic to participate in normal and additional life activities with a smart support. The PVI community group can easily be engaged in the surrounding environment with less guidance. This group is familiar with the architectural structure of paths, roads, buildings and different kinds of obstacles. Therefore, it is easy for this group to recognize the intensity of harm caused by any obstacles in the case of an accident. A simple and smart system support is required to enable appropriate navigation for this group.

This project wish to touch the lives of the above mentioned groups by assisting them to be educated, assistive technology for learning and navigation. Others will be assisted to participate in other skills acquisition training among other things – catering and fast food, fashion and textile, shoe and bag making, bead-making and wire works, cosmetology and paint making, etc.

Strategies

Engagement of Ophthalmic Nurse (ON) that renders secondary eyecare services in the district and 10 community health extension workers (CHEWs) that provide primary eyecare services as trained integrated eyecare workers (IECWs).

Using a community mobilizer (CM) and KIs, a cross-sectional survey will conducted to trace children with visual impairment and blindness in targeted LGAs. The ON working in the LGA will be nominated as the CM for the survey because

they live and works in the LGA. The CHEWs working in the health care centers across the LGA will be used as KIs as they cover all the primary health care centers across the LGA. The CM will mobilize the KIs to search for these children as they have been working with the KIs in eyecare activities.

Survey organization

Over a four-week period, the following steps will be use to find blind/visually impaired children in the LGA: mapping and community sensitization; training of KIs; and case finding and health education. Eye examination will be conducted at an arranged date and venue.

Mapping and community sensitization

Mapping involved selecting and distributing the KIs to cover the wards. Local authorities, including the district heads, will be inform and sensitized on the survey and their support and participation solicited. They will inform their subjects of the project. Then after sensitization of identified groups in the communities, which includes ward heads, political leaders, traditional/religious leaders, other health workers in the LGA, and teachers (Islamic and conventional schools). They will be sensitized on the potential benefits of finding children with visual problems to both the society and their families.

Training of key informants

After selection of the 22 KIs (2 per ward), a date and venue will be fixed for their training. The one-day training will be conducted by the ophthalmologist supported by the CM. The KIs will be assigned to wards based on work station. The content of the training included basic knowledge on common causes of childhood blindness and benefits of treatment (surgical, medical, or optical), benefits of inclusive education and access to other services, and visual acuity (VA) assessment. The vision assessment in pre-primary school children (0–5 years) will be determined mainly by history from the parents. Children in the age group of 6–15 years will undergo VA testing with the Snellen E-chart. KIs will also be trained on the procedure for filling a roster for identified children, and some skills on health education, communication, and team work. A post-training assessment will be conducted to ensure that the KIs will all be proficient in filling the roster for the identified children and the technique of health education and communication. After

the training, a date and venue will fixed for the eye examination by the ophthalmic team at the LGA headquarters.

Subject identification and health communication

Over a 10-day period, town criers (usually working for the ward head) and the KIs spread the information in the villages that a search for children with visual impairment/blindness will ongoing in the communities and solicit the cooperation and support of parents. Members of the communities and parents will also be solicited to bring any child who they believed to have visual problems to the health care center anytime or to the village head on a specified day. The KIs will register all the children brought to the village head/health care centers and offered health education to the parents/guardians. They will record the names, age, sex, and full address of all the children and their guardians.

Both the ophthalmologist and community mobiliser will go on supervisory and monitoring visits to all the wards to discuss progress and problems with the activities of the KIs. They also selected some households on the list to visit to ascertain and verify the correct address.

KIs also informed parents of the day and venue chosen for eye examination by the ophthalmic team. Parents will also assured that they will be reimbursed for expenses they incurred for transport on the day of the examination.

Eye examination

The eye examination will conducted at the Eye Clinic of the Primary Health Center in the LGA capital. The team comprised Ophthalmologist, optometrist, and three ONs. The eye examination will conducted in stages.

Registration and visual acuity assessment

These will be done by the ONs. The name, age, sex, and contact address of each child will recorded into the data collection form, that is, the World Health Organization prevention of blindness (WHO/PBL) record For 1 children (4–15 years), presenting vision will assessed with the Snellen E-chart after explanation and demonstration to the children. The chart will placed at a distance of 6 m and

each eye will be tested separately, while care will be taken to ensure that the other eye will be completely covered.

All findings will be recorded in the data collection form. Correct identification of at least 3 optotypes on consecutive presentations will be considered as having read a line. Eyes that failed counting fingers at 1 m will be tested for hand motion and then perception of light where necessary. Any eye that failed a VA of 6/18 will be tested with a pinhole by the optometrist and then refracted if there will be an improvement with the pinhole. Manual retinoscopy will be performed followed by subjective refraction.

For preverbal children (0–3 years), the vision will be tested by assessing the child's ability to fixate a light source and blindness in such children will be defined as the inability to fixate a light source.

The operational definitions will be based on the WHO/PBL coding instructions for eye examination record⁶ except for definition of blindness and low vision, which will be defined based on recent recommendations⁷ to reflect real-life situations. Blindness will be defined as a presenting VA of less than 3/60 (CF at 3 m) in the better eye, whereas low vision will be defined as a presenting VA of less than 6/18 to 3/60.⁷ A basic eye examination will first be performed by the ophthalmologist and then an evidence of previous eye surgery or features of xerophthalmia will be assessed. The examination will be undertaken with a penlight, direct ophthalmoscope, and a magnifying loupe.

The cause of low vision or blindness will then be determined for each eye and then the principal cause for the child will be assessed. If the pathologies responsible for visual impairment in both the eyes are different, the principal cause will be that which is most easily curable, if not then the most preventable. The necessary action required for each eye will also be determined. A cause of blindness and low vision will be determined for both etiologic (historical) and anatomic groupings using the World Health Organization (WHO) survey definitions.⁶

All the findings will be appropriately recorded into the WHO/PBL eye examination record.⁵

Detailed contact address of the blind children and their guardians will be recorded and appropriate referral will be made for low vision assessment, cataract surgery, and

further evaluation at the base hospital. Arrangements will be made to issue spectacles to those children identified with refractive errors.

Those identified to be irreversibly blind will be enlisted for inclusion in the inclusive education program. Chloramphenicol eye drops and tetracycline eye ointments will be issued to children where appropriate. Children who failed to come for the scheduled eye examination will be contacted at their homes and examined. The data will be analyzed manually using percentages and proportions.

Budget:

Survey-----	\$2,000
Training of (CM), KIs, ONs, et-----	\$2,000
Enrollment in Blind School-----	\$8,000
Enrollment in Vocational Training-----	\$4,000
Logistics-----	\$4,000
Total-----	\$20,000

Conclusion:

Children who are blind need to be identified as early as possible so that they can be examined and treated, referred, or rehabilitated. This is crucial if they are to have the best possible chance of proper childhood development, education, and participation in broader social life.