UGANDA COMMUNICATIONS COMMISSION

# LEVEL OF AWARENESS, ACCESS AND USAGE OF ICTs AMONG PERSONS WITH DISABILIES IN UGANDA

## BASELINE REPORT

### OCTOBER 2022

Baseline study for enhancing knowledge management, ICT adoption, digital skills and access to E-services for persons with disabilities across the country

Partners

NUDIPU

EIGHT TECH CONSULTS
People . Innovation . Technology . Services

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## PURPOSE AND INTENDED AUDIENCE

This document describes how the study on enhancing knowledge management, ICT adaption, digital skills and access to E-services for Persons with Disabilities in Uganda was conducted. The document presents the researchers' study findings and provides a multitude of recommendation in terms of ICT for persons with disabilities in Uganda. The document is intended for UCC and other stakeholders including government, international cooperation, academicians and researchers.

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# ACKNOWLEDGEMENT

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|---|---|
| **8TECH** | Eight Tech Consults Ltd |
| **NUDIPU** | National Union of Disabled Persons of Uganda |
| **UCC** | Uganda Communications Commission |
| **UCUSAF** | Uganda Communications Universal Service and Access Fund |
| **UBOS** | Uganda Bureau of statistics |
| **ICT** | Information Communication Technology |
| **PWDs** | People with Disabilities |
| **IEC** | Instructional Education and communication |
| **COVID** | Corona Virus Pandemic |
| **DU** | District Unions |
| **OPDs** | Organizations of Persons with Disabilities |
| **ToR** | Terms of Reference |
| **M&E** | Monitoring and Evaluation |
| **PL** | Project Leadership |
| **KII** | Key Informant Interviews |
| **SQ** | Survey Questionnaire |
| **FGD** | Focus Group Discussion |
| **DCM** | Data Collection Methods |
| **MiFi** | Mobile Wi-Fi |
| **IFMIS** | Integrated Financial Management Information System |
| **DHO** | District Health Officer |
| **MP3** | MPEG Audio Layer-3 |
| **NVDA** | Non-Visual Desktop Access |
| **TTS** | Text to Speech |
| **WHO** | World Health Organisation |
| **NITA-U** | National Information Technology Authority – Uganda |
| **CRDP** | Convention on the Rights of Persons with Disabilities |
| **GPS** | Global Positioning System |
| **PIT** | Project Implementation Team |
| **UACE** | Uganda Advanced Certificate of Education |
| **UCE** | Uganda Certificate of Education |
| **ED** | Executive Director |
| **MD** | Managing Director |
| **ADL** | Activities of Daily Living |
| **GoU** | Government of Uganda |
| **CSO** | Civil Service Organisations |
| **NGO** | Non-Government Organisations |

# DEFINITION OF KEY TERMS

| Term | Definition |
|---|---|
| Private sector | The private sector is the part of the economy that is run by individuals and companies for profit and is not state controlled. Therefore, it encompasses all for-profit businesses that are not owned or operated by the government. |
| Public sector | Public sectors include the public goods and governmental services such as the military, law enforcement, infrastructure, public transit, public education, along with health care and those working for the government itself, such as elected officials. |
| Assistive technologies | Assistive technology is technology used by individuals with disabilities in order to perform functions that might otherwise be difficult or impossible. Assistive technology can include mobility devices such as walkers and wheelchairs, as well as hardware, software, and peripherals that assist people with disabilities in accessing computers or other information technologies.<br><br>"Assistive Devices" include; wheelchairs, calipers, crutches, white canes, orthopedic appliances, qualified readers; taped texts, audios, visual and pictorial recordings; braille and tactile equipment's or materials, large print and other devices that support persons with disabilities to participate effectively in all aspects of life; |
| E-services | An internet service that offers information, completes tasks, or conducts transactions is referred to as a "e-service." Any electrically provided service, including direct and post-sale services, may be provided to customers directly or indirectly. |
| Digital skills | Digital skills, which range from elementary web searching and emailing to specialized programming and development, are widely defined as the abilities required to "use digital devices, communication apps, and networks to obtain and manage information." Fundamentally, these abilities support problem-solving in a future where people may work from anywhere, collaborate, create, and share digital content. |
| Knowledge Management | This is the process of identifying, organizing, storing and disseminating information within an organization. The best four components of knowledge management are people, process, content/IT and strategy |
| ICT | Information and communication technologies (ICT) is defined as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, Visio/video-conferencing, etc.) |
| Magnifier (Hand Held Video Desktop magnifiers, Desktop) | A video magnifier is a reading aid for people with low vision that maximizes the remaining sight so it's possible to read and view photos again. When you are in need of magnification or contrast a video magnifier can help. A video magnifier is an electronic magnifier that uses a camera and a screen to make text easier to read. |

| Braille note taker | Electronic note takers are small, portable devices for storing information with the use of braille or typewriter keyboards. The stored information may be accessed through a built-in speech synthesizer, a braille display, or both |
| --- | --- |
| Communication boards | A communication board is a device that displays photos, symbols, or illustrations to help people with limited language skills express themselves. The user can gesture, point to, or blink at images to communicate with others. |
| Audio Player /Record-er | Also commonly known as an MP3 player. These are often small hand-held devices, which minimally contain memory storage, a battery, and audio output. |
| Scanning Pens | Used to scan printed text, bring it up on a computer screen, and hear it read out loud |
| Screen reader soft-ware (Jaws, NVDA, Apple Voice Over etc.) | Screen readers are software programs used by blind individuals to access computers and mobile devices. |
| Barcode Scanners | A **barcode reader** (or **barcode scanner**) is an optical scanner that can read printed barcodes, decode the data contained in the barcode and send the data to a computer. |
| Text to audio converter | Text-to-speech (TTS) is a type of assistive technology that reads digital text aloud. It's sometimes called "read aloud" technology. TTS can take words on a computer or other digital device and convert them into audio. |

# EXECUTIVE SUMMARY

The World Health Organization (WHO) defines disabilities as an umbrella term, covering impairments, activity limitations and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus, disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives".

According to the WHO, over 1 billion people are estimated to experience disability which corresponds to about 15% of the world's population, with up to 190 million (3.8%) people aged 15 years and older having significant difficulties in functioning, often requiring health care services. The number of people experiencing disability is increasing due to a rise in chronic health conditions and population ageing. Furthermore, the World Health Organization notes that 80% of persons with disabilities live in developing countries.

According to research on Uganda's disability landscape from 2021, 22% of Ugandans who are unemployed have a disability, despite the country's estimated disability rate of 12%. According to research, people with impairments have fewer employment options, especially in countries where subsistence farming dominates the economy. Understanding the high rates of poverty among individuals with disabilities depends in large part on this. We recommend ICT for PWDS because programs, policies, and services that are inclusive of people with disabilities are necessary to lower unemployment, ease poverty, and increase economic inclusion among people with disabilities.

UCC notes that ICTs can significantly increase the socio-economic livelihoods of communities in Uganda, including Persons with Disabilities (Persons with Disabilities). However, there is a growing outcry from the public and key stakeholders that the Persons with Disabilities are increasingly becoming isolated from accessing and using ICTs despite the available evidence of the impact of ICTs. It is thus imperative that ICTs inclusiveness programs be implemented with key ecosystem partners to cater for the needs of the Persons with Disabilities. It is against this background that UCC has over the years developed and implemented various initiatives aimed at ensuring universal access and usage of ICTs, not only in rural and underserved areas but also some ICT interventions targeting this special interest group development. The objectives of the study include;

a) To determine the state of access and usage of ICTs by persons with disabilities
b) To ascertain the extent to which services providers are offering inclusive digital and communication services to persons with disabilities
c) To determine the state of ICT for persons with disabilities innovation eco system in the country
d) To establish knowledge management capacity among different actors in ICT on persons with disabilities and inclusion
e) To establish information needs of the various stakeholders to enhance knowledge management and decision making

The study was designed to document the state of digital inclusiveness in e-services access, technology, content and information needs before and after the interventions for persons with disabilities in Uganda. The research was also used to identify the content and information needs for various categories of persons with disabilities across the country that is, , the physically challenged, the blind, the deaf and the dumb. The baseline study covered all the 5 regions (Eastern, Western, Central, Northern and West Nile) of the country.

A number of key findings were derived as discussed below;

**a) Respondent demographics;**
i. Concerning category of disability, most of the respondents (63.6%) had a physical disability, followed by visual disability (18.12%) and hearing disability (15.78%).

ii. The mean age of the study respondents was 35 years. More than half of the respondents **(51.2%) were male**, and **48.8% were female,** while half (**50.8%)** were from the rural areas

and the rest **49.2%** were from Urban areas, less than a half **(33.5%)** of the respondents had attained primary education, whereas (**47.9%**) were self-employed and (**44.5%**) were married.

iii. Out of the 2003 respondents for the study, only 180 respondents were formally employed, of these, majority **52.2%** were in the public sector, **(26.1%)** in private sector and (**13.3%)** in civil society organizations

iv. Majority of the leaders within the District Unions were male and the physical disability was more prevalent in these

### b) ICT Awareness, Access and Usage

i. In terms of ownership of ICT devices, majority **54.8%** of individual persons with disabilities owned feature phones (Kabiriti), **51.7%** owned Radios, **23%** owned smart phones, **20.6%** owned televisions and a few **4.7%** owned a laptop and **2.4%** owned Tablet/i-Pad. The most used devices are radio, feature phones, television and smart phones.

ii. There was a high level of awareness and usage at **(63%)** of ICT devices amongst OPD/DU where at least **53.2%** indicated to use ICT devices in their day-to-day activities.

iii. There was a  high level of ownership of ICT devices amongst persons with disabilities in the central, Busoga and west Nile region  compared to other regions

iv. In terms of usage of ICT devices, few individual persons with disabilities indicated to use their phones for education and news, however indicating to use their devices mostly for entertainment and communication

v. There was a low awareness and usage of assistive devices among persons with disabilities with only 3.04% indicating to have active usage of the audio players and recorders 1.7% actively using the perkins braille, 1.34% actively use the talking web browser 1.15% actively Magnifier and Braille note taker, 1.04% actively use text to audio convertors

vi. On average **52.7%** of the organizations were aware of the existence of assistive devices however a few of the organization own these devices such as screen readers, Perkins Braille, recorders/ audio players, text to audio converter, and magnifier in that order of ownership

vii. In regard to service providers and awareness of assistive devices, they indicated to be aware of most of the assistive devices

viii. There was a low awareness and usage of ICT services, on average persons with disabilities were aware of ICT services with majority indicating to use Facebook 42.3%, WhatsApp 41.1%, and Twitter 31.2%. In terms of usage only 26.7% were using WhatsApp, 22.9% were using Facebook, 10.8% were Email chats

ix. In terms of internet access, majority (55.4%) of the persons with disabilities don't use internet. 31.3% used their smart phones to access the internet, 17.7% used feature phones, 9.45% use laptops, 8.4% use desktop computers, 8.4% modem/Mifi and 7.1% use iPad or tablet.

### c) Level of knowledge in performing ICT operations

i. ICT skills such as basic operation of ICT hardware, typing, document creation, using of internet and computers safely are essential skills in the current digital error of digital technologies. However, majority of the respondents above **60%** had never even acquired or got an opportunity to learn such skills

ii. In terms of usage of e-government services, majority (54.6%) of the sector opinion leader respondents indicated that e-services have contributed to the well-being of persons with disabilities in that they have brought services closer to people thus limiting mobility and have promoted real-time communication and ease of access of information

iii. persons with disabilities indicated that they were unable to access e-government services as opined by the OPDs and DUs this being mostly attributed to the low levels of education attained by persons with disabilities

iv. Most (75%) Individual persons with disabilities had never had a training in digital literacy, the use of assistive technologies, the use of e-commerce platforms, the use of e-government platforms and in e-learning

### d) Barriers to access and Usage of ICTs by persons with disabilities

Barriers to usage and access highlighted by key informants included expensive devices, low levels of awareness (knowledge) of existence of assistive devices, low literacy levels amongst persons with disabilities.

### e) ICT Innovations for persons with disabilities

i. Generally, there was a low awareness of ICT innovations (software or mobile applications) with majority **94.7%** of the persons with disabilities were not aware of any ICT innovations, **92.7%** of the OPDs interviewed indicated not to be aware of innovations either. The few that were aware of innovations highlighted screen reader's software, Kolibri, the U-sign app, therapy global, the talking Bible, Voice command and message readers

ii. Factors constraining development of ICT innovations for persons with disabilities stated were non implementation of developed policies on ICT, limited support from the government, disability is not a prioritized subject by innovators, limited involvement of persons with disabilities in the development of policies on ICT, limited exposure and influence by people in the use of innovations for persons with disabilities, the negative attitude by people concerning persons with disabilities

### f) Knowledge management in Organisations

i. Majority of the organizations that is, , **78.2%** indicated not to have departments responsible for knowledge management.

ii. Information collected by organizations is stored in form of files with a few organizations indicating to use a computer to store information

iii. Information/data collected by organizations-- was mainly used in informing program implementation and the writing of reports

iv. In terms of existence of a national repository, majority (**80%)** were not aware of an existing database for persons with disabilities.

A few indicated existence of information/data concerning persons with disabilities by NGOs and special needs department within the local government

### g) Policy Environment

i. **56.4%** of the OPD/DU leaders indicated to be aware of national standards, policies and regulations on inclusivity

ii. OPD/DU indicated to be aware of the inclusive education for all policy, the national disability act, the National guidelines for disability, the equal opportunities act, the ICT Act, the child safeguarding policy, the employment act.

iii. From literature the following policies were identified the National council for disability act 2003, the Nita Uganda Act, The RCDF Policy 2010/11-2014/15, the Uganda Communication Act 2013, The National Information and Communications technology policy for Uganda 2014, Draft National ICT for Disability Policy, Persons with Disabilities Act 2020,

iv. **60%** of the respondents indicated that the national standards hadn't well addressed the gaps on inclusion of persons with disabilities.

## Recommendations for the study include;

| No | Issues to address | Action/Recommendation | Actor |
|---|---|---|---|
| 1 | Limited awareness, access and usage of the different ICT devices and services | • Subsidize the costs of ICT devices such that they can be affordable for the persons with disabilities.<br>• Involve OPDs and DUs in the different initiatives for ICT awareness using their already existing structures.<br>• Create awareness of the existing assistive technologies among the persons with disability.<br>• Support the provision of low-cost technology Assistive Technologies to Persons with Disabilities.<br>• Create more opportunities where ICT devices and services for PWDs are locally innovated. | GoU, UCC, OPDs, other funding agencies |
| 2 | High cost of acquiring ICT devices and Assistive technologies | • Waive taxes on the purchase of assistive technologies to enable persons with disabilities easily access them<br>• Design strategies to lower the cost of end-user devices and communication costs. These may include efforts geared towards reducing or eliminating taxes as well as increasing competition among service providers.<br>• Encourage more development of local ICT innovations for PWDs in order to lower high cost of access.<br>• Develop a National Assistive Technology Strategy that outlines goals and initiatives for improving the availability, affordability, and awareness of assistive technologies. | GoU |
| 3 | Lack of a comprehensive database for persons with disabilities in the country | • Work with different District Unions to carry out online registrations of persons with disabilities from their areas and establish a government controlled online data base that can be accessed by OPDs, hospitals, schools among others to keep an updated record of these peoples in a timely manner. | Government<br><br>ICT services providers<br><br>URSB |
| 4 | Low levels of digital literacy among persons with Disabilities | • Organize capacity building workshops designed for each category of disability in the areas of ICT<br>• Develop localized digital content that can be used in capacity building for the different categories on the use of ICTs.<br>• Design a Digital Skills for All Strategy that focuses on providing digital literacy and skills training to persons with disabilities to enhance their ability to use ICTs effectively | Government<br><br>OPDs |

| 5 | Negative attitude towards technology | • Advocate for mindset change especially for persons in the rural areas through capacity building sessions, community outreaches among others to eradicate the people on the benefits of technology in their daily lives. | |
|---|---|---|---|
| 6 | Limited ICT service providers with specialized skills to meet the needs of persons with disabilities in the areas of innovations | • Encourage the provision of differentiated service plans by operators to promote access and usage of ICTs by Persons with Disabilities including dedicated assistive technologies<br>• Operators such as UCC to support innovations for persons with disabilities to promote access to ICTs<br>• Provide ICT infrastructure for persons with disabilities i.e., provision of computers to special needs schools, District unions, community access points and others for persons with disabilities to easily access some ICT services<br>• Lobby government on tax waivers on ICT for PWDs so that there are more service providers.<br>• Implement a universal Design Innovation Fund that supports research and development of innovative ICT solutions that cater to the needs of persons with disabilities. | GoU Schools<br><br>Ministry of education |
| 7 | Limited initiatives put in place by the government or other organizations to increase ICT usage | • Develop and implement initiatives for ICT skills development for PWDs especially in rural areas.<br>• Encourage development partners, CSOs, NGOs and others to invest in the area of ICT for disabled people | GoU |
| 8 | Poor policy implementation | • Need to develop and independent ICT policy for Persons with disabilities (current draft available has not yet been finalized)<br>• Elect committee to initiate the execution of the different ICT policies for persons with disability | GoU |

# 1. INTRODUCTION

National Union of Disabled Persons of Uganda (NUDIPU), in collaboration with Eight Tech Consults Limited was contracted by Uganda Communications Commission (UCC) under contract number (Ref: UCC/UCUSAF GRANT/21-22/003) in accordance with its mandate under sections 3 and 5 of the Uganda Communications Act 2013 to carry out activities related to addressing digital inclusiveness of Persons with Disabilities (Persons with Disabilities), by enhancing knowledge management, ICT adoption, digital skills and access to E-services for persons with disabilities across the country. This baseline report is intended to capture baseline indicators on the level of awareness, access, and usage of ICT devices among persons with disabilities, the result obtained from the study will be used to inform UCC and other bodies on the areas of enhancing of knowledge management, ICT Adaption, Digital skills and access to E-services for persons with disabilities in Uganda.

## 1.1 Background to the study

According to the terms of reference of the project, the term persons with disabilities is used to apply to all persons with disabilities, including those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various attitudinal and environmental barriers hinders their full and effective participation in society on an equal basis with others while The Uganda Persons with Disabilities Act 2006, defines disability as "a substantial functional limitation of daily life activities caused by physical, mental or sensory impairment and environmental barriers resulting in limited participation".

According to the World Health Organization, 1 in 6 individuals globally, or over 1.3 billion people, have a major handicap. According to the United Nations, more than 80 million Africans are disabled, including individuals with mental health issues as well as birth abnormalities and other physical disabilities. Eighty percent of Persons With Disabilities worldwide are found in developing nations. Some people with disabilities pass away up to 20 years sooner than others without them. Disability doubles a person's chance of developing illnesses like depression, asthma, diabetes, stroke, obesity,

and poor dental hygiene.[1]

According to a research on Uganda's disability landscape from 2021, 22% of Ugandans who are unemployed have a disability, despite the country's estimated disability rate of 12%. According to research, people with impairments have fewer employment options, especially in countries where subsistence farming dominates the economy. Understanding the high rates of poverty among individuals with disabilities depends in large part on this. We recommend ICT for Persons with Disabilities because programs, policies, and services that are inclusive of people with disabilities are necessary to lower unemployment, ease poverty, and increase economic inclusion among people with disabilities. [2] The World Health Organization (WHO) defines disabilities as an umbrella term, covering impairments, activity limitations and participation restrictions[2]. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus, disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives".

According to the WHO, over 1 billion people are estimated to experience disability which corresponds to about 15% of the world's population, with up to 190 million (3.8%) people aged 15 years and older having significant difficulties in functioning, often requiring health care services. The number of people experiencing disability is increasing due to a rise in chronic health conditions and population ageing[3]. Furthermore, the World Health Organization notes that 80% of persons with disabilities live in developing countries.

It is indicated in the UNESCO 2018 digital skills

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1  https://www.who.int/news-room/fact-sheets/detail/disability-and-health#:~:text=Key%20facts,people%20worldwide%20%E2%80%93%20experience%20significant%20disability

2  Uganda's disability data landscape and the economic inclusion of persons with disabilities (2021), Inclusive futures

3  World Health Organisation, Disability and Health Facts, 2011 (https://www.who.int/en/news-room/fact-sheets/detail/disability-and-health)

article that 95% of the world's population resides in areas with at least a 2G mobile network, , o The fast expansion of Internet connectivity and access has made it possible for a global digital economy to emerge. However, both wealthy and developing nations suffer from significant inequities as a result of a lack of digital literacy. Entry-level digital skills, or the fundamental functional abilities needed to operate digital devices and online apps, are regarded as an essential part of a new set of literacy abilities for the digital age. In this regard, it is vital for all nations to build their capacities for anticipating the shifting demands for digital skills for work and life..[4]

While advances in Information and Communications Technology (ICTs) including the Internet have created avenues of inclusion, for some, especially persons with disabilities, it has also widened the extent to which they are excluded from the social and economic potential of the digital society. Information and Communication Technologies (ICT) have the potential for making significant improvements in the lives of persons with disabilities, allowing them to enhance their social, cultural, political and economic integration in communities by enlarging the scope of activities available to them.

There are several studies to show how internet use in the general population depends on various biological, economic, social or organizational aspects. Age is inversely proportional to internet use, but higher education, higher income and having a job is related to higher internet use[5]. People who have most problems online lack high quality support[6]. There are several studies that address potentially problematic features in internet use, for example., navigation, orientation, selecting search results, defining search queries, evaluating information[7], However, in those studies people with disabilities are rarely included in the targeted populations.

Disability is often ignored as a potential

reason for digital exclusion. Few researchers investigating the digital divide have paid attention to disability[8]. It is noted that having a hearing impairment reduced the chances of access to the internet as compared to the general population.

Assistive technology enables and promotes the inclusion, participation and engagement of persons with disabilities. Indeed, article 20 of United Nations Convention on the Rights of Persons with Disabilities (CRDP) calls for effective measures to facilitate access to quality assistive devices and technologies, delivered at affordable cost and in the manner and at the time of choice of persons with disabilities. In Uganda, majority of people that need these technologies do not have access to them and many are not aware of such technologies and their functionalities.

Section 5 (L) of the Act mandates UCC to "Promote research into the development and use of new communication techniques and technologies, including those which promote accessibility of Persons with Disabilities (Persons with Disabilities) and other members of society to communications services". At a national level, article 21(1) of Uganda's Constitution upholds Uganda's commitment to safeguarding equality and freedom from discrimination for all, including Persons with Disabilities. Under the article, discrimination was defined in clause (3) to mean 'give different treatment to different persons attributable only or mainly to their respective descriptions by sex, race, color, ethnic origin, tribe, birth, creed or religion, or social or economic standings, political opinion or disability. The Uganda Bureau of Statistics Census Report (UBOS 2016) indicated that 12.4% of the Ugandan population live with some form of disability, implying that approximately 4.5 million Ugandans are persons with disabilities hence a development concern, currently estimated at about 6 million.

Despite the available evidence from renowned scholars and publishers like the Economist (2009), an extra 10 phones per 100 people in a typical developing country boosts GDP growth by 0.8 percentage points, uptake of ICTs by People with Disabilities in Uganda is still low[9].

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4    https://www.unesco.org/en/articles/digital-skills-critical-jobs-and-social-inclusion

5    Scholz, F., Yalcin, B., Priestley, M. (2017): Internet access for disabled people: understanding socio-relational factors in Europe. Cyberpsychol. J. Psychosoc. Res. Cyberspace

6    Helsper, E.J., van Deursen, A.J.A.M. (2017): Do the rich get digitally richer? Quantity and quality of support for digital engagement. Inf. Commun. Soc. **20**, 700–714.

7    Liebert, M.A., Morahan-Martin, J.M. (2004): Review how internet users find, evaluate, and use online health information: a cross-cultural review. Cyber Psychol. Behav. **7**, 497–510

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8    Scholz, F., Yalcin, B., Priestley, M. (2017): Internet access for disabled people: understanding socio-relational factors in Europe. Cyberpsychol. J. Psychosoc. Res. Cyberspace

9    UCC. Access and Usage of ICTs by people with disabilities in Uganda, 2018

Thus, to leverage the benefits that accrue from access and usage of ICTs, such as boosting production, improving household incomes, reducing inequalities and widening market options, among others, the Uganda Vision 2040 highlights the use of ICTs as one of the pillars in the attainment of this vision.

UCC notes that ICTs can significantly increase the socio-economic livelihoods of communities in Uganda, including persons with disabilities. However, there is a growing outcry from the public and key stakeholders that the persons with disabilities are increasingly becoming isolated from accessing and using ICTs despite the available evidence of the impact of ICTs. It is thus imperative that ICTs inclusiveness programs be implemented with key ecosystem partners to cater for the needs of the persons with disabilities.

It is against this background that UCC has over the years developed and implemented various initiatives aimed at ensuring universal access and usage of ICTs, not only in rural and underserved areas but also some ICT interventions targeting this special interest group development. We noted that this project shall address the challenges identified by various studies and other emerging challenges, especially those highlighted by COVID19, in developing an effective strategy to contribute to the accelerated uptake of ICTs by persons with disabilities.

## 1.2    Objectives of Study

The overall objective of the project is;

*"To establish baseline indicators for persons with disabilities' digital inclusiveness in e-services access, technology, content, and information needs for various categories of persons with disabilities across the country."*

The specific objectives of the project include;

### Objective 1
To determine the state of access and usage of ICTs by persons with disabilities.

### Objective 2
To ascertain the extent to which service providers are offering inclusive digital and communicationservices to persons with disabilities.

### Objective 3
To determine the state of ICTs for persons with disability innovation eco-system in the country (pick actors, drivers, policies, opportunities, areas of improvement, among others.

### Objective 4
To establish knowledge management capacity among different actors in ICT on persons with disabilities and inclusion.

### Objective 5
To establish information needs of the various skateholders to enhance knowledge management and decision making.

*Figure 1: Objectives of the study*

## 1.3    Research Questions

v.    What are the existing ICT devices, e-services and digital skills enabling inclusion of persons with disabilities in the use of ICTs?

vi.    What are the barriers to access of existing ICTs by persons with disabilities?

vii.    What are the barriers to adaption of digital skills of existing ICTs by persons with disabilities?

viii.    How have e-services contributed to the well-being of persons with disabilities?

ix.    What contribution have e-services (digital and communication services) made to the well-being of persons with disabilities?

x.    What are the current ICT knowledge management patterns among persons with disabilities?

xi.    How are service providers currently supporting access and usage of ICTs by persons with disabilities?

xii.    To what extent do service providers support access and usage of ICTs by persons with disabilities?

xiii.    What incentives have service providers put in place to ensure accessibility of services to persons with disabilities?

xiv.    What incentives are in place for service providers to ensure accessibility of e-services by persons with disabilities?

xv.    To what extent are service providers complying with national standards and regulations on inclusivity (identify the gaps in inclusivity)?

xvi.    What are the available ICT innovations for persons with disabilities?

xvii.    What are the enabling and constraining elements for the development of ICT innovations for persons with disabilities?

xviii.    What knowledge management capacity exists among DPOs?

xix.    To what extent are the existing knowledge management systems accessible by the different stakeholders?

## 1.4    Scope of the study

The study was designed to establish the level of digital inclusiveness among persons with disabilities in Uganda. The categories of disabilities focused on under this research were the physical disability, hearing disability, visual disability. The study was conducted in the 5 regions of Uganda i.e., Central, Eastern, Western, Northern and West Nile. This research was also used to identify the content and information needs for various categories of persons with disabilities across the country.

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## 2. STUDY METHODOLOGY

The baseline study was conducted to document the level of awareness, access and Usage of ICTs among persons with disabilities. A mixed research methods approach involving both qualitative and quantitative data collection and analysis methods was used. Primary and secondary data collection mechanisms were employed in order to gather the right and useful information from the respondents. The methods involved include: Research design, Design of data collection tools, stakeholder consultations, Tool digitization, Pre-test of data collection tools, Team orientation and Pre-data collection training, Data collection, pre-data analysis workshop, Data analysis and report writing. In the sections below, are details on the adopted methodologies in the design and implementation of this study.

### 2.1    Research design

The section below describes the sampling approach, and sample size determination for the study.

### 2.1.1 Sampling approach

According to the persons with Disabilities Act[10], there are eight (8) categories of disabilities i.e., Physical disability, Hearing disability, Visual disability, Deaf and Blind disability, Mental disability, Little people, Albinism, and Multiple disability however, this study mainly focused on three (3) categories of Disabilities i.e., the physical disability, Visual disability and Hearing disability. The study covered all the 5 regions (both rural and Urban) of the country. The sampling approach used a multi-stage sampling method and the respondents for the survey were randomly selected.

### 2.1.2 Sample size determination

The UBOS Persons with disabilities statistics report, 2019[11] states that, **12.5%** of the Ugandan population had at least one form of disability therefore approximately 4.5 million Ugandans are persons with disability. 15% disability prevalence rates are among persons aged 5 years and above and nearly 61% are among the 85+ of age in Uganda. Taking 4.5 million to represent the population size with 3% as the desired level of precision and a confidence level of 95% assuming a response rate of 50% (full complete forms), the estimated logical sample size obtained is 1,067 using the Raosoft sample size calculator.

To ensure sufficient convergence given the data stratification per region and respondent demographics, a sample size of 2198 respondents was therefore selected. Respondents were selected from 5 regions of Uganda and 73 districts as demonstrated in the figure below.
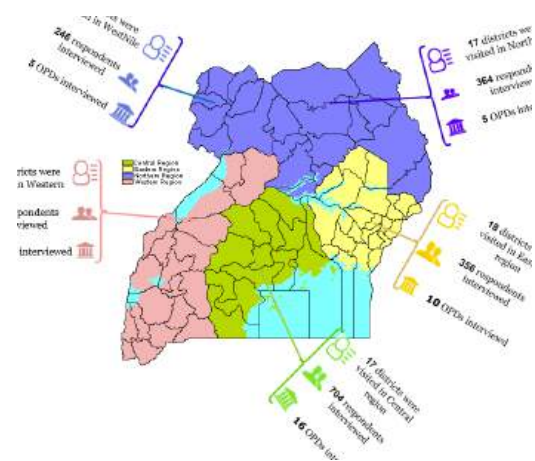


*Figure 3: Summary statistics on data collected in the 5 regions of Uganda*

A total of 2198 respondents were targeted under this research, however actual total data collected was from 2195 respondents representing a **99.9%** response rate which is scientifically acceptable as representative for the target population and can be relied on to make sound conclusions from the study. The table below summarizes all data collected under this study;

---

10    Persons with Disability Act, 2016

11    Uganda Bureau of statistics report, 2019: Bridging the gap through statistics

| Category | Respondents | Actual Numbers | (DCM) |
|---|---|---|---|
| Persons with Disabilities | Physical disability, visual disability, hearing disability, others, personal assistants, parents, guardians). | 2003 | (SQ) |
| OPDs | Senior Management of DPOs/DUs, Program Officers, Staff, ICT & Communication Officer | 55 | KII |
| Sector Opinion Leaders | Academicians, practitioners, civil society organizations, political leaders | 38 | KII |
| Print and Electronic Media | Editors, Presenters, Program Directors, Content Creators | 21 | KII |
| Public Sector organizations | Public Service | 18 | |
| Digital and Communication Service Providers | Telecom Operators, Health service providers, education institutions, FINN TECH | 60 | KII |
| **Total number respondents** | | **2195** | |

*Table 1:Regional distribution of respondents*

## 2.2 Data collection

During this study, primary and secondary data collection methods were used that is; Primary data collection methods used included; Survey Questionnaire, Key Informant Interview Guides, Focus Group Discussions and Observations. Secondary data sources comprised of Literature review of relevant documents and project reports. In general, the team employed a data collection process as detailed below;
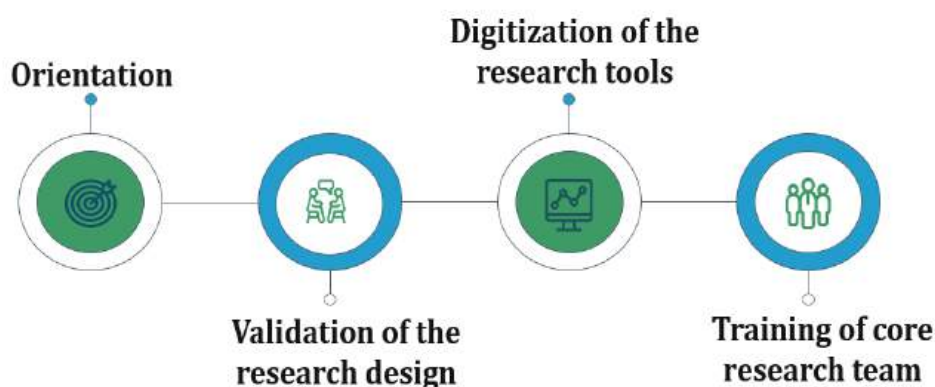


a) **Orientation**

Stakeholders involved in this stage were NUDIPU, 8-Tech and UCC who participated in a two-day design thinking workshop in order to have a unified conceptualization of the study, generate research objectives and formulate research questions to be addressed. Furthermore, a respondent and data collection matrix was generated. Some of the categories considered under the data collection matrix included; Individual persons with disabilities, organizations for persons with disabilities, Sector Opinion Leaders and Service Providers.

b) **Validation of the research design and tool development**

5 Project implementation team (PIT) meetings were held to review and validate the research design and the designed data collection tools. Discussion on the data collection tools mainly targeted the

language used in the tool, consistency of the questions towards the research objectives and relation of the questions to the targeted respondents.

c) **Tool design and digitization**

The draft tools were designed in a knowledge co-creation workshop involving NUDIPU, 8Tech consults, and the UCC project coordination team. 4 sets of tools were developed that is , 1 Survey Questionnaire and 3 Key Informant interview tools. The refined data collection tools were digitized using Kobo toolbox[12] since it supports the necessary question branching, skipping and looping, it captures GPS coordinates and provides for data validation.
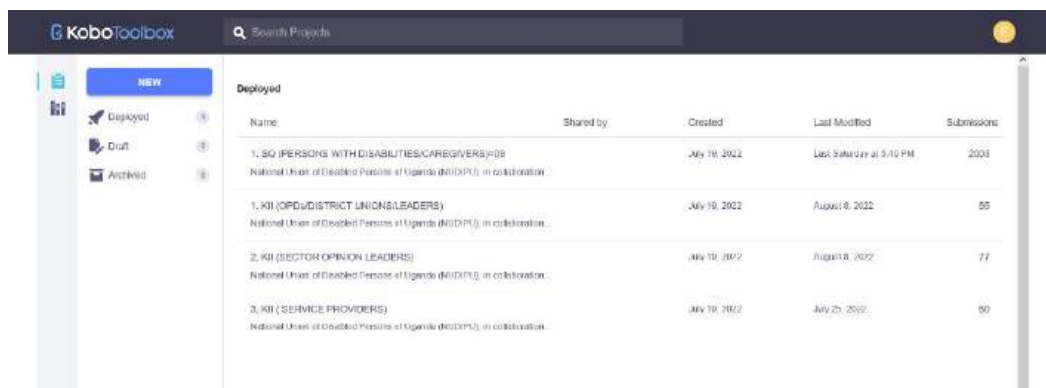


*Figure 4:The Digitized tools in Kobo toolbox*
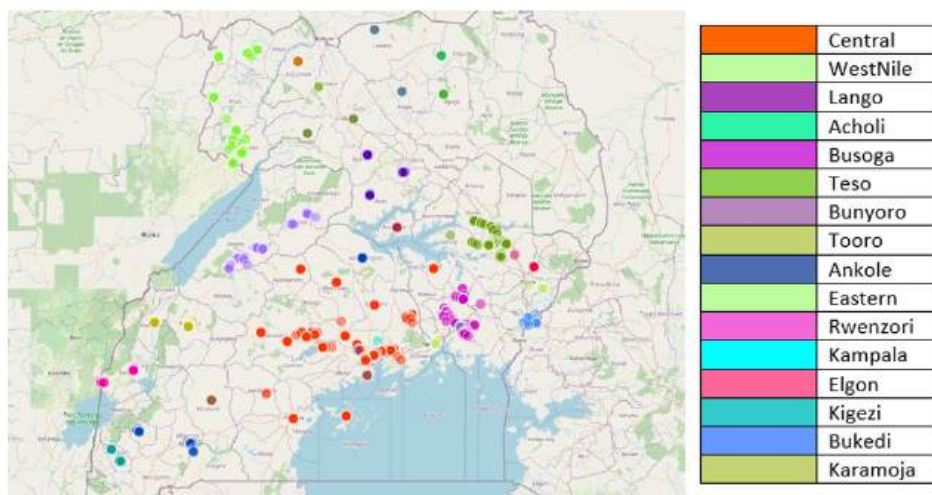


*Figure 5: GPS mapping for individual persons with disability respondents (n=2,198)*

---

12   Kobotoolbox: https://www.kobotoolbox.org/

| | |
|---|---|
| | Central |
| | Busoga |
| | Toro |
| | WestNile |
| | Bunyoro |
| | Lango |
| | Elgon |
| | Teso |
| | Bukedi |
| | Karamoja |
| | Acholi |
| | Kampala |
| | Rwenzori |
| | Kigezi |
| | Ankole |
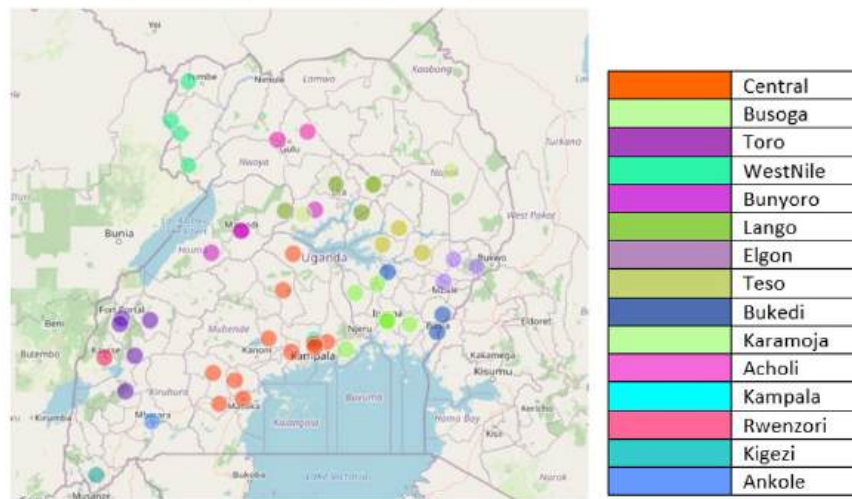
*Figure 6: GPS mapping for OPDs (n=55)*

d) **Research team orientation and training**

The core research team was comprised of 5 research experts selected from 8Tech, each expert was assigned a region to lead and supervise the entire data collection process. A full day workshop was conducted to train the selected field supervisors in the areas of; *i) Background of the research, ii) The use of the digitized tools and definition of key terms. iii) Definition of key terms and phrases used within the data collection tools iv) Ethical conduct to be considered while collecting data from persons with disabilities v) Data collection methods.* The field supervisors were trained in a variety of skills to effectively communicate to different categories of persons with disabilities. The training included learning the basic sign language, language use, personal attitude while communicating to persons with disabilities among other

Upon completion of the training, the supervisors were deployed in the different regions of the country to further train research assistants in each region as well as carry out key informant interviews. A one-day training was carried out to equip them with the necessary skills to collect data using kobo. A total of 120 research assistants were involved in the data collection exercise of which majority (90%) were persons with disabilities selected by District Union leaders in each selected district.

## 2.2.1 Methods used for the study

Data was collected electronically using Kobo collect and android-based smart phones. This helped to minimize time that would otherwise be used for data entry and also minimize data collection errors. The data was collected using the following methods.
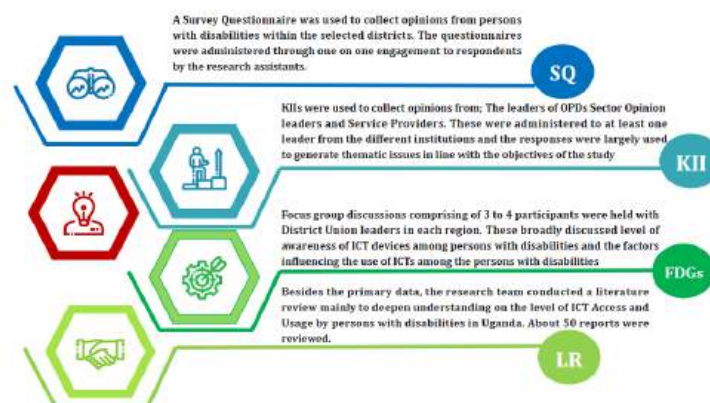


*Figure 7: Data Collection Methods used*

## 2.3    Data Quality Control

To ensure quality control, the following measures were undertaken;

i.   The survey tool was programmed in Kobo built with a logical flow and electronic prompts.
ii.  The data collectors were trained in electronic data collection and assigned unique identifiers by their field supervisors. These helped supervisors trace the data sources, review and validate data entered.
iii. The electronic tool was tested before final deployment. Research assistants had no rights to make any changes in the questionnaire for rights were reserved to only supervisors.
iv.  During data collection, all data collectors were encouraged to use the correct user names, enter correct zone/village details and abide by the protocol. At the end of each day of data collection, the field supervisors reviewed the data to check for completeness before validating it.
v.   Data quality checks were completed on a daily basis by regional field supervisors to ensure quality.
vi.  All supervisors and the technical team received regular feedback on the uploaded data to help track the progress of data collection and follow up on any issues with teams or individuals.

## 2.4    Data Analysis

Before analysis, the data was cleaned and validated. A range of statistical analysis tools i.e., STATA, Excel and Python were used to analyse quantitative data. Results were presented in both graphical and text formats (using info-graphics) while Qualitative data was analysed using thematic content analysis to classify, sort and arrange information and examine relationships within the data. Analyses of the findings from quantitative and qualitative data were then synthesized to provide in depth understanding of key achievements in line with the project objectives.

## 3. PRESENTATION AND DISCUSSION OF STUDY FINDINGS

This section presents the key findings of the study and details the following; the respondent demographics, breaks down the level of awareness, access and usage of ICTs among the different stakeholders involved in the study, details the existing ICT Innovations for persons with disabilities, level of Inclusivity in ICT and digital communication services to persons with disabilities, knowledge management capacity among different actors in ICT on persons with disabilities and inclusion and the existing policy environment regarding ICT usage for persons with disabilities.

### 3.1    Respondent Demographics

This section presents the demographics of the different respondents to the study i.e.; individuals persons with disabilities, organizations for persons with disabilities, sector opinion leaders and the services providers as highlighted below.

A total number of **2,195** respondents were obtained that is, **2003** individuals, **55** OPS/DU Leaders, **77** sector opinion leaders and **60** service providers from the target 2,198 respondents from all the 5 regions of the country.

### 3.1.1  Individual Persons with Disabilities

A total of 2003 individual persons with disabilities participated in the study. The mean age of the study respondents was 35 years. More than half of the respondents **(51.2%)** were male and (**48.8%**) were female, half (**50.8%**) were from the rural areas while **(49.2%)** were from urban areas, whereas (**47.9%**) were self-employed and **(44.5%)** were married. Results had no significant difference from the 2018 study report in terms Gender, Marital status, Age and Employment. There was a difference in place of residence were majority in the 2018 UCC study were from Urban region thus a 2.1% increment in the place of residence of the rural respondents[13](**Figure 8**).
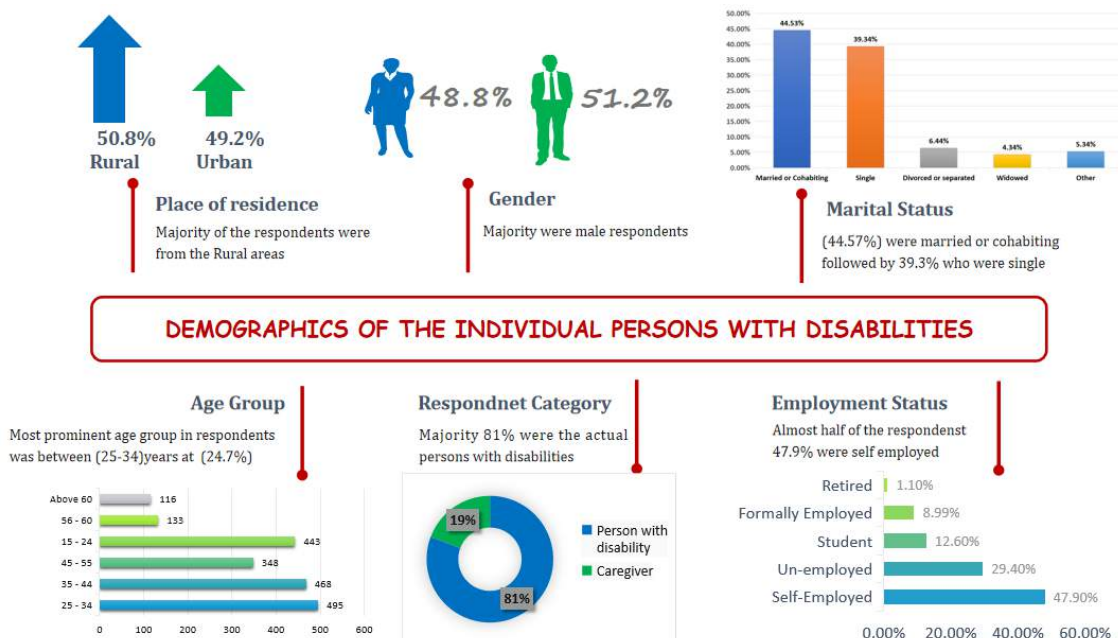


*Figure 8 : Individual Persons with disability demographics*

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13    UCC, Access and usage of ICT among persons with disabilities in Uganda, 2018

a)  **Categories of disabilities and Sub regions**

In the classification of the respondents, the study sought to determine whether the respondents had multiple or single disability which implied that one had simultaneous impairments. However, the study focused on three (3) main disability categories namely; physical impairment, visual impairment and hearing impairment. The most prevalent disability from the 3 categories was physical 63.6%, second was visual 18.12% and lastly hearing 15.78%, this result being a multi-variate selection which was similar to the 2018 UCC study.[14]
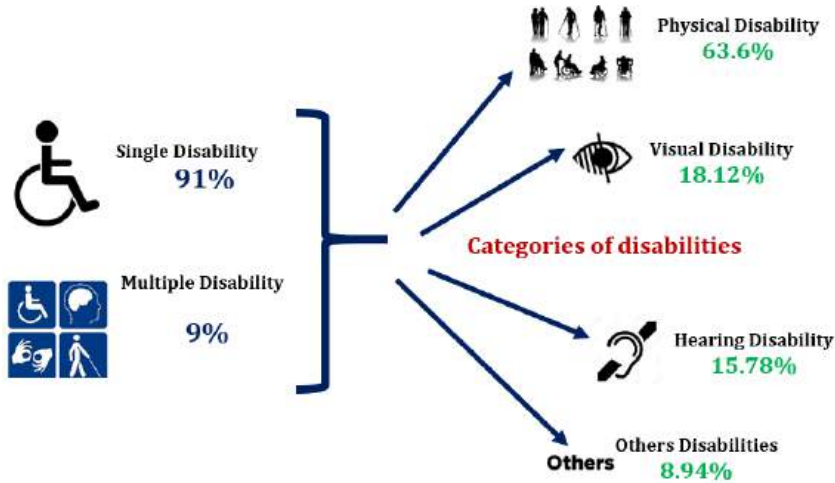


*Figure 9: Categories of Disabilities*

Other disabilities included;



*Figure 10: Other disability categories identified (UCL Mental Health Sciences MScs)*

It is also worth noting that during the state of access and usage of ICTs  2018, Majority of the persons with disabilities interviewed had physical disability (61%)  followed by visual impairment. Data was collected from 16 sub-regions that is, Acholi (143, 7.1%), Ankole (63,3.1%), Bukedi (21, 1%), Bunyoro (124,6.2%), Busoga (142, 7.1%), Central (668, 33.3%), Eastern (47, 2.3%), Elgon (22, 1.1%), Kampala (36, 1.8%), Karamoja (11, 0.5%), Kigezi (22, 1.1%), Lango (210, 10.5%), Rwenzori (42, 2.1%), Teso (124, 6.2%), Toro (82, 4.1%), West Nile (246, 12.3%)

Regarding disability category, it is worth noting that the physical disability was the most prevalent in all the regions of the study as illustrated in the figure below.

---

14    UCC, Access and usage of ICT among persons with disabilities in Uganda, 2018

| | Acholi | Ankole | Bukedi | Bunyoro | Busoga | Central | Eastern | Elgon | Kampala | Karamoja | Kigezi | Lango | Rwenzori | Teso | Tooro | WestNile |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ■ Others | 0 | 3 | 1 | 14 | 7 | 89 | 5 | 0 | 2 | 0 | 1 | 7 | 1 | 9 | 15 | 24 |
| ■ Visual | 27 | 19 | 6 | 28 | 32 | 107 | 3 | 5 | 5 | 0 | 2 | 35 | 4 | 28 | 20 | 42 |
| ■ Physical | 99 | 33 | 14 | 60 | 92 | 442 | 33 | 17 | 23 | 11 | 18 | 115 | 32 | 92 | 43 | 150 |
| ■ Hearing | 18 | 12 | 5 | 31 | 23 | 66 | 10 | 0 | 8 | 0 | 2 | 59 | 7 | 9 | 23 | 42 |

■ Hearing ■ Physical ■ Visual ■ Others
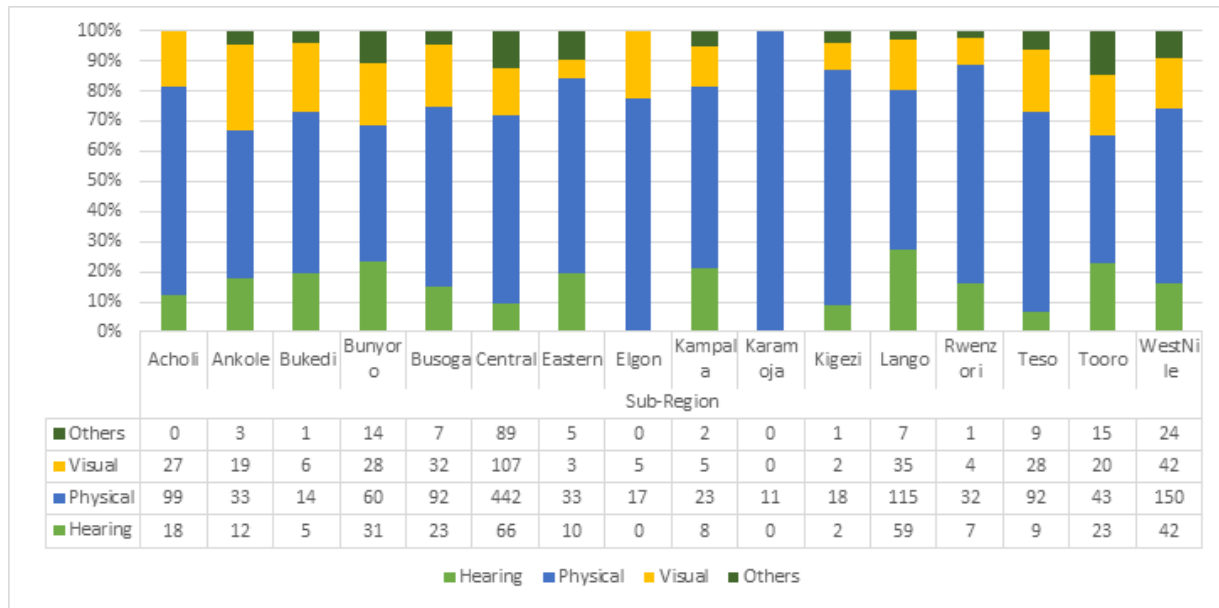
*Figure 11: Individual persons with disabilities per Sub region (n=2003)*

b) **Highest Level of education, Gender, Disability category, Region and Employment status**

The Disability Act, 2016 states that; the appropriate Government and the local authorities shall endeavor that all educational institutions funded or recognized by them provide inclusive education to the children with disabilities while Article 24 of the UN Convention on the Rights of Persons with Disabilities (UNCRPD) specifies that countries must take steps to ensure that persons with disabilities access an inclusive, quality and free primary and secondary education on an equal basis with others in the communities they live.

Education is a factor in effective use of ICT; therefore, it was important to understand the respondents' level of education. *(33.5%)* of the persons with disabilities had attained primary as their highest level of education, followed by UCE *(25.5%),* Tertiary/Vocational *(9.8%),* Diploma *(5.4%),* Bachelors (*4.1%),* UACE *(4.0%),* Masters *(0.5%),* PHD *(0.1%) while (15.9%)* had not attained any formal education. More details on gender and disability category in terms of education is further displayed in the graphic below;



| Education | | Gender | | | | Disability | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Male | Female | | | Hearing | Physical | Visual | Other |
| None | 15.9% | 7.3% | 8.6% | | | 4.1% | 8.6% | 3.2% | 2.1% |
| Primary | 33.5% | 16.5% | 17.0% | | | 5.7% | 19.9% | 6.4% | 3.6% |
| UCE | 25.5% | 13.1% | 12.3% | | | 2.8% | 17.7% | 4.1% | 1.8% |
| UACE | 4.0% | 2.4% | 1.6% | | | 0.3% | 3.2% | 0.4% | 0.1% |
| Tertiary/Vocational | 9.8% | 5.1% | 4.7% | | | 1.7% | 6.4% | 1.8% | 0.5% |
| Diploma | 5.4% | 3.0% | 2.4% | | | 0.5% | 4.0% | 0.9% | 0.1% |
| Bachelors | 4.1% | 2.6% | 1.5% | | | 0.4% | 2.7% | 1.0% | 0.2% |
| Masters | 0.5% | 0.4% | 0.2% | | | | 0.4% | 0.1% | |
| PHD | 0.1% | | 0.1% | | | | | | 0.1% |
| Other | 1.2% | 0.8% | 0.4% | | | 0.2% | 0.6% | 0.2% | 1.8% |
| *Total* | | 51.2% | 48.8% | | | 15.7% | 63.6% | 18.1% | |
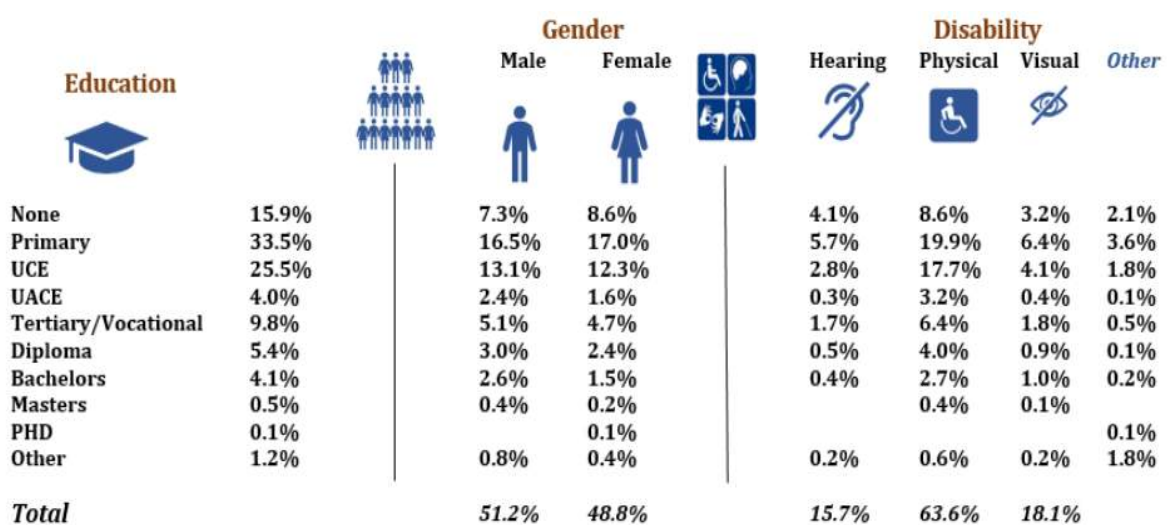
*Figure 12: Individual Persons with Disability Gender Vs highest Level of education*

These results clearly demonstrated that persons with physical disability who are majorly females are neglected in terms of education. It should also be noted from figure 13 that only 0.1% of persons with

disabilities had education of up to PhD level of which these were found in other disability categories.

c) **Employment status Vs Region;**

The biggest proportion of the respondents was self-employed 47.8%, and un-employed 30.7%. Others indicated to be students 12.1%, formally employed 9.1% and 1.1% retired. It also emerged from results that majority of the respondents in formal employment (9.1%) had Diploma 2.7%, UCE 1.7%, Tertiary/Vocational 1.5%, Bachelor's degree 1.2% and Master's degree 0.4% while those that were self-employed 47.8% had attained primary 16.6% and UCE 14.3% in that order of hierarchy. More details are indicated in the figure 14.

Results also showed that majority of the person with disabilities whose highest level of education was primary education ended up in self-employment and majority were from the central region. Also, it should be noted that the lower the education level of a person with a disability the more likely he/she would end up being self-employed. This is a clear sign that persons with disabilities have less opportunities to be employed anywhere when they have lower education and hence, they tend to create their own jobs (self-employment). This is the same reason that persons with disabilities who had masters and PhD qualifications were all being employed and could only be found in the eastern region of Uganda.

| Education | | Employment status | | | | | Region | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Retired | Formally Employed | Self Employed | Student | Unemployed | Central | Northern | Eastern | Western | West Nile |
| None | 15.9% | | 0.1% | 6.0% | | 9.8% | 3.4% | 0.1% | 3.2% | 3.3% | 1.6% |
| Primary | 33.5% | 0.2% | 0.6% | 16.6% | 5.1% | 11% | 12.5% | 5.7% | 5.0% | 5.6% | 3.6% |
| UCE | 24.5% | 0.3% | 1.7% | 14.3% | 3.4% | 5.7% | 8.9% | 2.4% | 5.2% | 3.9% | 4.4% |
| UACE | 3.9% | | 0.6% | 2.2% | 0.6% | 2.2% | 2.2% | 0.3% | 0.7% | 0.5% | 0.4% |
| Tertiary/Vocational | 9.8% | 0.3% | 1.5% | 4.9% | 2.3% | 0.8% | 3.3% | 3.3% | 1.2% | 1.5% | 0.6% |
| Diploma | 5.4% | 0.1% | 2.7% | 1.7% | 0.2% | 0.1% | 2.1% | 1.1% | 0.6% | 0.9% | 0.8% |
| Bachelors | 4.1% | | 1.2% | 1.5% | 0.4% | 0.9% | 2.4% | 0.4% | 0.5% | 0.4% | 0.5% |
| Masters | 0.6% | | 0.6% | | | | 2.4% | 0.1% | 0.1% | 0.1% | 0.1% |
| PHD | 0.1% | | | | | | | | 0.1% | | |
| Other | 1.2% | | 0.1% | 0.6% | 0.1% | 0.2% | 0.2% | | 0.1% | 0.4% | 0.5% |

**Figure 13: Individual Persons with Disability Highest Level of education, Employment status and Region**

It is worth noting that majority of the respondents did not attain higher education and this was backed up by one of the respondents who indicated that;

" *"Most of us cannot continue for further education because we do not know where to find the right schools to accommodate us especially for the higher classes S.6 onwards since the ones available in our areas don't cater for persons with disabilities"*

*- KII, Visually Impaired, Eastern Uganda*

Furthermore, these results are also backed by the World Development Report, 2016 that states that; many persons with disabilities pursue self-employment due to the barriers of getting jobs in the competitive labor market. The internet and digital technologies are changing the field of self-employment and entrepreneurship through online work and micro-work sites such as Desk, Elance, and Amazon Mechanical Turk. Individuals with disabilities now have a wider opportunity to find and interact with clients, and sell their goods and services across physical and infrastructural obstacles. The growing recognition of telework and remote distributed work through the internet as feasible

and productive ways to work can facilitate a more inclusive work environment for employees with disabilities requiring schedule flexibility and alternative work arrangements.

d) **Employment sector verses Position held**

For respondents that indicated to be in formal employment, more exploration was done to understand the sectors in which they're employed and the positions they hold.

Out of the **2003** respondents for the study, only **180** respondents were formally employed, of these, majority *52%* were in the public sector, *(26%)* in Private sector, (*14%*) in Civil Society Organisations*.* Only *5%* indicated to be freelancing and *3%* do other jobs. This therefore means that the public sector is the main employer for persons with disability followed by the private sector.
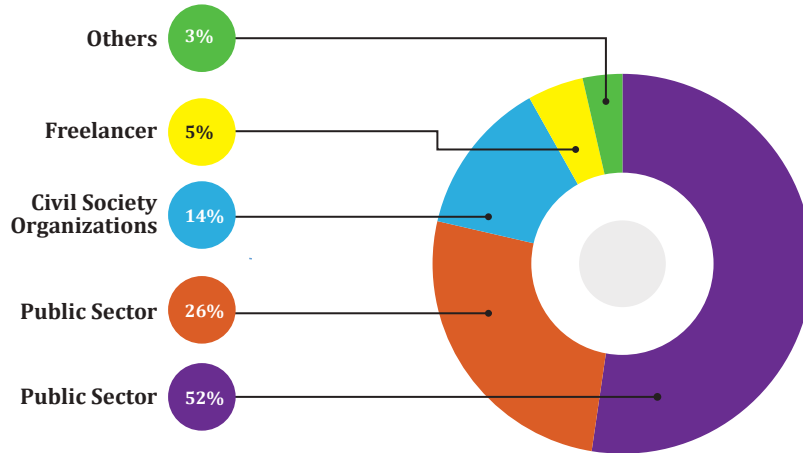


*Figure 14: Employment sector for the individual Persons with disabilities*

Data on employment sector was further analyzed to get insights into the distribution of disabilities across different employment sectors. This was to understand the diversity and inclusion efforts within these sectors. Based on the analysis as indicated in the figure 15 below, Notably, the Public Sector demonstrates the highest engagement of individuals with disabilities, particularly those with Physical and Hearing disability. The Civil Society Organization sector exhibits a notable involvement of individuals with Physical disabilities, whereas the Private Sector shows relatively higher representation of individuals with Physical and Visual disabilities.



| | Category of disability | | | |
|---|---|---|---|---|
| | Hearing | Physical | Visual | Others |
| ■ Other | 2 | 1 | 0 | |
| ■ Public Sector | 6 | 74 | 13 | 3 |
| ▨ Private Sector | 5 | 34 | 8 | 0 |
| ■ Freelance | 1 | 4 | 2 | 2 |
| ■ Civil Society Organization | 4 | 18 | 3 | 1 |
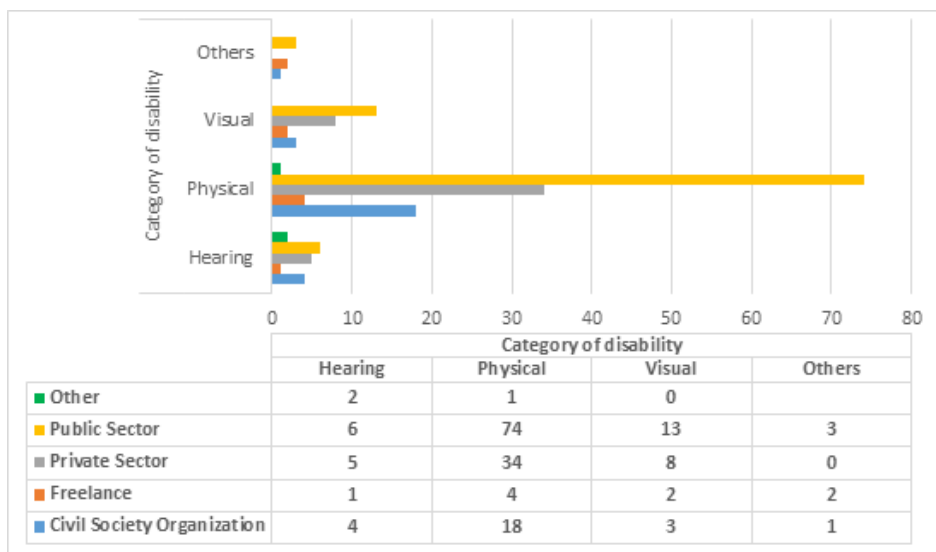
*Figure 15: Distribution of disabilities across different employment sectors*

Further analysis revealed that less than half *(38.3%),* of those in formal employment were professional

staff (Accountant, HR Officer, CT Officer, communication officer), *21.95%* were in middle level management, *17.2%* were working as support staff (office messenger, custodian, cleaner, driver), a few *(8.9%)* were working in senior leadership positions (e.g., ED, MD, Director etc.) while **(13.9%)** held other positions. These results can further reveal that persons with disabilities are less privileged and few of them can be found in senior leadership positions despite having the public sector as the major employer. The table below provides the level of positions involved in by persons with disabilities.

| Employment Sector | Position held | | | | |
|---|---|---|---|---|---|
| | Middle level management | Professional staff | Senior Leadership | Support staff | Others |
| Civil Society Organization | 9 | 10 | 3 | 2 | 0 |
| Freelance | 1 | 3 | 2 | 3 | 0 |
| Private Sector | 8 | 14 | 1 | 16 | 8 |
| Public Sector | 21 | 41 | 10 | 10 | 12 |
| Other | 0 | 1 | 0 | 0 | 5 |

*Table 2: Positions held in Formal employment by persons with disabilities*

e) **Employment Sector against Gender**

Furthermore, the gender segmentation of data revealed that; the male respondents were more dominant in the public sector as professional staff followed by middle level management while the women were more dominant in support staff positions followed by middle management as illustrated in the figure below. These results further reveal that female persons with disabilities are more likely to be employed as support staff than professional staff and this could be attributed to the level of education they attain.
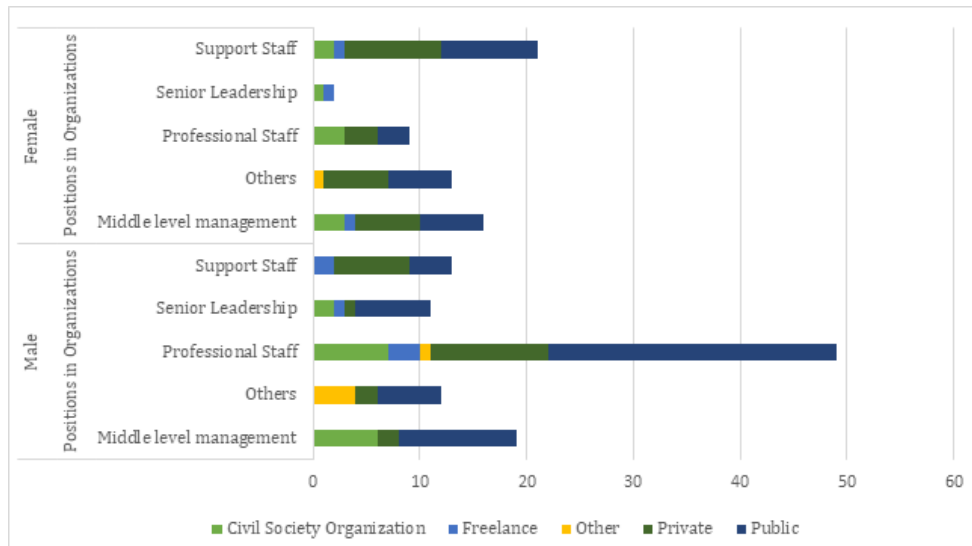


*Figure 16: Positions held in organizations against Gender*

Based on the statistics presented, there are few persons with disabilities in the formal sector, of which from the few in the formal sector, majority are persons with physical disability. This indicates the need for more efforts by the government and other key players to create more awareness on inclusion of persons with disabilities in the formal sector.

## 3.1.2 Demographics for Organizations for Persons with Disabilities

Concerning the characteristics of the respondent in district unions and organizations for persons with disabilities the following results were obtained.

In this category the respondents included; of the 55 leaders that were interviewed, **(44%)** were leaders from District unions while **(56%)** were leaders from the OPDs. These were selected from the different regions of the country. However, majority were from Central, Bunyoro and West Nile. From a gender perspective the highest percentage **(78.2%)** were male and (**21.8%**) were female, of these the highest percentage **(45%)** were physically disabled, **(20%)** had visual impairment and a few **(12.73%)** with a hearing disability. Some of the respondents had more than one disability and this category was known as a multivariate selection. The figure below provides a graphical representation of the demographics. The results reveal that there are more male than female PWD leaders within the district unions and organizations for persons with disabilities considered during the study.



*Figure 17: Demographics statistics for organizations for Persons with Disabilities*

It was important to determine the gender segmentation of the disability leaders and their different types of disability. Results revealed that majority of the leaders were male and the physical disability was more prevalent in senior leadership as illustrated in the table below.

**(Physical disability)**
**50.9%** of males and **9%** females are in senior management **1.8%** Males and females are project offices and **1.8%** female are ICT officers

**3.68%** males and **1.8%** females are in senior management while **1.8%** are program officers

**Little People**

**(Visual disability)**
**18.8%** Males in Senior Management and **1.8%** males are ICT Officers

**Autism** **1.8%** Males are in senior management

**None** **5.8%** Males are program officer

**(Hearing disability)**
**12.7%** Males with hearing disability are in Senior Management

**Mental Disabilities**

**3.6 %** Males are in senior management positions while **1.8%** Females are project program officer

*Figure 18: Gender, positions held against category of disability for OPDs*

### 3.1.3 Key Informants Demographics

Different categories of respondents were considered under key informants as described in sub-section(a).

a) **Profile of respondents under Sector Opinion Leaders**

A total of 77 Key Informants were interviewed **84.42%** from the urban areas and **15.58%** from the rural areas. Categories considered under sector opinion leaders included Political leaders **(39%),** Media Program leaders **(25.97%),** Academician **(15.6%),** Practitioners **(11.6%),** Radio Presenters **(3.9%)** and Media Program Editors **(2.6%).** Table 3 shows the sub regions against the respondent category from which data was collected. The results revealed that amongst the sector opinion leaders, more political leaders who were person with disabilities were coming from the Central region at **(33.8%)** followed by Lango sub region at **(19.5%),** West Nile **(14.3%),** the least represented regions were Bunyoro, Busoga, Elgon, Kampala and Bukedi in that order. Furthermore, it should be noted that there is a high concentration of sector opinion leaders in the central region compared to other sub regions.

| Sub-region | Category of Respondent | | | | | | |
|---|---|---|---|---|---|---|---|
| | Politician leaders | Media Program Directors | Academician | Practitioner | Radio Presenter | Media Program Editor | *Total* |
| **Central** | 15.6% | 10.4% | 6.5% | _ | 1.3% | _ | *33.8%* |
| **Lango** | 2.6% | 6.5% | _ | 9.0% | _ | 1.3% | *19.4%* |
| **West Nile** | 5.2% | _ | 7.8% | 1.3% | _ | _ | *14.3%* |
| **Bunyoro** | 2.6 % | 1.3% | 1.3% | _ | _ | _ | *5.2%* |
| **Busoga** | 2.6% | 1.3% | _ | _ | _ | 1.3% | *5.2%* |
| **Elgon** | 2.6% | 1.3% | _ | _ | _ | _ | *3.9%* |
| **Kampala** | 2.6% | _ | _ | _ | 1.3% | _ | *3.9%* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Bukedi** | 1.3% | 1.3% | _ | _ | _ | _ | *2.6%* |
| **Teso** | _ | 2.6% | _ | | _ | _ | *2.6%* |
| **Toro** | 1.3% | _ | _ | _ | 1.3% | _ | *2.6%* |
| **Acholi** | _ | 2.6% | _ | _ | _ | _ | *2.6%* |
| **Ankole** | 1.3% | _ | _ | 1.3 % | _ | _ | *2.6%* |
| **Rwenzori** | 1.3% | _ | _ | _ | _ | _ | *1.3%* |
| **Total** | 39% | 27.3% | 15.6% | 11.6% | 3.9% | 2.6% | |

*Table 3: Sector Opinion leader category against sub-regions*

b) **Providers of e-services and social services to persons with disabilities**
A total of 60 service providers were interviewed, of these **85%** were from the urban area and **15%** were from the rural areas. The categories of service providers included; special needs school (**38.33%**), Media Houses (**26.67%**), Health Centers (**11.67%**), Telecom e-extensions (**6.67%**), Government Officials (**6.67%**), ICT Providers (**6.67%**), Financial Service Providers (**3.34%**).

## 3.2 ICT Awareness, Access and Usage by Persons with Disabilities

Information and communication technologies have revolutionized the way we work where technology plays an important role in most people's day to day lives. This has become the leading medium for communicating, transacting, informing, educating, and entertaining all over the world. To persons with disabilities, technology presents an unprecedented opportunity for their inclusion[15]. The current international normative frameworks which include provisions on ICT for persons with disabilities focus mainly on affordable and equitable access, removing barriers in access to ICT for persons with disabilities and promoting ICTs that respond to the needs of persons with disabilities[16].

ICTs and Assistive Technology today permeate almost all development activities including healthcare, employment, accessing online Government services, political participation, emergency and humanitarian actions, and ensuring access to accessible and assistive technologies to persons with disabilities is hence an important element in all dimensions of development programming and decision-making. While advances in Information and Communications Technology (ICTs) including the Internet have created avenues of inclusion, for some, especially persons with disabilities, it has also widened the extent to which they are excluded from the social and economic potential of the digital society[17].

The sub-section below details the level of awareness, access and usage of the ICT devices and assistive technologies among persons with disabilities;

### 3.2.1 ICT Devices

ICT is an umbrella term that includes any communication device, encompassing radio, television, cell phones, computer and network hardware, satellite systems and so on, as well as the various services and appliances with them such as video conferencing and distance learning[18]. The study sought to understand if individual persons with disabilities are aware of, ever used, have access to, currently using or own any ICT devices.

---

15    Hersh, M. (2007). Assistive Technology for Visually Impaired and Blind People. Springer

16    UN. (2013). The ict Opportunity for a Disability-Inclusive Development Framework.

17    CIPESA. (2019)., Governments and donors urged to advance ICT access for Persons with Disabilities (https://cipesa.org/2019/10/governments-and-donors-urged-to-advance-ict-access-for-persons-with-disabilities/)

18    https://www.google.com/search?q=ict+devices&source=lmns&client=firefox-b-d&hl=en&sa=X&ved=2ahUKEwi_0d7D-t_6AhVMrhoKHc1uD84Q_AUoAHoECAEQAA

The results obtained revealed that;
   **a) Awareness, Access, Ownership and Usage of ICT devices**
From analysis on ownership of ICT devices, Majority **54.8%** of the respondents owned feature phones (Kabiriti), **51.7%** owned Radios, **23%** owned smart phones, **20.6%** owned televisions and a few **4.7%** owned a laptop and **2.4%** owned Tablet/i-Pad. The most used devices are radio, feature phones, Television and smart phones. (This constituted a multivariate selection involving various variables i.e.,an individual may be aware of a device, has ever used it, has access to it, but not actively using a device)

Respondents were mostly aware of the following ICT devices stated i.e., (Smart Phones, Televisions, Feature Phones and Radio) in that order of preference while the devices they were least aware of Tablet/i-Pad, Desktop computers and Laptop as illustrated in figure 19 below.

> " *"Many persons with disabilities do not have such gadgets." (DU Chairperson, Napak, Karamoja)*

| | Feature Phones | Smart phones | Tablet /IPad | Television | Laptop | Radio | Desktop Computer |
|---|---|---|---|---|---|---|---|
| **Awareness of** | 843 | 963 | 741 | 901 | 884 | 807 | 785 |
| **Ever used** | 840 | 399 | 149 | 463 | 264 | 720 | 270 |
| **Access to** | 629 | 328 | 87 | 447 | 177 | 682 | 194 |
| **Currently using** | 757 | 430 | 44 | 448 | 117 | 875 | 105 |
| **Own** | 1098 | 469 | 48 | 412 | 94 | 1035 | 51 |
| **None of the above** | 224 | 624 | 1188 | 611 | 980 | 321 | 1083 |

*Figure 19:  ICT Devices' Awareness, Access, Ownership and Usage by Individual Persons with Disabilities (n=2003)*

The findings from Figure 19 indicate a significant level of awareness among Persons with Disabilities regarding feature phones and radios in comparison to other types of devices. Among these devices, radios are predominantly owned by the majority, accounting for 54.3% ownership, followed closely by feature phones at 57.8%.

It is important to highlight that the ownership percentages for internet-enabled devices, such as smart phones (24.7%), laptops (4.7%), desktops (2.8%), and tablets (2.6%), are notably low. This suggests that a majority of individuals with disabilities have limited access to these modern digital devices that provide internet connectivity and advanced functionality.

In summary, the data suggests that while there is strong awareness about feature phones and radios among Persons with Disabilities, their ownership of devices like smart phones, laptops, desktops, and tablets remains relatively low, underscoring a gap in access to more advanced technology.

On the other hand analysis on ICT device ownership in regards to disability category shows that indeed among the disabilities, Feature phones and Radios are the mostly owned devices. However, there's low ownership of more advanced devices like tablets, desktop computers, and laptops. These findings suggest opportunities for improving device accessibility, raising awareness, and tailoring solutions to meet the diverse needs of individuals with disabilities across different device types.

| Devices | Disability | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Physical | | Visual | | Hearing | | Other | |
| | Own | None | Own | None | Own | None | Own | None |
| Feature Phone | 37.6% | 4.9% | 9.9% | 1.7% | 6.6% | 2.9% | 3.7% | 2.1% |
| Smart Phone | 16.4% | 17.7% | 3.9% | 6.1% | 3.0% | 5.2% | 1.3% | 4.1% |
| Tablet/ Ipad | 1.8% | 34.5% | 0.2% | 11.7% | 0.4% | 10.4% | 0.1% | 6.4% |
| Television | 15.1% | 17.0% | 2.2% | 6.2% | 3.0% | 5.4% | 1.1% | 3.6% |
| Laptop | 3.4% | 28.4% | 0.6% | 9.7% | 0.4 % | 8.6% | 0.2% | 5.4% |
| Radio | 36.9% | 7.1% | 9.9 % | 2.3% | 4.7% | 4.7% | 2.7% | 2.8% |
| Desktop Computer | 2.0% | 31.6% | 0.4% | 10.2% | 0.3 % | 9.9% | 0.0% | 6.1% |

*Table 4: ICT device ownership with Disability category*

**b) Smart phone usage, gender, region, and person who controls a smartphone in a house**
It is worth noting that an individual that possesses a smart phone can do almost all that a person with a computer and a tab can do. Therefore, further analysis was done on smart phone usage, gender, region and the person who controls a phone in the house.

In regards to smart phone ownership in consideration of the gender of persons with disabilities, analysis showed that the higher percentage of ownership is among male persons with disabilities 57.8% indicating to own smart phones and only 42.2% of the female persons with disabilities owning smart phones, this is further demonstrated in the table below;

| Smart phone ownership | |
|---|---|
| **Female** | 42.2% |
| **Male** | 57.8% |

*Table 5: Smart Phone ownership against Gender*

According to the analysis, Smart phones were mostly used in the central region, with primary control resting in the hands of mothers (114) and fathers (112). In areas like Kampala, Busoga, and Teso, smart device access tends to be overseen mainly by personal assistants and fathers. Conversely, in Elgon, Lango, West Nile, Bunyoro, and Ankole, both mothers and fathers predominantly control smart phone usage in a home the same in Bukedi, Acholi, and Kigezi. It is also worth noting that few children have access to smart phones, usage was mostly observed in Central.

| Person Responsible | | | | | |
|---|---|---|---|---|---|
| **Region** | **Father** | **Mother** | **Children** | **Caregiver** | **Personal Assistant** |
| Central | 112 | 114 | 36 | 38 | 23 |
| Kampala | 4 | 4 | 1 | 0 | 5 |
| Busoga | 3 | 2 | 0 | 2 | 3 |
| Bukedi | 3 | 5 | 0 | 0 | 3 |
| Elgon | 5 | 2 | 0 | 0 | 1 |
| Teso | 4 | 0 | 0 | 1 | 7 |
| Lango | 10 | 8 | 6 | 2 | 4 |
| Acholi | 27 | 28 | 4 | 11 | 0 |
| West Nile | 22 | 13 | 4 | 10 | 13 |
| Bunyoro | 10 | 6 | 4 | 2 | 0 |
| Toro | 1 | 0 | 1 | 1 | 1 |
| Kigezi | 5 | 6 | 3 | 1 | 0 |
| Ankole | 10 | 6 | 3 | 1 | 2 |

*Table 6: Smart phone usage, region, and person who controls a smart phone in a house*

This analysis highlights distinct patterns in smartphone usage and control in persons with disabilities across different regions in the studied area. Central region exhibited a higher prevalence of smartphone usage, primarily managed by both mothers and fathers. In contrast, regions like Kampala, Busoga, and Teso show a unique dynamic where personal assistants and fathers play a significant role in regulating smartphone access. The study also underscores a consistent trend in Elgon, Lango, West Nile, Bunyoro, and Ankole, where both parents jointly control smart phone access. This pattern extends to Bukedi, Acholi, and Kigezi regions as well.

### c) Usage of ICT Devices by OPDs

OPDs are both service providers and advocates for persons with disabilities in the use and access of ICT devices. It was therefore important to understand the level of awareness, access and usage amongst the leaders of organization for persons with disabilities. Analysis of results showed that there was a high level of awareness and usage at **(63%)** of ICT devices amongst leaders of OPDs where at least **53.2%** indicated to use ICT devices in their day-to-day activities. The least used device from results was a Tablet, Laptop, and Desktop.

> *"We have computers, printers, the phone at the district union and some of us know how to use them, the rest of the things are performed by the administrator and these smartphones we have them because we also communicate to our people on WhatsApp, although we don't have laptops but we know they are there and hope we can get some from UCC to help us the leaders in our work"*
> *- DU-chairperson, Eastern Region*
>
> *"Majority of the beneficiaries they don't have smart phones, sometimes we have to send them money and they request we send on the neighbor's phone because that's the only way we can refund their transport." (OPD, (project manager USDC), Bunyoro)*

| | Feature Phone | Smartphone | Tablet | Television | Laptop | Radio | Desktop |
|---|---|---|---|---|---|---|---|
| ■ Aware Of | 37 | 34 | 37 | 33 | 40 | 40 | 40 |
| ■ Ever Used | 38 | 32 | 19 | 26 | 26 | 38 | 28 |
| ■ Own | 30 | 38 | 2 | 34 | 16 | 31 | 12 |
| ■ Currently Using | 31 | 39 | 2 | 30 | 20 | 27 | 20 |
| ■ Access to | 30 | 31 | 11 | 29 | 20 | 26 | 22 |
| ■ None | 2 | 1 | 15 | 3 | 6 | 2 | 6 |
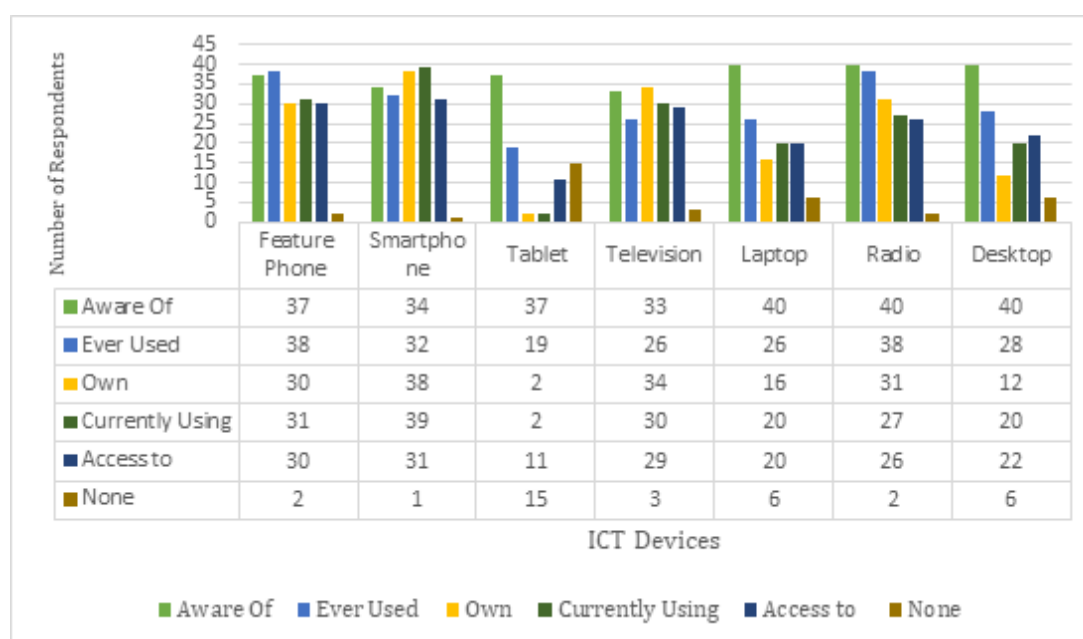
*Figure 20: ICT Awareness, Access and Usage by leaders in OPDs*

In terms of gender and level of awareness, access and usage of ICT devices by persons with disabilities. The results indicate that there were more people who simply heard of the devices than those who really owned them. For all the devices, there were more males who owned the ICT devices than the females as shown in the table 7. The results also revealed that persons with disabilities who heard of and owned ICT devices were really low in number since there is none that revealed more than 32%.

| | Male | | Female | |
|---|---|---|---|---|
| **ICT Devices** | Heard of | Own | Heard of | Own |
| Feature phones | 31.7% | 29.5% | 20.5% | 25.3% |
| Smart phone | 25.2% | 13.6% | 22.9% | 9.8% |
| Tablet / iPad | 19.9% | 1.5% | 17.0% | 0.9% |
| Television | 23.2% | 11.6% | 21.7% | 9.1% |
| Laptop | 22.8% | 3.5% | 21.4% | 1.0% |
| Radio | 20.7% | 27.9% | 19.6% | 23.6% |
| Desktop Computer | 20.3% | 1.6% | 18.8% | 0.9% |

*Table 7: ICT Awareness, Access and Usage against Gender*

Additional analysis of the data aimed to explore the correlation between device ownership and various sub regions. The investigation unveiled a noteworthy trend in the central region, where a considerable number of individuals possess ICT devices. In the specified regions, most participants own feature phones and radios, while ownership of other types of devices remains relatively limited. Among the various ICT devices, laptops and desktops were the least prevalent. These devices seemed

to be more commonly associated with individuals who have a higher level of education, as indicated in Table 8.

Furthermore, the findings highlight a clear connection between the ownership of ICT devices and the education level of Persons with Disabilities surveyed. This relationship becomes evident when considering that the majority of participants had only attained a primary level of education. This suggests that device ownership tends to align with the educational background of individuals, reflecting the influence of education on technology adoption among people with disabilities.

| Sub Regions | Feature Phones | Smart-phone | Tablet/ iPad | Televi-sion | Laptop | Radio | Desktop |
|---|---|---|---|---|---|---|---|
| Acholi | 4.3% | 2.0% | 0.1% | 1.1% | 0.8% | 6.0% | 0.1% |
| Ankole | 2.2% | 1.5% | 0.0% | 1.9% | 0.2% | 2.6% | 0% |
| Bukedi | 0.8% | 0.5% | 0.1% | 0.2% | 0.1% | 0.9% | 0.1% |
| Bunyoro | 4.4% | 1.2% | 0% | 1.3% | 0.1% | 2.4% | 0.1% |
| Busoga | 3.9% | 1.1% | 0.1% | 1.4% | 0.2% | 3.9% | 0.2% |
| Central | 14.3% | 8.2% | 1.2% | 8.1% | 1.7% | 11.6% | 1.3% |
| Eastern | 1.6% | 0.8% | 0% | 0.5% | 0.1% | 1.3% | 0.0% |
| Elgon | 0.9% | 0.3% | 0% | 0.2% | 0% | 0.8% | 0.1% |
| Kampala | 0.6% | 0.3% | 0.1% | 0.4% | 0.2% | 0.4% | 0% |
| Karamoja | 0.5% | 0.1% | 0% | 0.1% | 0% | 0.5% | 0% |
| Kigezi | 0.7% | 0.5% | 0% | 0.5% | 0% | 1.0% | 0% |
| Lango | 4.5% | 1.2% | 0.1% | 1.5% | 0.3% | 7.1% | 0.1% |
| Rwenzori | 1.7% | 0.9% | 0.2% | 0.9% | 0.2% | 1.1% | 0.1% |
| Teso | 3.9% | 0.8% | 0.1% | 0.4% | 0.1% | 2.5% | 0.1% |
| Tooro | 1.6% | 0.4% | 0% | 0.5% | 0% | 7.6% | 0.0% |
| West Nile | 8.5% | 3.2% | 0.1% | 1.3% | 0.4% | 51.7% | 0.0% |

*Table 8: ICT Awareness, Access and Usage against sub regions*

### d) Purpose of Usage

ICTs and assistive technology do have a significant impact on persons with disabilities by improving communication, access to information and increasing their ability to live independently. Respondents were asked to understand their purpose of use of the different ICT devices and the following results were achieved.

A few respondents indicated to use their phones for education and news, however indicating to use their devices mostly for entertainment and communication. Therefore, in terms of education and news, **16.8%** indicated to use feature phones, **19.3%** use smartphones, **9.7%** use Tablet/i-Pad, **18.6%** use Television, **12.4%** use laptop, **24.4%** use Radio and **11.9%** use computers to a greater extent for education. In terms of communication, **54.5%** indicated to use feature phones, **30.1%** indicated to use smart phone, **10.2%** indicated to use Tablet/i-Pad, **18.5%** indicated to use Television, **10.1%** indicated to use Laptop, **32.9%** indicated to use Radio and **9.9%** indicated to use Desktop computer to a greater extent for communication.

The Figure 21 provides a graphical representation of results. The ICT devices owned largely influenced the purpose and it is clear that feature phones were being used mainly for communication and education but least used for business purposes. The radio which is second owned amongst the devices was largely used for news, entertainment and communication respectively. Therefore, this could be a wrong ICT device to use while educating the persons with disability.
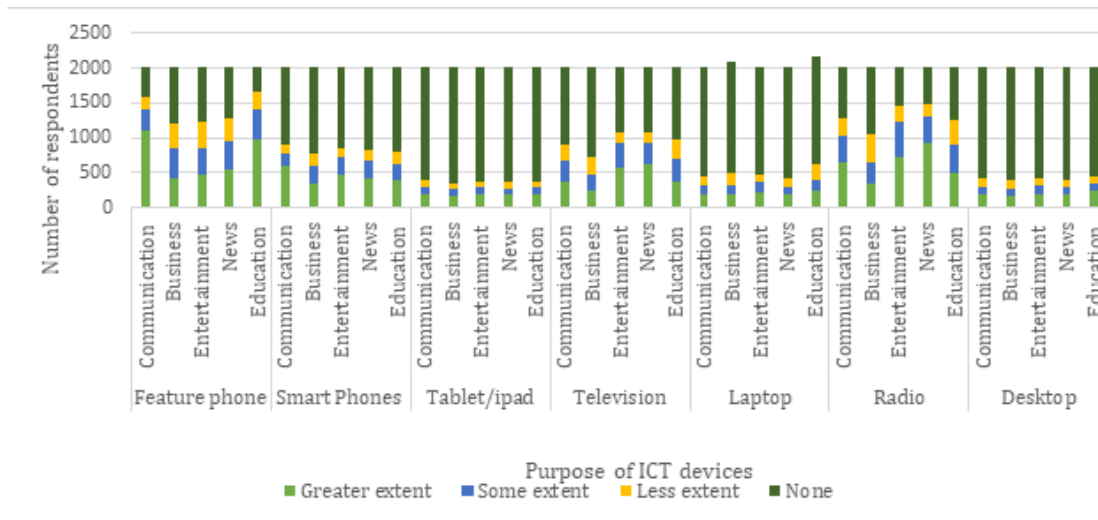
*Figure 21: Purpose of use of ICT devices by individual persons with disabilities*

It is evident that the choice of devices and purpose of usage is based on several factors i.e.; Radios are sometimes preferred by individuals with disabilities for news consumption since they offer an audio-based information source that doesn't require active engagement, making them accessible to those with visual or cognitive impairments, Feature phones are commonly used by individuals with disabilities for communication purposes. Their simple interfaces and physical buttons can be easier to navigate for those with certain disabilities, and they offer basic calling and texting functionalities, Smartphones are increasingly popular among individuals with disabilities due to their multi-functionality and the availability of various accessibility features. They can be used for communication, education, entertainment, news consumption, and more, tablets are often used for educational purposes, as their larger screens make reading and accessing educational content more convenient. They are also used for entertainment, such as watching videos and playing games, laptops and desktop computers are mainly used for education and work-related tasks. They provide a more comprehensive platform for tasks like research, writing, and accessing online courses, Television is commonly used for entertainment purposes, particularly for accessing visual content such as movies, TV shows, and documentaries. Closed captioning and audio descriptions can enhance accessibility.

## 3.2.2 Assistive Devices/Technology

**Assistive technology** (**AT**) is a term for assistive, adaptive, and rehabilitative devices for people with disabilities and the elderly. Disabled people often have difficulty performing activities of daily living (ADLs) independently, or even with assistance. ADLs are self-care activities that include toileting, mobility (ambulation), eating, bathing, dressing, grooming, and personal device care. Assistive technology can ameliorate the effects of disabilities that limit the ability to perform ADLs. Assistive technology promotes greater independence by enabling people to perform tasks they were formerly unable to accomplish, or had great difficulty accomplishing, by providing enhancements to, or changing methods of interacting with, the technology needed to accomplish such tasks. For example, wheelchairs provide independent mobility for those who cannot walk, while assistive eating devices can enable people who cannot feed themselves to do so. Due to assistive technology, disabled people have an opportunity of a more positive and easygoing lifestyle, with an increase in "social participation," "security and control," and a greater chance to "reduce institutional costs without significantly increasing household expenses[19]

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19    *Parant, Aymeric; Schiano-Lomoriello, Sandrine; Marchan, Francis (October 2017). "How would I live with a disability? Expectations of bio-psychosocial consequences and assistive technology use". Disability and Rehabilitation: Assistive Technology.* ***12*** *(7)*

*Figure 22: Contribution of ICTs and assistive technology to the development and well-being of persons with disabilities[20]*

In general, there's a low awareness and usage of assistive devices with **3.04%** indicated to have active usage of the audio players and recorders **1.7%** actively use the Perkins Braille, **1.34%** actively use the talking web browser **1.15%** actively Magnifier and Braille note taker, **1.04%** actively use text to audio convertors only **0.89%** indicated to use touch screen computers. In terms of ownership as indicated in the figure below **2.8%** indicated to own audio players, **1.44%** own communication boards, **1.25%** own magnifiers. Majority about **80%** of the individual persons with disabilities neither own, nor have access to the assistive technologies that were considered in this research. It is very clear that assistive devices for persons with disability are very expensive to acquire and are not common devices to be accessed on the market in Uganda. This is a big deterrent for the persons with disabilities to own and use such devices.

| | Heard/ aware of | Ever used | Access to | Currently using | Own | None |
|---|---|---|---|---|---|---|
| Perkins Braille | 430 | 83 | 40 | 34 | 27 | 1534 |
| Magnifier (Hand Held Video Desktop magnifiers, Desktop) | 350 | 84 | 39 | 23 | 25 | 1614 |
| Braille note taker | 334 | 57 | 20 | 23 | 18 | 1631 |
| Communication Boards | 360 | 121 | 75 | 32 | 29 | 1604 |
| Audio Player /Recorder | 539 | 169 | 85 | 61 | 56 | 1372 |
| Scanning Pens | 247 | 53 | 18 | 14 | 11 | 1714 |

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20    Policy. NUDIPU. (2021). Opening the door for possibilities for persons with Disabilities. Disabled but not disqualified.

| | | | | | |
|---|---|---|---|---|---|
| Screen reader software (Jaws, NVDA, Apple Voice Over etc.) | 287 | 71 | 36 | 23 | 20 | 1683 |
| Barcode Scanners | 244 | 53 | 24 | 15 | 11 | 1722 |
| Talking web browser | 263 | 61 | 27 | 27 | 14 | 1699 |
| Touch Screen Computer | 410 | 111 | 48 | 18 | 19 | 1545 |
| Text to audio converter | 276 | 59 | 24 | 21 | 15 | 1693 |
| Specialized keyboard | 287 | 51 | 18 | 15 | 14 | 1683 |

*Table 9: Awareness, access and usage of Assistive devices by individual persons with devices*

> *"Most persons with disabilities are not aware and have not been trained to use digital services." - (DU, Chairperson Koboko, West Nile)*
>
> *"ICTs for persons with disability are very expensive to acquire and not very easy to find on market. Even the one we use was donated to us so that it can ease how we perform our day-to-day work." (DU, Chairperson Mityana, Central Region)*

Apart from the list of devices highlighted in table 9 above, some respondents indicated to be aware of other assistive devices which included; (Hearing Aid **23%**, electronic wheel chair **18%,** White cane **17%,** Audio Bible **7%**, among others) as detailed in table 5. The results clearly indicate that there is low knowledge of Assistive devices for persons with disability and hence a lot of sensitization needs to be done if there is going to be increased adoption.

| Device | |
|---|---|
| White cane | 16.8% |
| Hearing Aid | 22.9% |
| Electronic Wheel Chair | 18.1% |
| Optical Glasses | 3.6% |
| Google Assistant | 2.4% |
| Talking computer | 7.2% |
| Audio Bible | 7.2% |
| Crutches | 7.2% |
| Obit reader | 2.4% |
| Artificial hands | 2.4% |
| Others (Braille Watch, Digital Calculator, Victor reader, smart braille, Flate) | 9.6% |

*Table 10: Other assistive devices*

This study further sought to establish the level of ownership and usage of assistive devices in the different organizations and the results indicated that; on average **52.7%** of the organizations are aware of the existence of assistive devices however a few of the organizations own these devices such as screen readers, Perkins Braille, recorders/ audio players, text to audio converter, and magnifier in that order of ownership. The main reason to why majority don't own them is entirely dependent on the cost and limited access to these specialized ICT devices. The figure 23 below provides more details. However, it is clear that despite the fact that the organization for persons with disabilities have heard about the different ICT devices, access and use has been very low due to the reasons already indicated. The  government needs to come in to support to change this situation if we are to get  increased access and use.
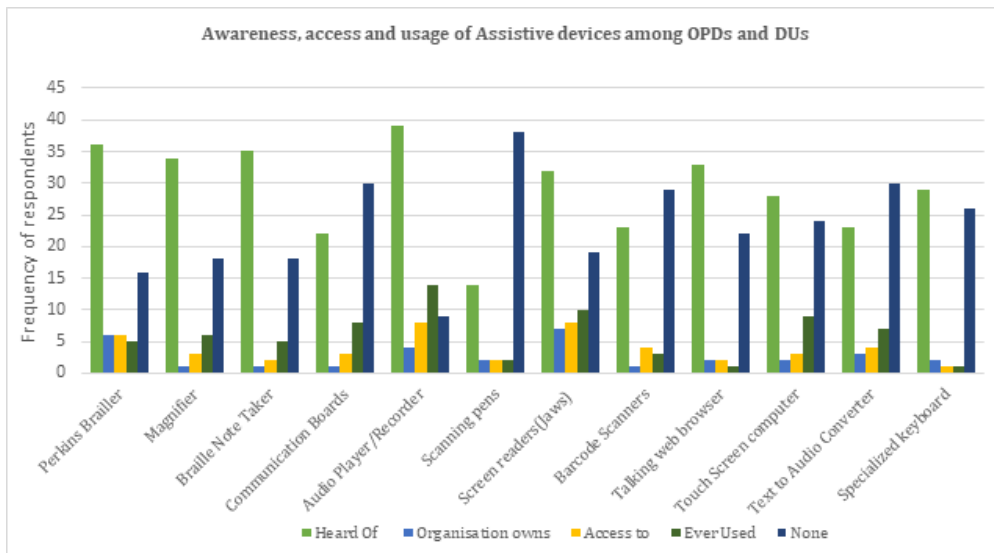
*Figure 23: Awareness, access and usage of Assistive devices among OPDs and DUs*

Furthermore, for this study, service providers such as special needs schools, media houses and health centers were interviewed to understand if they own or have access to assistive devices. Analysis of results showed that; In terms of awareness, service providers indicated to be aware of most of the assistive devices stated with **71.7%** indicating to be aware of audio player/recorder, **55%** are aware of Magnifier, **51.7%** are aware of text to audio converters, **50%** were aware of the Perkins braille, **46.7%** were aware of a touch screen computer, **45%** were aware of talking web browsers, **43.3%** are aware of screen readers, **41.7%** are aware of Barcode Scanners, **40%** are aware of specialized keyboard, **38.3%** are aware of communication boards, **33.3%** are aware of scanning pens.

It is clear from figure 23 above that majority of the organizations did not own assistive devices despite being aware of them. Of the **38.33%** special needs schools that were interviewed for the study, only **13%** indicated to own some assistive technologies e.g. Perkins braille, magnifier, audio player, and a specialized keyboard.

### 3.2.3 ICT Services

Different services can be accessed using ICT devices and under this study, we sought to understand the level of usage of ICT services by persons with disabilities. From analysis of results there is a low usage of ICT services, however on average persons with disabilities are aware of ICT services. The ICT Services those respondents were "***aware***" of most included;
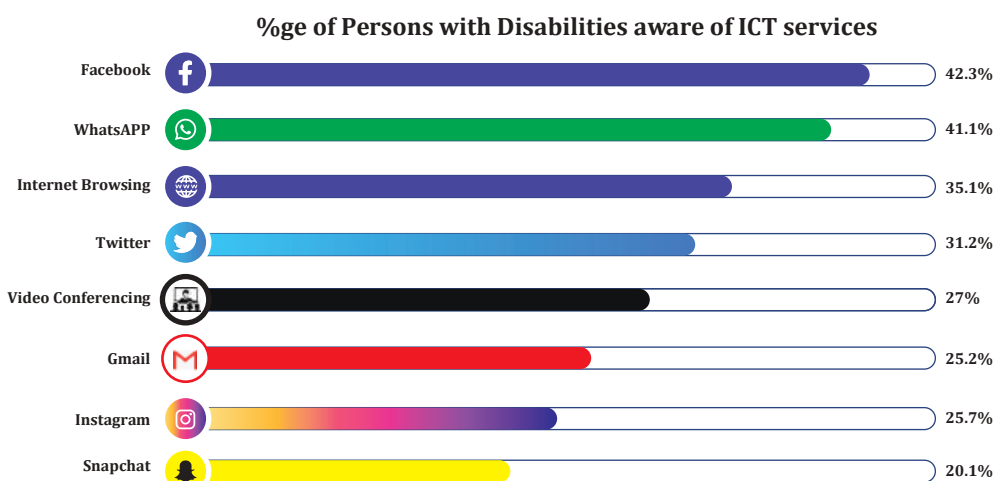


*Figure 24: Awareness of ICT services among individual persons with disabilities*

Other services included; E-commerce **(24.5%)**, Online transport services **(22.3%)**, E-learning platforms **(21.1%)**, while the Least known services included; E-News **(19.9%)**, LinkedIn **(15.1%)** and **13%** were aware of Collaborative tools, instructional software, electronic textbooks.

*Whereas;*

There's generally a low "***usage***" of ICTs by persons with disabilities with only as illustrated in the

**%ge of Persons with Disabilities currently using of ICT services**

| Service | Percentage |
|---|---|
| WhatsAPP | 26.7% |
| Facebook | 22.9% |
| Internet Browsing | 15.9% |
| Gmail | 10.8% |
| Video Conferencing | 7.6% |
| Twitter | 7.3% |
| Instagram | 5.8% |
| Snapchat | 4.7% |
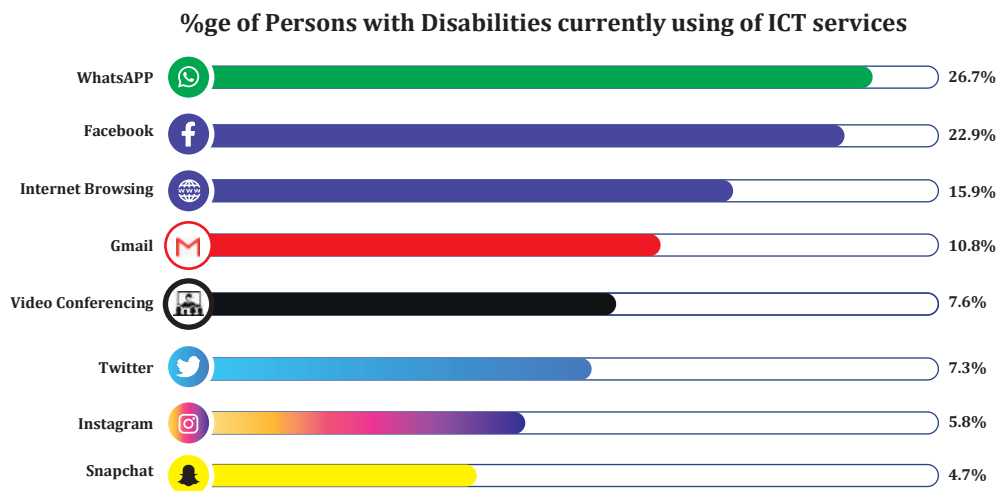
*Figure 25: Persons with Disabilities currently using ICT services*

Other services like ***LinkedIn***, ***Electronic textbook***, ***E-news*** were the least used ICT services. It is worth noting that majority **(57.7%)** of them were neither aware nor currently using the stated ICT services.

These results are also backed up by a key informant who noted that;

> *"Accessibility to some of the services is hard for persons with disabilities and also depends on the category of disabilities some can't use those services." (DU Chairperson, Yumbe, West Nile)*
>
> *"Those living in urban areas can easily use them but in rural areas they cannot." (DU, Chairperson, Elgon, Mbale)*

Previous studies have shown that disparities among People with Disabilities are complex, and that the digital divide varies depending on the type of disability.[21]

A study by Poushter and Bishop (2018) found that people with disabilities are less likely to use the internet and social media, potentially due to the following factors;

a. **Accessibility Barriers**: Individuals with disabilities face difficulties in accessing and using these platforms due to limited support for screen readers, captions, alt text for images, keyboard navigation, and other assistive technologies.
b. **Digital Literacy**: Some individuals with disabilities might lack the necessary digital literacy skills to navigate and interact effectively on these platforms.
c. **Design and User Experience**: Social media platforms often prioritize visual content and interfaces, which can pose challenges for individuals with visual impairments or cognitive

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21    Duplaga, M. Digital divide among people with disabilities: Analysis of data from a nationwide study for determinants of Internet use and activities performed online

disabilities.

d.  **Social and Psychological Barriers**: Concerns about privacy, fear of online harassment or bullying, and a sense of exclusion due to their disability.
e.  **Representation and Inclusivity**: Social media platforms lack representation of diverse disabilities; individuals may feel less motivated to engage.
f.  **Physical Barriers**: Some individuals with disabilities face physical barriers in accessing devices or stable internet connections, limiting their ability to use social media platforms effectively.
g.  **Attitudinal Barriers**: Negative attitudes and misconceptions about disability in society can translate to online spaces. If individuals perceive that social media platforms are not welcoming or inclusive, they may be less inclined to participate.
h.  **Legal and Policy Issues**: Inadequate legal frameworks and policies related to web accessibility might discourage social media platforms from implementing necessary changes to accommodate individuals with disabilities

Usage of ICT services was further broken down to understand the usage patterns among the different categories of persons with disabilities. It is still evident that WhatsApp and face-book are the most used ICT services, though there's still generally a low usage

| ICT services | Disability Category | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Physical | | Visual | | Hearing | | Others | |
| | Aware of | Currently using | Aware of | Currently using | Aware of | Currently using | Aware of | Currently using |
| Internet Browsing / searching | 264 | 129 | 7 | 5 | 2 | 1 | 3 | 3 |
| WhatsApp | 311 | 206 | 8 | 4 | 2 | 1 | 3 | 2 |
| Face-book | 311 | 193 | 8 | 5 | 2 | 1 | 4 | 5 |
| Twitter | 258 | 57 | 6 | 2 | 1 | 0 | 5 | 1 |
| Video Conferencing | 274 | 50 | 7 | 1 | 1 | 1 | 4 | 0 |
| Instagram | 224 | 50 | 5 | 1 | 1 | 0 | 5 | 0 |
| Email | 89 | 81 | 4 | 3 | 0 | 2 | 1 | 3 |

*Table 11: ICT service usage with disability category*

ICT services play a crucial role in enhancing the lives of persons with disabilities by providing them with various tools and opportunities to access information, communicate, and engage with the world around them. There was a generally low usage and awareness of ICT services by persons with disabilities, therefore demonstrating a high need to implement programs towards increasing awareness. However, it is also important to understand if these services are accessible to persons with disabilities

The different Sector opinion leaders' interview were asked for their opinion whether persons with disabilities can easily use and access ICT services and they indicated that persons with disabilities can easily access the following ICT services i.e., the internet, social media, Email charts, and Microsoft packages. However, they also indicated that persons with disabilities can't easily use services like e-commerce platforms, e-learning, online press releases and collaboration services. This is further demonstrated in the figure below.
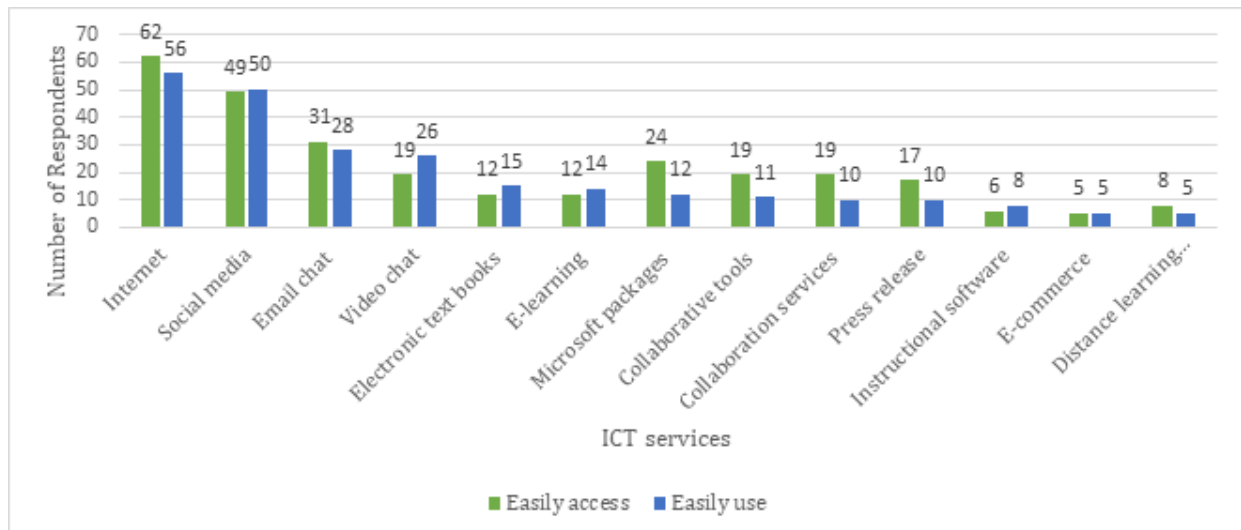
*Figure 26: Sector opinion leaders' response on ease of access and use of ICT services by persons with disabilities*

On the other hand, Opinions from OPD leaders didn't differ from those of sector opinion leaders for they indicated that persons with disabilities cannot easily use the stated ICT services that is;, Twitter, Instagram, LinkedIn, Snapchat, e-textbooks, e-news, video conferencing platforms, instructional software and emails.

OPD and DU leaders further backed up their opinions with the following reasons;
- Very few persons with disabilities own smartphones and
- ICT devices are expensive and majority of the person with disabilities cannot afford them
- Limited awareness of the services available of ICT devices
- Low levels of education amongst persons with disabilities

Despite the low awareness and usage of ICT services amongst individual persons with disabilities, responses from the leaders within OPDs and DUs regarding their own level of access use and awareness of the different ICT services showed an active usage of some of the stated ICT services i.e., internet browsing, WhatsApp, Facebook and twitter. A low usage was highlighted in the use of Instagram, LinkedIn and snap chat but having awareness of their existence. whatsApp, internet browsing and Facebook were the most prevalent services being used by the leaders as illustrated in the figure below;
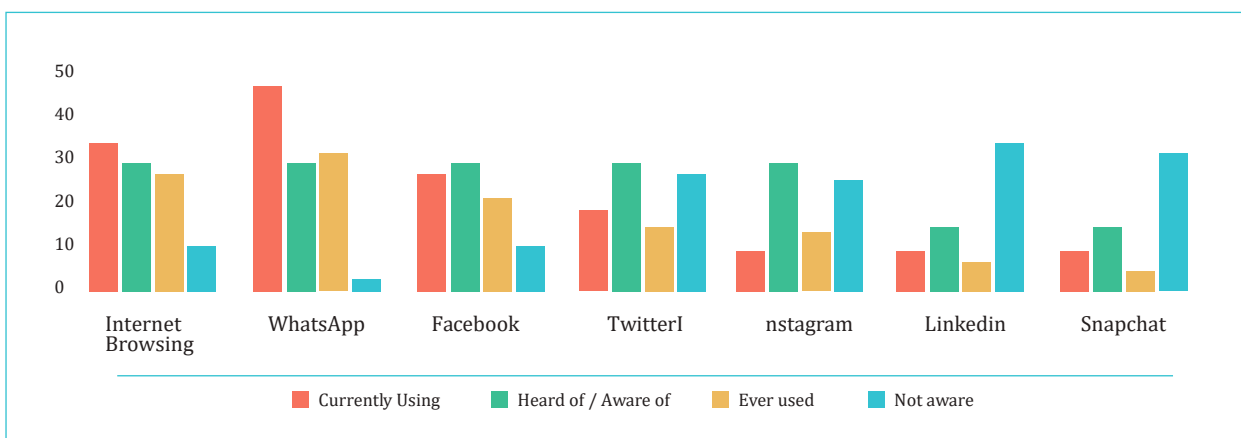


*Figure 27: Leaders in OPDs and DUs ICT services awareness and usage*

In terms of frequency of access to the above-mentioned ICT services, these results are represented in the table 9 below where WhatsApp is the most daily accessed service followed by Facebook and internet browsing indicated in the table below. This could be attributed to the fact that globally

Facebook and WhatsApp are the most popular and User-friendly social media platforms[22].

| ICT Services | Daily | Twice a week | At least Monthly | Once in two months | A few times a year | Never |
|---|---|---|---|---|---|---|
| Internet browsing | 272 | 129 | 119 | 43 | 107 | 1333 |
| WhatsApp | 458 | 103 | 59 | 25 | 84 | 1274 |
| Facebook | 329 | 127 | 84 | 35 | 103 | 1325 |
| Twitter | 92 | 53 | 38 | 19 | 52 | 1749 |
| Instagram | 64 | 49 | 26 | 17 | 49 | 1798 |
| LinkedIn | 31 | 24 | 40 | 7 | 33 | 1868 |
| Snapchat | 55 | 44 | 36 | 13 | 39 | 1816 |
| Electronic textbooks | 27 | 35 | 29 | 10 | 41 | 1861 |
| E-News | 100 | 68 | 68 | 22 | 69 | 1676 |
| Video conferencing Technologies (Zoom, Microsoft teams) | 32 | 55 | 99 | 47 | 137 | 1633 |
| E-commerce platforms i.e. (Jumia, Kikku , Jiji etc.) | 15 | 22 | 40 | 25 | 83 | 1818 |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | 26 | 30 | 60 | 25 | 92 | 1770 |
| Email chat | 132 | 73 | 95 | 21 | 81 | 1601 |
| E-learning platforms | 43 | 41 | 56 | 35 | 97 | 1731 |
| Collaborative tools | 32 | 15 | 31 | 15 | 66 | 1844 |
| E-government services (e.g. URA, NSSF, etc.) | 16 | 16 | 60 | 22 | 87 | 1802 |

*Table 12: Frequency of access of use of ICT services by leaders in OPDs and DUs*

### 3.2.4 Internet Access

Individual persons with disabilities were asked to state the devices they use to access internet. Analysis showed that majority **(55.4%)** of the respondents don't use internet. **31.3%** use their smart phones to access the internet, **17.7%** use feature phones, **9.45%** use laptops, **8.4%** use desktop computers, 8.4% modem/Mi-fi and **7.1%** use iPad or tablet.
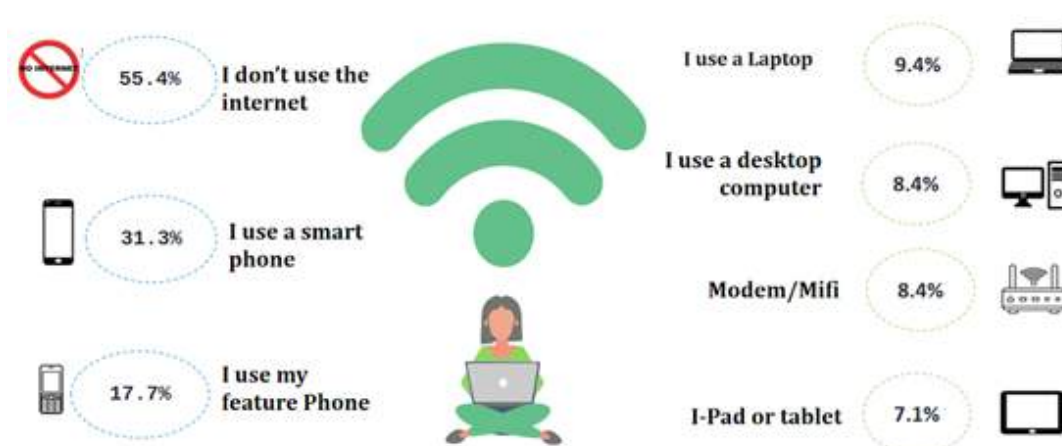


*Figure 28: Devices used by individual persons with disabilities to access the internet*

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22    https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

Ascertain the extent to which service providers are offering inclusive digital and communication services to PWDs

## 3.2.5 Level of knowledge in performing Basic ICT operations

ICT skills such as Basic Operation of ICT Hardware, Typing, Documents creation, using of internet and computers safely are essential skills in the current digital era of digital technologies. Individual persons with disabilities were asked to rate their level of knowledge in performing ICT operations and it was evident that majority above **60%** had never even acquired or got an opportunity to learn such skills as highlighted in the table 10. These results clearly illustrate that ICT literacy for persons with disability is still very low and something has to be done to raise it to the required standards. By doing so, it will raise more consumption of ICT related services by the persons with disabilities.

| ICT Skill | Never | Poor | Fair | Good | Very good |
|---|---|---|---|---|---|
| Basic Operation of ICT Hardware – *Including printers, scanners, photocopiers, smartphones, tablets and projectors.* | 61.1% | 11.4% | 13.5% | 8.6% | 4.7% |
| Typing – *The ability to use a word processing program (such as Microsoft Word) to create letters, agendas, notes etc.* | 61.8% | 11.2% | 12.2% | 8.6% | 5.5% |
| Document Creation – *The ability to use software (such as Microsoft Word, Microsoft Publisher or Adobe Creative) to produce professional documents like PowerPoint presentations, letters,* | 66.3% | 11.2% | 10.2% | 7.9% | 3.6% |
| Using computers and the internet safely;<br>i) *browsing the internet,*<br>ii) *email communication and social media,*<br>iii) *collaborative communications like chat rooms,*<br>iv) *keeping personal information private, and avoiding viruses, identity theft and other online threats* | 64.7% | 12.1% | 10.3% | 7.7% | 4.4% |
| Networking and systems administration | 72.7% | 13.2% | 7.2% | 4.1% | 1.9% |

*Table 13: Level of ICT knowledge amongst individual persons with disabilities*

## 3.2.6 Barriers to access and Usage of ICTs by persons with disabilities

Including persons with disabilities in all aspects of society is one of the remaining challenges of the global development agenda despite the existence of legal and policy frameworks at national and international level. In terms of digital accessibility, poor implementation of enabling laws and policies, inaccessible government websites and e-services, expensive assistive technologies, Lack of appropriate ICT knowledge and skills by persons with disabilities are some of the challenges against digital accessibility for persons with disabilities. [23]

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23    Assessing the Barriers to ICT by People with Disabilities in Uganda 2021

*Figure 29:Barriers of ICT usage among person with disabilities*

According to OPD and DU leaders, the barriers limiting persons with disabilities to be aware, access and use ICT devices and services are attributed to ***Expensive devices, low levels of awareness/ Knowledge of existence of Assistive devices, Low literacy levels*** amongst persons with disabilities

> *"Low literacy levels among persons with disabilities. Expensive assistive technologies. Persons with disabilities are vulnerable and some can't use these ICTs. There's limited awareness of these ICTs among persons with disabilities." (Ceshire services Uganda, Project manager, Accountant, Project Officer, Interpreter, Bunyoro)*

From the opinion of Service providers, majority **(86%)** indicated the barriers as ***Expensive Assistive technologies, Lack of awareness of existing ICTs and Lack of appropriate ICT Knowledge and skills.*** Other barriers highlighted were ***Lack of interest by persons with disabilities in the use of technologies, Low levels of education and also the disabilities in particular are barriers.*** Generally, the barriers to ICT usage among persons with disabilities are summarized below;

### Barriers to Access

- ✔ 65.6% Expesive Assistive technologies
- ✔ 62.4% Lack of appropriate ICT Knowledge and skills by persons with disabilities
- ✔ 60.7% Limited of awareness of exicting ICTs
- ✔ 37.7% Lack of appropriate technologies
- ✔ 36.1% Poor implementation of laws and policies
- ✔ 36.1% Inaccessible Government websites and e-services
- ✔ 2.9% Others i.e expensive internet, limited access to electricity, Low levels of illiteracy

### Barriers to Usage

- ✔ 68.1% Expensive Assitive Technologies
- ✔ 65.5% Limited Knowledge and skills among persons with disability
- ✔ 60.1% Low levels of literacy among persons with disability
- ✔ 56.1% Lack of ICT service providers with specialized skills to meet the needs of persons with disabilities
- ✔ 1.7% Others, i.e lack of ICT devices, poverty among persons with disabilities, rural areas don't have electricity and Negative attitude towards ICT

*Figure 30: Barriers to access and usage of ICT by persons with disabilities*

### 3.2.7 Existing initiatives to increase ICT Awareness Access and Usage among persons with Disabilities

There have been different initiatives towards increasing ICT access and usage by persons with disabilities. A few *(25.5%)* OPDs and DUs indicated to have programs towards awareness and usage of ICTs for persons with disabilities. Below are programs stated by the OPDs.

a) Through Radio talk shows
b) Using international day of persons with disabilities as a platform to create awareness on ICT devices for persons with disabilities
c) Conducting training programs for persons with disabilities in the use of ICT devices
d) Providing scholarships to persons with disabilities to attend primary level education
e) Partnering with other organization to implement projects on ICT for persons with disabilities
f) Government has under taken an initiative of providing computers to all secondary schools and developed policies on inclusion for persons with disabilities in ICT

From the discussion with the service providers, **61.7%** indicated they were not aware of any initiatives/ services/devices from the government or other organizations enabling inclusion of persons with disabilities to improve persons with disabilities' access and usage to ICT. The **38.3%** which were aware highlighted the following organizations.

| Organisation | Initiative |
|---|---|
| Sight savers Uganda | Teaching and training youths in inclusive education |
| Sense international Uganda | Supporting financial support to Organisations to procure equipment used by persons with disabilities |
| UCC | Provision of ICT devices especially to schools |
| Upendo organization | Provision of scholastic materials to persons with disabilities. |
| The government of Uganda | Persons with disabilities have been given parliamentary positions and given grants through the leaderships at district level |

*Table 14: Organisations providing initiatives to increase ICT Awareness Access and Usage among persons with Disabilities*

## 3.3 Provision of inclusive digital and communication services by Service Providers

The provision of inclusive digital and communication services to Persons with Disabilities (PWDs) stands as a cornerstone of modern societies striving for equal access and participation. During this research it was important to have a discussion with service providers on employment of persons with disabilities, if they provide service for persons with disabilities and their opinion on usage of e-government services by persons with disabilities. A total of 60 service providers were interviewed these included; special needs school (**38.33%),** Media Houses (**26.67%),** Health Centers (**11.67%),** Telecom e-extensions (**6.67%),** Government Officials (**6.67%),** ICT Providers (**6.67%),** Financial Service Providers (**3.34%).**

### 3.3.1 Consideration for Persons with Disabilities during employment

Service Providers were asked if they give consideration to persons with disabilities during employment. A significant percentage **75%** proportion of the service providers indicated to consider persons with disabilities in employment.
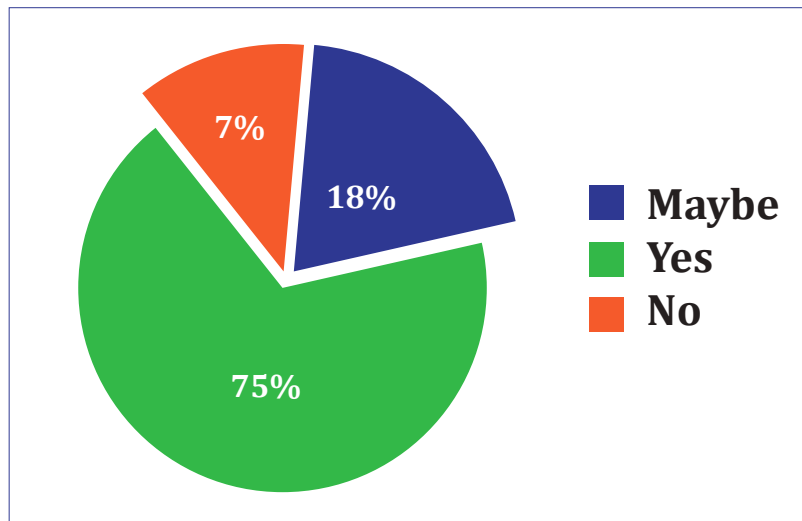
*Figure 31: Service Providers consideration for persons with disabilities during employment*

Service providers that indicated to give considerations to persons with disabilities during employment, were further asked to indicate the Number of employees who are persons with disabilities in their organisation and on average majority of the organisations had a range of 0 to 5 employees in their organisations. A few organisations were outstanding with high numbers of persons with disabilities employed of which these were public organisations i.e., Universities, Special needs schools, and NGOs. The figure 32 below represents a scatter of responses from service providers
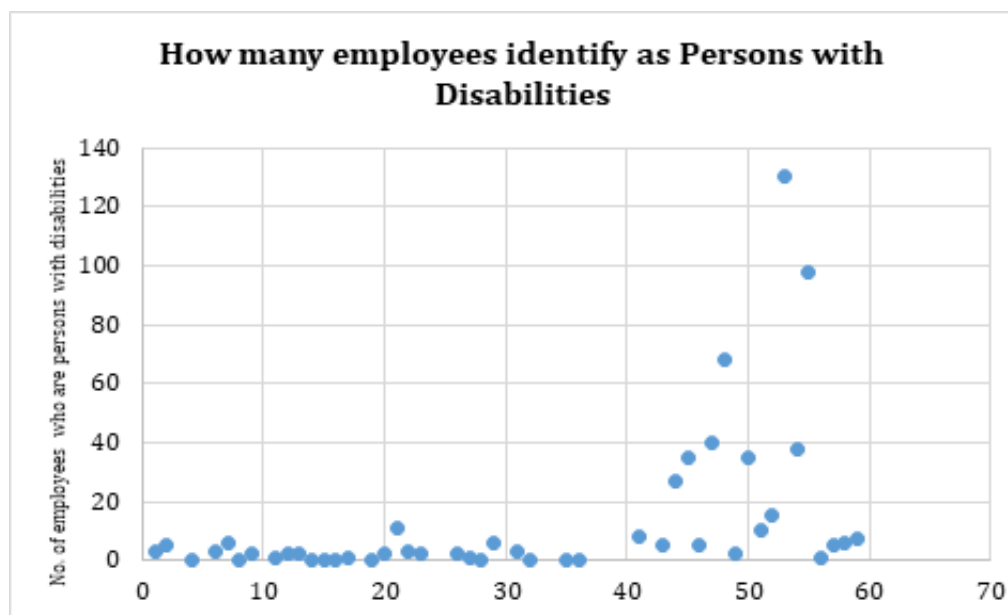


*Figure 32: Number of persons with disabilities employed in an organisations*

Uganda has continued to adopt a number of laws and policies pertaining to people with disabilities including their right to work, and this is observed with the Constitution of Uganda, 1995. Article 21, The Persons with Disabilities Act, 2006, The National Council for Disability Act (No. 14), 2003 among others[24]. NGOs have also continued to advocate for the rights of persons with disabilities, one of such programs is the" MAKE 12.4% WORK"[25]

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24    https://www.ilo.org/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/publication/wcms_115099.pdf

25    https://www.newvision.co.ug/category/news/more-organisations-offer-jobs-to-pwds-132391

## 3.34   Provision of services to persons with disabilities

Service providers were asked to indicate specific services that they offer to persons with disabilities, the category of disabilities that they support, how long they have been providing these services and if they have been licensed to provide these services for persons with disabilities. **61.7%** of the service providers involved in the study provide education services for persons with disabilities, **28.3%** provide information & referral services, **26.7%** provide advocacy services, **25%** provide services on nutrition education, **20%** provide general health services while the least service providers were observed in the case management, adult day health screens, ICT services,

| Services offered | Percentage of Service Provider offering this service |
|---|---|
| Adult Day Health Screens | 10% |
| Case Management | 11.7% |
| General Health services | 20% |
| Home care services | 5% |
| Information & Referral services | 28.3% |
| Nutrition Education | 25% |
| Education services | 61.7% |
| Advocacy services | 26.7% |
| ICT services | 13.3% |
| Select the Persons with Disabilities category that you support | |
| Physical Disability | 75% |
| Hearing Disability | 55% |
| Visual disability | 53.3% |
| Others | 30% |

*Table 15: Services offered by service providers Persons with Disabilities (n=60)*

Based on the findings, majority (61.7%) offer educational services to persons with disabilities, and also majority indicated to offer services to Physical, visual and hearing disabilities. However, more programs are needed to be developed that are targeting home care services, ICT services, adult day health screens, and case management for these were less represented among the services offered to persons with disabilities.

### 3.3.2.1     Usage of e-government services

In the current era, the government is using technological communication devices such as computers and the internet to provide public services to citizens and other persons in the country. Examples of e-government services  in Uganda include e-tax for Uganda Revenue Authority, Integrated Financial Management System (IFMIS), UMEME and National Water and Sewerage Cooperation services, UNEB, e-passport application among others. In this study it was important to determine how of e-services have contributed to the well-being of persons with disabilities through gathering opinions from the OPDs and DU leaders

Majority (54.6%) of the sector opinion leader respondents indicated that e-services have contributed to the well-being of persons with disabilities through the following ways;

a)  E-services have brought services closer to people, therefore there's no need of travelling long distances to access services.
b)  E-services have also promoted easy and real time communication and ease of access to ¿
c)  E-banking and mobile money is used in sending and receiving of money amongst persons with disabilities
d)   E- services limit mobility thus for persons that have a challenge in mobility are favored for they don't have to move.

> *"They have eased their work since they don't have to move long distances to get these services but unfortunately majority are not aware of their existence" (Radio Program Editor, Iganga) "Disabled people do not to travel to the regional office or Kampala to get a service" (Buikwe District Councillor for Disabilities)*
>
> *"E-services like mobile money and mobile banking have made it easy for disabled persons since most of them have mobility challenges". (Executive Director, Masaka Association of Persons with Disabilities living with HIV/AIDS, Central)*
>
> *"For those who can use smartphones they can use e-banking in that they don't need to travel to the bank. But for services that can be accessed on a smart phone or computer these people can't use for some don't have smart phones" (Children Sponsorship and the administration assistant, Bring Hope to Family, Bunyoro)*

OPDs were also asked to give opinion on the extent to which persons with disabilities in their communities are able to access and use e-government services. Majority of the respondents i.e., 71% indicated that persons with disabilities are unable to access e-government services and 78% indicated that they are unable to use e-government services as indicated in the figure 29. This means that government has not done enough to educate persons with disabilities on the use of their services hence deterring them to use them.
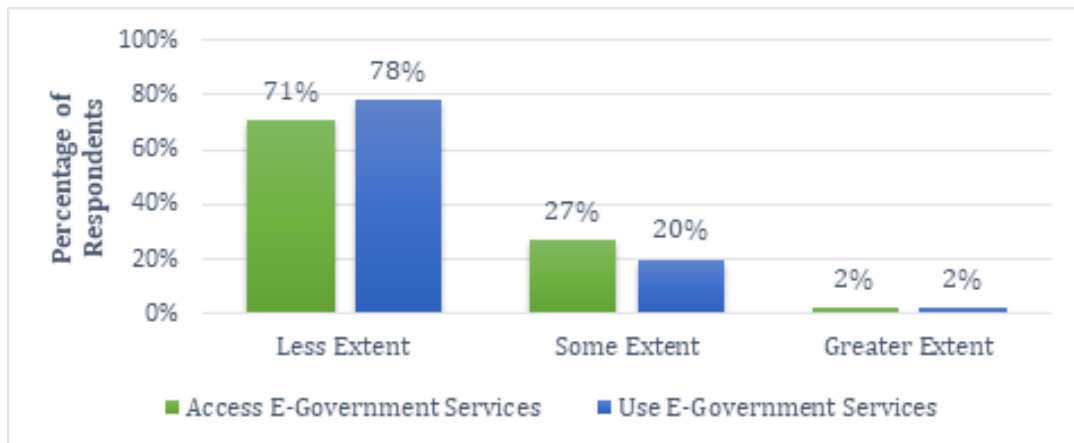


*Figure 33:  OPD leader opinions on access and usage of e-government services by persons with disabilities*

## 3.4    ICT Innovations developed for Persons with Disabilities

ICT Innovations such as assistive technologies, phone and computer applications are built primarily to benefit individual persons with disabilities. However, from analysis of results, majority **94.7%** of the persons with disabilities were not aware of any ICT innovations for persons with disabilities. The **5.3%** that were aware of the ICT innovations highlighted the following innovations;

| ICT Innovation | Percentage |
|---|---|
| Screen reader software | 78.6% |
| Braille | 7.1% |
| Sign and Audio Bible | 4.8% |
| Hearing aids | 7.1% |
| Voice command and message readers | 2.4% |

*Table 16: Examples of existing ICT innovations for Persons with Disabilities*

### a) Limitations to ICT innovations for Persons with Disabilities

According to individual persons with disabilities, factors constraining the development of ICT innovations are; *lack of awareness* on the need for ICT innovations for persons with disabilities, *limited resources to fund projects* that target innovations, *low levels of education* amongst persons with disabilities, *High taxes on ICT devices* among others.

> " *"Well, it's hard to develop what you do not know these people with capabilities of development don't not interact with persons with disabilities; basically in some society you're not allowed to share space with them so how will they innovate for them if they don't know what they need" (Political leader, Arua District)*

### b) Knowledge possessed by different OPDs and DUs on ICT innovations for Persons with Disabilities

From the discussions with the OPD and DU leaders, majority *(92.7%)* of them were not aware of any ICTs (software or mobile applications) developed for persons with disabilities. The 7.3% indicated to be aware of the following Innovations;

i) Screen reader software
ii) Kolibri
iii) The U- sign app
iv) Therapy global- an online system for autistic children
v) The talking Bible

According to the OPDs and DU leaders, factors constraining the development of ICT innovations for persons with disabilities are;
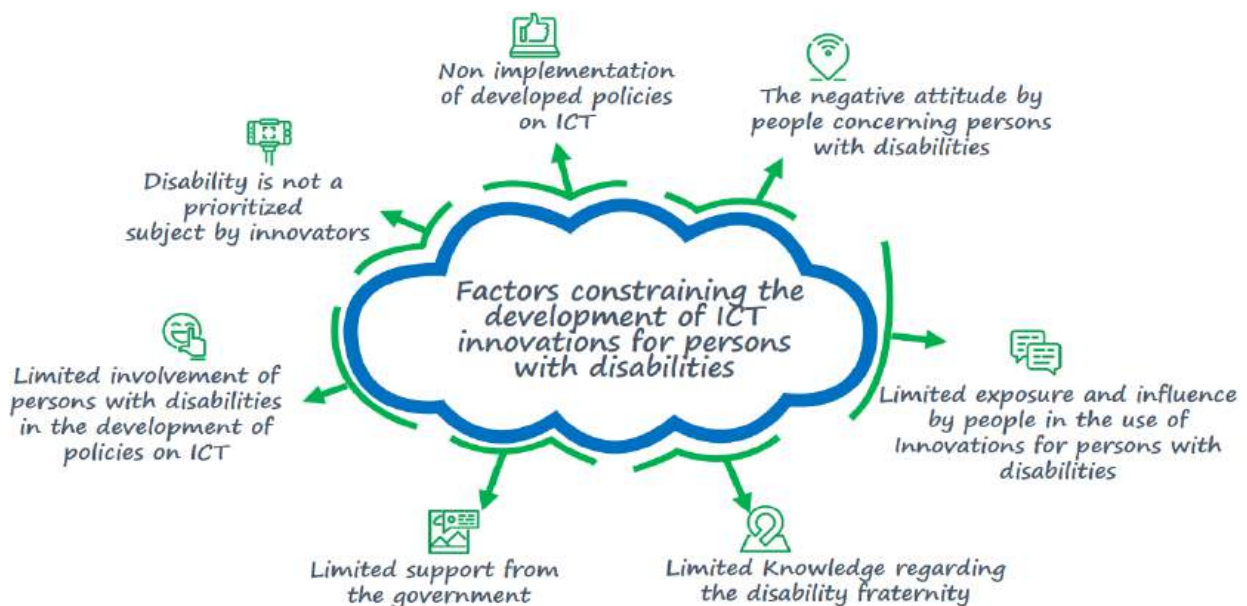


*Figure 34: Factors Constraining the development of ICT innovations for Persons with Disabilities*

> " *"Affordability and usability of these technologies is low and perhaps the persons with disabilities are not empowered to take on the innovations." (DHO, Nebbi)*

## 3.5    Knowledge management capacity among different actors in ICT on persons with disabilities and inclusion

Organizations for persons with disabilities/District Unions play a critical role in compiling information concerning persons with disabilities that can be used to inform policies, initiatives and programs on Persons with Disabilities. The top four elements of knowledge management as stated by the American Quality and Productivity Center are; strategy, content/IT, people, and processes. You always need individuals to lead, sponsor, and encourage knowledge sharing, regardless of the organization's sector, size, or knowledge demands. To monitor and evaluate knowledge flows, there's need well defined processes. You need knowledge material and IT systems that link the appropriate individuals with the appropriate content at the appropriate moment. In order to use knowledge management to address the most crucial and pressing demands, a clear and written approach is required.

a)  **Methods of storing information**

Majority of the organizations i.e., **78.2%** indicated not to have departments responsible for knowledge management. A few of those that had these departments started to use the **monitoring and evaluation department** and the department of **research** or programs department to handle knowledge management. The study further investigated how the information collected is stored and retrieved and the majority indicated that information is always stored in form of paper files while a few organizations used a computer to store information using the following methods i.e.; Flask disk, google drive, I-cloud, drop box and others in that order of importance as illustrated in the figure 33 below.
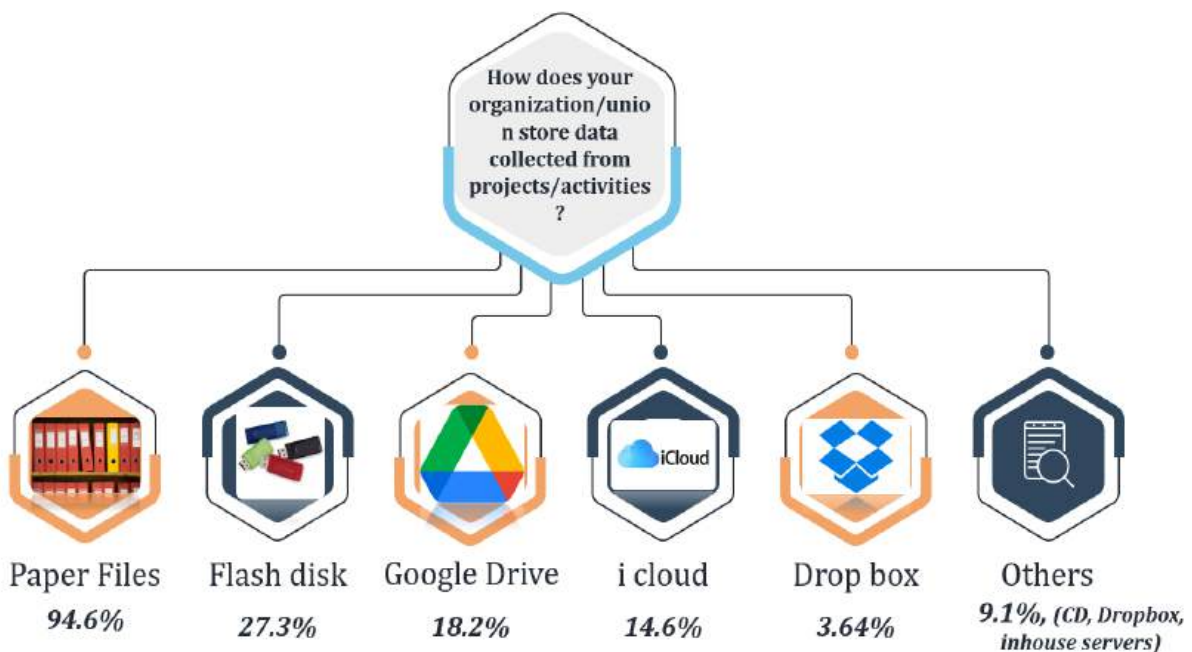


*Figure 35: Methods of data storage by organizations or union*

b)  **Use of the stored information**

Organizations indicated to use the information collected for;
- Conducting follow-ups and progress on the beneficiaries of projects
- Writing reports on projects implemented is used as a benchmark in implementation of new projects
- Donors use these reports to track project progress

c)  **ICT training for persons with disabilities**

From analysis, above **70%** of the persons with disabilities have never had any training in the areas

of digital literacy, the use of assistive technologies, the use of e-commerce platforms, the use of e-government platforms and in e-learning as illustrated in the table below.

| Term | Never | Short course or seminar workshop | Informal learning or self-taught | Peer learning | Online | Accredited program |
|---|---|---|---|---|---|---|
| Digital Literacy | 72.1% | 13.2% | 13.1% | 8.5% | 4.0% | 2.2% |
| Use of assistive technologies | 76.9% | 12.0% | 8.7% | 6.6% | 3.9% | 1.8% |
| Use of e-commerce platforms | 87.2% | 5.0% | 4.8% | 4.5% | 2.7% | 0.8% |
| Use of e-government platforms | 86.9% | 5.7% | 4.8% | 4.5% | 2.9% | 1.7% |
| E-learning | 82.9% | 7.0% | 6.3% | 5.5% | 4.2% | 1.6% |

*Table 17: Percentage of persons with disabilities that have acquired ICT training*

These results were further backed by a key informant who noted that;

*"There should be marginalization of the masses regarding this matter if they are to embrace it, and government should also ensure these people have separate budget specific to their needs also special needs schools should also ensure that ICT is made a compulsory subject if we to achieve inclusivity in ICT use", Political leader, Mbale*

d) **Proposed training for persons with disabilities and delivery mode**

Suggestions on ICT trainings for persons with disabilities from service providers included; Basic Digital literacy skills customized to each category of disability and in the use of smartphones and computers

*"Introduction to the use of the ICT, their existence, how they ease their lives, and where they can be acquired, trainings targeting the leaders of the organizations or small groups of the persons with disabilities to act as TOTs for these people" (FGD Buckley high primary school, Iganga, Special needs school)*

*"I think in the disability fraternity we all require different categories of training e.g. the blind will need to be trained with assistive devices for the blind, the deaf same thing and others plus the people in rural areas that barely know what ICTs are and those in urban areas that may be having minimal skills in ICT"- (DU, Chair Person, Mbarara)*

In terms of training delivery mode, OPDs/DU leaders indicated that, in case of a training to be provided to persons with disabilities an inclusive face to face centered training would be most preferred as indicated in the figure 34 below;
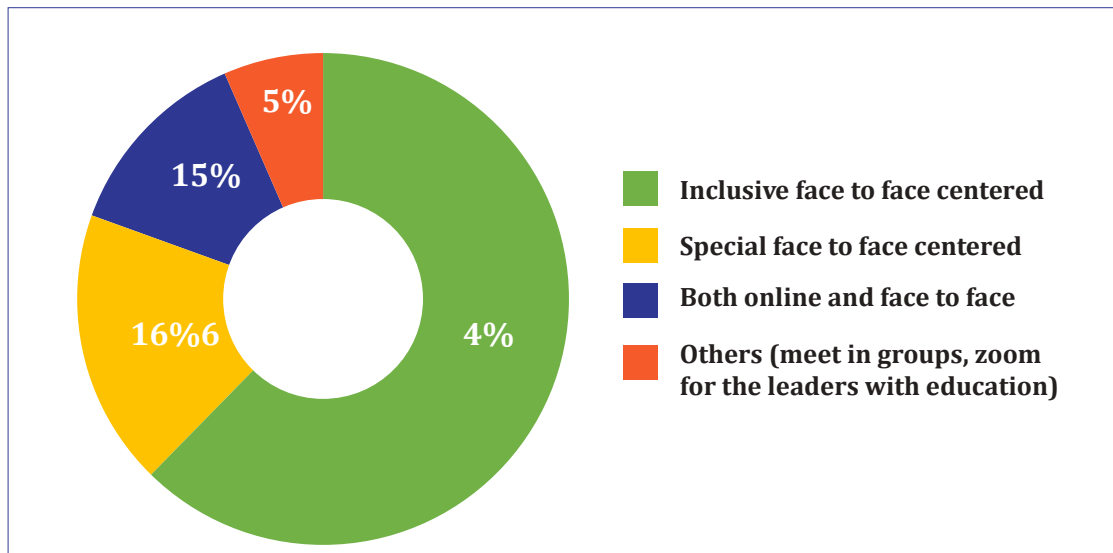
*Figure 36: Proposed ICT training delivery mode by OPD and DU leaders*

> *"Consideration should be put to schools providing them with the devices they need to equip the*
> *students with the skills required. Training should be offered to the teachers in special needs schools, The number of teachers available do not have the skills to teach the persons with disabilities, inclusive schools are not catered for separately yet they cater for disabled persons" (Kumi township primary school, Special needs school, Kumi)*

e) **Existence of a national repository of information**

In information communication technology, a repository is a central place in which an aggregation of data is kept and maintained in an organized way, usually in computer storage. Under this research we explored to understand if there's existence of any repository of information on persons with disabilities and below are the responses
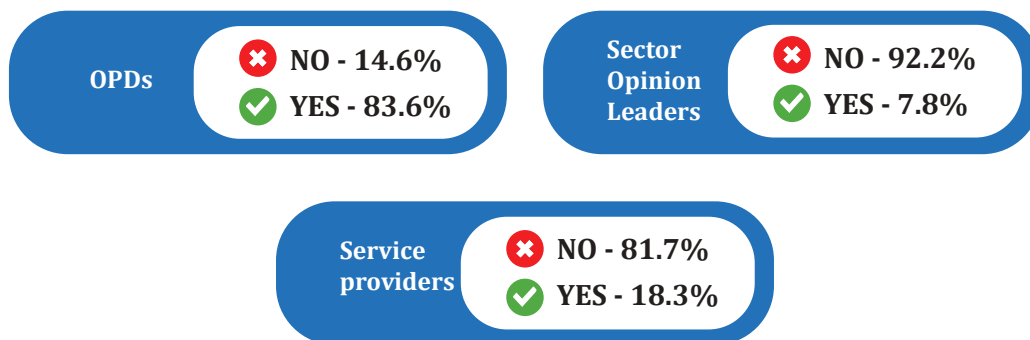


*Figure 37: Existence of information repositories for Persons with Disabilities*

Existing repository of information include;
- Sight savers home database for persons with disabilities
- Office of the district planner database
- Data base owned by organizations such as KADUPED & KADWOT, Tukore, Disability Development international Uganda database
- Data base by special needs department within the local government

f) **Information desired by different stakeholders concerning persons with disabilities**

Different stakeholders were asked to indicate information on persons with disabilities that they would desire to have regular updates about. All respondents had a positive response on receiving updates on *new developments for persons with disabilities, Health issues, Education or schools, Job or training programs, courts and legal issues, policy issues, Inclusive technology developments* in that order of preference.

OPDs and DUs need such information to support them in;

a) conducting awareness-raising campaigns on topics relevant to persons with disabilities such as rights, issues, and concerns at the community level and to promote the meaningful participation of persons with disabilities throughout public life.

b) building the capacity of OPDs/DU at district level to conduct disability sensitization workshops for government and non-government agencies

c) lobbying and advocating for grants to implement programs towards promoting the use ICT by persons with disabilities

## 3.6    Policy Environment

Laws and policies relevant to access of information and ICT for persons with disabilities have been developed in Uganda and the world at large. In this section we provide some of these policies from literature review and awareness of these policies by the respondents.

a) **Awareness of national standards and regulations on inclusivity**

There are  a number of national standards, policies and regulations on inclusivity for persons with disabilities in Uganda and around the globe. Therefore, it was important to understand the level of awareness of the different standards, policies and regulations for persons with disabilities. The results indicated that **56.4%** of the OPDs/DU leaders were  aware of national standards and regulations on inclusivity. The following policies were mentioned by the leaders;

| National standards and Regulations | Respondents (%) |
|---|---|
| Inclusive Education for all | 45.2% |
| National Disability Act | 25.8% |
| National guidelines for disability | 3.2% |
| Equal Opportunities Act | 3.2% |
| The ICT Act | 9.7% |
| The child safe guarding policy | 6.5% |
| Employment Act | 6.5% |

*Table 18: Awareness of National Standards and Regulations by DU and OPD leaders*

However,  **60%** of the respondents indicated that these national standards haven't well addressed the gaps on inclusion of persons with disabilities and this was attributed to the following reasons.,

i.      Some schools are lacking special needs teachers

ii.     Ramps in buildings and roads has not been fully implemented

iii.    Limited awareness of these policies

iv.     Provision of inclusive education has not been practiced in majority of the schools

v.      organizations do not give priority to the persons with disabilities during employment.

> **"** *"There is need for more effort in inclusion for Persons with Disabilities towards accessibility to ICT. This includes making conversational websites easy to use for persons with disabilities, creating a special program to pass on skills and knowledge to Persons with disabilities in ICT at local level plus informing them the available efforts that can make them access ICT information" (Physically persons with disabilities, Masindi)*

b) **National Laws and Policies relating Disability, ICT and Access to information**

| National Policies | Description |
|---|---|
| The National Council for Disability Act, 2003 | The National Council for Disability Act 2003 provides for the establishment of a National Council for Disability, its composition, functions and administration for the promotion of the rights of persons with disabilities set out in international conventions and legal instruments, the Constitution and other laws, and for other connected matters.[26] |
| The NITA-Uganda Act | The NITA-Uganda Act provides for the establishment of the National IT Authority – Uganda (NITA-U). One of the objects of the Authority in section 4, sub-section (f) is to promote access to and utilization of Information Technology by the special interest groups who include among others Persons with Disabilities[27] |
| The RCDF Policy 2010/11-2014/15 | The vision of the RCDF Policy 2010/11-2014/15 is Uganda's rural and underserved communities able to harness ICT for social and economic development and the mission. The overall objective of the RCDF Policy 2010/11-2014/15 is to: Enable equitable access to and effective utilization of innovative communication-enabled services that support the attainment of Uganda's development goals (for all people, especially those in rural and other underserved areas, both male and female).<br><br>In the context of RCDF policy 2010/11 – 2014/15, the phrase "rural and underserved" shall encompass all those communities that are not able to have access to information and communications services as well as those that are underserved either due to geographical isolation, poverty or any social exclusion factor such as gender, disability or age.[28] |
| The Uganda Communication Act, 2013 | The Uganda Communications Commission is mandated under section 5 of the Act to promote research into the development and use of new communications techniques and technologies, including those which promote accessibility of persons with disability and other members of society to communications services. [29] |

*Table 19: Some of the policies for persons with disabilities*

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26 https://www.un.org/development/desa/disabilities/wp-content/uploads/sites/15/2019/11/Uganda_National-Council-for-Disability-Act-2003.pdf

27 https://www.unwantedwitness.org/cyberpolicy/wp-content/uploads/2018/02/NITA-U-Act-Act-No.-4-of-2009-1.pdf

28 http://ucc.co.ug/files/downloads/UCC%20RCDF%20Policy%202010-11-2014-15.pdf

29 http://ucc.co.ug/files/downloads/UCC%20Act%202013.pdf

| The National Information and Communications Technology Policy for Uganda 2014 | This policy is a revised policy, taking into consideration the vision 2040 and NDP II. This covers four action areas i.e., Expansion of ICT infrastructure and its integration in the country, Deepening utilization of ICT services by government, private sector, not-for-profit ICT organizations and the wider citizenry, Enhancement of research and innovation in ICT products, applications, and services, Improvement of ICT governance and environment in Uganda |
|---|---|
| | The Act discusses persons with disabilities under the special groups that also include women and youth under section 4.5.10. Strategies developed to contribute to the growth of ICTs among persons with disabilities include; Promote ICT as an alternative career for women, youth and PWDs in the informal and formal educational system, Encourage creativity and innovation around ICTs among women, youth and PWDs leading to entrepreneurship development, Enable full and equal participation of women, youth and PWDs in creating the Information society, Implement special ICT training programs for women, youth and PWDs, Facilitate and encourage the development of electronic networks and systems for associations and organizations engaged in the advancement of women, youth and PWDs issues in the country; and Implement ICT programmes/projects focusing on combating HIV/AIDS and other communicable diseases among women, youth and PWDs[30] |
| Draft National ICT for Disability policy | The United Nations Convention on the Rights of Persons with Disabilities was the first international instrument on disability, enacted in 2006. Although 172 countries globally had ratified it as of March this year, apart from South Africa and Tunisia, none has formulated a stand-alone National ICT for Disability Policy like Uganda is doing.[31] |
| | The policy objective is to use as a measure for reducing the marginalization of persons with disabilities and for creating equal opportunities by closing the gaps in access and use of ICT tools. This policy will also act as a planning framework and guide in the development and supply of accessible ICT in Uganda as well as ensuring that persons with disabilities have access to all government electronic facilities, resources and services.[32] |
| Persons with Disabilities Act, 2020 | This Act makes provision for the respect and promotion of the fundamental and other human rights and freedoms of persons with disabilities, provides for re-establishment of the National Council for Disability as the National Council for Persons with Disabilities, Nondiscrimination in the provision of education services, health services, employment, access to buildings, transport services and commercial services |
| | In terms of ICT, under Part II; rights of persons with disabilities and non-discrimination section 6, institutions of learning owned or aided by the government that enrolls a learner with a disability, shall provide sign language services, learning instructional materials and assistive devices, suitable for the learner and required for examinations by the learner.[33] |

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30    https://ict.go.ug/wp-content/uploads/2018/11/ICT_Policy_2014.pdf

31    Government formulates National ICT for Disability policy, https://ict.go.ug/2017/11/03/government-formulates-national-ict-for-disability-policy/

32    Assessing the barriers to accessing ICT by people with disability in Uganda, January 2021 Pg 11

33    Person with Disabilities Act, 2020, Uganda

## 4. CONCLUSIONS AND RECOMMENDATIONS

This Section details the conclusions and recommendations from the study.

## 4.1   Conclusions

From the study, a number of observations have been made and accordingly a number of conclusions have been deduced as discussed below;

### a)  Respondent demographics;

i.   Concerning category of disability, most of the respondents (63.6%) had a physical disability, followed by visual disability (18.12%) and hearing disability (15.78%).

ii.   The mean age of the study respondents was 35 years. More than half of the respondents **(51.2%) were male**, and **48.8% were female,** while half (**50.8%)** were from the rural areas and the rest 49.2% were from Urban areas, less than a half **(33.5%)** of the respondents had attained primary education, whereas (**47.9%**) were self-employed and (**44.5%)** were married.

iii.   Out of the 2003 respondents for the study, only 180 respondents were formally employed, of these, majority *52.2%* were in the public sector, *(26.1%)* in Private sector and (*13.3%)* in civil society organizations

iv.   Majority of the leaders within the District Unions were male and the physical disability was more prevalent in these

### b)  ICT Awareness, Access and Usage

In terms of ownership of ICT devices, majority **54.8%** of individual persons with disabilities owned feature phones (Kabiriti), **51.7%** owned Radios, **23%** owned smart phones, **20.6%** owned televisions and a few **4.7%** owned a laptop and **2.4%** owned Tablet/i-Pad. The most used devices are Radio, Feature phones, Television and Smart Phones.

i.   There was a high level of awareness and usage at **(63%)** of ICT devices amongst OPD/DU where at least **53.2%** indicated to use ICT devices in their day-to-day activities.

ii.   There's a high level of ownership of ICT Devices amongst persons with disabilities in the central, Busoga and west Nile region against other regions

iii.   In terms of usage of ICT devices, few individual persons with disabilities indicated to use their phones for education and news, however indicating to use their devices mostly for entertainment and communication

iv.   There's a low awareness and usage of assistive devices among persons with disabilities with only 3.04% indicating to have active usage of the audio players and recorders 1.7% actively using the Perkins Braille, 1.34% actively use the talking web browser 1.15% actively Magnifier and Braille note taker, 1.04% actively use text to audio convertors

v.   On average **52.7%** of the organizations were aware of the existence of assistive devices however a few of the organization own these devices such as screen readers, Perkins Braille, recorders/ audio players, text to audio converter, and magnifier in that order of ownership

vi.   In regard to service providers and awareness of assistive devices, they indicated to be aware of most of the assistive devices

vii. There is a low awareness and usage of ICT services, on average persons with disabilities are aware of ICT services with majority indicating to use Facebook 42.3%, WhatsApp 41.1%, and Twitter 31.2%. In terms of usage only 26.7% are using WhatsApp, 22.9% are using Facebook, 10.8% use Email charts

viii. In terms of internet access, majority (55.4%) of the persons with disabilities don't use internet. 31.3% use their smart phones to access the internet, 17.7% use feature phones, 9.45 use laptops, 8.4% use desktop computers, 8.4% modem/MiFi and 7.1% use iPad or tablet.

### c) Level of knowledge in performing ICT operations

i. ICT skills such as Basic Operation of ICT Hardware, Typing, Document creation, using of internet and computers safely are essential skills in the current digital error of digital technologies. However, majority above **60%** had never even acquired or got an opportunity to learn such skills

ii. In terms of usage of e-government services, majority (54.6%) of the sector opinion leader respondents indicated that e-services have contributed to the well-being of persons with disabilities in that they have brought services closer to people thus limiting mobility and have promoted real-time communication and ease of access of information

iii. Persons with Disabilities are unable to access e-government services as opined by the OPDs and DUs this being mostly attributed to the low levels of education attained by persons with disabilities

iv. Most (75%) Individual persons with disabilities have never had a training in Digital literacy, the use of assistive technologies, the use of e-commerce platforms, the use of e-government platforms and in E-learning

### d) Barriers to access and Usage of ICTs by persons with disabilities

Barriers to usage and access highlighted by key informants included expensive devices, low levels of awareness/knowledge of existence of assistive devices, low literacy levels amongst persons with disabilities.

### e) ICT Innovations for persons with disabilities

i. Generally, there was a low awareness of ICT innovations (software or mobile applications) with majority **94.7%** of the persons with disabilities were not aware of any ICT innovations, **92.7%** of the OPDs interviewed indicated not to be aware of innovations either. The few that were aware of innovations highlighted screen reader's software, Kolibri, the U-sign app, therapy global, the talking Bible, Voice command and message readers

ii. Factors constraining development of ICT innovations for persons with disabilities stated were non implementation of developed policies on ICT, limited support from the government, disability is not a prioritized subject by innovators, limited involvement of persons with disabilities in the development of policies on ICT, limited exposure and influence by people in the use of innovations for persons with disabilities, the negative attitude by people concerning persons with disabilities.

## 4.2    Recommendations

| No | Issues to address | Action/Recommendation | Actor |
|----|-------------------|------------------------|-------|
| 9 | Limited awareness, access and usage of the different ICT devices and services | • Subsidize the costs of ICT devices such that they can be affordable for the persons with disabilities<br>• Involve OPDs and DUs in the different initiative for ICT awareness using their already existing structures<br>• Create awareness of the existing assistive technologies among the persons with disability<br>• Support the provision of low-cost technology Assistive Technologies to Persons with Disabilities<br>• Create more opportunities where ICT devices and services for PWDs are locally innovated. | GoU, UCC, OPDs, other funding agencies |
| 10 | High cost of acquiring ICT devices and Assistive technologies | • Waive taxes on the purchase of assistive technologies to enable persons with disabilities easily access them<br>• Design strategies to lower the cost of end-user devices and communication costs. These may include efforts geared towards reducing or eliminating taxes as well as increasing competition among service providers.<br>• Encourage more development of local ICT innovations for PWDs in order to lower high cost of access.<br>• Develop a National Assistive Technology Strategy that outlines goals and initiatives for improving the availability, affordability, and awareness of assistive technologies. | GoU |
| 11 | Lack of a comprehensive database for persons with disabilities in the country | • Work with different District Unions to carry out online registrations of persons with disabilities from their areas and establish a government controlled online data base that can be accessed by OPDs, hospitals, schools among others to keep an updated record of these peoples in a timely manner. | GoU,<br><br>ICT services providers,<br><br>URSB |
| 12 | Low levels of digital literacy among persons with Disabilities | • Organize capacity building workshops designed for each category of disability in the areas of ICT<br>• Develop localized digital content that can be used in capacity building for the different categories on the use of ICTs.<br>• Design a Digital Skills for All Strategy that focuses on providing digital literacy and skills training to persons with disabilities to enhance their ability to use ICTs effectively | GoU OPDs |
| 13 | Negative attitude towards technology | • Advocate for mindset change especially for persons in the rural areas through capacity building sessions, community outreaches among others to eradicate the people on the benefits of technology in their daily lives. | |

| 14 | Limited ICT service providers with specialized skills to meet the needs of persons with disabilities in the areas of innovations | • Encourage the provision of differentiated service plans by operators to promote access and usage of ICTs by Persons with Disabilities including dedicated assistive technologies<br>• Operators such as UCC to support innovations for persons with disabilities to promote access to ICTs<br>• Provide ICT infrastructure for Persons with Disabilities i.e., provision of computers to special needs schools, District unions, community access points and others for persons with disabilities to easily access some ICT services<br>• Lobby government on tax waivers on ICT for PWDs so that there are more service providers.<br>• Implement a universal Design Innovation Fund that supports research and development of innovative ICT solutions that cater to the needs of persons with disabilities. | GoU Schools<br><br>Ministry of education |
| 15 | Limited initiatives put in place by the government or other organisations to increase ICT usage | • Develop and implement initiatives for ICT skills development for PWDs<br>• Encourage development partners, CSOs, NGOs and others to invest in the area of ICT for disabled people | GoU |
| 16 | Poor policy implementation | • Need to develop and independent ICT policy for Persons with disabilities (current draft available has not yet been finalized)<br>• Elect committee to initiate the execution of the different ICT policies for persons with disability | GoU |

# 5. APPENDICES

## Appendix 1: List of documents reviewed

1       World Health Organisation, Disability and Health Facts, 2011

2       Scholz, F., Yalcin, B., Priestley, M. (2017): Internet access for disabled people: understanding socio-relational factors in Europe. Cyberpsychol. J. Psychosoc. Res. Cyberspace

3       Helsper, E.J., van Deursen, A.J.A.M. (2017): Do the rich get digitally richer? Quantity and quality of support for digital engagement. Inf. Commun. Soc. **20**, 700–714.

4       Liebert, M.A., Morahan-Martin, J.M. (2004): Review how internet users find, evaluate, and use online health information: a cross-cultural review. Cyber Psychol. Behav. **7**, 497–510

5       Dobransky, K., Hargittai, E. (2006): The disability divides in internet access and use. Inf. Commun. Soc. **9**, 313–334

6       UCC. Access and Usage of ICTs by people with disabilities in Uganda, 2018

7       Persons with Disability Act, 2016

8       Uganda Bureau of statistics report, 2019: Bridging the gap through statistics

9       World Bank Publication, 2016

10      Hersh, M. (2007). Assistive Technology for Visually Impaired and Blind People. Springer

11      UN. (2013). The ICT Opportunity for a Disability-Inclusive Development Framework.

12      CIPESA. (2019)., Governments and donors urged to advance ICT access for Persons with Disabilities

13      Parant, Aymeric; Schiano-Lomoriello, Sandrine; Marchan, Francis (October 2017). "How would I live with a disability? Expectations of bio-psychosocial consequences and assistive technology use". Disability and Rehabilitation: Assistive Technology

14      Policy. NUDIPU. (2021). Opening the door for possibilities for persons with Disabilities. Disabled but not disqualified

15      Uganda_National-Council-for-Disability-Act-2003

16      NITA-U-Act-Act-No.-4-of-2009-1

17      UCC RCDF Policy 202010-11-2014-15

18      The Uganda Communication Act, 2013

19      Persons with Disabilities Act, 2020

20      Web Accessibility in Uganda: A study of Webmaster Perceptions

# Appendix 2: Data collection tools

1. **SURVEY QUESTIONNAIRE ON AVAILABILITY, ACCESS OF ICTS FOR PERSONS WITH DISABILITIES/ CARE GIVERS**

National Union of Disabled Persons of Uganda (NUDIPU), in collaboration with Eight Tech Consults working in partnership with Uganda Communications Commission (UCC) is conducting a study on the level of awareness, access and usage of Information Communication Technologies (ICTs) among Persons with Disabilities in Uganda so as to provide evidence for policy and program development to address concerns about the digital divide in the country. NUDIPU as a National Umbrella organisation of Persons with Disabilities pursues a strategy of data-driven advocacy to cause sustainable change under which pillar this task falls. Furthermore, Uganda communications commission act 2013 under sections 3 and 5 mandates the commission to carry out activities related to addressing digital inclusiveness of Persons with Disabilities.

Thus, this tool seeks your opinion on issues of awareness, access, and usage of ICTs among Persons with Disabilities.

***Disclaimer:*** *In line with the data privacy Act 2019, the information provided shall be strictly used for purposes of the study and any personally identifiable information shall be held with the utmost confidentiality and shall only be used for verification of facts by the researchers, and at the end of the assignment the personal data shall be destroyed.*

**INTERVIEWER**

Name of the interviewer ...........................................................................................................

Respondent Category *(This tool is to be filled by the individuals but in case where they can not the caregivers can fill it out on their behalf)*

- ⬜ Care Giver
- ⬜ Person with Disability

Date & Time (Auto generated) ...........................................................................................................

Location (Auto-generated) (***Pick GPS coordinates***) ...........................................................................

PART ONE: RESPONDENT DEMOGRAPHICS

| No. | Question |
|-----|----------|
|  | Contact (Phone, email) (*optional*) |
|  | Classification of place of residence ***(single selection)*** <br> ☐ Urban <br> ☐ Rural |

| | Sub Region *(single selection)* | |
|---|---|---|
| | ☐ Central | |
| | ☐ Kampala | |
| | ☐ Busoga | |
| | ☐ Bukedi | |
| | ☐ Elgon | |
| | ☐ Teso | |
| | ☐ Karamoja | |
| | ☐ Lango | |
| | ☐ Acholi | |
| | ☐ West Nile | |
| | ☐ Bunyoro | |
| | ☐ Toro | |
| | ☐ Kigezi | |
| | ☐ Ankole | |
| | District | |
| | County | Sub county |
| | Gender *(single selection)* | |
| | ☐ Female | |
| | ☐ Male | |
| | Age *(single selection)* | ☐ Below 15 |
| | | ☐ 15-24 |
| | | ☐ 25-34 |
| | | ☐ 35-44 |
| | | ☐ 45-55 |
| | | ☐ 55-60 |
| | | ☐ Above 60 |
| | Marital Status *(single selection)* | |
| | ☐ Married or Cohabiting | |
| | ☐ Single | |
| | ☐ Widowed | |
| | ☐ Divorced or separated | |
| | Classification of disability *(single selection)* | |
| | ☐ Multiple Disability | |
| | ☐ Single Disability | |

| | Category of disability *(Multiple selection)* |
| --- | --- |
| | ☐ Hearing Disability |
| | ☐ Physical Disability |
| | ☐ Visual Disability |
| | ☐ Mute Disability |
| | ☐ Others (Specify) |
| | Highest level of education attained *(single selection)* |
| | ☐ None |
| | ☐ Primary (PLE) |
| | ☐ UCE (S.1 to S.4) |
| | ☐ UACE (S.5 to S.6) |
| | ☐ Tertiary /Vocational |
| | ☐ Diploma |
| | ☐ Bachelors |
| | ☐ Masters |
| | ☐ PHD |
| | ☐ Other please specify |
| | Please state your employment status *(single selection)* |
| | ☐ Self-Employed |
| | ☐ Unemployed |
| | ☐ Formally Employed |
| | ☐ Student |
| | ☐ Retired |
| | If employed from 12 above, which sector are you employed in? *(single selection)* |
| | ☐ Private sector |
| | ☐ Public sector |
| | ☐ Civil Society Organisations |
| | ☐ Freelance (project based) |
| | ☐ Others specify |

| If employed from 12 above, select position held in the organization *(single selection)* |
| --- |
| ☐ Senior Leadership (e.g., ED, MD, Director, etc.) <br> ☐ Middle level management <br> ☐ Professional staff (e.g., Accountant, HR officer, ICT officer, communication officer, etc.) <br> ☐ Support staff (Messenger, custodian, cleaner, driver etc.) <br> ☐ Others please specify |
| Your main sources of income? (**Multiple selection**) |
| ☐ Salary/Wage <br> ☐ Agricultural activities <br> ☐ Trade and business <br> ☐ Retirement benefits <br> ☐ Contributions from NGO/Government <br> ☐ Support from relatives and well wishers <br> ☐ Others specify |

## PART TWO: AWARENESS, ACCESS AND USAGE OF ICTs

**In this section, the main goal is to determine the level of awareness, access and usage of Information and communications technology amongst Persons with Disabilities.**

**1.** Are you aware of/have you used/you own any of the following Categories of ICTS? (Enumerator should probe the respondent to mention any Technologies/Devices that are not listed below)

### A. ICT DEVICES *(Tick if all apply)*

| ICT Devices | Heard/ aware of | | Ever Used | | Access to | | Currently using | | Own | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Feature Phones (Kabiiriti) | | | | | | | | | | |
| Smart phones | | | | | | | | | | |
| Tablet /iPad | | | | | | | | | | |
| Television | | | | | | | | | | |
| Laptop | | | | | | | | | | |
| Radio | | | | | | | | | | |
| Desktop Computer | | | | | | | | | | |
| Other Specify | | | | | | | | | | |

### A.1 PURPOSE OF USE OF THE DEVICES

Likert scale (1= Less extent, 2= some extent, 3= greater extent)

| ICT Devices | Communication | | | Business | | | Entertainment | | | News | | | Education | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Feature Phones (Kabiiriti) | | | | | | | | | | | | | | | |
| Smart phones | | | | | | | | | | | | | | | |
| Tablet /iPad | | | | | | | | | | | | | | | |
| Television | | | | | | | | | | | | | | | |
| Laptop | | | | | | | | | | | | | | | |
| Radio | | | | | | | | | | | | | | | |
| Desktop Computer | | | | | | | | | | | | | | | |
| Other Specify | | | | | | | | | | | | | | | |

## B. USAGE OF ASSISTIVE TECHNOLOGIES

| Assistive Technologies | Heard/ aware of (Yes/No) | | Ever used (Yes/No) | | Access to | | Currently using (Yes/No) | | Own (Yes/No) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Perkins Brailler | | | | | | | | | | |
| Magnifier (Hand Held Video Desktop magnifiers, Desktop) | | | | | | | | | | |
| Braille note taker | | | | | | | | | | |
| Communication Boards | | | | | | | | | | |
| Audio Player /Recorder | | | | | | | | | | |
| Scanning Pens | | | | | | | | | | |
| Screen reader software (Jaws, NVDA, Apple Voice Over etc.) | | | | | | | | | | |
| Barcode Scanners | | | | | | | | | | |
| Talking web browser | | | | | | | | | | |
| Touch Screen Computer | | | | | | | | | | |
| Text to audio converter | | | | | | | | | | |
| Specialized keyboard | | | | | | | | | | |
| Other specify | | | | | | | | | | |

## C. USAGE ICT SERVICES

| ICT SERVICES | Heard/aware of (Yes/No) | | Ever used (Yes/No) | | Currently using (Yes/No) | |
|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No |
| Internet browsing | | | | | | |
| WhatsApp | | | | | | |
| Facebook | | | | | | |
| Twitter | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Instagram | | | | | | |
| LinkedIn | | | | | | |
| Snapchat | | | | | | |
| Electronic textbooks | | | | | | |
| E-News | | | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc. ) | | | | | | |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | | | | | | |
| Instructional software, | | | | | | |
| Email chat | | | | | | |
| E-learning platforms | | | | | | |
| Collaborative tools | | | | | | |
| Other (specify) | | | | | | |

2. How often do you use these services?

| ICT Services | Daily | Twice a week | At least Monthly | Once in two months | A few times a year | Never |
|---|---|---|---|---|---|---|
| Internet browsing | | | | | | |
| WhatsApp | | | | | | |
| Facebook | | | | | | |
| Twitter | | | | | | |
| Instagram | | | | | | |
| LinkedIn | | | | | | |
| Snapchat | | | | | | |
| Electronic textbooks | | | | | | |
| E-News | | | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc.) | | | | | | |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | | | | | | |
| Instructional software, | | | | | | |
| Email chat | | | | | | |
| E-learning platforms | | | | | | |
| Collaborative tools | | | | | | |
| E-government services (e.g. URA, NSSF, etc.) | | | | | | |

| Other (specify) | | | | | | |
|---|---|---|---|---|---|---|

3.      To what extent are you able to access these services? *(Single selection)*
        **(0 = Not able, 1=Low, 2=Moderate, 3= High)**

| ICT Services | Not able | Low extent | Moderate | High Extent |
|---|---|---|---|---|
| Internet browsing | | | | |
| WhatsApp | | | | |
| Facebook | | | | |
| Twitter | | | | |
| Instagram | | | | |
| LinkedIn | | | | |
| Snapchat | | | | |
| Electronic textbooks | | | | |
| E-News | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc.) | | | | |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | | | | |
| Instructional software, | | | | |
| Email chat | | | | |
| E-learning platforms | | | | |
| Collaborative tools | | | | |
| E-government services (e.g. URA, NSSF, etc.) | | | | |
| Other (specify) | | | | |

4.      In your household who controls access to these devices?

| ICT Devices | Father | Mother | Children | Caregiver | Personal Assistant |
|---|---|---|---|---|---|
| Feature Phones (Kabiiriti) | | | | | |
| Smart phones | | | | | |
| Tablet /iPad | | | | | |
| Television | | | | | |
| Laptop | | | | | |
| Radio | | | | | |
| Desktop Computer | | | | | |
| Other Specify | | | | | |

5.      Have you attended training in any of the ICT technologies listed below and how?

|  | Short course/ seminar workshop | Online | Peer learning | Accredited program | Informal learning/ Self-taught |
|---|---|---|---|---|---|
| Digital literacy |  |  |  |  |  |
| Use of Assistive technologies for Persons with Disabilities |  |  |  |  |  |
| Use of E-Commerce Platforms |  |  |  |  |  |
| Use of e-government platforms |  |  |  |  |  |
| e-learning |  |  |  |  |  |
| Other (Specify) |  |  |  |  |  |
| None |  |  |  |  |  |

6.      Please Rate your level of knowledge in performing the following ICT operations (Tick)

| ICT Skill | Never | Poor | Fair | Good | Very good |
|---|---|---|---|---|---|
| **Basic Operation of ICT Hardware** – Including printers, scanners, photocopiers, smartphones, tablets and projectors. |  |  |  |  |  |
| **Typing** – The ability to use a word processing program (such as Microsoft Word) to create letters, agendas, notes etc. |  |  |  |  |  |
| **Document Creation** – The ability to use software (such as Microsoft Word, Microsoft Publisher or Adobe Creative) to produce professional documents like PowerPoint presentations, letters, |  |  |  |  |  |
| **Using computers and the internet safely**; <br><br> vii) browsing the internet, <br><br> viii)  email communication and social media, <br><br> ix)  collaborative communications like chat rooms, <br><br> x)  keeping personal information private, and avoiding viruses, identity theft and other online threats |  |  |  |  |  |
| Networking and systems administration |  |  |  |  |  |

7.      Which devices do you use to access the internet? *(Multichoice qn)*

☐  Feature mobile phone

☐  Modem/MiFi

☐  Smartphone

☐  I-pad or tablet

☐  Laptop

☐  Desktop Computer

☐  Others, please specify

☐ I don't use internet

8. Currently, how do you access information about the existing ICT services/initiatives targeting ICT usage among persons with disabilities *(Multi choice qn.)*

   α. Radio

   β. Television

   χ. News Paper

   δ. District Union

   ε. Internet

   ϕ. Neighbor/Friend/Family member

   γ. Social media

   η. Persons with Disability organizations

   ι. Others (specify)

9. How would you prefer to access information about the existing ICT initiatives/services targeting ICT usage among persons with disabilities *(Multi choice qn.)*

   α. Radio
   β. Television
   χ. News Paper
   δ. District Union
   ε. Internet
   ϕ. Neighbor/Friend/Family member
   γ. Family members
   η. Social media
   ι. Organizations Persons with Disability

   φ. Others (specify)

10. What are some of the barriers to access ICTs by persons with disabilities? *(Multichoice qn)*

    α. Poor implementation of laws and policies

    β. Inaccessible Government websites and e-services

    χ. Policy gaps

    δ. Expensive Assistive technologies

    ε. Limited awareness of existing ICTs

    ϕ. Lack of appropriate ICT Knowledge and skills by persons with disabilities

    γ. Lack of appropriate technologies

    η. Others (specify)

11. What are some of the barriers to usage of ICTs by persons with disabilities? *(Multichoice qn)*
    α. Expensive Assistive technologies

    β. Limited knowledge and skills among persons with disability.

      χ. Lack of ICT service providers with specialized skills to meet the needs of persons with disabilities.

      δ. Low level of literacy among persons with disability.

      ε. Others (specify)

12. In case, you're to receive an ICT training, which mode of training delivery would you prefer? (*Single choice*)

      α. Online

      β. Both online and face to face

      χ. Inclusive face to face centered

      δ. Special face to face centered

      ε. Others (specify)

13. How long would you prefer a training to be? *(single choice)*

      α. One day

      β. Two days

      χ. Less than a week

      δ. One month

      ε. Other (specify)

14. *On a scale of 1to 5what is* your preferred time to attend an ICT training in a week day?

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Morning | | | | | |
| Afternoon | | | | | |
| Evening | | | | | |
| Weekend | | | | | |

**PART THREE: ICT INNOVATIONS AND INCLUSIVENESS**

1. Are you aware of any ICT innovations (software or mobile applications) for persons with disabilities? If yes, state them.

   ☐ Yes

   ☐ No

2. In the past 3 years, have there been any initiatives/services/devices from the government or other organizations enabling inclusion of Persons with disabilities to improve your access and Usage to ICTs

|  | Government | | | Other Organization | | |
|---|---|---|---|---|---|---|
|  | Yes | No | Not sure | Yes | No | Not sure |
| Initiatives (programs, services, training) |  |  |  |  |  |  |
| ICT Devices |  |  |  |  |  |  |

3. If yes, please state the organizations/agencies that have put in place these initiatives

   …………………………………………………………………………………………………………………….........................

4. In your opinion, what are some of the enabling initiatives in place that have improved access to and usage of ICTs by Persons with Disabilities in Uganda? (***Multi selection***)

   α. Enabling laws and policies

   β. Awareness campaigns of existing ICTs for persons with disabilities

   χ. Inclusive ICT skills trainings for persons with disabilities

   δ. Provision of ICT devices

   ε. Tax exemptions and subsidies on assistive technologies imported for persons with disabilities

   ϕ. Others (please specify)

5. What factors are constraining the development of ICT innovations for persons with disabilities in Uganda?

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

**PART FOUR: CAPACITY KNOWLEDGE MANAGEMENT**

1. How do you get news and updates *(hint, in your community, county, district)* ***(Multi selection)?***

   α. Radio

   β. TV

   χ. News Paper

   δ. Internet

   ε. Word of mouth

   ϕ. Social media

   γ. Others (specify)

2. What information would you wish to have regular updates about? *(Multi selection)*

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| New developments for persons with disabilities | | | | | |
| Health Issues | | | | | |
| Education/Schools | | | | | |
| Job opportunities | | | | | |
| Training opportunities | | | | | |
| Courts and legal issues | | | | | |
| Policy Issues | | | | | |
| Economic empowerment opportunities | | | | | |
| Other (specify) | | | | | |

3. From the discussion we have had, do you have any other information that you would like to share with me?

...................................................................................................................................................................

**Thank you for your participation**

1. **OPDs/DISTRICT UNIONS/LEADERS/ OF PERSONS WITH DISABILITIES OF UGANDA**

National Union of Disabled Persons of Uganda (NUDIPU), in collaboration with Eight Tech Consults working in partnership with Uganda Communications Commission (UCC) is conducting a study on the level of awareness, access and usage of Information Communication Technologies (ICTs) among Persons with Disabilities in Uganda so as to provide evidence for policy and program development to address concerns about the digital divide in the country. NUDIPU as a national umbrella organization of Persons with Disabilities pursues a strategy of data-driven advocacy to cause sustainable change under which pillar this task falls. Furthermore, Uganda communications commission act 2013 under sections 3 and 5 mandates the commission to carry out activities related to addressing digital inclusiveness of Persons with Disabilities.

Thus, this tool seeks your opinion on issues of awareness, access, and usage of ICTs among Persons with Disabilities.

*Disclaimer: In line with the data privacy Act 2019, the information provided shall be strictly used for purposes of the study and any personally identifiable information shall be held with the utmost confidentiality and shall only be used for verification of facts by the researchers, and at the end of the assignment the personal data shall be destroyed.*

**FOR ENUMERATOR ONLY**

Name of the interviewer ....................................................................................................

Date & Time (Auto generated) ..........................................................................................

Location (Auto-generated) (***Pick GPS coordinates***) .........................................................

**Category**

☐ Organization for person with Disabilities

☐ District Union

**Level of respondent** *(single entry)*

☐ Leader

☐ ICT Personnel

☐ Program Officer

☐ Other Staff

☐ Support staff

**PART ONE: DEMOGRAPHIC INFORMATION**

| | | |
|---|---|---|
| | Name of District Union/organization | |
| | Contact (Phone/email) (optional) | |
| | Gender | ☐ Male<br>☐ Female |
| | Type of disability *(multiple entry)* | ☐ Hearing Disability<br>☐ Physical Disability<br>☐ Visual Disability<br>☐ Mute Disability<br>☐ Others (Specify) |
| | Position held at the District Union/organization | |
| | Number of years at the current position | |
| | Key Roles and Responsibilities | |
| | Location (Sub-Region) *(single selection)* | ☐ Central<br>☐ Kampala<br>☐ Busoga<br>☐ Bukedi<br>☐ Elgon<br>☐ Teso<br>☐ Karamoja<br>☐ Lango<br>☐ Acholi<br>☐ West Nile<br>☐ Bunyoro<br>☐ Toro<br>☐ Kigezi<br>☐ Ankole |
| | Does Your district union/Organisation profile/ Keep records regarding Persons with disabilities? | ☐ Yes<br>☐ No<br>☐ Not Sure |
| | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | How many Persons with Disabilities are currently registered by the district union/organization? | Male | | | Female | |
| | What is the Total number of staff at the union/organization? | Male | Female | Disabled | | Not – disabled |
| | Number of ICT staff at the union/organization | Out sourced, In-house | | | | |
| | Physical Office Location of the union/organization. | | | | | |

## PART TWO: AWARENESS, ACCESS AND USAGE OF ICTs

1. Are you aware of/have you used/you own any of the following Categories of ICTS? (Enumerator should probe the respondent to mention any Technologies/Devices that are not listed below)

### A. ICT DEVICES *(Tick if all apply)*

| ICT Devices | Heard / aware of | | Ever Used | | Access to | | Currently using | | Own | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| Feature Phones (Kabiiriti) | | | | | | | | | | |
| Smart phones | | | | | | | | | | |
| Tablet /IPad | | | | | | | | | | |
| Television | | | | | | | | | | |
| Laptop | | | | | | | | | | |
| Radio | | | | | | | | | | |
| Desktop Computer | | | | | | | | | | |
| Other Specify | | | | | | | | | | |

### B. A.1 PURPOSE OF USE OF THE DEVICES

Likert scale (1= Less extent, 2= some extent, 3= greater extent)

| ICT Devices | Communication | | | Business | | | Entertainment | | | News | | | Education | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Feature Phones (Kabiiriti) | | | | | | | | | | | | | | | |
| Smart phones | | | | | | | | | | | | | | | |
| Tablet /iPad | | | | | | | | | | | | | | | |
| Television | | | | | | | | | | | | | | | |
| Laptop | | | | | | | | | | | | | | | |
| Radio | | | | | | | | | | | | | | | |
| Desktop Computer | | | | | | | | | | | | | | | |
| Other Specify | | | | | | | | | | | | | | | |

### C. USAGE OF ASSISTIVE TECHNOLOGIES

| Assistive Technologies | Organization Own (Yes/No) | | Heard/aware of (Yes/No) | | Ever used (Yes/No) | | Access to | |
|---|---|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No | Yes | No |
| Perkins Brailler | | | | | | | | |
| Magnifier (Hand Held Video Desktop magnifiers, Desktop) | | | | | | | | |
| Braille note taker | | | | | | | | |
| Communication Boards | | | | | | | | |
| Audio Player /Recorder | | | | | | | | |
| Scanning Pens | | | | | | | | |
| Screen readers (Jaws, NVDA, Apple Voice Over etc.) | | | | | | | | |
| Barcode Scanners | | | | | | | | |
| Talking web browser | | | | | | | | |
| Touch Screen Computer | | | | | | | | |
| Text to audio converter | | | | | | | | |
| Specialized keyboard | | | | | | | | |
| Other specify | | | | | | | | |

### D. USAGE OF ICT SERVICES

| ICT SERVICES | Heard/aware of (Yes/No) | | Ever used (Yes/No) | | Currently use(Yes/No) | |
|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No |
| Internet browsing | | | | | | |
| WhatsApp | | | | | | |
| Facebook | | | | | | |
| Twitter | | | | | | |
| Instagram | | | | | | |
| LinkedIn | | | | | | |
| Snapchat | | | | | | |
| Electronic textbooks | | | | | | |
| E-News | | | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc. ) | | | | | | |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | | | | | | |
| Instructional software, | | | | | | |
| Email chat | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| E-learning platforms | | | | | | |
| Collaborative tools | | | | | | |
| E-government services (e.g. URA, NSSF, etc.) | | | | | | |
| Other (specify) | | | | | | |

15. How often do you use these services?

| ICT Services | Daily | Twice a week | At least Monthly | Once in two months | A few times a year | Never |
|---|---|---|---|---|---|---|
| Internet browsing | | | | | | |
| WhatsApp | | | | | | |
| Facebook | | | | | | |
| Twitter | | | | | | |
| Instagram | | | | | | |
| LinkedIn | | | | | | |
| Snapchat | | | | | | |
| Electronic textbooks | | | | | | |
| E-News | | | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc. ) | | | | | | |
| Online transport services e.g. (Safe-boda, Uber, Ori Rides etc.) | | | | | | |
| Instructional software, | | | | | | |
| Email chat | | | | | | |
| E-learning platforms | | | | | | |
| Collaborative tools | | | | | | |
| E-government services (e.g. URA, NSSF, etc.) | | | | | | |
| Other (specify) | | | | | | |

16. In your opinion how easily can persons with disabilities use the following communication and digital services

| Services | Easily access | | | | | Easily use | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Internet browsing | | | | | | | | | | |
| WhatsApp | | | | | | | | | | |
| Facebook | | | | | | | | | | |
| Twitter | | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Instagram | | | | | | | | | | | | |
| LinkedIn | | | | | | | | | | | | |
| Snapchat | | | | | | | | | | | | |
| Electronic textbooks | | | | | | | | | | | | |
| E-News | | | | | | | | | | | | |
| Video conferencing Technologies (Zoom, Microsoft teams) | | | | | | | | | | | | |
| E-commerce platforms i.e. (Jumia, Kikku, Jiji etc.) | | | | | | | | | | | | |
| Online transport services e.g. (Safeboda, Uber, Ori Rides etc.) | | | | | | | | | | | | |
| Instructional software, | | | | | | | | | | | | |
| Email chat | | | | | | | | | | | | |
| E-learning platforms | | | | | | | | | | | | |
| Collaborative tools | | | | | | | | | | | | |
| Other (specify) | | | | | | | | | | | | |

17. Give a brief for the selection of the answers above

| | | | | |
|---|---|---|---|---|
| | Are you aware of any E-government services? If yes please mention those you are aware of? | | | |
| | In your opinion, how have e-services (***Enumerator can give examples of e-services. Consider e-services as digital and communication services, services on the internet)*** contributed to the well-being of persons with disabilities.? | | | |
| | In your opinion, to what extent are persons with disabilities in your community able to do the following (on a scale of 1 to 3) Likert scale (1= Less extent, 2= some extent, 3= greater extent) | | | |
| | Access E- government services | 1 | 2 | 3 |
| | Use E-government services | | | |
| | Basic Operation of ICT Hardware – Including printers, scanners, photocopiers, smartphones, tablets and projectors | | | |
| | Document creation (typing, editing etc.) | | | |
| | Using computers and the internet safely | | | |
| | Using assistive technologies e.g. Perkins Brailler, Magnifier, screen readers etc. | | | |
| | As a union/organization, do you have any programs towards awareness and usage of ICTs for persons with disabilities<br><br>α. Yes<br><br>β. No | | | |
| | If yes, please give a brief of the programs/initiatives your union/organization has. | | | |

| | |
|---|---|
| | Does the District Union office/organization office of Persons with Disabilities use ICT Technologies/ Devices in any way to complete their operations?<br><br>☐ Yes<br><br>☐ No<br><br>☐ Not sure |
| | If yes above, please state the ICT technologies/devices used |
| | Do you have reliable internet at the District Union or Organization?<br><br>☐ Yes<br><br>☐ No<br><br>☐ Not sure |
| | How do you access the internet? *(Multichoice qn)*<br><br>☐ Feature mobile phone<br><br>☐ Modem/MiFi<br><br>☐ Smartphone<br><br>☐ I-pad or tablet<br><br>☐ Laptop<br><br>☐ Desktop Computer<br><br>☐ Others, please specify<br><br>☐ I don't use internet |
| | Are you aware of any ICTs (Software, Hardware, etc.) developed for Persons with Disabilities?<br><br>☐ Yes<br><br>☐ No<br><br>If yes list some of them and the services, they provide |
| | Are these ICTs free or commercial?<br><br>☐ Yes<br><br>☐ No |
| | Are these ICTs easily accessed by the Persons With Disabilities?<br><br>☐ Yes<br><br>☐ No |
| | What are some of the barriers to access ICTs by persons with disabilities? |
| | In your opinion, what have been some of the enablers (initiatives that have increased/whose goal is to increase the access and usage) towards the access and usage of ICTs by Persons with Disabilities in Uganda |

| | |
|---|---|
| | Are you aware of any trainings offered to Persons with Disabilities to use ICTs<br><br>☐ Yes<br><br>☐ No |
| | If yes, list the trainings, and the service providers. |
| | Do you have programs/activities that support ICT literacy training for persons with disabilities?<br><br>☐ Yes<br><br>☐ No |
| | If yes, list the trainings, the mode of delivery and explain the scope of work involved. |
| | In what form are these trainings offered *(single entry)*<br><br>☐ In-person<br><br>☐ Online<br><br>☐ Both<br><br>☐ Others (specify) |
| | In your opinion, how can the ICT sector support Persons with Disabilities? |
| | Which ICT training delivery mode would be preferred for Persons with Disabilities? (*Single choice*)<br><br>• Online<br><br>• Both online and face to face<br><br>• Inclusive face to face centered<br><br>• Special face to face centered<br><br>• Others (specify) |

## PART THREE: ICT INNOVATIONS AND INCLUSIVENESS

1. Are you aware of any existing initiatives by government or other NGOs to support person with disabilities to easily access and use ICTs

    α. Yes

    β. No

2. If yes, in what ways are they delivering inclusive digital ICT services to persons with disabilities?

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

3. Are you aware of any national standards and regulations on inclusivity?

    χ. Yes

    δ. No

4. If yes, please mention them;

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

5. In your opinion, have these national standards worked well to addressing the gaps on inclusion of persons with disability

  α. Yes

  β. No

If yes or if no? Explain

6. Are you aware of any ICT innovations (software or mobile applications) developed for persons with disabilities? If yes, state them.

  ☐ Yes

  ☐ No

7. In your opinion, what factors are constraining the development of ICT innovations for persons with disabilities in Uganda?

### PART FOUR: CAPACITY KNOWLEDGE MANAGEMENT

1. Does your organization/Union have a department responsible for knowledge management?

  α. Yes

  β. No

If Yes, which department?

2. Are you aware of any existing repository of information regarding persons with disabilities in Uganda? (YES, NO) If yes please mention

 …………………………………………………………………………………………………………………………....................……

3. Which knowledge management system does the organization have? (A knowledge management system is **any kind of system that stores and retrieves knowledge to improve understanding, collaboration, and process alignment**.)

 …………………………………………………………………………………………………………………………....................……

4. How has the existing knowledge management system at your organization contributed to the attainment of its results framework? (***Single choice***)

 ……………………………………………………………………………………………………………………....……………

5. How does your organization/union store data collected from projects/activities? (***Single choice***)

  α. iCloud

  β. In house servers

  χ. Google Drive

  δ. Dropbox

  ε. CD

  φ. USB Flash Drive

  γ. Files

  η. Others (specify)

13. How does your organization/union collect feedback on activities/ projects conducted by your organization? (*Single choice*)

    α. Website

    β. Project officers

    χ. Social media platforms

    δ. Phone calls

    ε. Surveys

    φ. Other (specify)

17. How does your organization collaborate/relate with other Organizations for persons with Disabilities (*Single choice*)

    α. Team collaboration

    β. Community collaboration

    χ. Internal collaboration

    δ. External collaboration

    ε. Cross-departmental collaboration

    φ. Virtual collaboration

    γ. Other (specify)

Which information would you wish to have regular updates about? (*multi choice*)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| New developments for persons with disabilities | | | | | |
| Health Issues | | | | | |
| Education/Schools | | | | | |
| Jobs opportunities | | | | | |
| Training opportunities | | | | | |
| Courts and legal issues | | | | | |
| Policy Issues | | | | | |
| Others (specify) | | | | | |

18. What functionalities would you want to have in a system developed for information access for persons with Disability? Please list all

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

19. From the discussion we have had, do you have any other information that you would like to share with me?

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

***Thank you for considering to participate in this research***

### 3. A SURVEY OF PERSONS WITH DISABILITIES SERVICE PROVIDERS (Institutions (Special needs schools), Health centres, ICT providers etc.

National Union of Disabled Persons of Uganda (NUDIPU), in collaboration with Eight Tech Consults working in partnership with Uganda Communications Commission (UCC) is conducting a study on the level of awareness, access and usage of Information Communication Technologies (ICTs) among Persons with Disabilities in Uganda so as to provide evidence for policy and program development to address concerns about the digital divide in the country. NUDIPU as a national umbrella Organisation of Persons with Disabilities pursues a strategy of data-driven advocacy to cause sustainable change under which pillar this task falls. Furthermore, Uganda communications commission act 2013 under sections 3 and 5 mandates the commission to carry out activities related to addressing digital inclusiveness of Persons with Disabilities.

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**For Enumerator Only**

Name of the interviewer ...........................................................................................................................

Date & Time (Auto generated) ..............................................................................................................

Location (Auto-generated) (***Pick GPS coordinates***):..................................................................

**Please tick Category of the respondent** *(select the category being interviewed)* (***single choice***)

- ☐ Special Needs School
- ☐ Health Centres
- ☐ ICT Provider
- ☐ Media Houses
- ☐ Government Official
- ☐ Telecom e - Extensions
- ☐ Financial Service Providers
- ☐ FinTech

#### PART ONE: DEMOGRAPHIC INFORMATION

| No. | Question | |
|-----|----------|---|
| | Name of the Organisation/service provider | |
| | Location (***single choice***) | ☐ Urban<br>☐ Rural |

| | | | | | |
|---|---|---|---|---|---|
| | Region (*single choice*) | ☐ Central<br>☐ Kampala<br>☐ Busoga<br>☐ Bukedi<br>☐ Elgon<br>☐ Teso<br>☐ Karamoja<br>☐ Lango<br>☐ Acholi<br>☐ West Nile<br>☐ Bunyoro<br>☐ Toro<br>☐ Kigezi<br>☐ Ankole | | | |
| **1.** | District | | | | |
| | Year of Establishment | | | | |
| | How many Employees does your business have (excluding owners)? | Fulltime | Part time | Male | Female |
| | | | | | |
| | Do you give consideration to Persons with Disabilities when employing people for your business?<br><br>If Yes, how many employees identify as<br><br>Persons with Disabilities<br><br>If No, please explain | ☐ Yes<br>☐ No<br>☐ Maybe | | | |
| | What services does your Organisation offer to Persons with Disabilities (*multi choice*) | ☐ Adult Day Health Screens<br>☐ Case Management<br>☐ General Health services<br>☐ Home care services<br>☐ Information & Referral services<br>☐ Nutrition Education<br>☐ Education services<br>☐ Advocacy services<br>☐ ICT services<br>☐ Others Specify | | | |

| | | |
|---|---|---|
| Please select the Persons with Disabilities category that you support (*tick all that apply*) (***single choice***) | ☐ | Hearing Disability |
| | ☐ | Physical Disability |
| | ☐ | Visual Disability |
| | ☐ | Mute Disability |
| | ☐ | Others (Specify) |
| How long have you been providing services to Persons with Disabilities and when did you start? | | |
| Does your business exclusively provide services to Persons with Disabilities? | ☐ | Yes |
| | ☐ | No |
| | ☐ | Maybe |
| Have you been licensed to provide services for Persons with Disabilities?<br><br>If no, explain why | ☐ | Yes |
| | ☐ | No |

### PART TWO: AWARENESS, ACCESS AND USAGE OF ICTs

1.  Are you aware of/you own any of the following Categories of ICTS? (Enumerator should probe the respondent to mention any Technologies/Devices that are not listed below)

| Assistive Technologies | Organization Owns (Yes/No) | | Heard/aware of (Yes/No) | | Access To | |
|---|---|---|---|---|---|---|
| | Yes | No | Yes | No | Yes | No |
| Perkins Brailler | | | | | | |
| Magnifier (Hand Held Video Desktop magnifiers, Desktop) | | | | | | |
| **a**Braile note taker | | | | | | |
| Communication Boards | | | | | | |
| Audio Player /Recorder | | | | | | |
| Scanning Pens | | | | | | |
| Screen readers (Jaws, NVDA, Apple Voice Over etc.) | | | | | | |
| Barcode Scanners | | | | | | |
| Talking web browser | | | | | | |
| Touch Screen Computer | | | | | | |
| Text to audio converter | | | | | | |
| Specialized keyboard | | | | | | |
| Other specify | | | | | | |

2.  In your opinion, to what extent are persons with disabilities aware of the existing devices/services/initiatives to increase their access and usage of ICT (***single choice***)

    ☐ To a larger extent

    ☐ To a smaller extent

☐ To some extent

☐ Not sure

3. In the past 3 years, Have there been any initiatives/services/devices from the government or other Organisations enabling inclusion of Persons with disabilities to improve their access and usage to ICT

☐ Yes

☐ No

☐ Not sure

4. If yes, which initiatives/services/devices have been delivered and the Organisation/ government department that was delivering this initiative?

...................................................................................................................................................................

5. How are persons with disabilities made aware of your services? (*multi choice*)

☐ Radio

☐ District Unions

☐ Friends/friends

☐ Television,

☐ News Paper

☐ Posters and flyers

☐ Internet and social media

☐ Social events

☐ Others (Specify)

6. What challenges do persons with disabilities face in accessing your services?

...................................................................................................................................................................

7. In your opinion, what can be done to address the challenges you have stated above?

...................................................................................................................................................................

8. Are you aware of any national/regional/international policies that concern Persons with Disabilities?

☐ Yes

☐ No

If yes, please mention them

**PART THREE: ICT USAGE AND ACCESS BY PERSONS WITH DISABILITIES**

| | | | |
|---|---|---|---|
| | Does your Organisation have access to the following? | | |
| | | **Yes** | **No** |
| | Reliable internet connectivity | | |
| | Operational computers | | |
| | Skilled ICT personnel | | |
| | Are you aware of any ICTs (Software, Hardware, Mobile applications etc) developed for Persons with Disabilities?<br><br>☐　Yes<br><br>☐　No<br><br>If yes list them and the services, they provide | | |
| | Are these ICTs provided free of charge or commercial?<br><br>☐　Free<br><br>☐　Commercial | | |
| | Are these ICTs easily accessible for Persons with Disabilities?<br><br>☐　Yes<br><br>☐　No | | |
| | If No, provide reasons why? | | |
| | Do you have programs/activities that support ICT literacy training for persons with disabilities? If yes explain the scope of work involved.<br><br>☐　Yes<br><br>☐　No | | |
| | In your opinion, which kind of ICT training do Persons with Disabilities need? | | |
| | In your opinion, how can the government support Persons with Disabilities in terms of inclusive use of ICT | | |
| | In the past 5 years, to what extent have you been able to use ICT to enhance access and Usage of the services you provide by Persons with Disabilities | | |
| | What initiatives have you put in place as a service provider to increase usage and access to your services by persons with disability? | | |
| | What are some of the barriers to usage of ICTs by persons with disabilities? (*multi choice*)<br><br>☐　Expensive Assistive technologies<br><br>☐　Lack of awareness of existing ICTs<br><br>☐　Lack of appropriate ICT Knowledge and skills by persons with disabilities<br><br>☐　Others (specify) | | |

| | In your experience/opinion, what have been some of the enablers that have aided the increase in access and usage of ICTs by Persons with Disabilities in Uganda? |
|---|---|

## PART FOUR: ICT INNOVATION AND INCLUSIVENESS

1. Are you aware of any software/Mobile applications/devices designed to support ICT Persons with Disabilities?

    ☐ Yes

    ☐ No

If Yes, List them.

........................................................................................................................................

2. What factors are constraining the development of ICT innovations for persons with disabilities in Uganda?

........................................................................................................................................

3. As a service provider, What functionalities would you want to have in a system developed for information access for persons with Disability? Please list all

........................................................................................................................................

## PART FIVE: CAPACITY KNOWLEDGE MANAGEMENT

1. Has any organization ever asked for / collected information about persons with disability from you?

    ☐ Yes

    ☐ No

If yes, which organization?

........................................................................................................................................

2. Which data was collected from you?

........................................................................................................................................

3. Is there any existing repository of information regarding persons with disabilities? (YES, NO) If yes please mention

........................................................................................................................................

4. How do you often get information about persons with disabilities in your community? (*multi choice*)

    a. Radio

    b. TV

    c. News Paper

    d. Internet

    e. Neighbor

f. Friend

g. Family members

h. Social media

i. Phone call

j. Others (specify)

5. Which information about persons with disabilities would you wish to have regular updates about? (**multi choice**)

α. New developments for persons with disabilities

β. Health Issues

χ. Education/Schools

δ. Jobs/training programs

ε. Courts and legal issues

φ. Policy Issues

γ. Inclusive technology developments

η. Others (specify)

6. From the discussion we have had, do you have any other information that you would like to share with me?

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

**Thank you for considering to participate in this interview!**

4. **SECTOR OPINION LEADERS, PRINT AND ELECTRONIC MEDIA, PUBLIC SECTOR ORGANISATIONS OF UGANDA**

National Union of Disabled Persons of Uganda (NUDIPU), in collaboration with Eight Tech Consults working in partnership with Uganda Communications Commission (UCC) is conducting a study on the level of awareness, access and usage of Information Communication Technologies (ICTs) among Persons with Disabilities in Uganda so as to provide evidence for policy and program development to address concerns about the digital divide in the country. NUDIPU as a national umbrella Organisation of Persons with Disabilities pursues a strategy of data-driven advocacy to cause sustainable change under which pillar this task falls. Furthermore, Uganda communications commission act 2013 under sections 3 and 5 mandates the commission to carry out activities related to addressing digital inclusiveness of Persons with Disabilities.

Thus, this tool seeks your opinion on issues of awareness, access, and usage of ICTs among Persons with Disabilities.

**Disclaimer:** *In line with the data privacy Act 2019, the information provided shall be strictly used for purposes of the study and any personally identifiable information shall be held with the utmost confidentiality and shall only be used for verification of facts by the researchers, and at the end of the assignment the personal data shall be destroyed*

Name of the interviewer……………………………………….....

Date and Time ………………………………………………………....

**Organisation**

☐ Sector Opinion leaders

☐ Print and Electronic media

☐ Public sector Organisations

**Category of respondent**

☐ Academician

☐ Practioner

☐ Political leader

☐ Editor

☐ Presenter

☐ Program directors

### PART ONE: DEMOGRAPHIC INFORMATION

| No. | Question | | | | |
|---|---|---|---|---|---|
| | Name of the Organization/service provider | | | | |
| | Location (*single choice*) | ☐ Urban | | | |
| | | ☐ Rural | | | |
| | Region (*single choice*) | ☐ Central | | | |
| | | ☐ Kampala | | | |
| | | ☐ Busoga | | | |
| | | ☐ Bukedi | | | |
| | | ☐ Elgon | | | |
| | | ☐ Teso | | | |
| | | ☐ Karamoja | | | |
| | | ☐ Lango | | | |
| | | ☐ Acholi | | | |
| | | ☐ West Nile | | | |
| | | ☐ Bunyoro | | | |
| | | ☐ Toro | | | |
| | | ☐ Kigezi | | | |
| | | ☐ Ankole | | | |
| **1.** | District | | | | |
| | Year of Establishment | | | | |
| | How many Employees does your business have (excluding owners)? | Fulltime | Part time | Male | Female |
| | | | | | |

| | | |
|---|---|---|
| | Do you give consideration to Persons with Disabilities when employing people for your business?<br><br>If Yes, how many employees identify as Persons with Disabilities<br><br>If No, please explain | ☐ Yes<br><br>☐ No<br><br>☐ Maybe |
| | Please select the Persons with Disabilities category that you support if any (*tick all that apply*) (**single choice**) | ☐ Hearing Disability<br>☐ Physical Disability<br>☐ Visual Disability<br>☐ Mute Disability<br>☐ Others (Specify) |
| | How long have you been providing services to Persons with Disabilities and when did you start? | |

### PART TWO: AWARENESS, ACCESS AND USAGE OF ICTs

1.	In your opinion how easily can persons with disabilities use the following communication and digital services

| | Easily access | | Easily use | |
|---|---|---|---|---|
| **Services** | **Yes** | **No** | **Yes** | **No** |
| Internet | | | | |
| Social Media | | | | |
| Microsoft Packages | | | | |
| Collaboration Services | | | | |
| E- Learning | | | | |
| E- Commerce | | | | |
| Electronic textbooks | | | | |
| Instructional software, | | | | |
| Email chat | | | | |
| Video chat | | | | |
| Distance learning programs | | | | |
| Collaborative tools | | | | |
| Press releases | | | | |
| Other (specify) | | | | |

2.	Give reasons for your answers above ……………………………………………………………………………………………

| | |
|---|---|
| | In your opinion, have e-services (digital and communication service) contributed to the wellbeing of persons with disabilities |
| | As an Organisations/individual, do you have any programs towards awareness and usage of ICTs for persons with disabilities<br><br>  α. Yes<br><br>  β. No |
| | If yes, please give a brief of the programs/initiatives your union/organization has |
| | In your opinion, to what extent are the Persons with Disabilities in your district aware and using ICT technologies (Assistive technologies e.g. Perkins Brailler, Magnifier, Hand Frames, screen readers etc. ) (*single choice*)<br><br> ☐ To a greater extent<br><br> ☐ To an average extent<br><br> ☐ To a small extent<br><br> ☐ They are not aware/do not use assistive technologies |
| | Have you taken any initiative to ensure the persons with disabilities in your district are aware and use ICT technologies, please explain? |
| | In your opinion, What ICT skills are possessed by Persons with Disabilities your District. (*multi choice*)<br><br> ☐ Basic Operation of ICT Hardware – Including printers, scanners, photocopiers, smartphones, tablets and projectors<br><br> ☐ Typing – The ability to use a word processing program (such as Microsoft Word) to create letters, agendas, notes etc.<br><br> ☐ Document Creation – The ability to use software (such as Microsoft Word, Microsoft Publisher or Adobe Creative) to produce professional documents like PowerPoint presentations, letters,<br><br> ☐ Using computers and the internet safely;<br><br> ☐ Use of learning management systems<br><br> ☐ Networking and systems administration |
| | Are you aware of any ICTs (Software, Hardware, etc) developed for Persons with Disabilities?<br><br> ☐ Yes<br><br> ☐ No<br><br>If yes list them and the services they provide |
| | Are these ICTs free or commercial?<br><br> ☐ Yes<br><br> ☐ No |
| | Are these ICTs easily accessed by the Persons With Disabilities?<br><br> ☐ Yes<br><br> ☐ No |
| | If No, provide reasons why |

| | In your opinion what are some of the barriers to usage of ICTs by persons with disabilities |
| --- | --- |
| | In your opinion, what have been some of the existing initiatives that have increased/ whose goal is to increase the access and usage of ICTs by Persons with Disabilities in Uganda |
| | In your opinion, how can the government support Persons with Disabilities |

### PART THREE:  ICT INNOVATION AND INCLUSIVENESS

1. Are you aware of any software/Mobile applications/devices designed to support ICT Persons with Disabilities?

   ☐   Yes

   ☐   No

If Yes, List them.

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

2. What factors are constraining the development of ICT innovations for persons with disabilities in Uganda?

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

3. As a service provider, What functionalities would you want to have in a system developed for information access for persons with Disability? Please list all

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

### CAPACITY KNOWLEDGE MANAGEMENT

1. Has any organization ever asked for / collected information about persons with disability from you?
   If yes, which organization?

   …………………………………………………………………………………….........................................................

2. Which data was collected from you?

   …………………………………………………………………………………….........................................................

3. Is there any existing repository of information regarding persons with disabilities? (YES, NO)
   If yes please mention

   …………………………………………………………………………………………….....................................................

4. How do you often get information about persons with disabilities in your community? (***multi choice***)

   a.   Radio

   b.   TV

   c.   News Paper

   d.   Internet

  e. Neighbor

  f. Friend

  g. Family members

  h. Social media

  i. Phone call

  j. Others (specify)

5. Which information about persons with disabilities would you wish to have regular updates about? (*multi choice*)

  a. New developments for persons with disabilities

  b. Health Issues

  c. Education/Schools

  d. Jobs/training programs

  e. Courts and legal issues

  f. Policy Issues

  g. Inclusive technology developments

  h. Others (specify)

6. From the discussion we have had, do you have any other information that you would like to share with me?

…………………………………………………………………………………………………….................................................

**Thank you for considering to participate in this interview!**