Assistive Technology Country Capacity Assessment

Uganda

Developed by the Ministry of Health, Division Disability and Rehabilitation

With support from Clinton Health Access Initiative (CHAI)

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Developing of the report has been a participatory process, involving extensive review of government and other policy documents and reports including: The Disability Status Report – 2019 and UDHS 2016 and UFDS developed by UBOS and many others.

We look forward to your continued support to make AT a reality for all older persons and persons with disabilities in Uganda

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Director General, Health services

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Photo credit:

Abbreviations and Acronyms

AD	Assistive Devices
AIDS	Acquired Immune Defficiency Syndrome
AMA	Africa Medical Alliance
AT	Assistive Technology
BP	Blood Pressure
BSc	Bachelor of Science
CBOs	Community Based Organisations
CBR	Community Based Rehabilitation
CHAI	Clinton Health Access Initiative
CME	Continuous Medical Education
CMRC	Chieftaincy of Mubende Rehabilitation Centre
COMBRA	Community Based Rehabilitation Alliance
CoRSU	Comprehensive Rehabilitation Services Uganda
CPD	Continuous Professional Development
CRC	Rights of a Child
CRPD	Convention on the Rights of Persons with Disabilities
CSOs	Civil Society Organisations
CWDs	Children with Disabilities
DALYS	Disability-Adjusted Life Years
DANIDA	Danish International Development Agency
DES	Directorate of Educational Standards
DFID	Department for International Development
EARS	Educational Assessment and Resource Services
ENSUL	Enabling Services Uganda Limited
ENT	Ear, Norse and Throat
ESPP	Expanding Social Protection Programme
FBOs	Faith Based Organisations
HESFB	Higher Education Students' Financing Board
HI	Humanity and Inclusion (Handicap International)
HIV	Human Immune Virus
HRH	Human Resources for Health
IBSA	International Blind Sports Federation
ICT	Information, Communication Technology
IT	Information Technology
KASC	Kampala Audiology and Speech Centre
MDAs	Ministries, Departments and Agencies
MGLSD	Ministry of Gender, Labour and Social Development
MIPAA	Madrid International Plan of Action of Ageing
MODVA	Ministry of Defence and Veteran Affairs
MoES	Ministry of Education and Sports
MoH	Ministry of Health
MSC	Master of Science
NCDC	National Curriculum Development Centre

NCDs	Non-Communicable Diseases
NDP	National Development Plan
NGOs	Non-Government Organisations
NGOs	Non-Government Organisations
NITA-U	National Information Technology Authority-Uganda
NPA	National Planning Authority
NUDIPU	National Union of Disabled Persons of Uganda
OPDs	Organisations of persons with Disabilities
OURS	Organized Useful Rehabilitation Services
PFP	Private for Profit
PWDs	Persons with Disabilities
SAGE	Social Assistance Grants for Empowerment
SDGs	Sustainable Development Goals
SDSP	Social Development Sector Plan
STEPS	STEPwise approach to surveillance
UBOS	Uganda Bureau of Statistics
UFDS	Uganda Functional Difficulties Survey
UK	United Kingdom
UKAID	United Kingdom Agency for International Development
UN CRPD	United Nations Convention on the Rights of Persons with Disabilities
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNEB	Uganda National Examinations Board
UNMHCP	Uganda National Minimum Health Care Package
UPC	Uganda Paralympic Committee UNICEF
UPDF	Uganda People's Defence Forces
UREs	Uncorrected Refractive Errors
WHO	World Health Organisation

Executive Summary

Participation of all persons regardless of impairment is a requisite for inclusion. In the bid to promote inclusion therefore, limitations and impediments to functioning and limitation should be continually and adequately addressed through among others provision of Assistive Technology (AT). In Uganda, AT and Assistive Devices are interchangeably used to mean just the same – equipment that support specific users with impairments to undertake activities of daily living and life. The main AT users are: older persons and persons with disabilities. Uganda's Persons with Disabilities Act 2019 uses the word 'assistive devices' to include: wheelchairs, calipers, crutches, white canes, orthopedic appliances, qualified readers; taped texts, audios, visual and pictorial recordings; braille and tactile equipment or materials, large print and other devices that support persons with disabilities to participate effectively in all aspects of life. AT is not just a need that supports persons with disabilities to abate or overcome functional limitations and increase participation but rightly an adornment to the full realization of the fundamental rights and freedoms as enshrined in Chapter Four of the Constitution of the Republic of Uganda 1995.

Over one billion persons globally need AT and it is estimated that by 2050, this number will double (WHO & World Bank, 2011). The Uganda Functional Difficulties Survey (UFDS) – 2017 indicated that, over 62% of persons with disabilities who needed AT did not have such devices. Similarly, according to a recent survey carried out by the Department of Health in Gulu, 83 percent of people who needed assistive devices do not have access to them, and the quality of the devices that exist is often poor. (Rasmus, Kidd, Kett & Oleja, 2019).

The UFDS 2017 report therefore recommends that, measures be put in place to provide assistive devices to persons with disabilities to overcome environmental barriers and enable them to perform their day-to-day activities without difficulty. Similar recommendations have been sounded by the CRPD committee concluding observations on Uganda initial report. In 2018, the government of Uganda held a National Disability Symposium in Kampala to develop Uganda's Commitments to advancing Disability Inclusion. The Commitments were presented in London during the Global Disability Summit that took place on 24th July, 2019. The summit opened discussions and Countries committed to implement actions around the four summit themes of: tackling stigma and discrimination, inclusion in education, routes to economic empowerment and harnessing technology and innovation. It should be noted that the summit was not an absolute solution to addressing all the disability inclusion concerns but rather made specific towards key issues that were of concern to persons with disabilities at the time. It is the fourth commitment that resonates with the AT agenda. However, during the Uganda National Annual Disability Symposium held on 28th November 2019, the Ministry of Gender, Labour and Social Development (MGLSD) acknowledged that, government's performance on the fourth commitment: harnessing technology and innovation was dismally poor although no specific actions were suggested to improve it.

Purpose

The AT capacity assessment report for Uganda aims at understanding and scoping the extent of access and utilization of AT whilst looking at the contributing and/or impeding factors for such access and utilization. The report provides baseline information that addresses the information needs for the spur of Agenda AT2030 with a number of stakeholders – both the state and non-state actors. Through the grey and published literature, interviews and databases, the report explores the current landscape whilst identifying enablers

and limitations at every stage and, makes recommendations for improving access and utilization of quality AT.

The AT Capacity assessment activity aimed at:
1. Understanding AT users (persons with disabilities and older persons) and providers (human resources in AT provision) and their needs;
2. Mapping and identifying stakeholders in/and their role in provision of quality AT goods and services;
3. Understanding the policy, guidelines and financing aspects in regard to AT goods and services and;
4. Knowing the AT value chain – production, procurement, use, servicing, replacement, supply and demand and, how these interact to improve the quality of life of AT users particularly persons with disabilities and older persons.

Methodology
The report utilized a combination of key informant interviews and a desk review of literature already available, including national policies, legislation and guidelines, as well as academic and 'grey' literature related to disability and AT in Uganda. The sources of literature provided important data on disability and the responses thereof, the situation and level of policy implementation and, services.

The AT products prioritized in this assessment included: prostheses, wheel chairs - manual for active use, spectacles and hearing aids. We equally collected information on; white-canes, crutches, orthoses, clubfoot braces, ramps, handrails/grab-bars, magnifiers and, braille equipment.

Key findings
On data and information systems related to Assistive Technology
Government collects data on health conditions and/or functional limitations that may require AT. However, the results are not up to date, not comprehensive, the reliability is questioned and; there is no information on the current AT users and magnitude in the UFDS, UDHS, NPHC and other National Surveys. Similarly, this information is not captured in the HMIS hence limiting positive interventions for AT access. However, the recent HMIS reporting tools of 2020 currently capture some disability related indicators

Information systems that can generate data regarding utilization of AT are existent however eg through DHIS2, there are limited efforts to capture and generate such information

On the stakeholder landscape
There are stakeholders in the government, non-state actors (including NGOs) and private AT goods and service providers in the country. These are known although there is no central repository or inventory of their work, location and scope. It should also be noted that this space is dominated by the NGO sector and not necessarily government due to resource constraints;

There is almost no government programmes for AT with the exception of the 'institutionalized' services provided by the military at the CMRC. Where there have been such services (such as in the Ministry of Education and Sports), it is not in position to serve up-to 10% of the overall AT demand in the sector. The NGOs have a number of AT-specific programmes but these are project-based with limitation in the duration and scope and hence not sustainable in the long run.

On Policy and financing

Uganda has ratified the CRPD and the new law (the Persons with Disabilities Act 2019) makes provision for AT although this is relatively new and no sanctions or legal implications attached to non-provision of AT goods and services. However, there is limited awareness on the need for and importance of AT. There is no national strategy for AT, and government plays no or very limited role in ensuring availability and access to AT;

There are limited government financial resources to support programmes for AT. Donors (e.g., bilateral, multilateral, foundations, charities) play a more significant financing role in AT.

On Assistive Products and Procurement System

There is only regulation of wheel chairs which is not even enforced. The wheel chair guidelines are not well marketed and known by all stakeholders and users and a number of such AT are donated as charity in an attempt to 'dump' outdated AT;

National assistive product list does not exist, and AT is not registered on the national list of approved medical device. No technical specifications for assistive products are available;

Tax exemption is based on application and not universal. There are growing concerns over non-exemptions by URA for both assistive devices, accessories, materials for custom made devices, and key spare parts, for maintenance due to a lack of awareness of such services

On Human resources

There appears to be a sufficient number of general health workforce, as well as full range of specialists and allied health professionals related to AT in the government sector;

There are educational institutions in the country offering degrees, diplomas or other courses for the full range of workforce categories and; the workforce receives specific training on AT provision, either as part of their core training or through continuing education.

On Provision of Assistive products

There are significant gaps in provision of assistive products in the governmental sector, which are largely filled by non-government (not-for-profit or for-profit) entities. There are significant limitations in capacity to provide assistive products at all levels, resulting in inefficient allocation of tasks. There is no mechanism to refer or connect users from one provider to another. Service provision is fragmented, poorly connected and poorly coordinated and;

User impact and/or satisfaction is not considered at all after providing assistive products. Peer-to-peer training does not exist for any assistive products.

Recommendations and next steps

The key recommendations have ben summarized by in the table below:

Thematic area	Key recommendation
1. Data and Information System related to Assistive Technology	Strengthen disaggregated data collection on health conditions and functional limitations to estimate the need for assistive technology Establish and maintain information system and database on the provision and utilization of AT
2. Stakeholder landscape, Policy and Financing	Establish an AT coordination mechanism with clear roles and responsibilities of every stakeholder in the AT space for comprehensive AT program coverage Advocate for adequate budgets to cover the AT needs in Uganda
3. Policy and Financing	Develop programmes for AT within relevant government entities and associated monitoring and evaluation plans and indicators Ensure that the proposed national health financing scheme is inclusive of AT Ensure that the proposed national health financing scheme is inclusive of AT
4. Assistive Products and Procurement System	Establish and maintain regulation and regulatory mechanism for assistive products Develop and maintain national assistive product list and technical specifications Strengthen government procurement system for assistive technology Increase the range of assistive product categories that are tax exempt Ensure sufficient categories of assistive products in the national APL are available through government procurement
5. Human resource capacity	Strengthen and maintain capacity to develop workforce related to AT
6. Provision of Assistive products	Develop standards guiding the provision of assistive technology Include and maintain the provision of assistive products in facilities within public and private sector Strengthen person-centeredness within the assistive product service provision Develop and maintain well-connected and coordinated assistive product service provision system

The assessment will be used to develop a five-year strategy for improving access and utilization of quality AT goods and services in Uganda.

Introduction

Background

There has been a lot of emphasis on inclusion especially in the wake of the Sustainable Development Goals (SDGs). In fact, the notions associated with 'Leaving no one behind' were mainly pronounced during the United Nations (UN) Decade of Persons with Disabilities (1982-1993).

> *"The message of "nothing about us without us" and "persons with disabilities as agents and beneficiaries of development" thus started to take concrete forms in the international normative framework on disability and development as well as in global, national and regional policy frameworks and global networks of persons with disabilities to define their own rights, well-being and perspectives in society"* (UNDESA, 2018, page 9).

Over the years, such an approach, programming principal and policy of 'Leaving no one behind' has not only shaped local development but equally influenced the programing for and practice of international development. It is in this therefore in this very spirit that saw the development and ratification of the UN Convention on the Rights of persons with Disabilities (CRPD) by a number of UN state parties – including Uganda and the resultant compliance, reporting on and delivering actions in tandem with the CRPD.

In Uganda, Assistive Technology (AT) and Assistive Devices are interchangeably used to mean just the same. Uganda's Persons with Disabilities Act 2019 uses the word 'assistive devices' to include: wheelchairs, calipers, crutches, white canes, orthopedic appliances, qualified readers; taped texts, audios, visual and pictorial recordings; braille and tactile equipment or materials, large print and other devices that support persons with disabilities to participate effectively in all aspects of life. AT is not just a need that supports persons with disabilities to abate or overcome functional limitations and increase participation but rightly an adornment to the full realization of the fundamental rights and freedoms as enshrined in Chapter Four of the Constitution of the Republic of Uganda 1995.

Over one billion persons (especially for persons with disabilities and older persons) globally need AT and it is estimated that by 2050, this number will double (WHO & World Bank, 2011). The Uganda Functional Difficulties Survey (UFDS) – 2017 indicated that, over 62% of persons with disabilities who needed AT did not have such devices.

Text Box 1: Coverage of AT in Uganda (UFDS) 2017

- 2 per cent of children and adults with sight difficulties use eyeglasses or contact lenses. The unmet need for eyeglasses or contact lenses is high (75% among children and 76% among adults). Adults with albinism and sight difficulty were the greatest users of eyeglasses (35%) but also had the greatest unmet need (90%).
- Children with a hearing difficulty are more likely than adults to use hearing aids, but still the figure is only 1.4 per cent compared with 0.5 per cent. Children also have a greater unmet need (76% compared with 68% among adults).
- Less than half of children aged 2 to 4 years (40%) had been assessed and recommended to use equipment or assistance for walking. None had been assessed for use of any other assistive device.
- The assessment and recommendation were mainly carried out by a community health worker (43%), staff at a health facility (30%) or another person, such as a schoolteacher (27%).

Source: UFDS 2017, pages 18-19

The UFDS 2017 report therefore recommends that, measures be put in place to provide assistive devices to persons with disabilities to overcome environmental barriers and enable them to perform their day-to-day activities without difficulty. Similar recommendations have been sounded by the CRPD committee concluding observations on Uganda initial report. In this regard, the recommendation on: Article 9 of the CRPD is that, the State party (Uganda) strengthens measures, including public procurement to grant access by persons with disabilities to technologies of information and communication, including by the provision of low cost software and assistive devices for all persons with disabilities, including those living in rural areas; Article 24 - Undertake measures, including by encouraging public/private partnerships to ensure the provision of individualized accessible ICTs and assistive technologies in education; Article 26 - Promote the availability, knowledge and use of assistive devices and technologies, designed for persons with disabilities, as they relate to habilitation and rehabilitation and; Article 28 - Provide social protection schemes to guarantee an adequate standard of living for persons with disabilities, and develop and implement compensation schemes for Persons with disabilities to meet disability-related extra expenses incurred, e.g., for assistive devices, technologies and personal assistance.

In 2018, the government of Uganda held a National Disability Symposium in Kampala to develop Uganda's Commitments to advancing Disability Inclusion. The Commitments were presented in London during the Global Disability Summit that took place on 24th July, 2019. The summit opened discussions and Countries committed to implement actions around the four summit themes of: tackling stigma and discrimination, inclusion in education, routes to economic empowerment and harnessing technology and innovation. It should be noted that the summit was not an absolute solution to addressing all the disability inclusion concerns but rather made specific towards key issues that were of concern to persons with disabilities at the time. It is the fourth commitment that resonates with the AT agenda. However, during the Uganda National Annual Disability Symposium held on 28th November 2019, the Ministry of Gender, Labour and Social Development (MGLSD) acknowledged that, government's performance on the fourth commitment: harnessing technology and innovation was dismally poor although no specific actions were suggested to improve it.

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8. Knowing the AT value chain – production, procurement, use, servicing, replacement, supply and demand and, how these interact to improve the quality of life of AT users particularly persons with disabilities and older persons and;

Methodology

The report utilizes a combination of key informant interviews and a desk review of literature already available, including national policies, legislation and guidelines, as well as academic and 'grey' literature related to disability and AT in Uganda. The sources of literature provided important data on disability and the responses thereof, the situation and level of policy implementation and, services.

Interviews were guided by the six main domains of the ATA-C tool in order to generate standardized information across the participating countries. In the first place, the tool was sent out to partners who were participating in the AT workshop that was organised by Ministry of Health and World Vision Uganda. Notable among the partners were: Cheshire Services Uganda; COMBRA; CoRSU Hospital; Humanity and Inclusion; Development Pathways; Ministry of Education and Sports, Ministry of Gender, Labour and Social Development (MGLSD); Motivation International and; Mulago National Referral Hospital. During the workshop, the participating organisations made a presentation on what they were doing in as far as delivering AT goods and services mainly to persons with disabilities in Uganda. The ATA-C tool sent got feedback from three organisations and such feedback has been incorporated in the reports.

Informant interviews were held with officials from the Ministry of Health, Mulago National Referral Hospital and, Kyambogo University. Additionally, another meeting was held with a Rehabilitation Officer at the Uganda People's Defence Forces (UPDF) – Chieftaincy of Mubende Rehabilitation Centre (CMRC) and heads of associations of orthopedics and occupational therapy in Uganda among others. However, it should be noted that the assessment is virgin and with limited data and information hence making the report a 'work in progress' as more information keeps flowing in. All those selected to participate in the assessment were deemed necessary and informative for the assessment.

The AT products prioritized in this assessment included: prostheses, wheel chairs - manual for active use, spectacles and hearing aids. We equally collected information on; white-canes, crutches, orthoses, clubfoot braces, ramps, handrails/grab-bars, magnifiers and, braille equipment.

Next steps

We will be holding a stakeholders' workshop in February 2020 in Kampala. The purpose of the stakeholder workshop at the end of ATA-C is to present and validate findings from the capacity assessment process and set national strategic priorities on increasing access and utilization of AT products. A number of stakeholders have been identified to participate in this workshop. The results from the discussion and feedback from the validation workshop will be incorporated into the final version of ATA-C Descriptive Report before dissemination to country stakeholders.

Uganda's Capacity on Assistive Technology

The section provides background information on AT access and utilization. Information relating to AT use, prevalence and trends are provided herein.

1.0 Uganda's health status in relation to Assistive Technology

Uganda derives most all her health-related performance indicators from those set by the World Health Organisation (WHO) and other UN agencies. These among others include indicators on: child-health; demographic and socio-economic status; health systems and expenditure, mortality and global health estimates and; public health and environment (WHO, 2018). Uganda's burden of disease is mainly dominated by communicable diseases although there is a growing burden of non-communicable diseases (NCDs) including mental health disorders, injuries and the consequences of violence. Maternal and perinatal conditions also contribute to the high mortality and disability (WHO, 2018).

> *'… the rapid spread of risk factors, such as tobacco use and physical inactivity, unhealthy diets with lots of sugars, fats and salt, and alcohol abuse, along with ageing populations and unplanned urbanization, have a profound influence on health and wellbeing globally. The cost of inaction in relation to NCDs is now recognized as a global risk requiring action in all countries that extends well beyond the health sector alone.' (Ministry of Health, 2015 page 21)*

Uganda has also registered improvement in the life expectancy indices. For example, UBOS (2016) puts Uganda's life expectancy at Birth in Uganda at 63.3 years in 2014, where that of the females was at 64.2 years as compared to that of males at 62.2 years. The trends have also been changing with improvement of life expectancy at birth changing from 45.7 and 48.8 in 1991 and 2002 respectively. In this regard, NCDs equally tend to increase with ageing and so is disability. Therefore, as a result of increased prevalence of trauma, NCDs, and elderly persons, the number of persons with disabilities is on the increase (20% - UDHS 2011/12) and hence, increasing the demand for AT goods and services in the country.

Prevalence of Non-Communicable Diseases (NCDs)

Chronic Non-communicable Diseases (NCDs) are currently responsible for 56 percent of all deaths and 46 percent of the disease burden measured in disability-adjusted life years (DALYs) in low and middle-income countries. In Uganda, the burden of disease is still shifted towards infectious diseases with the top three causes of DALYs being HIV/AIDS, malaria, and lower respiratory infections. However, in the past 10 years, the prevalence of NCDs has rapidly increased and currently NCDs are among the first 25 main causes of DALYs in Uganda. This trend of a dual burden of infectious and non-infectious diseases requires innovative strategies for their management and control, especially amid scarce resources.

rising mortality due to Non-Communicable Diseases (NCDs) including; injuries (13%), cardiovascular illness (9%), cancers (5%), chronic respiratory conditions (2%), diabetes (1%), and others (10%), explaining 40% of the disease burden. In addition, the health worker to population

ratio of 0.4 per 1,000 remains below WHO recommended threshold of 2.5 medical staff per 1,000 persons. Further, a wide gap remains (68%) in the super-specialized areas like mental health (100%), dermatology (100%), cardiology (69%), oncology (77%), and neurology (71%). Disability prevalence has remained high with most commonly observed disabilities being loss and limited use of limbs (35.3%), spine injuries (22.3%), hearing difficulties (15.1%), seeing difficulties (6.7%) and mental retardation. In terms of nutrition, 26% of Ugandans face food insecurity with Eastern, South Western and West Nile regions being hardest hit
National Development Plan 2020

The Ministry of Health undertook a Non-Communicable Disease Risk Factor Baseline Survey in 2014. The survey that used the STEPwise approach to surveillance (STEPS) established that: 24.3% of the participants had a raised Blood Pressure (BP) or had taken medication for BP; Diabetes prevalence stood at 3.3%; 6.7% had raised cholesterol; overweight prevalence was at 14.5%; only 4.3% of the participants were considered physically inactive; 11% were current tobacco users; 28.9% were in positive consumption of alcohol; there was low consumption of vegetable, with 27% of the respondents not having taken fruits or vegetables in the preceding week of the interview and the overall prevalence of NCDs was at 9.8% (with gender differentials) .The survey further revealed that over 80% of the population with NCDs are not aware and hence will present with difficult to manage complications like stroke, kidney failure, blindness, impotence and other functional limitations or disabilities.

A study on Uncorrected Refractive Errors (UREs) in Kamuli in 2016 established that: 4.6% of the respondents had UREs and the spectacle coverage was 5.96%; the prevalence of uncorrected presbyopia was 50.3% and the spectacle coverage was 0%. Only 1% of the respondents were current spectacle users and 3.5% of the respondents had previously used spectacles; however, 50.9% of them discontinued spectacle use a year before the study because the spectacles were broken or scratched and; the major barriers to spectacle uptake were accessibility of services and affordability of spectacles (Nsubuga et al, 2016). It should however be noted that Kamuli is just one of the 169 cities, districts and Municipalities in Uganda and so, the generalizability of such finds may not be received with utmost accuracy.

Traffic accidents in particular are on the increase and thus increasing the possibility of injury and/ or disability. The Uganda Police Crime report of 2018 reported that, injuries due to traffic accidents increased by 5.52% in one year. NCDs and accidents are most likely to increase AT use either as a result of limited functioning or disability that comes with an advancement of a multiplicity of NCDs and accidents.

1.2 AT users in Uganda

There are two main categories of persons who use AT in Uganda – persons with disabilities and older persons[1]. This is because there is a linear relationship between disability and ageing. People tend to develop functional difficulties and participation limitations as they age and get fail. As a

[1] World Health Organisation & The World Bank (2011). *World Report on Disability*. Geneva: World Health Organisation

result, older persons continually become candidates for AT in order to leave dignified lives. Below are some trends and demographics of AT users in Uganda.

Persons with Disabilities

Section 1 of Uganda's Persons with Disabilities Act, 2019 defines disability as substantial functional limitation of a person's daily life activities caused by physical, mental or sensory impairment and environment barriers, resulting in limited participation in society on equal basis with others and includes an impairment specified in Schedule 3. The definition therefore recognizes the tenets of: impairment, functional limitation and limited participation. The 2014 National Population and Housing Census Report (UBOS 2016) indicated that 12.5% of the Uganda's population aged 2 years and above have a disability. This nearly correlated with the World Health Organisation Report of 2010 which put the global disability prevalence rate at 15%. It should however be noted that the prevalence of all persons with disabilities regardless of the age differentials stood at 18.7%. Below is a summary table of Disability prevalence in Uganda.

Table 1: Disability prevalence in Uganda

No	Category	Number	% (of the overall Population)	% (of the PWDs' Population
1	Total Population of Uganda	34,634,650	100.00%	
2	Persons without disabilities (2 years and above)	28,610,240	87.48%	
3	Persons with Disabilities (2 years and above)	4,096,477	12.52%	63.29%
4	Difficulty in seeing (of the overall population)	2,129,279	6.15%	32.90%
5	Difficulty in hearing (of the overall population)	1,089,649	3.15%	16.83%
6	Difficulty in remembering (of the overall population)	1,776,911	5.13%	27.45%
7	Difficulty in walking (of the overall population)	1,476,959	4.26%	22.82%
8	Overall Disability proxy –- WGSSQ	6,472,798	18.69%	100.00%

Source: UBOS, 2016

The Sustainable Development Goals (SDGs); National Development Plan (NDP II) 2015/16 – 2019/20 and; the Social Development Sector Plan (SDSP1) 2015/16 – 2019/20 among others make mention of disability inclusion. Despite the recognition of disability as a development issue, Persons with disabilities are among the most neglected groups in the policy domain as well as in the private sphere. The majority of these face enormous economic, political, and social barriers that have an adverse impact on their physical, social and intellectual development and wellbeing. Many of them do not have access to the most basic needs such as health services and education, experience multiple deprivations even within their family and are invisible in national policy agenda.

In a bid to protect and promote the rights of the persons with disabilities in Uganda, Government has focused on provision of health services, Community Based Rehabilitation (CBR), vocational training, universal primary and secondary education and holistic representation as some of the key measures to empower Persons with disabilities.

The UFDS 2017 established that, 2 percent of children and adults with sight difficulties use eyeglasses or contact lenses. The unmet need for eyeglasses or contact lenses is high (75% among children and 76% among adults). Adults with albinism and sight difficulty were the greatest users of eyeglasses (35%) but also had the greatest unmet need (90%). Children with a hearing difficulty are more likely than adults to use hearing aids, but still the figure is only 1.4 per cent compared with 0.5 per cent. Children also have a greater unmet need (76% compared with 68% among adults). The UFDS however does not portray a dire need of mobility-related assistive devices such as crutches, standing frames, white canes and, magnifiers among others.

Older Persons

Uganda's National Policy on Older Persons (2009) defines Older Persons as those aged 60 years and above. This definition is used in both policy and practice in the Ugandan context. The Uganda National Population and Housing Census report (2016) indicate a continuing drop in the percentage of Older Persons (aged 60 years and above) but with an increase in the actual numbers of Older Persons. The Population of Older Persons in the UPHC 1991 was 688,260; in 2002 was at 1,196,436 and in 2014 1,403,408 (609,072 males and 794,336 females). This shows that the population of Older Persons had increased in 12 years.

There is no doubt that the world's population is steadily ageing. With the increasing life expectancy in Uganda due to improvement in the human development and health indicators, management of NCDs and reduced child and infant mortality, there are more people getting into old age. However, in a resource-constrained context, old age is associated with inevitable and irreversible sickness and disability. Yet, in reality, even in old age, Ugandans are making important contributions as leaders in politics and business, and in their communities. Disability in Uganda is proportionally more prevalent in the older population. Older people are more prone to detrimental health conditions such as hearing loss, disabilities, diabetes, depression and other health challenges. (http://theconversation.com/why-older-people-in-uganda-struggle-to-access-healthcare-85127).

In all societies, the prevalence of disability increases as people get aged, 60 years and above, 29 percent experience a severe disability, a significant proportion. But, even among those aged between 30 and 50 years, 8 per cent report being severely disabled (Development Pathways, 2018). In Uganda, older persons with disabilities (65 years and above) constitute 2.1% of the population (NPA, 2018: unpublished information)

Ageing is associated with NCDs such as cardiovascular disease, cancer, arthritis, dementia, cataracts, osteoporosis, diabetes, hypertension and Alzheimer's Disease (AD). It is estimated that, almost 90,000 older persons in Uganda suffering from AD or other types of dementia (Development

Pathways 2019, Maystone, 2017). Among older persons, the prevalence of disability is highest among older women aged 80 years and above, rural residents, those living alone, and those widowed. Older persons depended on remittances, learnt technical skill, and did not own a bicycle, and reported illness and a Non-Communicable Diseases (NCDs) like diabetes, stroke, arthritis, and heart disease (Wandare, 2014). Such conditions reported require some form of AT in order to make older persons leave a dignified later life. However, there is no age disaggregated data on AT use in Uganda. Again, using chronological ageing is getting old-fashioned as more geriatric and gerontological research emphasizes contextual ageing based on set frailty and functionality measures.

1.3 Data on and gaps in AT usage in Uganda

Many Persons with Disabilities and Older persons use AT although there is limited data on AT use. This is partly brought about by a lack of central place for registration, distribution and use of AT. In addition, the low coordination and lack of contemporary information management systems highly contributes to insufficient data collection. The multiple sources of Assistive devices even make it harder to establish such data. The UFDS 2017 established that 48% of all persons who used assistive devices got them from the health facilities; 15.5% got them from donations; 15% bought them and; 21.5% got them from other sources. There is no similar data with the Ministry of Health. In a similar way, 40% of the children aged 2 to 4 years with a functional difficulty had been assessed and recommended to use equipment or assistance for walking. None had been assessed for use of any other assistive device. The assessment and recommendation were mainly carried out by a community health worker (43%), staff at a health facility (30%) or another person, such as a schoolteacher (27%).

Even when the national surveys try to paint the picture of AT use, there is limited regular information on AT use in Uganda especially at sub national and lower levels. For example, information on AT use and services is not captured in the HMIS and other health related indicators at all levels hence curtailing informed programming for AT. This could partly be attributed to lack of a clear regulatory framework for qualification of AT; poor coordination mechanisms for data collection and AT services and, generally limited policy-oriented research for and on AT use.

Opportunities

The assessment has established that the addition of AT related data in the Health Management Information System (HMIS) and, the use of a one-stop assessment centre for AT would be handy in capturing the much-needed information on AT goods, services and use.

2.0 Stakeholder Landscape

The AT space has multi-layered and a multiplicity of stakeholders who work towards access and utilization of AT. These stakeholders include: users (mainly persons with disabilities and older persons); professionals working towards improving accessibility and reducing functional limitations; suppliers (including health facilities, technology and AT industry players) and; providers (governments, donors and individuals). These are described in the table below.

Table 2: AT stakeholders in Uganda and their interests

No	Stakeholder	Description	Interest
1	AT users	Mainly persons with disabilities and 'contextually' older persons	Accessibility and improving functionality of the physiological and sensory organs
2	Caretakers of AT Users	Parents, guardians, families, legal and informal caretakers and, community support providers among others	Improving accessibility and welfare of the AT users
3	Government Ministries, Departments and Agencies (MDAs)	Mainly: Ministry of Health, MGLSD, Ministry of Education and Sports, MoDVA, Ministry of ICT and National Guidance, National Council for Disability, National Council for Older Persons, National Council for Sports and, Ministry of works and transport among others, professional training institutions and professional associations	It is obligatory but also to: improve participation, abate functional limitations, promoting inclusion and body functioning, gender and equity requirement, re-deployment for work upon rehabilitation, improving access and utilization of other services such as health, education and employment and; for widening the tax-base as a result of increase in the taxable work-force among others.
4	AT-related professionals	Health professionals who assess, recommend, fit, repair and advise on appropriate AT. These include: Special Needs Education Teachers, ENT specialists, Audiologists, Language and Speech Therapists, Orthopedists, physiotherapists and occupational therapists, AT technicians, Opticians/ Ophthalmic clinical officials, IT specialists and	Improving well-being, accessibility and functionality of clients and customers

		mobility orientation specialists among others.	
5	Non-state Actors	These include institutions and individuals who are not attached to the state but may act on behalf of the state to deliver a given state agenda. These among others include: Community Based Organisations (CBOs), Non-Government Organisations (NGOs), NGO-leaning specialist facilities, care and rehabilitation institutions, foreign country missions and, Faith Based Organisations (FBOs) among others.	Improving well-being, accessibility and functionality of clients and customers
6	Commercial AT goods and services providers	These include: AT suppliers, Private for Profit (PFP) health facilities, specialist facilities, shops and AT stores, private AT fabricators and suppliers, Accessible ICT developers and suppliers (including apps) and, private AT researchers among other	Improving well-being, accessibility and functionality of clients and customers and; generating revenue from AT goods and services among others.

Source: Interviews

The above stakeholders are found right from the grassroot to national level and they all thrive to have the AT goods and services accessible (available, affordable and of quality) and utilizable (with appropriate industry knowledge on use, repair and replacement).

2.1 Sectors in AT provision

Until the recent years (1998) – when the government of Uganda started implementing the Educational Assessment and Resource Services (EARS) programme with financing from DANIDA; AT in Uganda was a preserve of the health sector. The health sector still dominates the AT space although other sectoral players especially in Information, Communication Technology (ICT) and education are taking up a pivotal role in ensuring access and utilization of AT goods and services. In a 'blurred' – sometimes referred to as a mixed economy, service delivery is supposed to be done by the government although this is utopian. In Uganda therefore, there are four main Ministries that are concerned with delivery of quality AT and these are: Ministry of Health, Ministry of Gender, Labour and Social Development (MGLSD); Ministry of Defence and Veteran Affairs and; the Ministry of Information, Communication Technology and National Guidance. There are other ministries that are mandated to provide AT services although this could only be in terms of resource provision and basic procurements. The core Ministries and their roles are herein described below.

Ministry of Health

By virtue of her mandate provided for in the National Health Policy (2010), the Ministry of Health is meant to take lead role in providing for AT in Uganda. This mandate stems from objective XIV (b) of the constitution of the republic of Uganda that makes health a right.

> *"(b) all Ugandans enjoy rights and opportunities and access to education, health services, clean and safe water, work, decent shelter, adequate clothing, food security and pension and retirement benefits."* (Constitution of the Republic of Uganda, 1995, page 22).

The ministry of health has the overall mandate of ensuring that Uganda's population is healthy and well. In the administration of health services as provided for in the National Health Policy 2010-2020, various health levels provide different health services to persons with disabilities. These range from National, regional; District referral hospitals and Health Sub Districts (HSD)[2].

The Uganda National Health Policy 2010 provides for the Uganda National Minimum Health Care Package (UNMHCP) whose policy objective is to ensure universal access to quality UNMHCP consisting of promotive, preventive, curative and rehabilitative and palliative services for all prioritised diseases and conditions, to all people in Uganda, with emphasis on vulnerable populations. In essence the UNMHCP is supposed to provide for assistive devices. The extent to which this policy objective meets the needs of AT users requires further research.

The institutional arrangement of MOUH, in prevention and Management of Disability is through the establishment of the Disability and Management section within the ministry of Health. The section is responsible for prevention and effective management of disabilities through training, qualification of assistive devices and, community education on disability prevention and management among others. These are indications of a commitment by government to have access to health services for persons with disabilities. Despite the positive trends, the National Health Policy identified several gaps among others shortage of raw materials for assistive devices to make them affordable to persons with disabilities and limited physical accessibility of health facilities. Relatedly, there is minimal work in regard to early identification and assessment of disabilities and habilitation. The National and some regional referral hospitals have disability prevention and management centres such as: ophthalmic services (eye health), Ear, Norse and Throat (ENT), orthopedic and mental health sections. However, majority are non-functional due to human resource, equipment and maintenance gaps.

In summary therefore, the Key roles of the Ministry of Health in AT provision are: policy, regulation and guidance; training, recruitment, employment and deployment through respective service commissions (Public, District and Health Service Commissions); procurement of AT and materials used in the making of ATs; ensuring inclusion of persons with disabilities and older persons in all services provision – including provision of regimental and preventive treatments; testing, fitting, distribution and serving of AT and; financing AT for use.

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[2]Mandated to provide regimental treatment for epilepsy and other forms of fits among others

Ministry of Gender, Labour and Social Development (MGLSD)

The MGLSD is responsible for community mobilisation and empowerment (approved under the public investment plan) through culture and family affairs; community development and literacy; gender and women empowerment; labour and employment services, social protection for vulnerable groups (MGLSD, Ministerial Policy Statement, 2019). Therefore, the Sector plays a fundamental role in creating demand for social services and laying a foundation for other sectors to improve their outcomes.

The role of the social development sector is to improve standards of living, equity, and social cohesion. It focuses on empowerment of communities to harness their potential through skills development, increased labor productivity, and cultural growth. The sectors empowerment efforts target women, youth, children, persons with disabilities and other vulnerable persons (CSBAG, 2017[3]).

This is the cardinal ministry responsible for disability and inclusion. Therefore, the ministry is responsible for formulation, implementation and (where mandated) enforcement of laws, policies and guidelines for disability and older persons' inclusion. The ministry is also responsible for the vocational rehabilitation centres and through her Community Based Rehabilitation (CBR) programme, the ministry extends 'donated' AT to communities.

The Ministry is responsible for guiding all other sectors on issues of disability inclusion, prevention and management of disabilities and; goods and services for all persons with disabilities. In this regard there, the ministry is responsible for the CRPD reporting and policy support for disability inclusion.

It should however be noted that, whereas the ministry can work with other ministries and stakeholders for AT provision, the ministry does not usually finance AT goods and services.

Ministry of Information, Communication Technology and National Guidance

The Ministry of Information and Communications Technology and National Guidance has a mandate of providing strategic and technical leadership, overall coordination, support and advocacy on all matters of policy, laws, regulations and strategy for the ICT sector. It also ensures sustainable, efficient and effective development; harnessing and utilisation of ICT in all spheres of life to enable the country achieve its national development goals (MICTNG, Ministerial Policy Statement, 2019).

The Governance and Institutional Framework of ICT sector in the country can be viewed from four main perspectives: oversight function; policy formulation and coordination; policy implementation and; regulation. National Information Technology Authority-Uganda (NITA-U) – being

[3] Civil Society Budget Advocacy Group (CSBAG) (2017) CSO POSITION PAPER ON THE SOCIAL DEVELOPMENT SECTOR FY2017/18: The paper is based on the analysis of the FY 2017/18 Ministerial Policy Statement for the Social Development sector FY2017/18. CSBAG, Kampala

responsible for a rationalized and integrated national IT infrastructure; e-government services in MDAs; regulation of IT environment in public and private sector; capacity building and awareness creation; information security and development of information technology enabled services/business process outsourcing (ITES/BPO) industry. The ICT and National Guidance sector has of recent responded to the inclusion cause. ICTs are at the helm of inclusion and the work of the sector leaders cannot go un-accounted for leading to the following achievements.

The Ministry of ICT and National Guidance continues to: promote value added services, access to information and service needs to all sectors of society especially the under-served sections of society (rural or low-income communities and persons with disabilities); develop the ICT for Disabilities policy to guide the development and supply of accessible ICTs in Uganda – without such a policy, ICT based interventions for Persons with Disabilities would be limited to ad-hoc, market-led and small-scale private initiatives and; the National Information Technology Authority-Uganda (NITA-U) has been developing online monitoring systems for disability inclusion through training of MDAs in accessible web development with support from UNESCO.

Ministry of Education and Sports

The government of Uganda promotes a twin track approach through inclusive and special needs education. These approaches include: home-based care programmes, special schools where children with severe and often multiple impairments receive specialised support in methodology, instructional materials and assistive devices. Another approach used include Units/Annexes where children are integrated within regular schools but targeting learners with particular disabilities, inclusive schools where children with special needs - including but not limited to children with disabilities - study with other children.

In the administration of education services of learners with disabilities are catered for right from ministry to school level. At the Ministry of Education and Sports, a department for Special needs education and Guidance was established. The department was established to ensure; Disability inclusive planning and budgeting; development of policies and laws that are in tandem with the constitution and other national and international laws.

Similarly, SNE is catered for and adequately programmed and managed right from curriculum development at the National Curriculum Development Centre (NCDC); the Directorate of Educational Standards (DES) and; Uganda National Examinations Board (UNEB). These agencies are responsible for curriculum development and implementation, monitoring and assessment respectively.

Between 1992 and 2000, the government in collaboration with the Danish International Development Agency (DANIDA) implemented the Educational Assessment and Resource Services (EARS) programme. The education-leaning programme was comprehensive and saw Special Needs Education (SNE) teachers take on roles on identification, assessment and also provision of AT especially to learners in schools. The Ministry has continued providing braille

machines and materials to learners. The Higher Education Students' Financing Board (HESFB)4 from 2017 started prioritising students with disabilities in their loaning system. HESFB offers loans to students pursuing degree and diploma programmes and such loans can be used to cover functional fees; tuition fees; research fees and assistive devices for students with disabilities. All these however do not have budgets that are commensurate with the AT demands.

The ministry through her various Continuous Professional Development (CPD) programmes and Kyambogo university have continued training personnel in AT; procured 350 cartons of braille paper, 250 sign language dictionaries, 5 braille Embossers & computers, 28 Perkins braille machines in FY 2018/19; in collaboration with Starkey Hearing Foundation provided 1000 hearing aids to learnerers with hearing impairments and; with support from UNICEF a pilot project on adapted technology for digitalization of curriculum materials is being implemented in 20 inclusive primary schools. The ministry with support from UNICEF procured adapted materials and distributed in the 20 schools. The pilot is in 20 schools namely: Nakatunya PS-Soroti, Waluwerere Ps-Bugiri, kabalega Ps-Masindi, St Ludovicos Kisana-Hoima, St Bernadittas PS-Hoima, Bishop West-Mukono, St Theresa Bujuni-Kibale, Kiwolera Army-Kamuli, Kasambya Ps-Mubende, Bishop Rwakaikara Ps-Kagadi, Spire Road Ps-Jinja,Bumbo Ps-Namisindwa, Misanvu Demo-Bukomansimbi, Angal Girls-Nebbi, Eruba Ps-Arua, Hassan Tourabi Ps-Wakiso, Gulu Prison Ps-Gulu, Gulu Ps-Gulu and Bishop Willis Demo-Iganga. The materials included Victor reader, classroom laptop and projectors, and computer among others. Fourty (40) teachers were trained in use of the technology.

Similarly, Uganda has a National Paralympic Committee which ensures that persons with disabilities fully participate in games and sports to develop their sporting and gaming potentials. The Uganda Paralympic Committee (UPC) worked with the International Blind Sports Federation (IBSA) to promote goal-ball and additionally trained coaches and national teams; development of wheelchair basketball – district, regional and national teams and their full recognition[5]. In this case, they provide sporting wheel chairs and AT for sports such as sound ball.

Ministry of Defence and Veteran Affairs

The Army established the Chieftaincy of Mubende Rehabilitation Centre (CMRC) in 1986 to support the treatment and rehabilitation of disabled soldiers. The rehabilitation centre provides physiotherapy and orthopaedic devices (prosthetics, orthotics, corsets, and orthopaedic boots) and assistive devices like: spectacles, braille machines, hearing devices, crutches and, wheel chairs. The orthopaedic workshop project is run by Africa Medical Alliance (AMA). However, the facility still faces challenges of raw materials.

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[4] Higher Education Students' Financing Board (HESFB) is established by an Act of Parliament, in 2014 as a body corporate - semi-autonomous body mandated to provide loans and scholarships to students intending to pursue higher education. The Board was inaugurated on 22nd April 2014 and started operations in May 2014.

[5] https://www.paralympic.org/uganda

All MDAs have a stake in disability inclusion. The major challenge is the existence of highly fragmented and yet undocumented goods and service provision, a lack of common voice for AT goods and service provision and a sheer appreciation of AT and its central role in abating the effects of disability and ageing and; uncoordinated services for AT access and utilization. For example, AT are supposed to be tax exempted and, in addition, S.114 of the East African Community Customs Management Act, Item 8(b), part A (Specific Exemptions of the 5th Schedule) exempts duties and taxes on materials, articles and equipment for the disabled, blind and physically handicapped persons. There are enormous challenges in making the exemptions as the Uganda Revenue Authority (URA) will always insist on payment of the taxes which makes the cost of such AT goods exorbitant.

2.2 Civil society organisations and provision of AT goods and services

Civil society organisations include: Community Based Organisations (CBOs), Non-Government Organisations (NGOs), Organisations of persons with Disabilities (OPDs), Faith Based Organizations and, international agencies and NGOs. These have been supplementing the efforts of Government in providing AT goods and services in Uganda. Their main contribution is in areas of: financing, distribution, repair and advocacy for AT access and utilization among others.

Some of the organisations that contribute to AT access and utilization include: Budaka Cheshire Home; Buluba Hospital/ Leprosy Relief Services; Butiru Cheshire Home; Cheshire Services Uganda; Comprehensive Rehabilitation Services Uganda (CoRSU); Humanity and Inclusion; Kagando Hospital; Katalemwa Cheshire Home; Kumi Hospital – Ongino; Mengo Hospital; Motivation Uganda; Namutamba Rehabilitation Centre; National Union of Disabled Persons of Uganda (NUDIPU); Nkokonjeru Cheshire Providence Home; Organized Useful Rehabilitation Services (OURS) - Mbarara - also affiliated to CBM and Ruharo Mission Hospital; Orphans and vulnerable children Aid Centre – Luwero; Ruharo Hospital; Sense International; Soft Power Health; St Francis Cheshire Home – Soroti; ADINA Foundation; Starkey Foundation; Vision Spring and Brac and, world vision among others.

Private sector and UN Agencies

There are a number of private players who provide AT services. Notable among these are Enabling Services Uganda Limited (UNSUL) which provides mainly devices for persons with vision difficulties; Kampala Audiology and Speech Centre (KASC) for hearing difficulties and Kumi Orthopaedic Centre for walking and selfcare difficulties.

The notable UN agencies that provide AT are: World Health Organisation and UNICEF – Uganda. The UN agencies guide policies on AT as well as support governments in procurement and distribution of AT.

A summary table on the AT stakeholders in Uganda is in Annex 1 attached herein.

2.3 Gaps evidenced with the stakeholders

The core gaps identified with the stakeholders included:

- A lack of coordination among and between the stakeholders for advocacy on AT provision;

- AT is generally expensive although not adequately catered for in budgets. It was evident to see a number of institutions but without AT budgets and;
- The lack of a central assessment facility for AT compromises the quality of AT goods and services provided.

3.0 Policy and Financing

The Government of Uganda (GoU) has made commitments to ensure equal rights and opportunities for AT users. These commitments are reflected in the objectives and articles of the 1995 constitution, as well as laws and commitments to human rights acts and principles. The notable Objectives and Articles in the constitution that provide for the rights of AT users are: Objectives vi, xvi, xxiv, Articles 21(1&2), 32(1) and, 35(1&2) – which provides for such rights. Uganda is also a signatory to various conventions and treaties that entitle persons with disabilities to fundamental human rights and freedoms. These provide a yardstick for implementation of programmes and response mechanisms and; have provisions of particular importance in the context of disability in Uganda. These among others include: The UN Convention on the Rights of a Child (CRC) and; the UN Convention on the rights of Persons with Disabilities (CRPD) and, are presented herein below.

3.1 International conventions and protocals

The United Nations Convention on the Rights of Persons with Disabilities (CRPD)

Uganda signed and ratified the CRPD in 2008 and its optional protocol without reservation demonstrating its commitment to serving all persons with disabilities. Article 25 of the CRPD (on health) obliges state parties to provide disability specific health services including: early identification and interventions as appropriate and services designed to minimise and prevent further disabilities including children and older persons. Similarly, article 26 (on Habilitation and Rehabilitation) emphasises early assessment based on a multi-disciplinary approach to ensure inclusion of all aspects of disability. This is further complemented by article 20 (Habilitation and Rehabilitation) and; Article 35 which mandates state parties to report on the progress of implementation of the CRPD.

Uganda submitted her maiden report in 2010 and the Committee of Experts on the UN CRPD considered the initial report of Uganda (CRPS/C/UGA/1) at its 248th and 249th meetings held on the 7th and 8th April 2016 respectively, a number of concluding observations at its 262nd meeting held on 18th April, 2016, for the country were made. The notable recommendations that relate to AT provision are presented in the table below.

Table 3: CRPD Recommendations for Uganda

Article and CRPD recommendations
Children with disabilities (art. 7)
Amend the Children's Act in line with the Convention in order to mainstream rights of children with disabilities across all programmes and provide necessary budget and resources for their protection

Adopt measures to include deaf and deafblind girls and boys in all public policies and programmes and that their opinions and views are taken into consideration;
Implement measures aimed at promoting the right of children with disabilities to be consulted in all matters of concerning their lives and that they receive assistance appropriate to their age and disability.
Accessibility (art. 9)
Strengthen measures, including public procurement to grant access by persons with disabilities to technologies of information and communication, including by the provision of low-cost software and assistive devices for all persons with disabilities, including those living in rural areas
Living independently and being included in the community (art. 19)
Provide grants to persons with disabilities to facilitate independent living in the community covering support for assistive devices, guides, sign language interpreters and affordable skincare protection for persons with albinism.
Education (Article 24)
Undertake measures, including by encouraging public/private partnerships to ensure the provision of individualized accessible ICTs and assistive technologies in education
Health (Article 25)
Train and recruit professional guides and USL interpreters to assist Persons with disabilities in health centres
Habilitation and Rehabilitation (Article 26)
Promote the availability, knowledge and use of assistive devices and technologies, designed for persons with disabilities, as they relate to Habilitation and rehabilitation.
Adequate standard of living and social protection (art. 28)
Provide social protection schemes to guarantee an adequate standard of living for persons with disabilities, and develop and implement compensation schemes for Persons with disabilities to meet disability-related extra expenses incurred, e.g., for assistive devices, technologies and personal assistance

Consequently, the Ministry of Gender, Labour and Social Development (MGLSD) in collaboration with line Ministries and in consultation with Organizations of Persons with disabilities developed a National Plan of Action for Implementation of the Concluding Observations and Recommendations for the implementation of the of the said convention.

Madrid International Plan of Action of Ageing (MIPAA).

The Second World Assembly on Ageing adopted the Madrid International Plan of Action of Ageing (MIPAA). This plan focuses on older persons in terms of poverty eradication, health promotion, access to food and adequate nutrition, income security, access to knowledge, education and training, HIV/AIDs, housing, support to carers and service providers among others. Participation of older persons in political, socio-cultural and economic spheres of life has to be emphasized if the rights and needs of older persons are to be adequately addressed. The MIPAA among others acknowledges the growing need for care and treatment of an ageing population particularly in relation to: health promotion and disease prevention, assistive technology, rehabilitative care and mental health services. Objective 1 of issue 6 aims at maintaining maximum functional capacity

throughout the life course and promotion of the full participation of older persons with disabilities and the core action on AT therefore is to: encourage the provision of rehabilitation and appropriate care and assistive technologies for older persons with disabilities to fulfil their need for services, support and full integration into society.

Protocol to the African Charter on human and people's rights of older persons

The Government of Uganda has started on the process of the ratification of the African Union Charter, in 2019, a Ugandan delegation attended the African Union advocacy meeting on the ratification of the AU protocol in October 2019 and the road map was developed on the actualization of the ratification. In the meeting, it was agreed that all member states must ratify the protocol by December 2020. Consequently, my Ministry undertook the following processes; constituted technical working group comprising of all line ministries, agencies and CSOs to steer the ratification process and; analyzed the provisions of the protocol to ensure that they are in line with Government legal frameworks. It is anticipated that the proposed ratification (by June 2020) will address key AT issues currently not catered for in the Older Persons Bill 2019 and National Policy on Older Persons 2009.

3.2 National laws and policies

The Persons with Disabilities Act, 2019

In 2019, the Ministry of Gender, Labour and Social Development working with her partners worked on the development of a new disability Act (The Persons with Disabilities Act 2019), the Act was assented to by the President in September 2019 and gazetted in December 2019. The Act is the first legal document in Uganda to interpret 'Assistive Devices' and among others provides for: government to provide persons with disabilities with assistive devices at no cost or subsidized prices [section 7(7)]; health unit accessibility and; provision of assistive devices to all learners by government [Section 6(5)].

The Older Persons Bill 2019

The Older Persons Bill 2019 has been drafted and provisions in the African Union Protocol for Older Persons have been considered. My Ministry is fast tracking this Bill to its conclusion. Section 53 of the bill currently provides for Home-Based Care for older persons through provision of rehabilitation programmes that include the provision of assistive devices.

Policies

Policies that support provision and financing for assistive devices include: The National Policy on Disability in Uganda 2006 (currently under review); the national policy on older persons in Uganda 2009 (currently under review); the National Health Policy 2010 (currently under review)

3.3 Key programmes that provide AT

Senior Citizens Grants for Empowerment

On 16 June 2010, Government through the Ministry of Gender, Labour and Social Development with support from development partners, embarked on the development of a social protection system for the most vulnerable people. The Ministry completed implementation of a 5-year Expanding Social Protection (ESP) Programme under which was successfully piloted the Social

Assistance Grants for Empowerment (SAGE) scheme through which older persons are provided with Grants of Shs. 25,000 every month. This has now been rolled out nationally and is targeting older persons aged 80 years and above. One of the current assumptions is that part of the SAGE is to be used to procure AT on an individual basis by older persons. Again, a pilot undertaken on the programme in partnership with Sightsavers utilized the paypoints as avenues of identifying older persons who needed surgeries and/or glasses. The Karamoja pilot was successful as over 1000 older persons benefited from such an arrangement. This was however only limited to Karamoja and with older persons only.

Expanding Social Protection Programme (ESPP) II – Disability Component

The ESPP II now has a disability component which has started implementation in January 2020. It is anticipated that, the persons with disabilities benefiting from the programme will be in position to afford AT or better still the programme will provide AT through a central procurement system. The current budget for this and the final *modus operandi* is at design stages which gives the assessment a hedge to influence such key national decisions.

Chieftaincy of Mubende Rehabilitation Centre

The Chieftaincy of Mubende Rehabilitation Centre (CMRC) is a military facility that was established in 1986 in order to support the treatment and rehabilitation of disabled soldiers. CMRC comprises 4 military battalions under the Uganda People's Defence Forces (UPDF) although the major rehabilitation facility is situated at the Mubende army barracks.

Figure 1: Orthopedic casting equipment at CMRC

A study commissioned by UNICEF in 2019 however reported that, services at CMRC were not fully open to civilian users although their clientele stretched the entire country and, the facility also offers referral services both within and outside of the country. In the analysis of costs provided during the interview with the officers, it was established that a limb prosthesis cost 2.7 million Uganda shillings (USD 736.3); which cost might be difficult to meet by community members - especially those living below the poverty line.

Summary of Government Financing and policy on AT

The Disability and rehabilitation division budget under the Ministry of Health has declined systematically from 144mUGX in 2014/2015 to One hundred million in 2015/2016 and 2016/2017 and further to 68mUGX in 2017/2018. This Budget is however to meet the costs of administration and not AT perse.

The UPDF operates mainly classified budgets that have a labyrinth of approvals prior access by the public. The Budget however is drawn from soldiers' welfare and used to procure mainly prothesis and other mobility appliances from South Africa.

The National Health Policy (2010) acknowledges that, there is a shortage of raw materials for assistive devices makes them unaffordable to Persons with disabilities. Indeed, in FY 2017/18, the National Medical Stores planned to procure raw materials for assistive devices, but this was way too expensive and was making a considerable toll on the essential medicines list.

Government of Uganda does not have mainstream AT schemes. These are either provided through commercial artisanal engagements, business entities or through donations. The quality and standard of such AT/Devices remains a mystery.

3.3 AT financing from Non-Government Organisations

Entity name	Focus area/s of AT	Key AT program	Budget
Cheshire Services Uganda	All	Rehabilitation	Not known
Hear Her Voice	Hearing	None	Not known
World Vision	Wheel Chairs	Child Protection Program	Not Known
Orphans and vulnerable children Aid Centre - Luwero	All	None	Not known
Sense International	Eye health and Hearing devices	None	Not known
Sightsavers International	All but mainly eye health	None	Not known

4.0 Assistive Products and Procurement Systems

Of the health supplies in Uganda, Assistive products guidelines in regard to procurement and distribution are not documented. Whereas there are National Wheel chair guideline, these do not address issues of procurement, certification, supply and distribution and, they are not easily enforceable. The wheel chairs are the only assistive products with a guideline and the rest do not have any guidelines which may compromise their prioritization in budgets, distribution and quality.

There is no centralised procurement, however, the Ministry of Health may allocate a budget for procurement of raw materials for orthopedic workshops. Other organisations will make procurements on an independent basis. This is mainly because there is a haggle on where resources should be spent and the space for AT is so minimal as compared to that of communicable diseases globally.

The Community Based Rehabilitation (CBR) programmes have continually encouraged local artisanal AT production although these do not meet the global AT standards. In the 1990s and early 2000s, Kyambogo University was supported by an Asian company to produce low cost white-canes for the East African region. These have since ceased production due to logistical challenges.

4.1 Gaps and opportunities in AT procurement Systems

Gaps

The major challenge with assistive devices in Uganda is that they cannot meet the required demand. This is given by the low percentage of AT users who have access to AT.

The gaps associated with procurement of assistive products include:

- A lack of enforceable guideline on all assistive products – on procurement, distribution, costing and servicing;
- A lack of a specific budget to meet AT products costs;
- A lack of prioritization of AT products on the essential health supplies list;
- A lack of central qualification centre for Assistive products hence compromising the quality and jeopardizing M&E efforts of measuring utilization, wear and tear and, affordability among others;
- No single resource for an incubation or innovations hub for Assistive products;
- No single production unit;
- Government does not procure assistive devices and yet continues to tax raw materials, spare parts and some assistive devices.
- The assistive products are mainly donor given and hence received without single caution and;
- There is no catalogue of all the required assistive products in the country with the relevant ministries, departments and agencies

Opportunities

The opportunities identified include:

- The availability of an enabling Ugandan constitution 1995 amended in 2017 article 32 that implores the government to ensure that there is affirmative action in favour of PWDs for the purpose of redressing on the issues of devices ;
- Uganda being a signatory to the UN CRPD that gives government the responsibility to enact legislation, formulate policy, prepare national plans, regulate and raise awareness Create environment for services to flourish in both public and private sector and bring the relevant stake holders together Promote the availability of use of high quality assistive devices and technologies at affordable cost.
- Revision of the NDP III with a proposal to create and maintain an AT technology and innovations hub;
- Invocation of the current East African tax regime to import duty free and low-cost assistive technology from the Asian countries;
- Availability of a training institution (Kyambogo University) with the possibility of widening her training scope to meet the AT market demands and;
- A coalition of partners who are willing to support government to improve AT access and utilization among others.

5.0 Human Resources

The AT Human Resources include general and specialist health personnel, specialist and special needs teachers and other primary healthcare givers such as community and social workers.

5.1 Uganda's health workforce

The National Health Policy (2010) acknowledges that, the health sector is a labour-intensive sector and availability of adequate human resources for health is central in the achievement of health objectives and targets. Shortage of key health sector personnel in the mainstream health sector continues to cripple quality health care service delivery. Reasons for such shortages include: insufficient training capacity, unattractive remuneration and retention of health workers with the right skills (MoH, 2010). There are also variations in human resources for health in urban, rural, hard-to-reach and, government and private sector. The variations are due to personal preferences, availability of basic amenities – such as housing and other social services, remuneration and, opportunities for growth through experience, exposure, Continuous Medical Education (CME) and, mastery. The National Health Policy (2010) therefore called for strengthening human resources through attraction, proper motivation, remuneration, development of human resources relevant to the needs of Uganda and promotion of professionalism among health workers.

An analysis of Uganda's performance in the National Development Plan II (NDP II) – 2014/15-2019/2020 revealed that: by 2018, 75 percent of the population lived within a five-kilometer radius of a health facility. The health infrastructure network has improved in the country and currently consists of 2 national referral hospitals, 19 regional referral hospitals, 147 district hospitals, 193 HC4s (medical officers present); 1250 HC3s (clinical officers present), and 3610 HC2s (enrolled comprehensive nurses present) (NPA, 2020). The analysis further puts the current health worker to population ratio of 0.4 per 1,000 which is below the WHO recommended threshold of 2.5 medical staff per 1,000 persons. A wide gap (68%) also remains in the super-specialized areas like mental health (100%), dermatology (100%), cardiology (69%), oncology (77%), and neurology (71%).

5.2 AT-related workforce in Uganda

HRH statistics equally vary from the various sources. The 3 sources of HRH information during the assessment were: the statistics with the registering institutions, the employment data with the Ministry of Health HRH and, the National Planning Authority. The Key statistics show that there are: 14,808 registered allied health workers; 13,906 nurses and midwives registered with the council; 5,682 registered medical and dental practitioners and 736 pharmacists. The allied health workers include: Anaesthetic Clinical Officers, Anaesthetic Officers, Clinical Officers, Dental Technologists, Dispensers, Ear Nose And Throat Clinical Officers, Environmental Health Officers, Health Assistants, Health Inspectors, Medical Imaging Technologists, Medical Laboratory Assistants, Medical Laboratory Scientific Officers, Medical Laboratory Scientists, Medical Laboratory Technicians, Medical Laboratory Technologists, Medical Radiographers, Medical Sonographers, Occupational Therapists, Ophthalmic Clinical Officers, Orthopaedic Officers, Orthopaedic Technologists, Pharmacy Assistants, Physiotherapists, Prosthetics-Orthotics workers, Psychiatric Clinical Officers, Public Health Dental Officers, Theatre Assistants and, Vector Control Officers. Of these: Ear Nose and Throat Clinical Officers, Medical Imaging Technologists, Occupational Therapists, Ophthalmic Clinical Officers, Orthopaedic Officers, Orthopaedic

Technologists, Physiotherapists, Prosthetics-Orthotics workers and, Speech and language therapists mainly work in the AT space. Of the 5,189 registered medical and dental practitioners in Uganda, only 25.75% (n=1,336) are employed in the public sector and of which some have taken on administrative roles hence reducing the actual total workforce. Below is an analysis of medical and dental practitioners and allied health workers registered and employed in the public health sector (Ministries, Departments and Agencies) who are mainly in the AT space.

Table 4: Human Resources for Health: AT Specialists registered and employed

No	Workforce	Public Sector	Facility level	Private and other sectors	Total	% in Public Service
1	Community Health Workers	-	Primary	87,500	87,500	0.0%
2	Nurses	14,971	Primary, Secondary & Tertiary	1,065	16,036	93.4%
3	Physicians	150	Tertiary	1,549	1,699	8.8%
4	Other medical officers (MBcHB, BDS)	1,004	Secondary & Tertiary	2,480	3,484	28.8%
	TOTAL	**16,125**	**-**	**92,594**	**108,719**	**14.8%**
No	**Allied health professionals:**	**Public Sector**	**Facility level**	**Private and other sectors**	**Total**	**% in Public Service**
1	Clinical Officer (Speech Therapy)	146	Secondary & Tertiary	154	300	48.7%
2	Clinical Officer (Ear, Nose and Throat)	2	Secondary & Tertiary	3	5	40.0%
3	Medical Imaging Technologist	4	Secondary & Tertiary	60	64	6.3%
4	Occupational Therapist	41	Secondary & Tertiary	23	64	64.1%
5	Ophthalmic Clinical Officer	94	Secondary & Tertiary	172	266	35.3%
6	Orthopedic Officer	156	Secondary & Tertiary	86	242	64.5%
7	Orthopedic Technologist	49	Secondary & Tertiary	57	106	46.2%
8	Physiotherapist	64	Secondary & Tertiary	50	114	56.1%
9	Technicians: Prosthetic & orthotic (P&O)	18	Secondary & Tertiary	336	354	5.1%
10	Audiologists	0		5	5	0.0%

11	Audiometric technicians	2	Secondary & Tertiary	31	33	6.1%
12	Biomedical engineers	15	Tertiary	53	68	22.1%
13	Teachers: Braille	1	Primary, Secondary & Tertiary	16	17	5.9%
14	Community Based Rehabilitation (CBR) workers	8	Primary, Secondary & Tertiary	2314	2322	0.3%
15	Technicians: Hearing aids	3	Secondary & Tertiary	13	16	18.8%
16	Mobility orientation trainers	0	Primary, Secondary & Tertiary	1326	1326	0.0%
17	Special Teachers	100	Primary, Secondary & Tertiary	857	957	10.4%
18	Technicians: Wheel chairs	0	Secondary & Tertiary	2326	2326	0.0%
	TOTAL	**703**		**7,882**	**8,585**	**8.2%**

No	Doctors specializing in:	Public Sector	Facility level	Private and other sectors	Total	% in Public Service
1	Diabetes	0	Tertiary	2	2	0.0%
2	Ear, nose, throat	10	Tertiary	20	30	33.3%
3	Geriatrics	0	Tertiary	3	3	0.0%
4	Ophthalmology	9	Tertiary	33	42	21.4%
5	Paediatrics and Child Health	30	Tertiary	205	235	12.8%
6	Rehabilitation	1	Tertiary	4	5	20.0%
7	Surgeon (Orthopaedic)	9	Tertiary	37	46	19.6%
8	Dental Surgery	84	Tertiary	134	218	38.5%
9	Dental Surgery (Orthodontics)	2	Tertiary	0	2	100.0%
10	Dental Surgery (Prosthodontics)	1	Tertiary	0	1	100.0%
11	Dental Surgery (Reconstructive)	0	Tertiary	5	5	0.0%
12	Endocrinologist	0	Tertiary	2	2	0.0%
13	Internal Medicine	36	Tertiary	171	207	17.4%
14	Internal medicine (Cardiology)	2	Tertiary	10	12	16.7%
15	Paediatrics (Neurologist)	1	Tertiary	1	2	50.0%

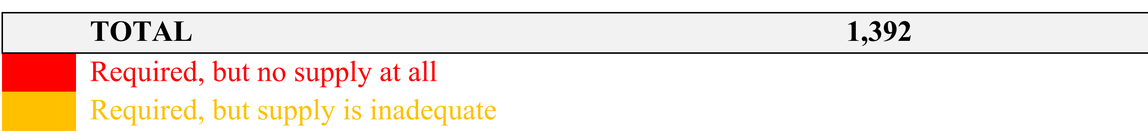
16	Paediatrics (Ophthalmology)	0	Tertiary	1	1	0.0%
17	Paediatrics (Surgery)	2	Tertiary	1	3	66.7%
18	Physician (Occupational Medicine)	1	Tertiary	0	1	100.0%
19	Physician (Sports)	1	Tertiary	1	2	50.0%
20	Physiology	2	Tertiary	3	5	40.0%
21	Surgeon (Neuro Anatomy)	1	Tertiary	0	1	100.0%
22	Surgeon (Neurosurgery)	0	Tertiary	12	12	0.0%
23	Surgeon (Cardiothoracic & Vascular)	5	Tertiary	1	6	83.3%
24	Surgeon (Plastic and Constructive)	0	Tertiary	8	8	0.0%
25	Surgeon (Thoracic)	0	Tertiary	1	1	0.0%
	TOTAL	**197**		**655**	**852**	**23.1%**

SOURCE: Ministry of Health Website - http://hris.health.go.ug/#link

It should however be noted that other specialists (who might have not been included in the table above) also support diagnosis, assessment and recommendation for specific AT. Again, the statistics provided by the Ministry of health do not indicate where the rest of the HRH (that are not employed by the MDAs) are actually employed. However, the Draft National Development Plan (January 2020) decries the dire lack of key AT-leaning human resources as a result of their total absence or inadequate supply. These are presented below

Table 5: AT-leaning Human Resources-gap in Uganda

No	QUALIFICATIONS AND SKILLS	Estimated No	Status
1	Specialists (Sports medicine)	80	
2	Specialists: Critical Care Medicine	54	
3	Specialists: Endocrinologists	50	
4	Specialists: Geriatric Medicine	35	
5	Specialists: Hospice and Palliative Medicine	110	
6	Specialists: Nephrologists	50	
7	Specialists: Neurologists	60	
8	Specialists: Occupational health and Safety	210	
9	Specialists: Oncologists	35	
10	Specialists: Otolaryngologists	41	
11	Specialists: Plastic Surgeons	35	
12	Specialists: Podiatrists	40	
13	Specialists: Preventive Medicine	130	
14	Specialists: Rheumatologists	66	
15	Specialists: Emergency Medicine	76	
16	Teachers (Language)	130	
17	Teachers (Special Needs)	190	



	TOTAL	1,392

Required, but no supply at all

Required, but supply is inadequate

SOURCE: Third National Development Plan (NDP III) 2020/21 – 2024/2025, pages 164 – 165.

5.3 Training of AT-related workforce in Uganda

Uganda has 87 institutions that train nurses and midwives and of these; 11 are government founded and managed, 27 are founded and managed by Faith Based Organisations (FBOs), 34 are Private; 5 are public universities and 10 are private universities. The level of training offered is presented in the table below.

Table 6: Nurses training institutions in Uganda

No	Qualification	Govt	FBO	Private	Public University	Private University	Total
1	Msc Nursing				2	1	3
2	BSc. Medical Education	1					1
3	BSc Midwifery				1		1
4	BSc Nursing				3	8	11
5	Diploma in Paediatric Nursing	1					1
6	Diploma in Public Health Nursing	1					1
7	Diploma in Nursing	4	13	7		8	32
8	Diploma in Midwifery	7	14	5		3	29
9	Diploma in Community Health.	1					1
10	Diploma in Comprehensive Nursing	5					5
11	Diploma in Medical Education, Midwifery.	1					1
12	Diploma in Medical Education, Nursing.	1					1
13	Diploma in Mental Health Nursing	1					1
14	Certificate in Midwifery	1	23	29			53
15	Certificate in Nursing	1	21	28		1	51
16	Certificate in Mental Health Nursing	1					1
17	Certificate in Comprehensive Nursing		6	5		3	14
18	Certificate in Enrolled Comprehensive Nursing	4	2	3			9
	TOTAL						**216**

There is however limited training and/or integration of AT in the 216-nursing course and yet these are the most readily available HRH.

There are 61 Allied health training institutions that train cadres in 35 courses. These are presented herein below

Table 7: Allied Health Course in Uganda

No	Qualification	Public Institute	FBO	Private	Public University	Private University	Total
1	BSc Anaesthesia				1		1
2	BSc Biomedical Laboratory Technology			1			1
3	BSc Clinical Medicine & Community Health					1	1
4	BSc Dental Laboratory Technology				1		1
5	BSc Environmental Health Science			1	1	1	3
6	BSc Human Nutrition & Dietetics				1		1
7	BSc Medical Imaging			1			1
8	BSc Medical Laboratory Sciences			1	2	1	4
9	BSc Medical Radiography				1		1
10	BSc Optometry				1		1
11	BSc Physiotherapy			1	1		2
12	BSc Speech & Language Therapy				1		1
13	BSc Ultra Sound			1			1
14	Dip: Anaesthesia	3				1	4
15	Dip: Clinical & Community Nutrition	1					1
16	Dip: Clinical Medicine & Community Health	3	2	19		1	25
17	Dip: Dental Technology	1					1
18	Dip: ENT, Head & Neck Surgery	1					1
19	Dip: Environmental Health Science	1					1
20	Dip: Medical Entomology & Parasitology	1					1
21	Dip: Medical Laboratory Technology	2	6	9		1	18
22	Dip: Medical Radiography	1					1
23	Dip: Mental Health	1					1
24	Dip: Occupational Therapy	1					1
25	Dip: Ophthalmology	1					1
26	Dip: Orthopaedic Medicine	1					1
27	Dip: Orthopaedic Technology	1					1
28	Dip: Pharmacy	3		10			13
29	Dip: Physiotherapy	1					1
30	Dip: Public Health Dentistry	2		2			4
31	Cert: Environmental Health Sciences	2					2
32	Cert: Medical Laboratory Techniques	2	8	28			38
33	Cert: Pharmaceutical & Health Supplies Mgt			1			1
34	Cert: Pharmacy			5			5
35	Cert: Theatre Techniques		4	3			7
	TOTAL						**148**

Based on the above therefore, the key Allied Health courses that are most relevant to AT (in terms of assessment, recommendation, fitting and servicing) are; Bsc Optometry, Physiotherapy, Speech andl Language therapy and; Diplomas in Dental technology, Head & Neck Surgery, Occupational Therapy, Ophthalmology, Orthopaedic Medicine, Orthopaedic Technology and, Physiotherapy. The determinants for enrollment are usually good grades in sciences in Uganda Higher Secondary Education (UHSE)/ Uganda Advanced Certificate of Education (UACE). However, there are also other factors that impede the training of adequate cadres such as the very high costs of training.

Continuing Education

5.4 Gaps and opportunities in AT-Workforce training, recruitment and deployment

Generally, the Uganda Ministry of Health main health policy promotes primary health care strategy whose principles are generally in agreement with the principles of CBR. Whilst the Ministry of Health does not run any specific CBR programme, it tries to address the needs of persons with disabilities, although the main focus is on prevention, medical care and rehabilitation and assistive devices. The Ministry has implemented several programs including distribution of assistive devices like wheel chairs and prevention of blindness. Aspects of disability and managing disability from the social perspective are being included into the training curriculum of health workers.

- Lower remuneration
- High cost of training personnel
- Lack of pivotal cadres at the primary and secondary level
- Uncoordinated approaches to implementation planning.

The findings of this study revealed that the focus on promotion has weakened. The health education component is generally very weak. The budget allocation in the districts is virtually no more. It is therefore imperative that: we address the emerging trends in AT.

6.0 Provision of Assistive Products

It is only the new Persons with Disabilities Act, 2019 that has a provision for AT. However, this has not yet been operationalized although it offers an opportunity for further advocacy and engagements.

6.1 Gaps in provision of Assistive Products

The core gaps in AT provision lie in: incoordination of health cadres for AT services, lack of resources for local manufactory and, there are no nationally agreeable AT standards, the porous boarders and a lack of guidelines on procurement, approval and supply of AT products makes tracking of such products and services complex. Similarly, provision of AT is majorly donor driven and there is no single nationally generated resource basket for procurement and supply of AT goods and services.

7.0 Assessment Limitations

There were a number of challenges associated with collecting information to inform the assessment process. Notable among these was the lack of data as required, uncoordinated service provision and, lack of clear reference sources. The other challenges included:

- Non-inclusion of AT-related data in the HMIS and none coverage of such information in key health sector reports;
- Low response rates from especially medical personnel which will require that they get invited for the validation for their input into the final country assessment report;
- The timing was inadequate to generate all information
- The incoordination within the Ministries made collection of relevant data quite difficult. This was so with the bio-statistics section. We were referred to the HRH website which has some discrepancies in the data therein

7.1 Implications of the challenges in the assessment process

The challenges may affect the accuracy of all the information and will therefore require that such information is validated during a national validation workshop in February 2020.

Analysis Result and Recommendation
Current Status of Country Capacity on AT

Data and Information System related to Assistive Technolo

Component	Status	Criteria/ Rationale
Reliable information is collected to accurately estimate the need for assistive technology	Needs strengthening	Government collects data on health conditions and/or functional limitations that may require AT. However, the results are not up-to-date, not comprehensive, the reliability is questioned, and/or subsets of total population are not accounted for. There is no information on the current AT users and magnitude in the UFDS, UDHS, NPHC and other National Surveys. Similarly, this information is not captured in the HMIS hence limiting positive interventions for AT access
Information is collected on the provision and utilization of assistive technology	Not present	Information system that can generate data regarding utilization of AT is non-existent. There is no single effort currently in place to generate such information

2. *Stakeholder landscape*

Component	Status	Criteria/ Rationale
There are adequate and relevant stakeholders in Uganda's AT Sector	Present/ Functioning	There are stakeholders in the government, non-state actors (including NGOs) and private AT goods and service providers in the country. These are known although there is no central repository or inventory of their work, location and scope. It should also be noted that this space is dominated by the NGO sector and not necessarily government due to resource constraints
The AT stakeholders are present and responsible at all levels: National, provincial, district and at community level	Needs strengthening	There is a concentration of the stakeholders at national and regional levels (particularly in the regional referral hospitals) with limited presence in the districts, lower local governments and community levels. This curtails goods and service provision and tends to portray a blurred picture of the need of AT services.
Clear roles and responsibilities and strong coordination among government entities for comprehensive AT program coverage	Not present	There are no clear roles and responsibilities and strong coordination among government entities for comprehensive AT program coverage. This has been considered by the stakeholders as the strongest weakness that hinders the spur of the AT space in Uganda

The AT stakeholders have a coverage of all impairments and/or disabilities requiring AT	Needs strengthening	There is a concentration on mobility-related and seeing AT goods and services. Hearing, cognition and ICT-based AT are limited. There is also a limitation in scope particularly looking at wheel chairs, protheses and reading glasses only.
The AT stakeholders have clear strategies/ roadmaps and or plans for including AT in their work	Needs strengthening	There are no clear roadmaps for AT provision and maintenance by government. Besides, the stakeholders are project-based with almost no long-term agenda for AT provision by any service provider
The stakeholders have specific AT programmes of a sizeable coverage	Needs strengthening	There is almost no government programmes for AT with the exception of the 'institutionalized' services provided by the military at the CMRC. Where there has been such services (such as in the Ministry of Education and Sports), it is not in position to serve up-to 10% of the overall AT demand in the sector. The NGOs have a number of AT-specific programmes but these are project-based with limitation in the duration and scope and hence not sustainable in the long run.
The stakeholders have clear M&E frameworks and systems that cover AT-related targets and indicators	Needs strengthening	With the exception of the NGO-led programmes, the other sectors do not have clear M&E frameworks and systems that cover AT-related targets and indicators. The ideal source of such data would be for example the HMIS which does not cover such data.
The stakeholders have clear budgets that cover AT-related costs	Not present	With the exception of the NGO-led programmes, the other stakeholders do not have clear budgets that cover AT-related costs

3. *Policy and Financing*

Component	Status	Criteria/ Rationale
Assistive technology has a legal framework	Present/ Functioning	Uganda has ratified the CRPD and the new law (the Persons with Disabilities Act 2019) makes provision for AT although this is relatively new and no sanctions or legal implications attached to non-provision of AT goods and services
Unified national strategy for increased access to AT exist with clear roles and responsibilities and strong coordination among government	Not present	Government has limited awareness on the need for and importance of AT. There is no national strategy for AT, and government plays no or very limited role in ensuring availability and access to AT. Contribution from government entities is ad-hoc.

entities for its successful implementation		
Government entities implement programmes for AT (e.g., provision, training, standards/regulation, procurement, etc.) with defined monitoring and evaluation plan	Needs strengthening	Government entities have programmes for AT. However, there is no monitoring and evaluation plan and indicators.
Sufficient government financing exists to support programmes for AT (e.g. provision, training, standards/regulation, procurement, etc.)	Not present	Government financial resources are not available to support programmes for AT. Donors (e.g., bilateral, multilateral, foundations, charities) play a more significant financing role in AT.
National health financing scheme provides appropriate coverage for assistive technology	Not present	National health financing scheme does not exist and the UNMHCP does not explicitly make mention of AT

4. Assistive Products and Procurement System

Component	Status	Criteria/ Rationale
Assistive products are regulated	Needs strengthening	There is only regulation of wheel chairs which is not even enforced. The wheel chair guidelines are not well marketed and known by all stakeholders and users and a number of such AT are donated as charity in an attempt to 'dump' outdated AT.
Country has a national assistive product list (APL) or similar, with sufficient technical specifications	Not present	National assistive product list does not exist, and AT is not registered on the national list of approved medical device. No technical specifications for assistive products are available.
There is an established government procurement system for assistive technology	Not present	Government is not undertaking procurement of assistive products. They may procure a limited amount; however, they mostly rely on international donations/non-government actors
Assistive products are exempt from tax and duties	Needs strengthening	Tax exemption is based on application and not universal. There are growing concerns over non-exemptions by URA for both assistive devices and

		key spare parts for maintenance due to a lack of awareness of such services
Sufficient categories of assistive products on the APL are available through government procurement	Not present	No priority assistive products on the APL are available in the country through government procurement system.

5. ***Human Resources***

Component	Status	Criteria/ Rationale
Workforce related to assistive technology is sufficiently available	Present/ Functioning	There is a sufficient number of general health workforce, as well as full range of specialists and allied health professionals related to AT in the government sector
Structures/resources to build or strengthen the capacity of workforce in assistive technology is available	Present/ Functioning	There are educational institutions in the country offering degrees, diplomas or other courses for the full range of workforce categories of the workforce receives specific training on AT provision, either as part of their core training or through continuing education.

6. ***Provision of Assistive products***

Component	Status	Criteria/ Rationale
The provision of assistive products is guided by clear guidelines/standard	Needs strengthening	The guidelines are limited to wheel chairs only and do not take cognizance of the entire AT space – including training, procurement and distribution of AT
Assistive product service provision largely occurs in facilities within the governmental sector	Not present	There are significant gaps in provision of assistive products in the governmental sector, which are largely filled by non-government (not-for-profit or for-profit) entities. There are significant limitations in capacity to provide assistive products at all levels, resulting in inefficient allocation of tasks.
Assistive product service provision is person-centered	Not present	User impact and/or satisfaction is not considered at all after providing assistive products. Peer-to-peer training does not exist for any assistive products.
Assistive product service provision is well-connected and coordinated	Not present	There is no mechanism to refer or connect users from one provider to another. Service provision is fragmented, poorly connected and poorly coordinated

Recommendations for Action to Accelerate Access to AT

1. Data and Information System related to Assistive Technology

Objective	Proposed actions
Strengthen data collection on health conditions and functional limitations to estimate the need for assistive technology	• Assess gaps in the existing data availability and determine priority question(s) to add into the regular census or survey (e.g., population survey on health, facility survey). • Develop a national data collection roadmap with defined intervals on when data will be collected and how data will be used to inform procurement, service delivery, and AT policy. • Engage and encourage universities and research institutions to participate and fill the gaps in data availability on AT through research activities.
Establish and maintain information system and database on the provision and utilization of AT	• Establish an information system that can generate data regarding utilization of AT in the UDHS and UFDS. *(e.g., numbers of individuals in need of AT, number of people using AT, registration of products, projected needs);* promote the use of the data to drive evidence-based practices. • There is no single effort currently in place to generate such information • Develop capacity among stakeholders on how to analyze and use the data captured in the information system; encourage utilization of data for research to improved policy and programming.

2. Stakeholder landscape

Objective	Proposed actions
Improve access to AT goods and services at all levels: National, provincial, district and at community level	• Design a roadmap of ensuring that AT goods and services reach every level by ensuring equal and equitable distribution of AT by all sectoral players • Adequately monitor access to quality AT goods and services at all levels through HMIS and other means deemed necessary for capturing such data
Establish an AT coordination mechanism with clear roles and responsibilities of every stakeholder in the AT space for comprehensive AT program coverage	• Have in place an AT access strategy with clear roles and responsibilities of stakeholders • The wheel chair committee should be expanded and turned into a National AT committee with an operational secretariat working as a quasi-governmental entity

Advocate for adequate budgets to cover the AT needs in Uganda	• Implore the Gender and Equity provisions of the Financial Management Act (2015) to demand for AT budgets and services by MDAs; • Direct advocacy through the NDPs to include AT as a matter of right • Implement process to identify and calculate costs for implementing programmes within the national strategy for AT. • Implement fiscal analysis and forecasting and; • Identify possible funding mechanisms for AT programmes (e.g., public private partnerships, donor support, etc.).

3. Policy and Financing

Objective	Proposed actions
Establish a coordinated national effort for increased access to AT.	• Increase awareness among stakeholders on the need for and importance of AT, and build political commitment for improved access to AT. • Develop and implement a unified national strategy, including clear and coordinated roles and responsibilities among different government entities and between national and sub-national levels. • Develop a national priority assistive product list (APL) and determine priorities based on national needs and drawing on WHO priority list. • Establish or designate a national entity responsible for coordinating the implementation, monitoring, and evaluation of AT activities at various government entities and national and sub-national level. Ensure AT user representation in the entity.
Develop programmes for AT within relevant government entities and associated monitoring and evaluation plans and indicators	• Integrate AT into existing, relevant developmental plans (e.g., SDGs) and large-scale programmes. • Establish programmes for AT within the health sector and within national and sub-national levels of government. • Develop and implement a monitoring and evaluation plan and tools with indicators that also capture the users' perspectives. • Apply the results of evaluation and lessons learned to improve program implementation.

Ensure that the proposed national health financing scheme is inclusive of AT	• Develop investment case for inclusion of priority AT into health financing scheme, universal health coverage or other social safety policy. • Follow process to ensure that coverage for priority AT is included in national health financing scheme, universal health coverage or other social safety policy. • Determine range of assistive products to be covered or financed based on need and economic capacity. • Establish reimbursement rate or amount at which each priority AT is to be covered by the financial mechanism.

4. Assistive Products and Procurement System

Objective	Proposed actions
Establish and maintain regulation and regulatory mechanism for assistive products	• Establish a regulatory structure or assign agency at national or sub-national level to implement quality control of assistive products. • Include assistive products into existing health products certification regulation (e.g., essential medical device list). • Develop and publish clearly defined, step-by-step procedure for a product to go through the regulation process (e.g. standard operating procedures, registration requirements, minimum quality). • Facilitate testing and certification of assistive products using existing national or sub-regional testing facilities, and establish and maintain a register of certified or approved products. • Establish and maintain a register of manufacturers, suppliers and importers of assistive products and a post-market surveillance system. • Establish mechanism for routine update
Develop and maintain national assistive product list and technical specifications	• Develop a national priority assistive product list (APL) and determine priorities based on national needs and drawing on WHO priority list. • Introduce comprehensive technical specifications and minimum standards for all assistive products on the APL. to guide the procurement of quality products. • Enforce the use of technical specifications as the main tool to evaluate products and suppliers during the procurement process; implement a clear verification process.

Strengthen government procurement system for assistive technology	• Integrate assistive products into the existing procurement system in the country (e.g., MoH's procurement system). • Develop plan and guidelines for the procurement of assistive products (e.g. technical specification, tender process to select supplier, etc.) • Develop aggregate procurement lists based on needs from various sectors/ministries to enable centralized procurement. • Develop and maintain database of available assistive products and suppliers that meet quality requirements for planning and decision-making. • Participate in regional procurement network, if available.
Increase the range of assistive product categories that are tax exempt	• Gather data and evidence to advocate for and support policy development for inclusion of priority assistive products in tax-exempt categories of medical and health devices • Advocate for tax exemption on a range of AT products
Ensure sufficient categories of assistive products in the national APL are available through government procurement	• Develop a national priority assistive product list (APL) and determine priorities based on national needs and drawing on WHO APL. • Analyze and quantify need for each assistive products category based on user needs to inform priorities • Develop plans, guidelines and tenders to integrate procurement of products on APL into government procurement • Something on adequate supply chain to ensure availability at appropriate facility level

5. *Human resource capacity*

Objective	Proposed actions
Strengthen and maintain human resource capacity related to AT	• Develop curricula and materials for training programmes on the provision of AT at different levels of the system. • Recognize AT provision as part of workforces' scope of practice • Implement training programs for non-traditional AT providers • Establish center of excellence to provide training in collaboration with existing facilities at tertiary care hospitals. • Develop and implement initiatives/incentives to support retention and career pathways/continuing professional development

6. *Provision of Assistive products*

Objective	Proposed actions

Develop standards guiding the provision of assistive technology	• Form expert or technical committee(s) to develop standards and guidelines for AT service provisions • Develop mechanism to provide training and raise awareness on provision standards to workforce and facilities where assistive products are provided • Implement oversight of standards and guidelines at national and sub-national levels • Monitor and evaluate the efficiency of service delivery through outcomes measurements such as performance indicators • Develop and enforce expectations and good practices among AT providers • Develop and implement a plan for ensuring that service facilities are physically, cognitively, socially and culturally accessible
Include and maintain the provision of assistive products in facilities within the governmental sector	• Identify government facilities where the provision of assistive products could be added into the existing services offered • Establish services at primary, secondary and tertiary care levels as appropriate, and at other relevant ministries; increase the number of service outlets over time. • Identify and allocate necessary resources over time • Ensure sufficient availability of assistive products from the approved national list
Strengthen person-centeredness within the assistive product service provision	• Ensure user impact and/or satisfaction and peer-to-peer training are included in the guidelines/standards of assistive technology service provision • Engage technical experts and user-groups (e.g., disabled persons' organization) to develop necessary tools (e.g., user impact and satisfaction assessment tool) and training of trainers' program for delivering person-centered assistive technology services • Carry out user impact and/or satisfaction assessment routinely and use results to improve product procured and service provision • Develop follow-up and online user tracking system or mechanism, including compliance and grievance mechanisms
Develop and maintain well-connected and coordinated assistive	• Map service providers and develop directory • Include AT in existing referral mechanism within the healthcare system

product service provision system	• Develop and implement a larger referral mechanism between facilities under different sectors (health education, social welfare, etc.) • Improve knowledge of service providers on AT services and referral process

Appendix

Appendix A: List of individuals/organizations who participated in the assessment

Stakeholder	Organization	Title
7. Stanley Bubikire (Dr)	Ministry of Health	Assistant Commissioner Rehabilitation
8. Rose Bongole	Ministry of Health	Principal Physiotherapist,
9. Francis Ekwan,	Ministry of Health	Principal Occupational therapist
10. Christine Tusiime	CoRSU Hospital	Head of Rehabilitation
11. Davide Naggi	CoRSU Hospital	Chief Executive Office
12. Ryan Duly	Humanity & Inclusion	Country Manager
13. Fred Semakula	Motivation International	Manager
14. Herbert Omoding	Motivation International	Clinician
15. Denis Nsimenta	Mulago National Referral Hospital	Senior Orthopedic Technician
16. Stephen Muhumuza	Community Based Rehabilitation Alliance (COMBRA)	Executive Director
17. Jane Kantono	Ministry of Education and Sports	Senior Education Officer
18. Josephine Namirimu	Cheshire Services Uganda	Communications Officer
19. Agnes Nampera	Ministry of Gender, Labour and Social Development	Senior Rehabilitation Officer
20. Barbara Alupo	World Vision	Gender & Inclusion Specialist
21. Nicholas Kasa Kwesiga	Ministry of Defence and Veteran Affairs	Rehabilitation Officer
22. Emily Ajiambo	Ministry of Gender, Labour and Social Development	AG Commissioner - Disability and Elderly
23. Wilson Nyegenye	Uganda Bureau of Statistics	Principal Statistician- Population and social stastitics
24. Masiga Samson	Ministry of Gender, Labour and Social Development	Principal Rehabilitation Officer
25. Susan Nakitto	Ministry of Gender, Labour and Social Development	Senior Policy Officer
26. Kalanda Emmanuel	Uganda Association of Occupational Therapists	Chairperson

Appendix 1: Stakeholders mapped

Entity name	Category	Lead role	Focus area/s of AT	Key AT program	Budget
Ministry of Defence and Veteran Affairs - Chieftaincy of Mubende Rehabilitation Centre (CMRC)	Government	Procurement, Distribution and Service	All	Chieftaincy of Mubende Rehabilitation Centre	Classified
Ministry of Education and Sports - Department of Special Needs Education and Guidance	Government	Procurement, Distribution and Service	Vision and Hearing	Special Needs Education	Classified
Ministry of Education and Sports - Kyambogo University	Government	Training	All	None	Classified
Ministry of Gender Labour and Social Development - Department of Disability and Elderly	Government	Policy and regulatory	All	None	Classified
Ministry of Health - Mulago National Referral Hospital - Orthopaedic workshop	Government	Procurement, Distribution and Service	Mobility - including Orthopaed ics	None	Classified
Ministry of Health - Regional Referral Hospitals	Government	Procurement, Distribution and Service	All	Related Hospital Sections	Classified
Ministry of Health- Division of Disability and Rehabilitation	Government	Policy and regulatory	All	None	Classified
Ministry of Information & Communications Technology	Government	Policy and regulatory	All	None	Classified
The Parliament - Office of the Right Honourable Speaker	Government	Financing and Advocacy	Vision and Hearing	Social Responsibility	Classified
Kampala Audiology and Speech Centre (KASC)	Non-government for-profit	Procurement, Distribution and Service	Hearing	None	Classified
Kumi Orthopaedic Centre	Non-government for-profit	Procurement, Distribution and Service	Mobility - including Orthopaed ics	None	Classified
Budaka Cheshire Home	Non-government non-profit	Procurement, Distribution and Service	All	Rehabilitation	Classified

Entity name	Category	Lead role	Focus area/s of AT	Key AT program	Budget
Buluba Hospital/ Leprosy Relief Services	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	Rehabilitation	Classified
Cheshire Services Uganda	Non-government non-profit	Financing and Advocacy	All	Rehabilitation	Classified
Community Based Rehabilitation Alliance (COMBRA)	Non-government non-profit	Training	All	None	Classified
CoRSU	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	Rehabilitation	Classified
Hear Her Voice	Non-government non-profit	Financing and Advocacy	Hearing	None	Classified
Humanity and Inclusion	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	Appropriate, Life Changing orthopaedic devices -3D Printing through Emergency Tele Rehab Access (3D-PETRA)- Innovation Initiative	Classified
Kagando Hospital	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	None	Classified
Katalemwa Cheshire Home	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	None	Classified
Kumi Hospital - Ongino	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaedics	Rehabilitation	Classified

Entity name	Category	Lead role	Focus area/s of AT	Key AT program	Budget
Mengo Hospital	Non-government non-profit	Procurement, Distribution and Service	Eye health	Rehabilitation	Classified
Motivation Uganda	Non-government non-profit	Procurement, Distribution and Service	Mobility	Wheel chairs for work	Classified
Namutamba Rehabilitation Centre	Non-government non-profit	Procurement, Distribution and Service	Mobility	Rehabilitation	Classified
National Union of Disabled Persons of Uganda (NUDIPU)	Non-government non-profit	Advocacy	All	None	Classified
Organized Useful Rehabilitation Services (OURS), Mbarara - also affiliated to Ruharo Mission Hospital	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaed ics	Rehabilitation	Classified
Orphans and vulnerable children Aid Centre - Luwero	Non-government non-profit	Financing and Advocacy	All	None	Classified
Ruharo Hospital	Non-government non-profit	Procurement, Distribution and Service	Eye health	None	Classified
Sense International	Non-government non-profit	Financing and Advocacy	Eye health and Hearing devices	None	Classified
Sightsavers International	Non-government non-profit	Financing and Advocacy	All but mainly eye health	None	Classified
Soft Power Health	Non-government non-profit	Procurement, Distribution and Service	Mobility - including Orthopaed ics	None	Classified
St Francis Cheshire Home - Soroti	Non-government non-profit	Procurement, Distribution and Service	Mobility	Rehabilitation	Classified
Starkey Foundation	Non-government non-profit	Procurement, Distribution and Service	Hearing	Low cost hearing aids	Classified

Entity name	Category	Lead role	Focus area/s of AT	Key AT program	Budget
Vision Spring and Brac	Non-government non-profit	Procurement, Distribution and Service	Mobility	Reading Glasses for Improved Livelihoods (RGIL)	Classified
World vision	Non-government non-profit	Procurement, Distribution and Service	All	None	Classified
UNICEF - Uganda	Non-government UN Agency	Procurement, Distribution and Service	All	None	Classified
World Health Organisation	Non-government UN Agency	Policy and regulatory	All	None	Classified