SETTING UP A COMPUTERIZED CATALOGUE AND DISTRIBUTION DATABASE OF ALTERNATIVE MATERIALS FOR BLIND AND VISUALLY IMPAIRED PERSONS IN NIGERIA:

A PROJECT FUNDED BY THE ULVERSCROFT FOUNDATION AND SUPPORTED BY IFLA LIBRARIES FOR THE BLIND SECTION THROUGH THE FREDERICK THORPE BEST PRACTICE AWARD 2003

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Abstract

The purpose of the project was to set up a computerized catalogue and distribution database of alternative materials for visually impaired people in Nigeria based on the need to open wider the gates of information resources nationally and internationally, to this category of information users, by identifying the location and availability of resources throughout Nigeria, and creating a database for access and retrieval. Another purpose was to create a template for database entry, which could be replicated by other developing countries. A state by state survey of educational institutions, government parastatals, state libraries, and NGOs serving the visually impaired in all the 36 states of Nigeria and the Federal Capital Territory (FCT), was conducted. Three sets of data were gathered.

1. Documentary data on the alternative format materials were gathered, using a template designed to give catalogue information.
2. One questionnaire was designed for institutions on their equipment and services.

    3. One questionnaire was designed for visually impaired persons, on their bio-data, Braille reading/writing proficiency, book preferences, computer literacy and accessibility to the Internet.

A database was designed and created using Microsoft Access. An American Disability Act (ADA) compliant website was designed which has a 'text-only' version for browsing by visually impaired persons. The web address is:

www.alvi-laris.org

From the template, 1,800 entries were made of materials which were either produced within the country or received from domestic or foreign donors. This was uploaded on the Internet. A subject analysis showed wide range of subject coverage from agricultural science to information technology, although fiction materials predominated in most states. Many of the materials were suitable for secondary school

use. Lagos State in the south was far ahead of other states in material provision; Kano state in the north with a larger blind population had very few entries.

Results of field data analysis using Microsoft Excel and Microsoft Access showed that 6 out of the 36 states in Nigeria had no service whatsoever for visually impaired persons, 11 states did not have materials, although they had visually impaired students in schools. Only 19 states had alternative materials in Braille, large print or audio formats. Equipment used for Braille production was mostly manual as only 12 institutions out of the 75 institutions visited, used computer Braille facilities. Services rendered at these institutions were educational for secondary school students and vocational training for independent living for the adult blind and workers. Library services were not apparent even from the state libraries that had materials in alternative formats. Most of the institutions were also secondary schools therefore most of the respondents were secondary school students. There were 452 questionnaire returns in all; fewer than 100 of them were from tertiary institutions. They mostly claimed proficiency in Braille reading and writing. Braille Grade 2 was also the preferred format for Braille reading. Their reading interests were limited to textbooks of which they did not have enough, newspapers, journals and manuals were indicated as other reading preferences. The respondents were interested in reading for educational advancement only; there was not much interest in recreational reading beyond reading newspapers and magazines.

This study has shown that the need to supply the visually impaired students in tertiary institutions with readable material is urgent and critical. The situation whereby each visually impaired student depends on friends to read lecture notes to him/her, or to use slate and stylus to copy notes from books is outdated and should be discouraged. Materials provision in alternative formats should be ensured to all visually impaired persons in educational institutions.

Key words:

Visually impaired persons, Braille, Computerized catalogue, Database,

Website.

Number of words: 600

Executive Summary

The purpose of the project was to set up a computerized catalogue and distribution database of alternative materials for visually impaired people in Nigeria, based on the need to give extended access to them. It was necessary to locate what is already available and to determine users' pressing need areas. Another purpose of this study was to create a template for database entry, which could be replicated by other developing countries. To achieve these purposes, twelve research assistants were recruited who travelled in pairs to the six geopolitical zones of the country.

A state by state survey of educational institutions, government ministries, state libraries and non-governmental organizations (NGOs) serving the visually impaired in all the thirty-six states of Nigeria and the Federal Capital Territory (FCT), was conducted. A template and two questionnaires were designed for data collection and three sets of data were gathered.

1. Documentary data were collected using a template which was designed with the following fields: Author, Title, Subject, User Level, Publisher, Publication year, Subject, Edition, Number of volumes, Language of material, Format, Status (for Braille Grade), Duration (for tapes), Terms of Availability, Price, Organization's Name, Organization's Address, Organization's E-mail Address.
2. Field data were collected on institutions serving the visually impaired and the information such as institution name, date established, the state location, media and materials most requested for, internet accessibility, equipment available, services rendered, users and format or media.
3. Field data were also collected through questionnaire administration to the visually impaired persons at these institutions and the following information was also gathered:
   - Respondents' educational background
   - Respondents' Braille reading and writing proficiency
   - Respondents' library and production centre use
   - Respondents' possession of Brailing or recording equipment
   - Respondents' possession of books and tapes

- o Respondents' computer literacy and internet accessibility
- o Respondents' reading and information needs.

Data Analysis

A database was created for the template and the first questionnaire with Microsoft Access XP. A website was also designed for the database to be accessible on the Internet, which was made ADA compliant. It has a 'text only' version for browsing by visually impaired people. The web address is **<www. alvi-laris.org>.**

Data from the second questionnaire were analyzed with Microsoft Excel.

Findings

The findings are presented in three parts.

Part 1

From the template, 1,800 entries were made of alternative materials which were either produced within the country or received from domestic or foreign donors. Two tables were generated from the template:

- o Distribution of materials by State, Institutions and Format.

This table gave the total number of titles from each institution distributed by state and format. It shows that Lagos state has more materials than any other state and that several states, namely; Kwara, Ogun, Ondo, Osun and Rivers have fewer than twenty titles.

- o Distribution of materials by subject.

This table shows that materials on Fiction and Religion predominate in the collection and that materials on secondary school subjects like Mathematics and English Language are very few indeed.

Part 2

Seventy one (71) institutions were visited and categorised by type into Primary, Secondary and Tertiary institutions, State libraries, Government ministries and NGO's

Two tables were generated from the questionnaire:

- o Distribution of Institutions by state, year established, type, media requested most, material requested most.

This table showed that the institutions serving the visually impaired are spread all over the country, that of the ones we visited, 30 (42%) are secondary schools, 9 (11.3%) are tertiary institutions and state libraries respectively, 7 (9.8%) are special education centres, that 5 (7.0%) are NGOs, and 5(7.0%) are state Ministries of Education and 4 (5.6%) are vocational training centres. The remaining one was a primary school. The table also showed that some of the secondary schools have been long established, that Braille is the most requested for media, and that textbooks are the most requested for materials.

- o Distribution of institutions by brailing/recording equipment, services, format and users.

This table showed that Perkins Brailler was present in most of the institutions, that brailing services was prevalent although this included more of brailing of examination questions and handouts, than producing Braille books, that media offered was mostly Braille although audio format was also offered by many institutions.

Part 3

Seven tables were generated from the questionnaire on the reading and information needs of the visually impaired persons in Nigeria.

- o Distribution of respondents by educational background.

There were 452 respondents, 292 males (64.6%) and 160 females (35.4%). 5 of them had master's degrees and 12 had first degrees, 25 had the National Certificate of Education (NCE) 157 had the first school leaving certificate and 181 respondents had the primary school leaving certificate. There was 1 respondent who had a Grade 2 teacher's certificate and 1 who was in vocational training.

- o Distribution of respondents by Braille reading and writing skills and grade of Braille preferred.

High levels of Braille reading and writing were indicated in all the zones. Grade most preferred was Braille grade 2.

- o Distribution of respondents by personal brailing equipment.

The choices given on the questionnaire for personal brailing equipment were Perkins Brailler, slate and stylus, tape recorder and Stainsby Braille writer. Respondents did not possess much writing material, even the slate and stylus which is much like a biro to the visually impaired.

- o Distribution of respondents by personal collection of books and tapes and the format of Braille preferred.

Respondents did not seem to have much love for books as fewer than 10% of all the respondents had personal books. This same observation was made concerning the possession of personal tapes. Fewer than 10% of the respondents had tapes. The Braille format was overwhelmingly preferred by all respondents.

- o Distribution of respondents by computer literacy and internet access.

This was the question that generated the least response from the respondents perhaps because most of them did not have computer literacy and internet access. However from each zone, there were a few people who responded positively.

- o Distribution of respondents by their reading and information needs.

The book choices suggested to the respondents were fiction, non-fiction, textbooks, magazines, journals, newspapers and manuals. In all the zones the preference for textbooks was overwhelming indicating the thirst for knowledge and the frustration of inadequate provision of books. Preferences for fiction came next, followed by magazines, newspapers, journals and manuals.

Discussion and Recommendations

- o This study has shown that Braille material provision for the visually impaired persons in Nigeria is inadequate. We found fewer than 2,000 titles in all the 71 institutions visited. To say more books need to be brailed is saying the obvious. It is hoped that with Nigeria's formal acceptance of the Unified English Braille Code (UEBC), more books will become more easily available to the visually impaired.

- Institutions serving the visually impaired need to buy embossing machines so that they can Braille more books more quickly.
- The visually impaired need to learn to use the computer and be able to exploit the resources on the Internet. The database just created cannot be used unless one is computer literate. They should therefore be prepared.
- Government should mandate all schools at every level to make provisions of books for visually impaired persons. Many of them do not continue their education beyond secondary school, not because they are retarded but because of the difficulties of getting the right materials to read. The National Library of Nigeria, as the apex library, should ensure that every state library has a collection of materials for the visually impaired persons in our midst.
- The Braille producing agencies and NGOs should get together and determine areas of cooperation and collaboration.

Conclusion

This is a ground breaking study. Its recommendations should be studied and implemented so that the visually impaired in Nigeria can also enjoy the benefits of the information resources now made more freely available by information technology.

Chapter 1 - Background to the Study

1.0 Introduction

Blindness and visual impairments are common disabilities in all countries of the world. To reduce the sense of isolation caused by this disability and bridge the communication gap, reading for the blind has become a prerogative. Reading materials are provided in alternative formats – tactile formats (Braille and Moon), large print, audio (spoken word) and electronic text. There are national libraries for blind and visually impaired persons producing these materials and distributing by proxy to their blind and visually impaired citizens. Examples are the well established centralized national systems of production and dissemination like the Royal National Institute for the Blind (RNIB) Talking Book Service and the National Library for the Blind (NLB) Braille Library. These national services are the principal sources of reading and information for blind and visually impaired people in Britain and America.

Nigeria has a teeming population of about 120 million peoples of various ethnic groups, (National Population Commission, 1991), the major groups being Yoruba, Igbo and Hausa. The official language is English. The population of the blind and visually impaired persons is estimated at more than 100,000, of this figure about 25,000 persons are of school age and less than 10% of these actually attend school, with the remaining 90% confined to homes or roaming the streets as beggars (Agbaje; 2000). For this small number at school (2,500) no provision of reading materials is made to equalize educational opportunities with the sighted (Ayoku; 1996).

The Federal Government of Nigeria's concern for all handicapped persons is limited to the training of teachers of handicapped persons at the primary and secondary levels of education. The Federal College of Education (Special) Oyo was established and mandated to fulfill this purpose. Its students specialize in the education of all categories of people with special needs including the visually impaired. Perhaps due to a comparatively small reading public and the high cost of production, the provision of alternative

formats has devolved mainly on non governmental organizations, which are doing their best but not meeting the required need for information materials for blind and visually impaired persons in Nigeria.

The present study is considered as a first step in finding a solution to the problem of inadequate reading materials in alternative formats. It reports the findings of the study to identify the locations of alternative materials in Nigeria, to analyse the subject content of the materials in the effort to determine adequacy to meet demand, to assess present equipment available and services rendered and to provide information on the reading and information needs of the blind and visually impaired persons in Nigeria.

It is a fact finding study to provide baseline data on the status of alternative format materials in Nigeria. The expected end result is to create a network of collaborating libraries, Braille book producers, NGOs and educational institutions for the blind and visually impaired, in the effort to ensure equitable distribution of reading and information materials.

A definition of blind and visually impaired persons is pertinent at this point. Blind and visually impaired persons in this study refer to persons who have absolutely no sight, they are unable to use standard print, and alternative format materials have to be prepared for them. People with residual vision are also included i.e. they can perceive light, but they still require reading materials in alternative format

1.1 The role of the Nigerian Government and other organizations serving blind and visually impaired persons in Nigeria

This section of the report provides information on the part played by the Federal Government of Nigeria and other organizations on the welfare of blind and visually impaired persons, particularly provision of educational services, and reading and information materials.

Table I shows that there are several organizations including Federal and State governments that serve the interests of blind and visually impaired persons. These are educational institutions, NGOs, professional associations, established libraries for the blind, and Braille production centres. The following

description of their activities gives a broad view of their activities in relation to blind and visually impaired persons in Nigeria.

Table 1 Organizations: Government Agencies, Institutions, NGOs and Associations Serving the Visually Impaired Persons in Nigeria.

Government and its Agencies	Educational Institutions	NGOs	Braille Production Facilities	Libraries for the Visually Impaired	Associations
Federal Ministry of Education	Federal College of Education (Special) Oyo (FCE Spec)	Nigerwives Braille Book Production Centre	Nigerwives Braille Book Production Centre	Nigeria Society for the Blind Inlaks Library	National Braille Council of Nigeria (NABRACON)
Federal Ministry of Sports & Social Development Braille House	Universities Dept. of Special Education at Ibadan, Jos, Kano, Calabar , Uyo	Anglo Nigeria Welfare Association for the Blind (ANWAB), Lagos	Anglo Nigeria Welfare Association for the Blind (ANWAB)	Anglo Nigeria Welfare Association for the Blind (ANWAB)	Association of Libraries for the Visually Impaired (ALVI)
State Ministries of Education	Polytechnics	Nigeria Society for the Blind: Vocational Training Centre, Oshodi.	Nigeria Society for the Blind: Vocational Training Centre, Oshodi.	Abia State Library Board	Nigeria Association of the Blind (NAB)
State Library Board	Special Schools: Primary Secondary	Hope for the Blind	Hope for the Blind	Imo State Library Board	
Vocational Training Centre		Gindiri Material Centre for the visually	Gindiri Material Centre for the visually	Oyo State Library Board	
		Project Chari Love	Pacelli School for the Blind.		
			FCE (Spec.) Oyo		

1.2 Federal Government Involvement: Educational Provision

The National Policy on Education (2004) stated the purpose of the Federal Government on the education of handicapped children thus:

1.   to give concrete meaning to the idea of equalizing educational opportunities for all children, their physical, mental, emotional disabilities notwithstanding; and

2.   to provide adequate education for all handicapped children and adults in order that they may fully play their roles in the development of the nation.

These objectives were actualized through the state ministries which established special schools at primary and secondary school levels for different categories of handicapped children. There are also special units attached to ordinary schools, which cater for specific handicapping conditions.

For the visually impaired in Oyo State for example, there are eight special primary schools, for the blind, two special blind units in two regular schools, and the Oyo State School for the blind, Ogbomoso. Such special schools and special units attached to ordinary schools are found in every state of the country their viability is a reflection of the state's sensitivity to the needs of the visually impaired.

At the tertiary level, the Federal Government established the Federal College of Education (Special) Oyo, to train special teachers for primary and secondary schools. Six schools make up the college, one of which is the School of Special Education, specializing in studies in the education of visually handicapped, the hearing impaired, the mentally retarded, the learning disabled, the physically and health impaired and the gifted and talented. The college has visually impaired persons as academic staff and as teachers in training. There is a Resource room with modern equipment for Braille transcription; there is also a library with few Braille books and tapes.

The government is also responsible for the establishment of the Departments of Special Education in the University of Ibadan (1974) and Jos (1977). Other Departments of Special Education are found at the Bayero University, Kano, and the Universities of Calabar and Uyo. These university departments also train teachers of the handicapped, including the visually impaired. In the universities except Jos, the visually impaired students do not receive Braille production services for their reading materials. They ask their friends to read to them or record the materials themselves. The Departments of Special Education do not have Braille or tape production facilities for visually impaired students.

Visually impaired students are also found at Polytechnics and other Colleges of Education which may be Federal Government or State owned. The aspirations of visually impaired students for education are not equally matched with the provision of reading and information materials from government sources.

1.1.1 Special Schools for the Blind: Primary and Secondary Schools

Although government policy for the education of visually impaired persons is integration, there are some special schools that are exclusively for blind children, especially primary school children. Pacelli School for the Blind, Lagos is one of such schools. It is run by Catholic mission. The school produces books for its own pupils, at the primary level and it follows them with books to secondary schools. Many visually impaired primary school children in other schools do not have readable materials.

At the secondary school level, visually impaired students are usually integrated with sighted students. Thus visually impaired students are in secondary schools all over the country. For most of them, Braille books are rare materials unless they make private arrangements to procure or produce these books for themselves. However the Adeniran Memorial Secondary School in Ogbomoso, Oyo State is a state owned integrated secondary school. There is a shortage of reading materials here too.

1.1.2 Special Education Centres

These are institutions established by state governments to cater for all categories of persons with handicaps, particularly young ones who may have become homeless or abandoned. They are mostly under funded and therefore depend on charity for survival. They provide boarding space and allow educable handicapped children to attend neighbouring schools.

1.1.3 Vocational Training Centres

These institutions are also established by government to give vocational training to the adult so that they can live independent lives. They train people for poultry farming, vegetable farming, basket weaving, tie-dye making, telephone switchboard operating etc. They are more practical than book oriented; therefore their emphasis may not be on acquisition of reading materials. The length of time for training is usually one year after which a person is expected to return home and live a normal life. These centres also rehabilitate persons who become accidentally blind in adult life, who may have been in employment. They give them mobility training and other skills with which to adjust to a new life.

1.1.4 Federal College of Education (Special) Oyo

The College was established in 1977 to produce Nigeria Certificate in Education (NCE) graduates. Its programme among others is to provide training for teachers of students with special needs at the primary and secondary levels of education.

In the 2002/2003 academic session the student population was about 9,000 over 300 of them were students with special needs. Thus the school trains teachers for special needs students, for the whole country some of these trainee teachers are themselves special needs people. The college is divided into Departments which are grouped into schools according to specializations: For example, the School of Special Education is composed of seven departments in the special needs area.

These are visual impairment, hearing impairment, learning disability, mental retardation, rehabilitation education. The institution trains special teachers for the whole country.

1.2 Government Involvement: Library Services:

In the 1960's the Federal Government established a Braille House on Johnson Street, Surulere, Lagos, to produce reading and information materials in Braille. Unfortunately the Braille House has not functioned as expected. Its computer Braille machines purchased at great cost cannot be used because of the purchase of wrong software. Its collection of about 1,500 volumes of brailled books is kept in cartoons and boxes, uncatalogued and beyond the reach of prospective users. The Federal Ministry of Sports and Social Development took a decision in February 2005 to resuscitate this library. A librarian has just been commissioned to re-organize its Braille facility.

1.2.1 State Library Services

State Library Boards come under the auspices of each State Ministry of Education. The State Librarian is a civil servant, designated, the Director of Library Services. The development of state library services depends much on his initiative enthusiasm, and exposure. For example, the lmo State Library Service for the visually impaired was established through the unrelenting efforts of the Director of Library Services (1978-1991). He solicited foreign organizations for Braille books, he argued for a customized building to serve the visually impaired, he ensured that staffing and brailing activities were done. Such efforts need to be replicated in every state library. At the moment, state libraries that offer services to visually impaired persons are Abia, Imo, Oyo States, with Kwara, Ogun and Kano just starting.

These library services, as in Oyo State are just collections of brailled books received through donations from Nigerwives and foreign donors, and placed in a separate section of the library. The books are not being used as they could have been, the visually impaired students have to be cajoled to borrow the books or sometimes the library turns mobile and visits schools to raise awareness on materials available.

1.3 Non-Governmental Organizations (NGOs) – Involvement.

1.3.1 Nigerwives Braille Book Production Centre, Lagos.

This is an organization of foreign women married to Nigerian men. It was set up in 1995; its mission statement is to assist in providing the visually impaired with education and the necessary skills to give them equal opportunities in the work environment and a meaningful quality of life. Its activities include the production of braille textbooks for visually impaired students attending both primary and secondary schools throughout Nigeria. It also includes computer training programmes for visually impaired graduates, the running of mathematics workshops for resource persons, teachers and their visually impaired students in secondary schools throughout the nation, and the promotion of Braille literacy by setting up reading corners in special primary schools and organizing Braille reading competitions among the pupils both within the states and at a national level.

1.3.2 The Anglo Nigerian Welfare Association for the Blind (ANWAB) Lagos

This is another organization operating in Lagos, which is producing Braille by computer and offering library services, which the Director hopes will become the `RNIB of Nigeria'. The centre has produced over 200 books in braille and recorded over 200 titles in different subject areas for adults, children and undergraduate students from the University of Lagos (Basharu: 1998). The centre desires to cooperate with other Braille producing organizations to make more reading materials available to visually impaired persons.

1.3.3 Nigeria Society for the Blind

The Nigeria Society for the Blind, a voluntary organization has a Vocational Training Centre at Oshodi, Lagos, The Inlaks Library, situated on the compound caters for blind, adults and secondary school students. It is one of the places providing reading and information materials in appropriate formats i.e. Braille and talking books for visually impaired persons. From the librarian, it was gathered that the library has a growing collection of Braille books, large print books and recorded books most of which were received on request from foreign donors. The library building includes a recording studio as well as carrels equipped with tape recorders for listening to talking books. There is also a lecture room and a

Braille book production unit for Brailling textbooks required by the students. The number of library users has steadily increased over the years from 534 in 1996 to about 1,500 by October 2004.

1.3.4 Hope for the Blind, Zaria

This organization is situated in Wusasa, Zaria in the North. It produces reading materials for blind students. It also operates a recording studio and has a number of books on tape. At the same venue is the Hope Institute of Development and Research, which organizes workshops and conferences among which are skills training and job placement for persons with disabilities and a National Annual Conference for the blind with different themes each year. This year's theme is Employment: a Right of the Blind.

1.3.5 Gindiri Materials Centre for the Visually Handicapped (GMCVH)

This centre uses the community based rehabilitation approach (CBR) by which it provides a wide range of services to visually impaired persons in the Gindiri, Jos area. CBR programmes include vocational/rehabilitation, educational and medical services to integrate the visually impaired persons of different age groups into normal life. The centre produces Braille books in English and Hausa languages at all educational levels. Books are available at the lending library and are also for sale at subsidized rates. Secondary and tertiary books are also produced on cassette tapes. The Centre encourages visually impaired persons to go to school in their own communities, but it supports them with Braille materials. It also gives Braille lessons to the teachers of such students to facilitate the learning process. It encourages blind persons of all ages to get an education.

1.3.6 Project Charilove, Benin City

This is an NGO that has quietly been in operation since 1990 in Benin City, Edo State. It produces braille books and audio cassettes for secondary school pupils and the adult blind.

1.4 Libraries for the Visually Impaired

It is worth mentioning here that the National Library of Nigeria (NLN) offers no services to visually impaired persons. Standard libraries for the visually impaired have again been established by NGOs – Inlaks Library at the Vocational Training Centre, Oshodi, and the library at ANWAB are show pieces that have customized buildings with large tables and big reading rooms. Their Braille materials are neatly arranged on shelves, they also have good collections of recorded material. Inlaks has a recording studio, and a listening room for tape users and recorders. The State Library Boards at Abia, Imo and Oyo States also offer library services. They are not producers; their books are donations from Nigerwives and foreign donors.

1.5 Associations serving blind and visually impaired persons

1.5.1 The National Braille Council of Nigeria (NABRACON)

The Council facilitates the standard use, teaching and production of Braille to conform to international norms. Its members include standardization bodies like the Nigerian Educational Research and Development Council (NERDC), the West African Examination Council (WAEC), tertiary institutions offering special education, teachers of the blind in primary and secondary schools, governmental and non-governmental agencies and bodies responsible for the education and general welfare of the blind and visually impaired.

The council is affiliated to the International Council on English Braille (ICEB). It advocates for a uniform set of codes for the three major Nigerian languages, Hausa, Igbo and Yoruba. The council is preparing a Braille Primer which, according to the current President of Nabracon, shall be the standard format for the teaching and transcription of Braille texts.

Through NABRACON, Nigeria has formally accepted the Unified Braille Code for use in Nigeria; it organized a workshop in February 2005 to introduce the Unified Braille Code to Braille users, producers and teachers in Nigeria.

1.5.2 The Association of Libraries for the Visually Impaired (ALVI)

This Association was inaugurated in May 1999 as a Section of the Nigerian Library Association (NLA). Its membership is made up of mainly librarians and special educators, ophthalmologists, related professionals and interested community members with a global interest and concern for the welfare of blind and visually impaired persons. Its objectives are to promote and encourage cooperation among the libraries and information centres serving blind persons in Nigeria. In this regard, since inception, the Association has held conferences and seminars every year from 2000-2002 to deliberate on improving library services and materials provision for the blind persons in educational institutions in the country. The activity for 2003 was a Braille embosser repair and maintenance workshop, in 2004, a Braille enhancement skills workshop. These activities have indicated areas of need in services rendered to blind and visually impaired persons.

1.5.3 Nigeria Association of the Blind (NAB)

This is an association of blind and visually impaired persons who are also concerned about the welfare of the blind in Nigeria. Their mission is to ensure that the human and legal rights of visually impaired persons are enforced.

These organizations, institutions, NGOs, associations are working towards the same goals, but separately and independently. It is therefore necessary to have them coordinate their activities for solidarity and gains to the visually impaired in particular, and to Nigerians in general.

1.6 Conceptual Issues

The issues pertinent to the supply of reading and information materials for the education of visually impaired persons in Nigeria are highlighted here under the following headings: materials provision, materials production resource sharing, Braille literacy, Braille competence, and library services.

1.6.1 Materials Provision

Provision of adequate reading and information materials for visually impaired persons in many countries, fall squarely on the shoulders of the national government. However, this is not the situation in Nigeria. The Nigerian government inertia in this area has forced non-governmental organizations, schools and other institutions to take up this responsibility of materials provision in the format readable to the visually impaired persons i.e. Braille, audio, tapes and large print.

Several NGOs, educational institutions and organizations are working very hard to transcribe print to Braille and other formats, in order to meet the demand for reading materials, by the visually impaired in schools but the supply is still inadequate. This is evident from several perspectives.

Many visually impaired students, in secondary schools, for example, do not have books in Braille or any reading materials. Their schools have not provided such formats. The students depend on their friends to dictate teachers' note while they write on slate and stylus or they just simply do without books. In the same vein, visually impaired undergraduates depend on personal resources for the supply of their books. The academic libraries in these institutions are 'blind' to the plight of the visually impaired students.

The major reason proffered for this inadequate supply is the shortage of funds to procure equipment for producing alternative materials. To cite an example from Niger State, Reverend O'Connell, the Principal of Government Secondary School, Minna, said, the Niger state government funded the school for the first two years after it was established in 1992. Thereafter funding ceased. But it is a well known fact that regular funding is required for materials and spare parts for Braille production. This was no longer forthcoming and so materials provision stagnated. Reverend O'Connell said the cost of equipment and materials for seven blind students was greater than that spent on 2,000 sighted students. As if to attest

to this fact, Obi (2003) stated in a paper that the cost of brailling books using the Braille Embosser by Everest; is about $4,000.00, a piece which amounts to over half a million naira. As the Braille Embosser is just one of the many equipment that a Braille production centre needs, it becomes obvious why government has shirked this responsibility. As Adeniran (2000) observed the gigantic financial input needed to establish and run library and information services for the visually impaired for the nation requires collaborative effort, the input of the Federal government, private sector, international organizations and perhaps spirited individuals. Obinyan (2003) opined that a healthy funding strategy should be worked out and sustained.

1.6.2 Materials Production: Braille

Although computerized Braille production is now available, much Braille production in Nigeria is still done manually with the Perkins Brailler (many have broken down and are reported to be unrepairable), slate and stylus (many students cannot even afford this). Computer Braille facilities are found at Nigerwives, ANWAB, Hope for the Blind, Zaria and Gindiri Materials Centre for the Visually Handicapped (GMCVH). These organizations produce brailled books for their patrons and others on request. They also receive consignments of brailled materials from donor agencies from abroad, which they distribute according to demand. All their materials taken together still fall far short of the demand for reading materials at all the educational levels.

1.6.2.1 Materials Production: Talking Books

Using the talking book or audio tape cassette is a welcome alternative for blind adults who may not be able to read or write Braille. The Vocational Training Centre at Oshodi has a purpose built recording studio for recording books on tape. It also has a listening room with cubicles and tape recorders for users of the library.

This library has a good stock of audio tapes, so does ANWAB. The Federal College of Education, Obudu and the College of Education, Katsina Ala have language laboratories which are used as recording and listening studios.

1.6.2.2 The role of the Nigerian Government in Materials Production

The role of the Nigerian government in providing reading materials for the visually impaired leaves much to be desired. Government established a Braille press on Johnson Street, Surulere, Lagos, but it has not functioned for many years. Unfortunately, its brailing equipment cannot be used due to purchase of wrong software. Its consignment of brailed materials have been kept in boxes for a long time, they are just being catalogued.

State Library Boards are also government agencies under the auspices of each State's Ministry of Education. It was earlier mentioned that only a few state library boards have involved themselves in the provision of reading materials for the visually impaired. These are Abia, Imo, Oyo and perhaps Ogun State Library Boards. They do not actually produce materials, but receive donations of books. They are therefore distribution centres.

This description of the provision of educational and library services to the visually impaired in Nigeria leaves much room for improvement. We have on one hand organizations which are committed to alleviating the sufferings of visually impaired persons through provision of adequate reading and information service. On the other hand, we have visually impaired persons who desperately need this service. The logistics of coordinating the activities of all producers of alternative materials and their end users is the concern of this study, with the expectation that the outcome will be an enviable library and information service for the visually impaired in reality.

1.6.3 Resource Sharing

In the library and information science profession, resource sharing is defined as an activity that takes place between two or more libraries to facilitate, promote and enhance their operations and services. The goal is to provide a positive net effect on the library user in terms of access to more materials or services.

In this area of materials production for the visually impaired, resource sharing has become inevitable. Already, several materials producing centres have agreed in principle and are already working out the modalities for the operation of resource sharing. For example Nigerwives, ANWAB, Gindiri, the Vocational Training Centre at Oshodi, Dept. of Special Education, Jos, and the Federal College of Education (Special) Oyo, all have identical Braille translation equipment (Obi, 2003). This implies that they could share master copies and exchange lists of brailled materials and other formats.

To make resource sharing work among braille producers in Nigeria, several authors, have suggested different approaches. Adimorah (2000) called for a National Library and Information Centre to serve as a national coordinating body, involved in the efficient production and distribution of brailled materials, which will also serve as a link with international libraries and organizations. Obinyan (2003) supported Adimorah's national coordinating body, while Iweha (2003) suggested several networks operating at different levels from the grassroots to the states, to regions and zones. He also suggested networks of materials producing institutions, of educational institutions etc

1.6.4 Braille Literacy

It is a matter of necessity rather than a luxury for one to acquire the ability to read and write (Basharu, 2002). It is even more desirable for the blind to learn to read and write braille. This is why braille literacy is an imperative for the blind – it is the means of communication, leading to interactive activities with the sighted world. Unfortunately braille literacy in Nigeria is plagued with several problems. There is a shortage of personnel to teach or produce braille. In a workshop paper Abilu (2005) asserted that many teachers lack expertise in mathematical code and science notation thus making the teaching and learning process problematic for e blind and visually impaired students.

There is also a lack of facilities to teach braille, slates and stylus, the writing frames, Perkins braillers are all in heavy demand but in short supply in the country. The burden of braille literacy has devolved again on the NGOs and Nigerwives in particular tackles this by organizing workshops for teachers of primary school blind children, and also braille reading competitions to encourage the children to learn to read and write braille.

Another issue related to Braille literacy in Nigeria is that Nigeria has given the Unified English Braille Code (UEBC) formal recognition and adoption. According to Obi (2005), two immediate gains are expected from this change over. New code books will be produced and will be locally available to Braille students, teachers and users. Materials will be provided for teachers, producers and users to update themselves, and this will automatically mean an improved level of competence all around. With this adoption of UEBC in Nigeria, it becomes necessary to test and adopt a grade II code for each of the major Nigerian languages. (Akinyemi, 2004). There are three major Nigerian languages – Hausa, Igbo and Yoruba. The proposed Grade II Yoruba code has been undergoing testing in homes and institutions for the blind in the southwest zone, and worth central. The onus is on Braille transcribers to work out Braille codes for each of the two hundred and fifty languages and dialects spoken in Nigeria.

1.6.5.1 Braille Competence

Discussions on Braille competence must come up at discussions of Braille literacy. This is because production of reading materials in Braille presupposes that visually impaired persons can read and write Braille. Unfortunately, at the primary school pupils do not have Braille reading skills because they are not receiving adequate teaching in Braille reading and writing. This could be due to the shortage of competent teachers of Braille. Nigerwives is tackling the problem by organizing braille reading competitions among primary school pupils. Braille reading and writing should also be taught in secondary schools for the blind.

Basharu (2000) and Obi (2000) have on different occasions lamented the poor Braille competence level of graduates of Special Education. (These are sighted graduates of Special Education). This may be explained by the time lapse between graduation and employment, when fresh graduates go for the compulsory National Youth Service Corps (NYSC), a period that may be more than a year by which graduates would have forgotten the details of Braille contraction, and everything else. To improve competence in Braille reading and writing, the Federal College of Education (Special Oyo) and the Universities with departments of special education have been advised to organize refresher courses for their graduate teachers going into schools for the blind and visually impaired, and to intensify the teaching of

Braille to prospective teachers.

1.7 Justification for the Study

This study is necessary because of the gap in our knowledge of the following areas:

1. The reading and information needs of blind and visually impaired persons at different educational levels

2. The reading and information materials produced and distributed by organizations serving them.

3. The collections of institutions serving the blind and visually impaired persons.

Due to increasing awareness and the constitutional provision for the education of the visually impaired, many more visually impaired children are enrolling in schools. Consequently, the demand for books in appropriate formats is increasing while the supply remains inadequate, and this is true at all educational levels from primary to tertiary levels. At the tertiary level in particular, visually impaired students fend for themselves in providing their own reading and information materials (Atinmo 1995).

Another issue related to the above is the lack of options to locate and choose reading and information materials.

This problem was imaginatively described by Wallis (1996) who opined that:,

"Users of a print library have options opened to them in locating reading materials. They can seek the assistance of staff or use the library catalogue or just browse the shelves. By contrast, visually handicapped persons experience a great deal of intervention by staff, relatives and friends in the process of book selection. This may not only inhibit the borrower's choice, but introduces other factors such as a desire not to be a burden on the helper. Consequently the borrower may be less discriminating in book choices. In addition decisions reached by the helper in the choice of books sometimes results in inadvertent "censoring" of the choices offered"

The statement above refers to blind and visually impaired persons in Australia. In Nigeria, this problem has a different connotation altogether. While the struggle to produce enough educational and / or recommended texts in all subjects is still ongoing, recreational reading materials are negligible. Therefore, it is not a question of options or intervention from helpers here. Visually impaired persons desire to read variety of materials like fiction, poetry romantic novel and everything else, but the options are not open or available to them. It is hard enough to produce the required texts for educational purposes there are hardly any funds left for the production of a variety of materials for recreational reading.

These are the reasons for which this study argues that the visually impaired be given adequate reading and information materials, a greater variety in the choice of reading materials, thus granting the chance for an equitable library service to them.

1.8 Objectives of Study

The major objective of this study is to construct an electronic database of alternative materials in Nigeria. Information to be fed into the database includes the locations of the institutions where alternative materials were lodged, and the bibliographic descriptions and services rendered to the blind and visually impaired persons.

The specific objectives of this study are therefore:

1. To design a template with catalogue information for data entry of alternative materials, and thus enumerate the collections by author, title, subject, format etc

2. To analyze the database by subject in order to determine the strengths and weakness of the alternative materials collections.

3. To determine the names, locations of libraries, institutions, NGOs, serving the blind and visually impaired persons in Nigeria.

4. To enumerate the equipment on ground, the services rendered, format available and users served by these institutions.

5. To give a profile of the visually impaired user of these services

1.9 Significance of Study

The major significance of this study is the construction of an electronic database of alternative materials in Nigeria for use by blind and visually impaired persons. This is a novel thing in Nigeria, its benefits are limitless. The significance of study is evident in the benefits that will accrue to all stakeholders. The database will generate information on:

- Number, name and location of institutions/organizations producing materials in alternative formats nationwide.
- Information on their collections, titles produced in what format, for which level of readers, etc.
- Information on location of particular master copies of titles to avoid duplication.
- Information on the strengths and weaknesses of each collection of materials produced with various subject areas.
- Real savings in terms of time, effort and money spent on producing materials
- Cost effectiveness in that books produced to a wider audience of visually impaired persons.
- Production will be better focused rather than the previously uncoordinated activities.
- Standards will be established.
- Each institution/organization will receive the benefit of the experience of others.
- The possibility of success is assured when stakeholders are working towards the same goal of equitable availability and accessibility of materials in alternative formats for visually impaired persons.
- The database of materials in alternative formats when fully developed will be unique and could generate interest both nationally and internationally. This could be accessed as part of global information.

1.10 Benefits to Users

- Knowledge of materials available for their use in addition to materials produced by the Braille book production centres nearest to them
- Greater opportunity to purchase books in Braille and other formats and to develop a reading habit.
- Exposure to a greater variety of reading materials, which could motivate them to read more.
- Computer literacy and Internet accessibility which will give users the chance to use assistive technology to access the internet.

1.10.1 Benefit to the Nigerian Government

This initiative should drive government at the local, state and Federal levels to greater sensitivity to the needs of the visually impaired, and probably encourage them to allocate more funds to schools, institutions and libraries serving visually impaired persons.

Chapter 2 - Methodology

2.1 Introduction

The purpose of the study was to construct an electronic database of alternative materials for blind and visually impaired persons in Nigeria. This section describes the method and procedures employed by the researcher in carrying out the study.

2.1.2 The Research Design

The descriptive research design was used. This method was considered appropriate because the data to be gathered were on existing conditions and prevailing practices. This method is the most commonly used design in educational research.

2.1.3 The Research Area

This refers to the area where the research was conducted. The project covered the educational institutions at the secondary and tertiary levels where visually impaired students are schooling in schooling in Nigeria. These are the universities, both federal and state, polytechnics, colleges of of education, secondary schools, special education centres, Vocational training centres, in all the states of the six geopolitical zones of Nigeria, including the Federal Capital Territory, Abuja.

2.1.4 The Population of study

This refers to the target group the blind and visually impaired persons in educational institutions in Nigeria, that constitute the subjects of this research study. According to Busari (2005), quoting Kahn and Best (1995) population refers to any groups of individuals that have one or more characteristics in common and which are of interest to the researcher. This researcher was interested in the entire population of visually impaired students at every location visited. The population size was therefore four hundred and fifty (452) blind and visually impaired persons from seventy-one (71) institutions visited throughout the country. It is rather unfortunate that studies of handicapped persons in this country are based on estimates. Statistics of total populations for this category of people are non-existent.

2.1.5. Data Collection Instruments

The research instruments used for data gathering for these surveys were threesets of questionnaires.

The first questionnaire was in the form of a template to collect documentary data on the alternative format materials in the institutions visited around the country. It had the following fields:

Author: The individual or corporate body responsible for the intellectual content of the material.

Title: The title of the material was copied from the Braille or large print material. For talking books, titles were taken from the labels of the cassette or the catalog of the hosting institutions.

Subject: This was determined from the call no and /or title of the material.

User level: Primary, secondary or tertiary

Publisher: Publisher information was either given on the material or provided by the hosting institution where possible.

Publication Year: Supplied if found on the publication.

Edition: Supplied if found on the publication

Number of volumes: Braille books usually run into several volumes

Languages: Refers to the language of the material

Format: The alternative format Braille, Large Print or Tapes

Status: This indicates the Braille grade of the material, whether 1 or 1.5 or 2.

Duration: This indicates whether length of time for recorded materials.

Terms of availability: This indicates whether or not the host institution will allow the material to be borrowed or if it is strictly for reference

Price Some materials are for purchase

Organization's

Name This refers to the name of the host institution's name and all other information necessary for communicating with them such as postal address, Website address and E-mail address.

This questionnaire produced documentary data on the alternative format materials.

2.1.5.1. Questionnaire for Institutions (QI)

The second questionnaire was designed for Institutions/Agencies producing and distributing materials in braille. There were eleven questions on the equipment used in brailling, the services rendered, media offered and users served, media requested most, type of material requested most, whether or not the institutions provided Internet access and or any assistive technology. Lastly the name and designation of person filling the questionnaire was requested for.

2.1.5.2. Questionnaire for blind and visually impaired persons (QBVI)

The third questionnaire was on meeting the reading and information needs of blind and visually impaired persons in Nigeria. This questionnaire requested for the biodata of the blind and visually impaired persons, their educational background, braille literacy proficiency, possession of personal brailling equipment, tape recorder, format preferences for reading materials, grade of braille preferred, the reading and information needs, possession of personal collection of books or tapes, whether or not the respondent used libraries or braille production agencies, respondent's computer literacy and Internet accessibility.

The second and third questionnaires provided field data on the institutions producing braille materials and a profile of the blind and visually impaired persons in educational institutions in Nigeria.

6. Test of Validity

Validity refers to the effectiveness of the instruments used to execute the research. To ensure face and content validity, the template and the two questionnaires were given to experts in the Department of Special Education, University of Ibadan, a blind lady from the Federal Ministry of Education, Special Education unit, the Coordinator of the Nigerwives. Braille Production Centre, for comments and corrections. This was done to ensure that the instrument measured what it set out to measure.

2.1.7 Procedure for Data Collection

2.1.7.1 The Research Team

The research assistants were selected, and recruited on the basis of their qualifications of Master in Library Studies graduates (MLS), interest in library service to visually impaired persons, their knowledge and affinity with the research terrain to which they were traveling. There were 11 of these, one was a Bachelor of Library Science (BLS) undergraduate. With the research instruments in hand, the objectives and goals of the research were discussed and explained at several meetings with the assistants. The area of coverage for the assistants were mapped out, the procedure for execution was also explained. Instruction received by assistants included the following:

On arrival at each state, research assistants were required to submit a letter of permission to collect data, to the State Ministry of Education, Special Education unit, and to receive authorization to collect information from schools for the usually in the state without whose authorization no information could be supplied by any school (Appendix 1).

With letter of authorization and information on schools/institutions that had visually impaired students, the research assistants were to visit the State Library Board and also schools/institutions for the visually impaired persons in the state.

The assistants also had letters of introduction for the heads of those institutions soliciting their permission to collect data on their collections, equipment, services and to administer questionnaires to their students where possible.

On being ushered into the "library" or place where the collection was housed, research assistants were to fill the template for each of all the materials available in the institution. They also had to administer the questionnaire to all the visually impaired persons in each institution. This procedure was repeated at each school/institution visited and in each state.

2.1.7.2 The Research Trips

Armed with the data collection instruments, copies of the Template and the two questionnaires, the first batch of assistants traveled in pairs to: North west states and covered –Jigawa, Kano, Kaduna, Katsina, Kebbi, Zamfara and Sokoto States.

North East – Bauchi, Borno, Adamawa Taraba States, Yobe and Gombe.

North Central – Kogi, Kwara, Niger and Benue States, Plateau and Nassarawa.

South East – Anambra, Enugu, Ebonyi, Abia and Imo States

South South – Cross River, Akwa Ibom, Rivers, Bayelsa.

The second batch of assistants traveled to Delta and Edo States in the south south, Yobe and Gombe states in the North East.

Two other assistants covered Southwest states - Ondo, Ogun, Oyo, Osun, Ekiti and Lagos States.

The trips lasted six months from July-December 2004. By December 20, all the assistants had returned home and submitted their reports, the completed questionnaires, templates and other data sheets.

2.1.8 Data Analysis

Information generated from the template and the two questionnaires on Institutions and on the visually impaired persons, was separately analyzed. Microsoft Access XP Software was used to analyse the Template and the institutions questionnaires. Microsoft Excel was used to analyse the questionnaire on the visually impaired persons.

2.1.9 Data Entry/Editing

Using Microsoft Access XP file format, a table for entry input into the database was created, with the fields earlier enumerated on the template. As the assistants submitted their reports, data sheets and questionnaires, data was systematically input into the database. Editing of the entries was also systematically done.

2.1.10 Website Design

A website was designed so that the database could be accessed on the Internet, for wider circulation. The website was designed to be ADA compliant. The American Disabilities Acts (ADA) sets standards for design of interfaces, including web interfaces so that people with disabilities, including visually impaired persons, can use and interact with such interfaces (i.e. without images). The site also has a "text only" version so that visually impaired persons can browse, using non graphical browsers. The web address is: **<www.alvi-laris.org>**

Chapter 3

3.0. Data analysis and interpretation of results.

3.1. Introduction

This Chapter examined the results of data analysis and their interpretation. The results are presented in tabular form derived from the Microsoft Access and the Microsoft Excel software used. The objective of the study was to construct an electronic database of alternative materials enumerated from institutions serving the blind and visually impaired persons in Nigeria. The locations of the materials were recorded, a subject analysis of the database revealed the strengths and weaknesses of the collections in each

subject area. Information gathered from the institutions visited, revealed the types of institutions serving blind and visually impaired persons in this country, the types of media and materials most frequently requested for by the users, and whether or not the institutions had computer systems for Internet access Internet access Additional information from the institutions revealed the equipment they had for for transcribing print to alternative materials, either Braille or tape, the services they rendered and the and the level of users they served. The study also examined the blind and visually impaired persons persons through their educational background, their braille reading/writing proficiency, their reading reading and information needs, their personal possession of brailing equipment, books or tapes, and tapes, and their computer literacy and internet accessibility.

The results obtained from documentary and field data are presented in tabular form in Chapters 3-5.

Table 2: Distribution of alternative materials by state, institutions and format

S/N	State	Total	Name of Institutions	No of Material	Braille	Tapes	Large Print
1	Abia	115	Abia state library board	88	88	0	0
			Special School for the Blind	27	27	0	0
2	Abuja	32	Government Secondary School, Kwali	9	9	0	0
			Loyola Jesuit College	23	23	0	0
3	Bauchi	8	Government Secondary School, Toro	8	8		

4	Benue	16	St. Peters Secondary school Otukpo	16	16	0	0
5	Borno	39	Special Education Centre for Blind, Maduganari, Maiduguri	39	39	0	0
6	Cross River	8	St. Joseph's Training Centre for the Blind, Calabar	8	8	36	0
7	Edo	51	Ihogbe College	51	51	0	0
8	Ekiti	35	Ekiti State Library Board	35	35	0	0
9	Enugu	19	Federal Government College, Enugu	12	12	0	0
			Special School for the Blind	7	7		
10	Imo	132	Holy Ghost Secondary School, Owerri	22	22	0	0
			Imo State Library Board, Owerri	110	3		
11	Kano	3	Kano State Library Board, Kano	3	3	0	0
12	Kogi	31	Christian Mission in Maryland, Kogi State	30	31	0	0
			Federal College of Education, Okene	1			
13	Kwara	8	Kwara State School for the Handicapped, Ilorin	8	8	0	0
14	Lagos	824	Anglo Nigeria Welfare Association for the Blind	363	363	0	0
			Basden Memorial Special Education Centre Lagos	2	2	0	

15	Lagos		Nigeria Educational Research & Development Council/ Nigerwives Braille Book Production Centre	9/28	9/28	0	0
16	Lagos		Vocational training Centre for the Blind, Oshodi	422	241	181	0
17	Ogun	18	Yewa College Ilaro	18	18	0	0
18	Ondo	11	National Library of Nigeria, Ondo	9	8	0	1
			Ondo State Library Board, Akure	1	1	0	
			Owo High School, Owo	1	1	0	
19	Osun	8	Osun State Library Board, Osogbo	8	8	0	0
20	Oyo	304	Federal College of Education (Special) Oyo	79	69	14	13
			Oyo State Library Board, Ibadan.	203	137		66
21	Plateau	111	School for the blind children Gindiri	85	85	0	0
			University of Jos Department of Special Education.	26	26		
22	Rivers	12	Rivers State Library Board	3	3	0	0
			St. Joseph's Training Center for the blind	9	9		
23	Sokoto	38	Abdul-Rashid Adisa Raji (NN)	36	36	0	0
			Sokoto State Library Services	2	2	0	

The table above was generated from the thirty-six states, including the Federal Capital Territory, Abuja. This table covers only the twenty three states and the institutions from which alternative materials were listed. It also gives the number of titles held by each institution. From the Template, a total of one thousand, eight hundred and sixty (1,860) entries were made of alternative format materials, which were either produced within the country or received from domestic or foreign donors. The table shows that there were more titles from Lagos than from any other state and that several states – Bauchi, Benue, Cross River, Enugu, Kano, Ogun, Osun, Rivers, held less than twenty Braille titles each. The Table shows that collections of tapes are in three institutions, at St Joseph's Calabar, the Vocational Training Centre, Oshodi, Lagos and at the Federal College of Education (Special) Oyo. ANWAB also has a tape collection the size is not indicated here. Only the Oyo State Library Board has titles in large print. Some states were not listed here; they have visually impaired students, but no materials. These were Adamawa, Akwa Ibom, Delta, Ebonyi, Jigawa, Katsina, Kebbi, Nassarawa, Taraba. Some of the institutions in these states had only one or two visually impaired students as was the case with Akwa Ibom (2), Jigawa (1), Katsina (2), Kebbi (4), Nassarawa (5). They might therefore be reluctant to spend so much money and effort to get braille books for just a handful of students. Some states had neither school for blind and visually impaired persons nor alternative materials. These are Bayelsa, Delta, Gombe, Yobe, Zamfara. Every state is supposed to establish a state school for children with disabilities

The materials were analyzed by subject and level of users as shown on table 3.

Table 3: Distribution of alternative materials by subject and level of users.

S/N	Subject	No of Materials	Level	
			Tertiary	Secondary
1.	Fiction	507	18	419
2.	Religion	246	1	5
3.	Literature	173	2	76
4.	Science Fiction	77	1	6
5.	English Language	63	1	62
6	Special Education	41	31	10
7	Economics	40	9	31
8	Biography	39	9	30
9	History	34	2	32
10	Social Studies	29	1	28
11.	Mathematics	25	1	24
12.	Life and Living	24	7	7
13.	Integrated Science	23	0	23

14.	Agricultural Science	19	0	19
15.	Biology	19	3	16
16.	Music	18	7	11
17.	Government	17	0	17
18.	Health Education	15	8	7
19.	Detective story	14	0	9
20.	Motherhood	13	2	11
21.	Business Studies	11	0	11
22.	Career Guide	10	5	5
23.	Science	10	1	9
24.	Computer Science	6	6	0
25.	Cookbook	6	0	6

This table was generated from the Template. It gives the subject content of the materials and the level of the students to use them. It shows that the number of titles on Fiction (430) and Religion (246) far exceeds the number in subject areas like mathematics (25) and English language (63), economics (40) and science (10). Materials on computer science are the least; they share same number with cookbooks! The table also shows that most of the materials are for secondary school use, rather than for tertiary level

students. The collection in the subject areas need to be strengthened because the blind and visually impaired students are clamoring for textbooks rather than recreational materials.

Chapter 4

4.0. Data Analysis and Interpretation of Results from

Questionnaire on Institutions

4.1. Introduction

Tables were generated from the questionnaire returns from Institutions. The results are presented here according to zones to make the reporting less cumbersome. The next Table shows the geopolitical divisions of Nigeria, the results for this section are given according to these zonal divisions.

Table 4: Distribution of States by Geopolitical Zones.

Geographical Zones	States
NorthWest	Sokoto, Kebbi, Zamfara, Katsina, Kano, Jigawa, Kaduna
North East	Borno, Yobe, Gombe, Bauchi, Adamawa, Taraba
North Central	Kwara, Kogi, Nasarawa, Plateau, Benue, Niger
South West	Ondo Ogun Osun, Oyo, Ekiti, Lagos
South East	Enugu, Anambra, Ebonyi, Abia, Imo

SouthSouth Edo, Delta, Cross River, Akwa Ibom, Rivers, Bayelsa

Table 5 shows the type and number of institutions from which the data for this section were analyzed.

Table 5: Distribution of Institutions by type

Type of Institution	Number	%
Secondary Schools	33	46.8
Special Education Centres/ Special Schools	10	14.1
State Library Boards	9	12.6
Tertiary institutions i.e. Universities, Polytechnics and Colleges of Education.	7	9.9
Ministries of Education /Vocational Training Centres	6	8.5
NGOs	6	8.5
Total	**71**	**100**

The secondary schools are more than any other category because the blind and visually impaired students are integrated with the sighted at this level, so they are more widespread. In actual fact they may be fewer than ten in any one school. These students are also integrated with their sighted peers at the tertiary level, but their member is greatly reduced at this level. The reason for this may not be unconnected with the dearth of information materials for them.

Table 6 gives a breakdown of the institutions visited zone by zone, by name, type and year established.

Table 6: Distribution of Institutions by Zone, Type and Year Established

Zone	Institutions	Type	Year Established
	Abdul-Rashid Adisa Raji	Secondary School	1984
	Government School for the Blind, Katsina	Secondary School	1975
	Hope for the Blind, Zaria Kaduna	NGO	1976
North West	Kaduna Polytechnic Dept of Special Education	Tertiary	1977
	Kano State Library Board	State Library	1968
	Kebbi State School for the Handicapped, Birnin Kebbi	Secondary School	n.a
	Sokoto State Library Services	State Library	n.a
	Special Education School Tundun Maliki	Secondary School	1977
	Borno Special School for the Blind, Maiduguri	Secondary School	1987
North East	Government Secondary School Toro	Secondary School	1928
	Special Education Centre, Bauchi	Primary / Secondary	1984
	Special Education Centre, Jada	Primary, secondary	1981

	Special Education Centre, Mutun Biu	Primary	1995
	Vocational Training Centre for the Blind, Jalingo	Vocational. Training	1995

Table 6 cont'd: Distribution of Institutions by Zone, Type and Year Established

Zone	Institutions	Type	Year Established
North	Advanced Vocational Training Centre, Bida	Vocational. Training	n.a
Central	Blind Centre, Bida	Vocational. Training	1960
	Christian Mission in Maryland, Kogi State	NGO	n.a
	Tertiary College of Education Gindiri	Tertiary	1990
	Gindiri Materials Centre	NGO	1989
	Government Secondary School, (Blind Unit) Minna	Secondary school	1965
	Kwara State School for the Handicapped, Ilorin	Tertiary	1974
	Mbpuun Grammar School, Zakibian	Secondary school	1978
	Nassarawa State Rehabilitation Centre, Lafia	Primary/secondary school	2003
	School for the Blind Children, Gindiri	Primary school	1953
	St. Peter's Secondary School Vandeikya	Secondary school	n.a
	University of Ilorin, Ilorin	Tertiary	1991

Zone	Institutions	Type	Year Established
	University of Jos, Jos	Tertiary	1978
	Adeniran Memorial Grammar School, Ogbomosho	Secondary school.	1978
	Anglo Nigerian Welfare Association for the Blind	NGO	1996
	Basden Memorial special Education Centre, Lagos	Secondary school	n.a.
	Ekiti State Library Board, Ado Ekiti	State Library	1996
South West	Ekiti State School for the Blind, Ikere Ekiti		
	Federal College of Education (Special) Oyo	State Library	1996
	Federal University of Technology, Akure	Tertiary	1982
	Ministry of Education, Science and Technology, Ogun State	Ministry of Education	1976
	Ministry of Education, Alagbaka, Akure, Ondo State.	Ministry of Education	n.a

Table 6 cont'd Distribution of Institutions by Zone, Type and Year Established

Zone	Institutions	Type	Year Established
South West	Nigeria Educational Research and Development Council, Lagos.	Government Agency	n.a
	Nigerwives Braille Production Centre, Lagos.	NGO	1995

	Ondo State Library Board	State Library	1976
	Ondo State School for the Blind Owo	Secondary school.	1978
	Osun State Library Board	State Library	1991
	Oyo State Library Board, Ibadan.	State Library	1955
	University of Ibadan, Department of Special Education	Tertiary	1974
	Vocational Training Centre for the Blind, Oshodi.	Secondary school	1960
	Abia State Library Board	State Library	n.a
	Bishop Shanahan College, Orlu	Secondary school	1949
	Christ the King College Onitsha	Secondary school	1933
	College of Immaculate conception, Enugu	Secondary school	1942
South	Dennis Memorial Government School, Onitsha	Secondary school	1925
East	Federal Government College Enugu	Secondary school.	1973
	Girls Secondary School, Orlu	Secondary school	1965
	Holy Ghost College, Owerri	Secondary school	1983
	Ministry of Education Braille Resource Centre	Ministry of Education	1980
	Queen of the Rosary College, Onitsha	Primary/Secondary school	1981

	Special Education Centre for the blind, AfaraUkwu	Secondary school.	1981
	Special School for the Blind, Umuahia	Secondary school	1986
	Special School for the Blind, Oji River	Secondary school	1957

Table 6 cont'd: Distribution of Institutions by Zone, Type and Year Established

Zone	Institutions	Type	Year Established
	Idia College Junior School, Iyaro	Secondary school	1994
	Ihogbe College	Secondary school	1980
	Ministry of Education, Benin City	Ministry of Education	1992
	Project Charilove	NGO	1990
South	Rivers State Library Board, Port Harcourt	State Library	n.a.
South	South-South Community Centre, Calabar	Primary /Secondary school	2003
	Special Education Centre, Uyo	Secondary school	1985
	Special School for Handicapped Children	Secondary school	1985
	St. Josephs Centre for the Visually Handicapped; Obudu	Primary/ Secondary school	1972

	St Joseph's Training Centre for the Visually Handicapped Calabar	Vocational Training	1991
	University of Uyo, Uyo.	Tertiary	
FCT Abuja	Government Secondary School Kwali	Secondary School	n.a
	Loyola Jesuit College	Secondary School	n.a

Table 6 gives a state by state breakdown of the institutions visited, their type and date of establishment. It corroborates the information on Table 5.

The questionnaire for institutions also provided information on the equipment available, the services rendered, the media offered and the users served at the institutions visited. This information is provided on Table 7 below.

Table 7: Distribution of Institutions by Equipment Available, Services Rendered, Media Offered and Users Served.

Zone	Equipment Available	Services Rendered	Media Offered	Users
North West	Hand frame Typewriter	Training	Audio	Adult Blind workers

Region	Equipment	Services	Format	Level
	Perkins Brailler	Teaching	Braille	Primary
	Slate & Stylus	Brailling		Secondary
	Writing frame Computer Brailler Personal Computers Radio sets	Educational Services		Tertiary
		Library Services		
		Rehabilitation		
North East	Perkins Brailler	Vocational Training	Braille	Primary
	Tape Recorder	Teaching		Secondary
	Slate & Stylus	Oral Learning		
	Typewriter			
	Abacus			
North Central	Iron Frame	Teaching	Braille	Primary
	Hand frame	Library Services	Audio	Secondary
	Typewriter	Brailling	Large Print	Tertiary
	Perkins Brailler	Rehabilitation		
	Tailor Frame	Supportive Services		
	Thermoform			

Region	Equipment	Services	Format	Beneficiaries
	Computer Brailler			
	Slate & Stylus			
	Abacus			
	Tape Recorder	Teaching	Braille	Primary
	Typewriter	Counselling	Audio	Tertiary
	Perkins Brailler	Rehabilitation		Secondary
	Thermoform machine	Recording and reproduction Consultancy		Adult blind
	Television	Brailling Materials		Workers
South	Slate & Stylus	Training		
West	Tailor's Frame	Library Services		
	Abacus	Policy formulation		
	Smart view CCTV	Vocational Training		
	Braille Embosser	Computer services		
	Scanner			
	Recording/Dubbing machine			

Table 7 cont'd: Distribution of Institutions by Equipment Available, Services Rendered, Media Offered and Users Served.

Zone	Equipment Available	Services Rendered	Media Offered	Users
South East	Perkins Brailler	Library Services		
	Typewriter	Counselling		
	Tape Recorder	Rehabilitation		Primary
	Slate & Stylus	Teaching	Braille	Secondary
	Thermoform	Brailling		Tertiary
		Training		
South South	Typewriter	Brailling		
	Abacus	Material support		
	Slate & stylus	IT Training		Primary
	Perkins Brailler	Teaching	Audio	Secondary
	Tape Recorder		Braille	Tertiary
	Computer Brailler			
	Printer			

4.1. Institutions and Equipment

These Tables show that about thirty institutions have Perkins Brailler. The functionality of the machines was not determined, but many respondents complained about the state of disrepair of their Perkins braillers, where for example, only one out of ten machines was functioning properly. The cost of a fairly used Perkins Brailler in Nigeria is about one hundred and twenty thousand naira (120,000 naira), the equivalent of a whole month's salary for many executive officers and far beyond the reach of many respondents. The slate and stylus, abacus, writing frames were found in every zone, but many respondents didn't possess this writing material. Only five institutions are Brailling by computer. The computer brailler occurred in every zone, except the NorthEast and the South East. With Perkins Braillers and computer braillers, manual and automated braille production is possible in every zone

4.2. Institutions and Services

Table 7 also shows that these institutions offer multifarious services as listed below.

4.2.1 Braille Services

This involves Brailling educational material such as handouts, examination papers and even text books manually or with the computer brailler. The method of Brailling differs as some institutions use Perkins Braillers while others use embossing machines. This affects productivity.

4.2.2. Computer Services

This has two connotations. It may mean the transcription of a textbook with the brailler machine or computer training at cost for some individuals. It may also mean the use of assistive technology as some institutions have the screen reader

4.2.3 Counselling Services

Counselling is done for educational advancement and vocational training in particular. However many other topics necessary for comfortable life and living for the visually impaired are usually discussed.

4.2.4 Educational Services and Teaching

The institutions listed were mainly educational institutions for secondary and tertiary education.

4.2.5 Library Services

The Library services may be variously defined because the institutions offer these services in various ways. There are some institutions that have a place designated as "the Library", with alternative materials books relevant to the needs of the blind and visually impaired persons. There are other institutions with no place designated as "the Library", yet they meet the requests of their clientele through customized services. They produce braille books on request and at the price of the print editions.

4.2.6 Rehabilitation Services

Rehabilitation services are offered to the adult blind i.e. those who acquired blindness in adulthood, who may not be able to learn braille. These services are also given to the adult blind illiterate who wants to be in gainful employment. These services are customized i.e. according to individual needs, to enable him/her to adjust psychologically, educationally, vocationally to a new way of life. They also include mobility training.

4.2.7 Supportive Services

This service was considered worthy of mention because the particular service was initially set up for hearing impaired undergraduates at the University of Ilorin, Kwara State. The unit helps visually impaired undergraduates to locate appropriate reading materials.

4.3 Institutions, media and users

The media offered are mostly braille, though some zones have audiotapes. Large print occurred only in the North central zone. Users were categorized by educational levels into primary, secondary and tertiary levels of education. There were also adult blind users and some workers at the vocational institutions.

Chapter 5

5.0: Data Analysis and Interpretation of Results from the Questionnaire on the reading and information needs of blind and visually impaired persons

5.1: The Blind and Visually Impaired Persons

From the responses to the questionnaire on the reading and information needs of blind and visually impaired persons in Nigeria, there was a total of 452 respondents in all the zones visited., but only 433 (95.1%) of the questionnaire were usable for analysis. There were 277 males (64.4%) and 153 females (35.6%). They were found at every level of the educational cadre, from primary school to postgraduate level This indicates that the blind and visually impaired Nigerians are achievers, their disabilities notwithstanding. They are quite vocal in their requests for adequate reading materials, and rather than complain, several of them have resorted to brailing their materials themselves or appealing to foreign donors for book requests. The questionnaire returns provided insights into issues relating to braille reading for the blind and visually impaired Nigerian. They are presented in the tables in this chapter; the one on their educational background comes first. See Table 8.

Table 8: Distribution of Respondents by Educational Background

Zone	No of Respondents	MA MSc	Dip In Law	BA BSc	NCE	HND	OND	WAEC SSCE	PSLC	VOC TR	GR 2
North West	13		1				2	3	7		
North East	78			1	8		3	5	55	1	
North Central	72			2	3			17	49		
South West	107			8	9	1	1	80	6		
South East	80	3		1	1	4	8	38	18		
South South	74	2		6	9		3	13	41		1
Abuja	6							2	4		

Total	430	5	1	18	30	5	17	160	180	1	1
%	100	1.2	0.2	4.2	6.9	1.2	3.9	37.2	41.8	0.2	0.2

The Table shows that the highest number 180 (41.8%) possessed the primary school leaving certificate (PSLC) They were already in secondary schools.

These were followed by respondents who had the secondary school certificate (SSCE) or the West African Examination Certificate (WAEC). There were also respondents who had a Master degree 5(1.2%) and a first degree 18(4.2%). This indicates that the blind and visually impaired persons could earn higher degrees if given the chance. Right now Nigeria has blind and visually impaired persons in executive positions in different walks of life. A few examples will suffice. Barrister Danlami Basharu, the Director of the Anglo Nigeria Welfare Association for the Blind (ANWAB). Mr. Sam Akinyemi, the President of the National Braille Council of Nigeria (NABRACON) is a technocrat in the Ogun state Ministry of Science and Science and Technology. The University of Ibadan recently awarded a first class honours degree in law to law to a blind student who came top of his class of sighted mates.

Table 8 also shows a sharp decline in number of secondary and tertiary level students. There is no doubt that there is much less tertiary level than secondary level students. It would be a point of research interest to investigate the reasons for this great reduction in number as there is no doubt concerning the aspirations of blind and visually impaired persons for higher education. If they can perform as well as their sighted peers, the onus is on government and all stake holders to create a conducive atmosphere for their success.

Table 9: Distribution of respondents by their Braille Reading and Writing Skills and the Grade of Braille Preferred.

Zone	No of Respondents	Braille Reading	Braille Writing	Grades of Braille Preferred		
				1	1.5	2
North West	13	13	13	6	1	4
North East	78	65	56	16	11	41
North Central	72	56	57	11	4	43
South West	107	97	99	3	1	59
South East	80	70	74	3	1	71
South South	74	67	66	2	1	60
Abuja FCT	6	6	6	1		5
Total	**430**	**374**	**371**	**42**	**19**	**283**
%	**100**	**86.9**	**86.3**	**9.7**	**4.4**	**65.8**

This table shows that 374 (86.9%) could read and 371(86.3%) could write braille proficiently. The table shows that 283 (65.8%) prefer Braille Grade 2. Braille reading and writing are essential skills for acquisition by blind and visually impaired persons.

Table 10: Distribution of Respondents by Personal Possession of Brailling/ Recording Equipment.

Zone	No of Respondents	Perkins Brailler	Slate & Stylus	Tape Recorder	Stainsby Braille Writer	No Response
North West	13	0	1	1	1	10
North East	78	4	2	1	0	71
North Central	72	0	7	2	1	62
South West	107	3	17	16	0	71
South East	80	5	12	9	0	54
South South	74	7	7	5	1	54
Abuja FCT	6	0	6	3	0	0
Total	**430**	**19**	**52**	**36**	**3**	**322**
%	**100%**	**4.4**	**12.1**	**8.4**	**0.7**	**74.8**

The personal Brailling and tape recording equipment that the respondents could possess as listed in the questionnaire were Perkins brailler, slate and stylus, tape recorder and Stainsby braille writer. As many as 322 (74.8%) of the respondents had none of these equipment. The slate and stylus are practically indispensable to blind and visually impaired persons but only a handful of them 52 (12.1) said they possessed slate and stylus. All six respondents from Abuja had slate and stylus.

Table 11: Distribution of Respondents by Library or Braille Production Centre Use.

Zone	No of Respondents	Library use	Braille Production Centre Use	No Response
North West	13	0	2	11
North East	78	19	1	58
North Central	72	39	6	27
South West	107	57	29	21
South East	80	30	26	24
South South	74	19	7	48
Abuja FCT	6	3	2	1
Total	**430**	**167**	**73**	**211**
%	**100%**	**38.8**	**17.1**	**49.5**

The researcher was interested in finding out if the respondents sought help by themselves through using libraries or braille production centres. This Table shows that there are more respondents 211(49.5%) who have not used libraries or braille production centres than those who have. This means in all probability that libraries and braille production centres are not located within reach of the respondents or they are ignorant of their existence. The Table shows that the highest users of libraries 167(38.8%) and braille production facilities 73 (17.1%) are in the Southwest where such facilities exist. We may therefore say

that if the facilities were available, the respondents will use them as indeed some respondents from the North Central zone asserted that they would use libraries if they were available. Many others write to foreign donors for books of their choice. Some tertiary level students confirmed that they buy print books and record on tape. These are commendable; however the materials produced are limited to individual use. As long as these self efforts persist without deliberate intervention from government and other stake holders, so long shall information deficit and paucity of alternative materials for the blind persons remain with us.

Table 12: Distribution of Respondents by Personal Collection of Books, Tapes and the Format Preferred.

Zone	No of Respondents	Personal Collection		Format Preferred			No Response
		Books	Tapes	Braille	Large Print	Tapes	
North West	13	0	2	11	0	0	
North East	78	1	1	66	0	1	
North Central	72	10	1	42	2	11	10
South West	107	8	12	73	4	27	
South East	80	14	12	70	2	11	
South South	74	13	7	69	0	0	
Abuja FCT	6	3	3	4	0	2	
Total	**430**	**49**	**38**	**335**	**8**	**52**	

	%	100	11.3	8.8	77.9	1.9	12.1

A personal collection of books and tapes is an indication of one's interest in reading or one's love for books. For the blind and visually impaired, reading provides an outlet to interact with the sighted world. Thus reading could have a therapeutic effect on them. This Table shows that only 20% of the respondents had personal collections of books and tapes. This might be due to the difficulty in obtaining materials or the high prices of braille production. Braille format is highly preferred to all the other alternative formats.

Table 13: Distribution of Respondents by Computer Literacy and Internet Accessibility.

Zone	No of Respondents	Computer Literacy	Internet Accessibility	No Response
North West	13	6	4	3
North East	78	1	1	75
North Central	72	7	4	64
South West	107	12	3	92
South East	80	1	0	79
South South	74	5	5	64

Abuja FCT	6	2	1	3
Total	**430**	**34**	**18**	**378**
%	**100**	**7.9**	**4.2**	**88.4**

Computer literacy and Internet accessibility are mandatory skills for anyone willing to exploit the resources on the database just created. This section of the result therefore gives a state by state report, albeit within the zones.

In the North West two respondents from Kaduna admitted to having computer literacy and Internet accessibility, at Kebbi all the four respondents had computer literacy, but not Internet accessibility. Respondents from other states in this zone gave negative responses.

In the North East, all the states gave negative responses to these questions except one respondent at Adamawa who had both computer literacy and Internet accessibility. The same negative responses were recorded in all the North Central States except at Kwara. In the South West, a few respondents from Lagos and Osun States had both computer literacy and Internet access while respondents from Ekiti, Ondo and Ogun States had none.

In the South East, only one person from Anambra had computer literacy but no Internet access. In the South South, five respondents from Edo state had both computer literacy and Internet access, those from Cross River admitted to being in training for computer literacy. The remaining states had negative responses.

In Abuja, two people had computer literacy but only one person had Internet access.

Table 14 provides information on the reading and information needs of the respondents

Table 14: Distribution of respondents by their Reading and Information Needs.

Zone	No of Respondents	Fiction	Non Fiction	Text Books	Magazines	Journals	Newspapers	Manuals
North West	13	5	4	10	4	2	3	0
North East	78	22	5	69	45	5	23	0
North Central	72	37	18	58	34	22	19	10
South West	107	14	14	83	21	10	20	8
South East	80	17	12	24	15	4	7	3
South South	74	58	34	73	45	42	38	30
Abuja FCT	6	6	0	6	3	3	2	6
Total	**430**	**159**	**87**	**343**	**167**	**88**	**112**	**57**
%	**100**	**37.0**	**20.2**	**79.7**	**38.8**	**20.4**	**26.0**	**13.2**

Library service should be tailored to meet the needs of end users. This was the rationale for asking questions on the respondents' particular reading and information interests. Respondents were even required to rank order their choices from highly preferred downwards. Unfortunately this section of the the questionnaire was not answered in a uniform manner. While some respondents correctly ranked their ranked their preferences many others merely ticked their choices. This section was therefore analyzed by

analyzed by counting the positive responses without placing them in rank order, but it was easy to decipher the preferences

In the North West, the number of respondents who preferred textbooks doubled that of other categories. In the North East, respondents highly preferred textbooks, magazines also ranked high among their choices. The same situation prevailed in the North Central states, textbooks ranked high, followed by fiction.

In the South West, the choice of textbooks far out numbered that of any other category. In the South East, the choice of textbooks was the highest, while the choices for fiction, non-fiction and magazines were evenly distributed. In the South South, the choice for textbooks and fiction materials were high as in other zones, but the respondents' interests seemed to be evenly distributed among non-fiction, magazine, journals, newspapers and manuals.

Chapter 6

6.0 Discussion of Results, Conclusion and Recommendations

6.1 Introduction

The primary aim of this project was to provide access to a computer-based catalogue of alternative format materials via the Internet for blind and visually impaired persons in Nigeria. An electronic database of alternative materials was therefore created. It contains one thousand, eight hundred and sixty entries of titles (1, 860) in braille, audiotapes and large print materials, located in about thirty-six institutions serving the blind and visually impaired persons around this country. It is accessible at the

website: www.alvi-laris.org. It is not a full text database, but it gives cataloguing information about each material and the institution where it may be found. In this way, it provides the names and addresses of organizations serving the blind and visually impaired people in this country. An opportunity is thus created whereby these organizations may identify themselves as fellow labourers and decide to cooperate in a practical way to promote access to collections beyond their immediate environment. This database will hopefully be updated on a regular basis, and libraries may want to contribute their records of alternative materials as their stocks increase.

6.2 The database and demand for materials

The significant result of this project is that for the first time in Nigeria, a national database of alternative materials has actually been created. There were about 1,860 titles in all, of which 1,749 were books in braille, 231 audiotapes and 80 titles in large print. But these were found in only twenty three states of the thirty-six states in Nigeria. Are the blind and visually impaired persons in the states without materials not receiving reading materials?

When the size of the total collection in the whole country is considered, (the whole collection is less than 2,000 titles), it becomes obvious that there is book famine as far as alternative materials are concerned. In a different context, but with the same meaning, this corroborates Jim Sanders's comment that books made for the blind and visually impaired persons are too few.

"Despite the wonderful efforts of some libraries and publishers, less than 5% of printed materials are available in accessible formats such as braille or audio CD. While many libraries offer talking book collections, or even access technology, their efforts pale in comparison to the same service print reading tax payers receive".

The size of this collection of alternative materials is too small to meet the aspirations of the blind and visually impaired persons in the country. This scarcity of reading materials may be explained by the scarcity of braille production and audio recording facilities. Braille producers are only six in number, and

they are all located at urban centres. Although they use computerized systems to transcribe, they still are not meeting the demand for books and reading materials from the blind and visually impaired persons. This experience is in agreement with the explanation of the World Blind Union (WBU) on the scarcity of braille and talking book facilities in developing countries. The WBU opined that the facilities for the production of braille and talking books in developing countries are scarce and generally restricted to urban areas. Teachers, librarians and other professional staff rarely receive the necessary training and are often poorly paid.

The scarcity of personnel to braille materials may also account for the scarcity of reading materials. All the painstaking work of editing and preparing a text for brailling may be too discouraging to many prospective braillists.

6.3. The database and subject content

The study analyzed the database by subject and found that fiction materials outnumbered every other category of materials. This was followed by books on religion. Textbooks on subject areas such as English Language, mathematics, science, economics, computer science were very few. This fact again reiterates the already stated fact that textbooks and recreational materials produced in Nigeria were in short supply. Fortunately modern technology has the potential to enhance and accelerate the production of books in alternative formats. Sanders again suggested that access to electronic publisher files could result in almost real-time publication of books in an accessible format.

This is the relevance of this databank that it becomes a gateway for the blind and visually impaired not only to access materials in this database, but also other databanks on the Internet. According to the WBU, computerized systems can offer blind people unlimited access to reading materials, and a new world of communications – text readers, synthesized speech, refreshable braille displays and access to databanks. However such systems are costly.

6.4 The database and users

Although the blind and visually impaired persons are not an homogeneous group, there are some characteristics common to the participants in this study This characteristic is the strong desire for textbooks in readable format. The explanation for this is that most of the respondents are still in school at the primary or secondary school level. Although there are some respondents with postgraduate degrees, the level of education is generally low, judging from the number of people who have personal collections of books (11.3%) and tapes (8.8%), or the number of those who neither used libraries nor braille production centers. (49%).

The number of respondents who had neither computer literacy nor internet accessibility was very high (88.4%) Yet, computer literacy and internet accessibility are the prerequisites for persons wishing to use the database just created. From the questionnaire to blind and visually impaired persons, it was gathered that only 7.9% and 4.2% of the respondents had computer literacy and internet accessibility. For the rest of the respondents who are not computer literate, and whose access to readable material is limited because of limited supply, there is need on their part for concerted efforts to acquire computer literacy and internet accessibility. However, many of the blind and visually impaired still require the acquisition of basic Braille literacy prior to acquiring computer literacy.

6.5 Conclusion

This is a ground breaking study that for the first time focuses attention on setting up an electronic database of alternative materials present in Nigeria. The purpose is laudable because it intends to encourage resource sharing amongst producers, libraries, NGOs and other, for wider circulation/distribution/accessibility of materials to all, especially the end users i.e. the blind and visually impaired persons. The study has provided the opportunity to take a critical look at alternative alternative materials in Nigeria, analyse their subject content and level in relation to the reading/information needs of blind and visually impaired persons in Nigeria. Are we producing or receiving the right books for the right readers? The alternative materials available in the country are unevenly distributed, the greater majority being in Lagos, where major production centres and standard

standard libraries for the blind and visually impaired persons are located. Other locations that have much material at Abia, Oyo, Imo are few and far between. An analysis of subject content showed that that fiction and religious materials dominate the collection. Materials on secondary school subjects such such as English Language, mathematics, science produced in the country are insufficient to meet the the needs and aspirations of the blind and visually impaired Nigerian

The institutions providing education for the blind and visually impaired persons were also investigated in terms of the equipment and services rendered to the their clientele. The procurement and use of automated systems for transcribing print to braille for recording materials definitely affect the quality of services rendered. It also relates to our collective reaction to satisfying the information needs of blind and visually impaired persons. The institutions mostly use manual methods of braille book production as only eleven of them had computer braille facilities. Services offered by these institutions are many and varied, including counseling, materials distribution, teaching, rehabilitation and vocational training, mobility training and others.

The study also focused attention on the end users – the blind and visually impaired persons themselves, to give their profile in terms of their educational background, braille reading/writing proficiency, their ownership of personal Brailling or recording gadgets and personal ownership of books and tapes. This was done in an attempt to gather information on their readiness to communicate with the outside world and receive the benefits of interactions with it. The reading and information needs of the blind and visually impaired persons were also examined, the purpose of which was to have empirical evidence for informed decision making on a new approach to meeting their reading and information needs. The users of these services are at three educational levels – primary, secondary and tertiary. Primary level users constitute the majority, followed respectively by secondary and tertiary level users. These users are mostly Braille Grade 2 readers, they do not often visit the libraries or production centres for their reading and information needs, they do not possess personal collections of braille/tape materials, or even the simple equipment for transcribing print to braille. Their computer literacy and internet accessibility is minimal. They need help urgently.

The database has been constructed and placed on a website, the purpose of this is to enable all stakeholders –producers, users, libraries, NGOs, government and the international community – to know the locations of our alternative materials and be able to access them. This should increase the choices of books and tapes available to all concerned and even provide a gateway to disability resources on the Internet

6.6 Recommendations

As a consequence of the findings of this study, the following recommendations are hereby submitted:

- o That a national strategy be developed, aimed at improving, publicizing and promoting the reading and information needs of blind and visually impaired persons. Such a strategy should involve all the organizations serving the blind and visually impaired getting together to determine areas of collaboration and cooperation to avoid duplication of effort.
- o Such a strategy could also involve all these organizations performing certain functions exclusively. For example, rather than producing a book based on individual requests, the libraries for the visually impaired should periodically select standard textbooks for transcription into alternative formats, while producing centres will busy themselves transcribing to these formats and distributing to the users through the libraries. Recreational reading materials should be produced in this way. This will ensure that good books are produced and that everyone will have access to books especially at the tertiary level.
- o Another strategy is to get government involved more aggressively through funding. Government needs to infuse large sums of money into the administration of special education, not only to provide equipment and facilities, but also to provide current reading and information materials for all categories of blind and visually impaired persons. In this regard, the library at Johnson street, Surulere Lagos should be revived to produce books and distribute to visually impaired persons at all educational levels

- Individual organizations should be selected as nodal points for production and distribution of certain kinds of materials. For example, the Federal College (Special) Oyo should be mandated to produce and distribute tertiary level books for the students at that level. The Departments of Special Education in the universities should also be book producers. The State libraries which are already serving the blind and visually impaired persons should expand their services while those who have no service at should initiate such services for the blind and visually impaired. The NGOs should continue to produce books for primary and secondary school level students and ensure that these books are available to all who need them.
- The National Library of Nigeria should be made the coordinating centre for all activities related to the production and distribution of reading and information materials to blind and visually impaired persons. Each alternative material produced should be legally deposited at the National Library, so that there is a current bibliography of alternative materials.
- The National Library should ensure that every state library has a collection of materials for the blind and visually impaired persons in our midst. Each state library should also maintain a register of blind and visually impaired persons in the state, with a profile of their reading needs and an update on their educational and employment status.
- The blind and visually impaired persons need t learn to use the computer and be able to exploit the resources on the Internet. The database just created cannot be used unless one is computer literate.
- There must be ongoing research to sustain this effort. For example, the newly created database needs to be used, updated and maintained regularly. It should incorporate information on every alternative material received or produced from each institution from now on.

Acknowledgement

I want to seize this opportunity to thank all the sponsors of this project. I do appreciate your support in helping me to realize a dream I have nursed for a long time – that of helping the blind and visually impaired through adequate provision of reading materials. You have given substance to that dream and I believe the blind and visually impaired Nigerian will not remain the same because of the outcome of this research.

I thank particularly the Ulverscroft Foundation of Great Britain and the Force Foundation and Rotterdam of Netherlands, for the confidence reposed in me to conduct this research. I wish to register my appreciation to the IFLA/LBS for supporting me through the Frederick Thorpe Best Practice Award 2003.I look forward to your continued support to maintain the database on the website and to provide an action plan that will ensure the implementation of these recommendations.

Thank you all.

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<u>Appendix I</u>

<u>ALVI TEMPLATE: FIELDS</u>

1. CALL/ACCN

2. AUTHOR

3. TITLE

4. SUBJECT

5. USER LEVEL

6. PUBLISHER

7. PUBLICATION YEAR

8. EDITION

9. NUMBER OF VOLUMES

10. NUMBER OF PAGES

11. LANGUAGE

12. STATUS (BRAILLE GRADE 1 OR 2)

13. RECEIVED FROM

14. TALKING BOOKS OR RECORDED MATERIALS

15. LARGE PRINT BOOKS

16. TERMS OF AVAILABILITY

17. PRICE

18. ORGANIZATION'S NAME

19. ORGANIZATION'S ADDRESS

20. ORGANIZATION'S WEBSITE

21. ORGANIZATION'S E-MAIL ADDRESS

Appendix 2

Questionnaire for Institutions/Agencies

Producing and Distributing Alternative Materials

(Mark boxes as appropriate)

Name of Institution/Agency: ....

Physical Address: ....

Postal Address: ....

E-mail: .... Tel: .... Date Established ....

Official with designation:

(a) ....

(b) ....

1. Equipment used: ....

....

2. What services do you provide: ……………………………………………………………

………………………………………………………………………………………………………

3. What media do you offer? Braille print Large Print Audio

4. Who are your users? (Tick, and also circle the box of the two major users)

Primary Secondary Tertiary Postgraduate

Adult blind Workers Libraries

5. Do users have to register? Yes No if Yes is there a fee?

Yes No

If Yes is it renewable Yes No Frequency ………….

6. Which media is requested most? Braille Print Large print

Audio

7. Which type of material is requested most? (Mark two)

Test books Leisure reading Newspapers/magazines

Music Work materials / Manuals

8. Do you have internet access? Yes No

If Yes, who can use it? Staff only Registered users

All users

9. Do you have any other form of assistive technology?

Yes No

If Yes, give details: …………………………………………………………………

……………………………………………………………………………………

If Yes, who can access it? Staff only Registered uses

All users

If necessary, comment further below:

……………………………………………………………………………

……………………………………………………………………………

10. Is there likely to be any change to the above in the next 6 months?

Yes No.

If Yes, give details

....

....

If you would like to give any further related details or comments, please do so on a separate sheet and attach it.

Name of person completing the above:

.... Designation: ....

Date: .... Tel. No: ....

Professor Morayo Atinmo

Appendix 3

Questionnaire on meeting the reading and information needs of blind and visually impaired persons

Please fill this questionnaire as best you can. We are collecting information on the reading needs of visually impaired persons with the aim of producing and distributing demand driven materials for you. Be assured that the information you give will be treated with utmost confidentiality. Thank you very much.

1. Name: (Surname first)

2. Age last birthday

3. Address

Record your correct choice for the following where appropriate by ticking the boxes.

4. Sex: 4. 1. Female 4.2. Male

5. Blindness:

5.1. Cause: (a) Measles (b) Cataract (c) Trachoma

(d) Others (Please specify) ....

5.2. Age at onset of blindness:

(a) Born blind (b) 1-5 years

(c) 6-10 years (d) 11-15 years

(e) 16-20 years (e) 16-20 years

(f) Above 21 years.

6. Educational Background

What is your highest educational qualification?

(a) PSLC (b) SSCE

(c) WAEC (d) NCE

(e) First Degree (f) OND

(g) HND (h) Masters

(i) Ph.D (j) Vocational Training

(k) Any other (Please specify) ....

7. Braille Literacy

7.1. Can you read Braille fluently? Yes or No

7.2. Can you write Braille fluently? Yes or No

8. Equipment:

8.1. Do you have any personal brailling equipment? Yes or No

If yes, indicate the one(s) you have

(a) Stainsby Braille Writer (b) Perkins brailler

(c) Slate and Stylus (d) Other (please specify)

8.2. Do you have a tape recorder? Yes or No

9. Reading materials:

9.1. In what format(s) do you prefer your reading materials?

(a) Braille (b) Large print (c) Recorded materials

9.2. Which grade or Braille do you prefer? 1 or 2.

10. Reading and Information needs.

Mark the three information materials you most need in order of importance: using the numbers 1, 2, 3.

10.1. School textbooks

10.2. Novels (Fictions)

10.3. Non-fiction e.g. Biographies and autobiographies, Travel, Discovery etc.

10.4. Magazines

10.5. Journals (Scholarly articles)

10.6. Newspapers

10.7. Manuals

10.8. Others (please specify)

11. Do you have a personal collection of books? Yes or No. If yes,

11.1. How many titles are in your collection?

11.2. How did you acquire them? Purchase or Gifts

12. Do you have a personal collection of tape? Yes or No

12.1. How do you record those materials?

12.2. Do you buy already recorded materials? Yes or No

13. Library use or use of Braille production agencies.

13.1 Do you use libraries? Mention the names of libraries you have ever used.

13.2. If you have not used libraries, mention the name(s) of Braille producing

Agencies you have ever used.

13.3. Were your needs always met by these agencies? Yes or No

13.4. What do you do when you need something and these agencies cannot supply?

14. Information Technology use

14.1. Are you computer literate? Yes or No

14.2. Can you access the Internet? Yes or No

13.3. Do you use any screen reading software? Yes or No

If yes please specify

Thank you very much for taking time to fill this questionnaire.

Professor Morayo Atinmo