UGANDA DIGITAL ACCELERATION PROJECT

THE STATE OF DIGITAL ACCESS ENABLERS IN REFUGEE AND HOSTING COMMUNITIES IN UGANDA

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Forward

I am pleased to present this comprehensive study on the State of Digital Access, Infrastructure, and Literacy in Uganda's Refugee-Hosting Districts (RHDs). This report represents an important step in understanding the digital landscape in Uganda's most vulnerable communities, highlighting both the challenges and opportunities for fostering digital inclusion across Refugee-Hosting Districts.

Our organization is committed to addressing the pressing needs of the communities we serve, recognizing that digital access is not only a necessity in today's world but also a catalyst for social and economic empowerment. In line with this commitment, the study explores key dimensions such as the state of digital infrastructure, barriers to device access and usage, digital literacy requirements, and the feasibility of establishing digital service centers within RHDs. By focusing on these areas, we aim to create actionable insights that will inform strategies for inclusive growth and sustainable development in these regions.

The findings reflect the resilience and adaptability of these communities, while also identifying the gaps that persist in digital infrastructure, policy awareness, and skills development. Importantly, this report highlights the role of partnerships, recommending collaborative efforts among government bodies, private sector stakeholders, and non-governmental organizations to drive meaningful digital inclusion. As we advance, our commitment remains to build a digitally empowered Uganda where all citizens, regardless of their circumstances, can access and benefit from the opportunities offered by the digital economy.

I extend my gratitude to all those who contributed to this study – from field researchers and data analysts to our partners and the respondents in host communities and refugee settlements. Your invaluable input has enabled us to provide a thorough and insightful overview of the current digital access landscape in Uganda's RHDs.

It is our hope that this document serves as a vital resource for stakeholders committed to driving digital transformation and that together, we can bridge the digital divide and enhance digital access for all.

Acknowledgment

We extend our sincere gratitude to all individuals and organizations whose support made this study on Digital Access, Infrastructure, and Literacy in Uganda's Refugee-Hosting Districts (RHDs) possible. This research represents a collective effort, drawing on the expertise, insights, and commitment of many partners dedicated to advancing digital inclusion and empowerment in Uganda's most vulnerable communities.

We are especially grateful to our field researchers and data analysts, who undertook the challenging task of gathering and analyzing data across diverse and remote regions. Their commitment to accuracy and integrity has enriched the quality of this report and provided a foundation for actionable insights.

Our heartfelt thanks go to the Local Government(LG) officials, Office of the Prime Minister, Settlement Commandants, Field coordinators, Research assistants, host communities and refugee residents who participated in surveys, focus groups, and interviews. Your openness and willingness to share your experiences have provided a clear picture of the digital realities and aspirations within these communities, helping us understand the barriers and opportunities in promoting digital access.

We are deeply grateful for the expertise provided by Eight Tech Consults team, whose knowledge and technical assistance were vital to the successful execution of this study. Your team's commitment to excellence and innovation in digital solutions has been instrumental in shaping the recommendations outlined in this report.

We also wish to acknowledge the invaluable support of our funding partners and development agencies, whose resources and guidance enabled this project to come to fruition. Special recognition goes to the World Bank, Ministry of ICT and National Guidance, the Uganda Communications Commission (UCC), and our numerous NGO partners for their steadfast collaboration and expertise. Your contributions have strengthened this study's scope and impact.

Lastly, we appreciate the continuous support of our Board of Directors, whose vision and commitment to digital inclusion have driven this important work forward. Together, we are paving the way toward a more inclusive digital future, where all Ugandans, regardless of their circumstances, can participate in and benefit from the digital economy.

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List of Abbreviations

Abbreviation	Meaning
AI	Appreciative Inquiry
BCS	Bandwidth & Cloud Services
CAO	Chief Administrative Officer
CBOs	Community-Based Organizations
CCT	Community Connect Trainer
CDN	Content Delivery Network
CRRF	Comprehensive Refugee Response Framework
CSOs	Civil Society Organizations
DCDO	District Community Development Officer
DRC	Democratic Republic of Congo
FGDs	Focus Group Discussions
FRC	Finnish Refugee Council
GDPR	General Data Protection Regulation
GSMA	GSM Association
ICT	Information Communication Technology
ILO	International Labour Organization
ISPs	Internet Service Providers
IXP	Internet Exchange Point
KII	Key Informant Interviews
KPIs	Key Performance Indicators
LG	Local Government
M&E	Monitoring and Evaluation
Mbps	Megabits per second
MDAs	Ministries, Departments, and Agencies
MoICT&NG	Ministry of ICT & National Guidance
MSMEs	Micro, Small, and Medium-sized Enterprises
MTN	Mobile Telecommunications Network
NDP	National Development Plan
NEMA	National Environmental Management Authority
NGOs	Non-Government Organisations
NITA-U	National Information Technology Authority Uganda
NRC	Norwegian Refugee Council
O&M	Operations and Maintenance
OPM	Office of the Prime Minister

PESTEL	Political, Economic, Social, Technological, Environmental and Legal
PPP	Public-Private Partnerships
PWDs	Persons with Disabilities
RCDF	Rural Communications Development Fund
RDC	Resident District Commissioner
RHDs	Refugee Hosting Districts
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SMS	Short Messaging Service
SPSS	Statistical Package for the Social Sciences
SQ	Survey Questionnaire
UCC	Uganda Communications Commission
UCUSAF	Uganda Communications Universal Service Access Fund
UDAP	Uganda Digital Acceleration Programme
UETCL	Uganda Electricity Transmission Company Limited
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UTL	Uganda Telecom Limited

Glossary of Terms

Enabling Regulatory Environment Assessment: An Enabling Regulatory Environment Assessment refers to the evaluation of laws, policies, and regulations that support or hinder the development, deployment, and utilization of digital services.

Digital Infrastructure and Connectivity: This encompasses the physical and organizational structures needed to support the operation and accessibility of digital services. This includes broadband networks, data centers, servers, telecommunications systems, and the connectivity between them. It also refers to the level of access and reliability of internet services, especially in remote or underserved areas.

Access and Usage of Digital Services: refers to the availability and adoption of digital platforms and tools by individuals, businesses, and institutions. Access relates to the ability to connect to digital services, while usage pertains to the frequency, manner, and effectiveness with which these services are utilized. This term often highlights the barriers to entry, such as affordability, digital literacy, and relevant content.

Digital Literacy Demand: refers to the need or desire among individuals, communities, and organizations to acquire skills and knowledge necessary to effectively use digital technologies. This includes understanding how to operate digital devices, navigate the internet, use software applications, and protect personal data.

Digital Service Centres: These are physical or virtual hubs where individuals and businesses can access a variety of digital services, such as e-government services, online education, and financial services. These centers are designed to bridge the digital divide by providing infrastructure, support, and training to enhance digital inclusion, especially in underserved areas. They often act as a one-stop-shop for accessing multiple services and resources in a community.

Digital Service Enablers: These are factors, tools, or infrastructures that facilitate the development, delivery, and adoption of digital services. These can include technological platforms, supportive regulatory frameworks, financial incentives, partnerships, and innovation ecosystems that collectively enhance the accessibility and effectiveness of digital services across various sectors.

Digital Literacy Skills: refer to the competencies required to effectively and safely use digital technologies. These skills include the ability to operate digital devices, navigate the internet, use software applications, communicate online, understand digital content, and protect personal information.

PWDs (Persons with Disabilities): PWDs are individuals who have long-term physical, mental, intellectual, or sensory impairments that may hinder their full and effective participation in society on an equal basis with others.

Digital Services: These are services that are delivered through digital platforms or technologies, such as the internet, mobile networks, or software applications. These services can range from e-government, online banking, e-commerce, and digital education to entertainment and social media. Digital services are characterized by their ability to be accessed remotely and on-demand, often enhancing convenience and efficiency for users.

Executive Summary

This study, commissioned by the National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP), assesses the readiness of the digital ecosystem within Uganda's 13 Refugee Hosting Districts (RHDs), including Kampala. The purpose is to develop evidence-based recommendations for sustainable digital service delivery, including establishing 24 Uganda Digital Service Centers across these districts.

Uganda is home to over 1.7 million refugees, primarily from South Sudan, the Democratic Republic of the Congo (DRC), and Burundi. Most reside in settlements with limited access to digital infrastructure. Uganda's inclusive refugee policy aligns with its national digital transformation agenda, aiming to ensure broadband access and digital literacy for marginalized groups, including refugees. This policy framework advocates equal services for refugees and nationals, integrating refugees into national development plans through enhanced digital services.

The main objective of the Study was to establish the current status of digital ecosystem in RHDs and t**he specific objectives are to:**

i. Establish the state of Policy, Legal and Regulatory environment enabling enablers for digital service delivery in RHDs.
ii. Establish Best Practices from selected countries on digital service delivery to refugees and host communities highlighting existing providers, services and markets for devices in RHDs, critical success factors and recommendations for best fit models of implementing digital connections and services in RHDs.
iii. Establish Digital Service Access and Usage Patterns among refugees and host communities in terms of access to communication devices, device life cycle management practices and opportunities for investment.
iv. Establish the extent of Digital Infrastructure and Connectivity RHDs in terms of coverage and quality of service(speed)
v. Establish Digital Literacy Skills gaps among refugees and host population, with a focus on women, youth, Persons with Disabilities (PWDs) and MSMEs, profile of providers and determine opportunities of sustainable digital literacy initiatives in RHDs;
vi. Establish and define PWD Access Requirements for digital service centres demand for assistive technologies and characteristics of training content.
vii. Determine the feasibility of Establishing and Operationalizing 24 Sustainable Digital Service Uganda centers in 13 RHD including architectural and structural designs, energy availability and their associated impact to the community and environment;

The study employed a mixed-methods approach using Appreciative Inquiry and PESTEL analysis. Data was collected through surveys, focus group discussions, and key informant interviews across refugee and host communities. A sample of 2,494 respondents was surveyed, including 1,195 from host communities and 1,299 refugees. Quantitative data was analyzed using SPSS, while qualitative insights were coded thematically.

The demographics from the study included 3,054 participants: 2,494 survey respondents, 110 key informants, and 450 focus group discussion members. The sample was representative of both refugees and host communities. Findings indicated that informal employment predominated in both communities, with high unemployment rates among refugees. Education levels were generally low, with 50% of participants having attained only primary or lower secondary education.

Summary of Key Findings included;

3.1 Policy, Legal, and Regulatory Environment The policy framework in Uganda supports digital access, but only 33% of respondents were aware of policies governing digital services. In addition, only 19% were involved in policy development, primarily among key informants, indicating limited community engagement. Both refugee and host communities reported low satisfaction with regulatory efforts in the digital sector, particularly due to connectivity issues and affordability barriers.

3.2 State of Digital Infrastructure and Connectivity: Infrastructure and connectivity challenges persist across RHDs, with 68.9% of refugees and 55.5% of host community members relying on solar power, which remains insufficient to meet digital needs. Internet access is sparse, with stable mobile network coverage reported by only 42% of host community respondents. Most settlements reported unreliable or non-existent electricity from the national grid, with only 17.5% of refugees having access, severely limiting digital service delivery.

3.3 Access and usage of communication Devices: Basic phones (Button Phones) are the most used by the respondents (84.1%), followed by Radio (67.6%) and smartphone (65.2%), Television(45.2%), laptop (12.4) and desktop computer (5.2%) in that order of importance. While access to devices among Persons with Disabilities is as follows; Button phones (69%) 216, Radio 61.7%(193), smart phones 36.1%(113), Television 14.4%(45) Laptop 6.2%(19) and Desktop 3.2%(10) in that order of importance. In terms of device life cycle management, majority of the respondents indicated disposing off their electronic devices by throwing them away (57.5%) while 28.1% repurpose or reuse their devices, while 27.2% utilize recycling centers.

3.4 Access to Digital Services: The most frequently used services were SMS and social media, with daily usage reported by 45.6% (545) and 32.6% (390) of participants, respectively in the host community while respondents from the refugee settlement, 34.9% (454) reported daily SMS usage, while 29.2% (379) used social media (of which Whatsapp is the mainly used platform). Notably, the largest proportion of respondents did not utilize digital services.

In terms of the concerns/fears on the use of digital services, the The most common concern was cyber security issues(fraud, scammers), mentioned by 34.2% (91) of respondents, followed by network and connectivity problems at 25.6% (68). High costs related to data, devices, and power were barriers for 20.3% (54), while 15.4% (41) cited a lack of digital skills or access. Malicious software, such as viruses and spyware, affected 4.5% (12). While some of the barriers to usage of digital services included; High Cost of devices and services, limited access to devices, Insufficient digital literacy skills, Limited awareness of services and their impact, Poor connectivity among others.

3.5 Digital Literacy Demand : There is a strong demand for digital literacy, with 83% of respondents expressing the need for more training. Currently, 40.9% of refugees lack basic computer skills, and 41.0% report no skills in internet navigation. Gender disparities are evident, with 47.9% of women having no skills in basic computer usage compared to 30.5% of men. PWDs face significant digital literacy gaps, as 66.1% lack proficiency in using online services, underscoring the need for tailored programs.

3.6 Feasibility of Establishing Digital Service Centers: The feasibility study indicates availability of land for setting up the centres and high demand for digital service centers, with respondents identifying e-learning, financial services, and digital literacy as essential offerings. Environmental sustainability is a concern, with proposed mitigation strategies including solar power use and assistive technologies for PWDs. Stakeholders identified partnerships with local organizations as critical for long-term viability, particularly in settlements like Kyaka II, Imvempi, and Palorinya.

In conclusion,

Generally Uganda has an enabling **policy, legal and regulatory environment** for the development of digital services however, the environment lacks explicit provisions targeting refugees given their unique social and economic status. There is low awareness of the policies governing digital service delivery among the communities as evidenced by the findings of respondents who indicated to be were aware of policies governing digital services furthermore, there is low stakeholder involvement in policy development as only 19% were involved in policy development, primarily among key informants, indicating limited community engagement. Both refugee and host communities reported low satisfaction with regulatory efforts in the digital sector, particularly due to connectivity issues and affordability barriers.

In terms of **State of Digital Infrastructure and Connectivity;** Access to electricity is very low at only 17.5% and majority of the respondents indicated to use solar power which is available at community level. In terms of the fibre network, the distribution is limited to a few areas like the district or major LG offices. Furthermore, majority of the areas in the settlements are within the coverage of 3G networks by the different NOs however the quality of service is generally poor.

Access and usage of Communication Devices is relative in the various settlements however; the Basic phones (Button Phones) are the most used by the respondents followed by Radio and smartphone, Television laptop and desktop computer in that order of importance. It is worth noting the devices access and ownership among Persons with Disabilities (PWDs) was slightly high compared to known statistics where majority of the Persons with Disabilities (PWDs) that participated had access to a basic phone(button phone). It is worth noting that, there is a consistent gender gap in digital device ownership and access, with males generally having more access to the different digital devices compared to females.

Digital Literacy Demand: There is a strong demand for digital literacy among the respondents given the low digital skills possessed by the respondents and the huge gender disparity gap. Furthermore, PWDs face significant digital literacy gaps, Lack of inclusive programs for PWDs, with limited accessibility in existing initiatives, impacting digital skills development among vulnerable groups. Some of the key skills demanded by the respondents in order of importance are; basic digital literacy skills, cyber security, e-government services among others.

Feasibility of Establishing Digital Service Centers: The study revealed that the proposed establishment of Digital service Uganda centres are feasible and timely. There is high demand for the services envisioned to be provided by the digital Uganda service centres given by education curriculum changes, e-government agenda and the rapid penetration of digital services especially financial services. Furthermore, all the RHDs have identified and earmarked land for the establishment of the 24 digital service centres. The identified locations are covered by the 3G network and majority are within reach of the electricity grid and the rest can easily be powered by solar. The digital service centres are to be strategically situated around large population centres in RHDs to reduce barriers of access. Atleast 3 business operation models for the digital centres are feasible and these include; government citizen model, the private public partnership model and the commercial model.

The following recommendations were derived based on the study's objectives, which aimed to assess key areas influencing digital access and inclusion in Refugee-Hosting Districts (RHDs).

Objective	Issue	Recommendations	Actor
Policy, Legal, and Regulatory Environment	Low awareness of digital policies	i. Conduct targeted awareness campaigns through accessible platforms like radio, social media, and community meetings. ii. Visual communication methods and local influencers could help raise awareness, targeting various stakeholders.	Uganda Communications Commission (UCC), Local Governments
	Limited stakeholder involvement in policy development	i. Extensive stakeholder consultations should be conducted during policy development ii. Set up inclusive channels for policy feedback, including mobile surveys and public forums.	Ministry of ICT and National Guidance, NITA-U, UCC, Local Governments
State of Digital Infrastructure and Connectivity.	Limited digital infrastructure	i. Extend the power grid to all key population centres and government facilities. ii. subsidize solar products so as to increase their accessibility iii. Invest in expanding broadband internet in under-served areas where majority of the settlements reside. iv. Introduce subsidized data plans or free community Wi-Fi hot spots in the settlements. v. Encourage Public-private partnerships with development partners and other funding bodies. vi. Explore mobile network enhancements with telecom providers for better coverage and stability.	Ministry of Energy, Telecom Providers, Development Partners
Access and usage of communication devices	Low access and usage of communication devices Lack of recycling and e-waste facilities	i. Implement a gender responsive and inclusive device access program to increase access to digital devices among the target population ii. Partner with NGOs and private organizations to offer discounted or loaned devices iii. Establish accessible e-waste collection and recycling centers in RHDs iv. Implement awareness campaigns on proper disposal methods and environmental impacts v. Create incentives for communities to recycle or trade in used devices.	National Environmental Management Authority (NEMA), Local Governments, NGOs

	Limited access for PWDs	i. Establish inclusive digital literacy centers equipped with assistive technologies like screen readers and adaptive keyboards. ii. Develop programs tailored to PWD needs, such as mobile-based or one-on-one training sessions, considering that majority lack digital skills. iii. Collaborate with PWD organizations to raise awareness and facilitate participation.	Ministry of Education, NGOs, Local PWD Organizations
Access to Digital Services	Lack of specialised digital services for refugees which explains the low access access an usage Limited awareness of the existing digital services	i. Promote the development and deployment of contextually relevant digital services for refugees. ii. Telecom providers can work with community leaders to identify high-need areas and establish affordable data packages tailored for educational and informational purposes. iii. Partner with refugee community leaders, NGOs, and local organizations to disseminate information about digital services in culturally and linguistically appropriate formats. iv. Conduct awareness drives in refugee camps, shelters, and community centers. v. Provide access through mobile devices, as smartphones are often the most common technology owned by refugees. vi. Involve refugees in the development or improvement of digital services to ensure the solutions are relevant and accessible to their specific needs.	UCC, Telecom Providers, NGOs Ministry of ICT and National Guidance, NITA-U, UCC, Local Governments
Digital Literacy Demand	Digital literacy and skills gaps among the stakeholders Low digital literacy, especially among vulnerable groups	i. Develop targeted digital literacy programs that emphasize practical skills such as basic computer skills, internet navigation, online communication (email and social media), and e-services (e-government, e-learning, e-commerce). ii. Focus on essential skills for economic participation, such as online business management and digital marketing for women and youth. iii. Offer inclusive training programs that also address the unique needs of women, PWDs, and youths with interactive learning methods. iv. Partner with NGOs and private organizations to offer discounted or loaned devices, addressing the high cost of access reported	Ministry of Education, NGOs, Development Partners, Community Centers

		in refugee settlements.	
Feasibility of establishing Digital service centres	Feasibility and operational model of digital centers	i. Utilise the use of both electricity and solar power in the centres ensuring they are environmentally sustainable. ii. Adopt a suitable business model from the three identified models that are feasible I.e; government citizen model, the private public partnership model and the commercial model. iii. Partner with already existing institutions, vocational institutions and digital hubs to offer the services iv. Offer transferable digital transferable skills to the refugees in the RHDs. v. Ensure the delivery of inclusive basic digital literacy training to the people in both the refugee settlement and the communities	NITA -U, UCC,Development partners, Local Governments, Private Sector Partners
	Environmental impact of digital centers	i. Integrate green energy sources, like solar power, to reduce carbon footprint and minimize waste in digital service centers. ii. Ensure regular maintenance and efficient energy use, particularly as 74% of respondents in RHDs express support for environmentally sustainable centers. iii. Include e-waste recycling programs within the centers to address potential electronic waste issues.	UCC, Ministry of Environment, Private Sector Partners

1.0 INTRODUCTION

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) conducted a comprehensive digital ecosystem readiness assessment in 13 RHDs including Kampala with a main purpose of developing evidence based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels in RHD including the establishment of 24 digital Uganda service centers.

Therefore, the first section of this report provides a description of the background to the study, objectives of the study, scope, methodology and report organization.

1.1 Background

Uganda currently is a host to 1,741,331 refugees and asylum seekers comprising of 1,693,311 refuges and 48,020 asylum seekers. Of these, 91% live in settlements, while 9% reside in urban areas mainly around Kampala, Wakiso and Mukono Districts as of March 2024 according to the UN Refugee Agency[1]**.** There are a total of 13 refugee settlements found in 12 Local Government Districts, however some refugees have settled on their own onto urban centres of Kampala. Therefore, a total of 13 local government host districts were considered for this study.

On average about 400 people seek asylum daily in Uganda according to the Office of the Prime Minister, most these are fleeing violence and persecution in neighboring countries especially South Sudan and the Democratic Republic of the Congo. Uganda has one of the 'friendliest' policies on refugee that provide rights to the refugees, such as rights to education, work, private property, healthcare and other basic social services, hence the growing numbers of refugees are placing a strain on the country's already stretched resources[2].

Furthermore, **Uganda is pursuing a digital transformation road map which seeks among others to ensure universal broadband coverage across the country but also promote universal access and usage of ICT especially among disadvantaged communities including refugees, persons with disability, the rural poor among others**[3]. Under the universal policy framework which is in implemented by Uganda Communications Commission (UCC) through the Uganda Communications Universal Service Access Fund (UCUSAF) a number of initiatives of addressing challenges of universal access and usage of communication and digital services in un-served and under-served communities are being implemented. However, given the scale of the need for digital services, limited focus has been given to Refugee Host Districts (RHD). Given the government policy of providing the same basic services to refuges as well as nationals, there is need to improve the availability, accessibility and usage of communication and digital services in RHD so as to provide opportunities for social and economic transformation of these communities.

In Uganda, there is an emphasis on an inclusive approach to refugee management according to the Comprehensive Refugee Response Framework (CRRF) and the Uganda Refugee Policy. This policy framework is designed to ensure that refugees in Uganda have access to the same basic services as nationals, including education, healthcare, and social services. The emphasis on improving the

[1] https://www.unhcr.org/
[2] https://opm.go.ug/refugees/
[3] Digital Transformation Road map (https://ict.go.ug/programmes/digital-transformation-roadmap/)

availability, accessibility, and usage of communication and digital services in RHDs reflects the government's commitment to integrating refugees into national development plans and promoting their social and economic transformation[4].

Host communities are the local populations residing near refugee settlements and are directly impacted by the influx of displaced persons. These communities often experience both positive and negative effects due to the presence of refugees. On the positive side, refugees can contribute to the local economy by creating demand for goods and services, fostering economic growth, and facilitating cultural exchange. However, there can also be challenges, such as increased competition for limited resources like land, water, and employment opportunities, which can strain local infrastructure and social services.

1.2 Alignment of the Study to the Uganda Digital Acceleration Project

As of July 2024, Uganda continues to host one of the largest refugee populations globally, with over 1.7 million refugees and asylum-seekers[5]. The majority of these refugees come from the Republic of South Sudan, the Democratic Republic of Congo (DRC), and the Republic of Burundi, fleeing conflicts and instability in their home countries. Uganda's refugee settlements are located in various regions, with the largest concentrations in the West Nile, Northern, and Southwestern regions. The Ugandan government maintains a progressive Refugee Policy (The Comprehensive Refugee Response Framework), allowing refugees access to land, education, healthcare, and other essential services on par with Ugandan nationals. This policy is aimed at integrating refugees into host communities and promoting self-reliance, thus contributing to the social and economic transformation of these regions. The government's commitment to improving the availability, accessibility, and usage of communication and digital services in RHDs is essential for ensuring that both refugees and host communities can leverage these services for their development. This approach aligns with Uganda's broader strategy to use digital transformation as a tool for inclusive growth and development[6].

The study is aligned to component 3 of the Uganda Digital Acceleration Project that focuses on" Promoting Digital Inclusion of Host Communities and Refugees". This component will improve the availability of core digital infrastructure in 13 remote RHDs for the benefit of both host communities and refugees. In addition, digital demand-side barriers will be addressed, including the need for improving basic digital literacy skills among refugees and host communities. Beyond short-term pandemic resilience, digital inclusion of host communities and refugees can accelerate post-COVID-19 recovery by reducing barriers that stand between these communities and opportunities. Through improved Internet access and digital skills, component 3 aims to stimulate job creation and other opportunities, which will lay the groundwork for broader long-term social and economic benefits for these communities. While NITA-U will coordinate activities, the OPM and MoICT&NG will play an important technical role in resolving policy and operational issues[7].

The study is designed to pave the way for the implementation of key UDAP project sub-components under Component 3. This includes enhancing digital inclusion for host communities and refugees through expanded connectivity options, data center hosting, and digital communication tools. Additionally, it focuses on providing access enablers, such as digital access

[4] https://www.unhcr.org/what-we-do/protect-human-rights/asylum-and-migration/new-york-declaration-refugees-and-migrants
[5] https://reporting.unhcr.org/operational/operations/uganda
[6] https://data.unhcr.org/en/documents/details/109709
[7] World Bank Project Appraisal Document for the Uganda Digital Accelerator Project, 2021

programs, tele centers, e-waste management, skills development, digitization support for Persons with Disabilities (PWDs), and cyber security training.

1.3 Objectives

The main objective of the Study was to establish the current status of digital ecosystem in RHDs. **The specific objectives were, to:**

i. Establish the state of **Policy, Legal and Regulatory environment** enabling enablers for digital service delivery in RHDs.
ii. Establish **Best Practices** from selected countries on digital service delivery to refugees and host communities highlighting existing providers, services and markets for devices in RHDs, critical success factors and recommendations for best fit models of implementing digital connections and services in RHDs.
iii. Establish **Digital Service Access and Usage Patterns** among refugees and host communities in terms of access to communication devices, device life cycle management practices and opportunities for investment.
iv. Establish the extent of **Digital Infrastructure and Connectivity** RHDs in terms of coverage and quality of service(speed)
v. Establish **Digital Literacy Skills gaps among refugees and host population,** with a focus on women, youth, Persons with Disabilities (PWDs) and MSMEs, profile of providers and determine opportunities of sustainable digital literacy initiatives in RHDs;
vi. Establish and define **PWD Access Requirements for digital service centres** demand for assistive technologies and characteristics of training content.
vii. Determine the **feasibility of Establishing and Operationalizing 24 Sustainable Digital Service Uganda centers** in 13 RHD including architectural and structural designs, energy availability and their associated impact to the community and environment;

1.4 Scope

The Study scope was limited to enabling regulatory environment, digital infrastructure and connectivity, access and usage of digital services, digital literacy demand with special focus on PWD, access to communication devices and the feasibility of establishing 24 sustainable digital service Uganda centers in 13 RHD including Kampala (Refer to figure 1 below). The study is anticipated to provide some best practices from other countries, highlighting existing providers, services and markets for devices in RHDs, critical success factors and recommendations for best fit models of implementing digital connections and services in RHDs.

The geographical scope of the study was limited to the project target beneficiaries both refugees and refugee communities in the following areas.

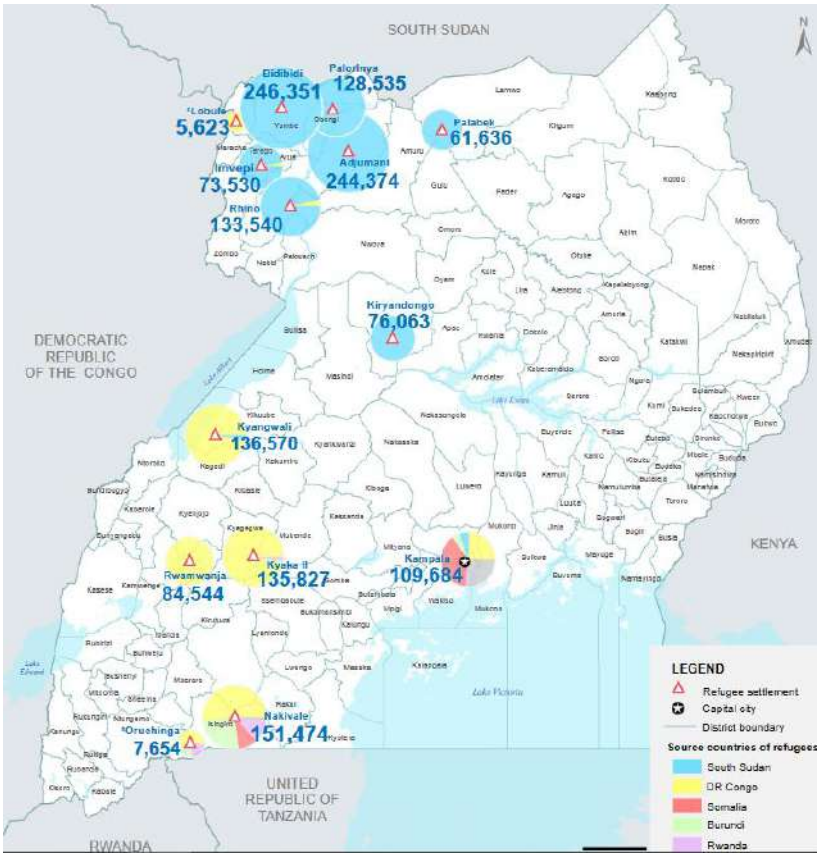


Figure 1: Mapped Refugee Settlement (Source; Uganda - Refugee Statistics Map - February 2022)[8]

1.5 Report Structure

The rest of the report is structured as follows; a) Section Two provides an in depth description of the approach, methodology used and the demographics of the study, b) Section three presents the study findings aligned to each of the study objectives, c) Section four discusses the emerging conclusions and recommendations from the study findings.

[8] https://data.unhcr.org/en/documents/details/91335

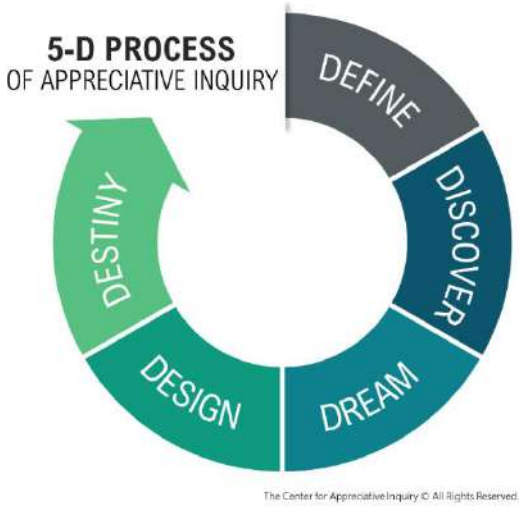
2.0 APPROACH, METHODOLOGY AND RESPONDENT DEMOGRAPHICS

This section details the Approach, Methodology used and the respondent demographics for the study.

2.1 Approach

The Appreciative Inquiry (AI) approach was used for the study to assess the existing strengths, successful practices, and opportunities within the digital service delivery landscape in the 13 RHDs including Kampala. This approach was combined with a PESTEL analysis, which evaluated the Political, Economic, Social, Technological, Environmental, and Legal factors influencing digital service delivery in these districts.

Appreciative Inquiry (AI) is a strengths-based approach that focuses on identifying and leveraging the positive aspects of a system or community with a 5D process; Define, Discovery, Dream, Design and Destiny as illustrated below.



Appreciative Inquiry was chosen for this study because it aligns with the goal of fostering sustainable digital transformation in the RHDs by building on existing strengths and positive experiences. Unlike traditional problem-solving approaches that focus on identifying and fixing weaknesses, AI emphasizes the potential for growth and innovation by recognizing and amplifying what is already working well.

Figure 2: Illustration of the 5D Process of appreciative inquiry[9].

The study has successfully completed all phases of the **Appreciative Inquiry process**, starting with the **Define Phase**, which established a shared understanding of the study's goals and scope. In the **Discovery Phase**, key stakeholders such as government officials, settlement leaders, and refugees were engaged through interviews and surveys to identify successful practices in digital service delivery. The **Dream Phase** then encouraged these stakeholders to envision an ideal digital ecosystem for refugee-hosting districts (RHDs), fostering a shared vision of accessible and sustainable digital services. Based on these insights, the **Design Phase** involved co-creating practical strategies and action plans tailored to this vision, leveraging the strengths identified earlier. Finally, the **Destiny Phase** implemented these strategies, with ongoing monitoring to assess their impact and provide recommendations for continuous improvement in digital service delivery within the RHDs.

To assess the digital ecosystem environment in RHD a **PESTEL Analysis, also known as Broad Factors analysis** was used for analyzing the digital ecosystem environment in terms of Political, Economic, Social and Technological, Environmental and legal factors.

[9] https://centerforappreciativeinquiry.net/resources/what-is-appreciative-inquiry-ai/

2.2 Methodology

The study employed a step-by-step methodology to ensure that the required results are obtained as detailed in the figure below;

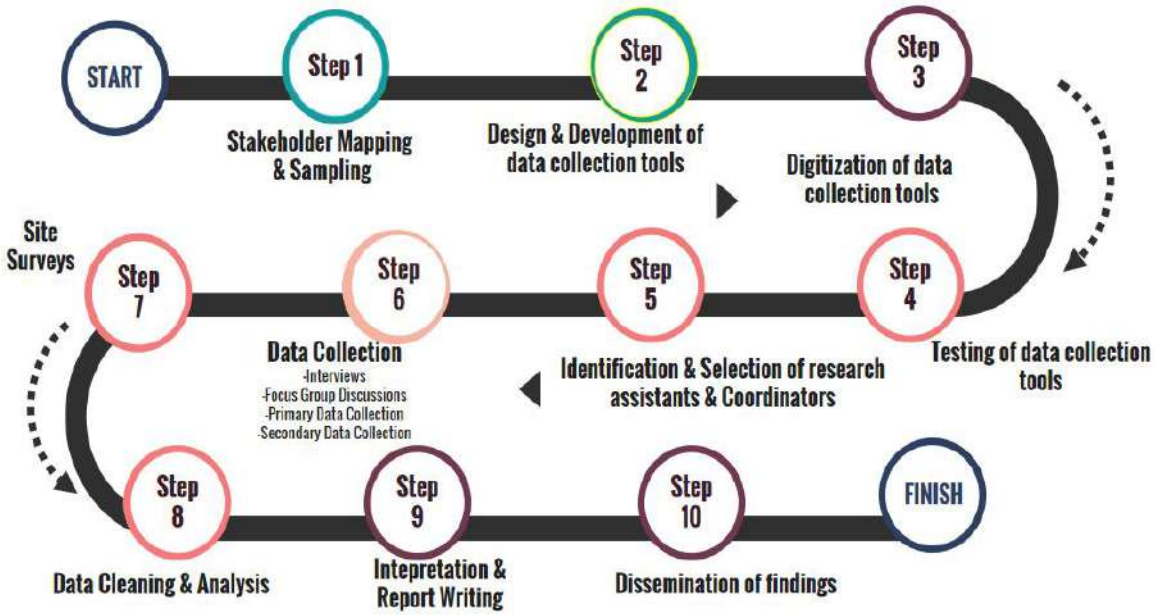


Figure 3: Step by Step Methodology

2.2.1 Stakeholder Mapping and Sampling

i) Sampling Strategy

The study employed a multistage stratified sampling strategy to ensure comprehensive representation of both the refugee and national populations across the 14 Refugee Hosting Districts (RHDs) including Kampala in Uganda. According to UNHCR and OPM statistics Uganda had 1.7Million refugees as of June 2024[10] and the total population of nationals in the 14 RHDs is estimated at 6.6 Million as at Nov 2023[11]. The population was first stratified into two main groups: refugees (1.7 million) and national's /host population (6.6 million). Within each group, further stratification was done by gender (51% female), youth (25% for refugees and 70% for nationals) and disability status (5.8% for refugees and 16% for nationals), ensuring that these key demographics are proportionally represented. The next level of stratification was by geographic location, focusing on 12 districts hosting refugee settlements, with each district serving as a distinct stratum. Within each district, primary sampling units (PSUs) were identified, with refugee settlements and corresponding areas for nationals selected randomly. Secondary sampling units (SSUs), such as individuals within these PSUs, were sampled in subsequent stages. This multistage approach ensured that the sample is not only representative of the overall population but also reflects the specific conditions and demographics of different regions and communities within the RHDs.

ii) Sampling Method

The sample size for the study was determined as 1067 each for the refugee settlement and the host communities (nationals) using Cochran's formula, which allows for the calculation of an appropriate sample size based on various combinations of confidence level, margin of error, and variability within the population. The study was designed to be representative of the targeted

[10] Document - Uganda - Refugee Statistics June 2024 (unhcr.org)
[11] Country - Uganda (unhcr.org)

population covering both nationals and refugees in 14 RHDs including Kampala. refugees (1.7 million) and national's/host population (6.6 million). Given the heterogeneous measure of the 2 populations the sample size was calculated per individual population i.e., refugees and nationals using Cochran's formula, putting in consideration the following factors;

$$n_0 = \frac{Z^2 \cdot p \cdot q}{e^2}$$

i. Confidence Level (Z-value): Assume a 95% confidence level, corresponding to a Z-value of 1.96.
ii. Estimated Proportion (p): Since we don't have a specific proportion, we take p=0.5 to maximize the sample size.
iii. Proportion without the Attribute (q): q=1−p=0.5
iv. Margin of Error (e): Let's assume a 3% margin of error (0.03) for more precision in our estimates.

Therefore, with a refugee population of 1.7Million the estimated sample based on Cochran formulae is **1067** similarly with a total host population in 13 RHDs including Kampala of 6.6 million the estimated representative sample is **1067.**

NOTE:

Kampala is home to a significant population of urban refugees who, unlike those in settlement districts, benefit from the city's more established infrastructure and broader opportunities. However, Kampala is not classified as a Refugee Hosting District (RHD) within the context of refugee hosting in Uganda. Given this unique environment, data collection in Kampala was essential to understand the digital access challenges and opportunities faced by urban refugees. This data provided valuable insights that complemented findings from other districts, ensuring a comprehensive understanding of digital access across different refugee settings in Uganda. ***Therefore, Kampala was considered in the sample size determination.***

iii) Sample size Determination for each RHD

Given the unique number of people in each RHDs the sample size obtained was further redistributed across each RHD based on their respective population. Upon determining the sample size for the strata, namely refugees and host communities, the sample size was then redistributed across each refugee settlement and host community based on their respective populations. This process allowed for the calculation of the sample to be considered from each settlement as follows:

Total sample per each settlement = Total refugee population per settlement / total number of refugees in Uganda x 1067(the scientific sample size)

Total sample per each host community = Total population per community / total number of people in Uganda x 1067(the scientific sample size)

Due to data stratification constraints, the estimated sample size was extrapolated to; 1,108 for refugees and 1,106 for host communities resulting into a total of 2,214 survey respondents in order to increase data viability in some of the stratifications. ***(Refer to Appendix 2).***

A total of 179 Key Informants for the study were identified based on their profiles and knowledge on the issues of the study. Key stakeholders from organizations like National Information Technology

Authority (NITA-U), Office of the Prime Minister (OPM), United Nations High Commissioner for Refugees (UNHCR), and Ministries Departments and Agencies (MDAs), NGOs and CSOs, MSMEs and settlement and community leaders. The KIIs were identified through co-creation sessions with the client and the associated number established as reflected in the stakeholder matrix in ***Appendix 3*** and the approved research design resulting into a total sample size of 2,393 respondents.

2.2.2 Design of Data Collection Tools

The study utilized a mixed methods approach incorporating both qualitative and quantitative data collection and analysis methods. Therefore, Primary and secondary data collection mechanism were both employed in order to gather necessary data for the set objectives. In particular, the primary data collection methods used included but not limited to survey questionnaire, key informant interview guides, focus group discussions, photographs and observations. Secondary sources of data comprised of reviews of relevant literature, photographs, project reports among others.

a) Development of data collection tools

This process involved a consultative process between the project implementers and the consultant to create tools such as survey questionnaires, interview guides, and focus group guides. These tools were designed to gather information on the digital ecosystem in Refugee Hosting Districts (RHDs) related to policies, infrastructure, access to services, and digital literacy. The tools were crafted to capture both quantitative data (e.g., internet coverage, device availability) and qualitative data (e.g., perceptions on digital service delivery).

b) Digitization of Data Collection Tools

After development, the tools were digitized using Kobo collect data collection platform enabling real-time and efficient data capture during fieldwork. This helped streamline the data collection process, allowing research teams to collect, store, and manage the data electronically, reducing the risk of manual errors.

c) Testing of the Tools

To ensure reliability and effectiveness, the data collection tools were tested through an online pilot study. The pilot involved a small sample from Nakivale Settlement, allowing the research team to identify and fix any issues in question clarity, technical glitches in the digital tools, or logistical challenges during data collection.

2.2.3 Identification and Selection of Coordinators and Research Assistants

Upon completion of the tools development exercise, a team of coordinators who were the settlement commandants was identified to guide the consultant in carrying out the field exercise given the sensitivity of the different refugee settlements and host districts. The coordinators were responsible for the selection of research assistants based on their familiarity with the refugee context possession of a smart phone and experience with digital data collection tools. Their roles were to manage field activities, guide data collection teams, and ensure adherence to the study protocol. The selected members were then trained on how to administer the different tools to the stakeholders in order to collect the desired information for the study.

2.2.4 Data Collection

The data collection exercise was carried out by two teams each consisting of 5 members that were dispatched by the consultant to carry out this field activity. Each team had an ICT person, an architect, an environmentalist, a surveyor and human rights specialist. The first team visited the settlements in Western Uganda while the second team visited settlements in the North and West Nile region. The data was collected from the following stakeholders as detailed below;

Table 1: Data Collected

Data collection Method	Sample size (Target)	Number achieved	Description
Survey Questionnaire	2214	2494	Surveys were administered by experienced enumerators using digital tools to youth and adults in refugee settlements and host communities to gather data on digital service access, device ownership, connectivity, and service usage.
Key Informants Interviews	179	110	Interviews were conducted with key stakeholders, such as government officials, NGO representatives, service providers, and leaders from the stakeholder matrix.
Focus Group Discussions	78 groups (390 individuals)	75 groups (450 individuals)	Focus groups were held with refugees and host community groups such as youth, women groups and persons with disabilities discussing challenges and opportunities in digital service delivery and infrastructure. A total of 450 individuals participated.
Total	**2, 783**	**3,054**	It is observed that a larger number of respondents was achieved and this difference in the target sample size and the the number achieved was as a result of the willingness of the various stakeholders to participate in the study coupled with effective outreach and awareness campaigns, which raised interest in the study, and the perceived relevance of the research to the participants' needs. Accessibility and convenience of the survey process, coupled with strong community networks and engagement by local leaders, also played a significant role.
Literature review	-	25	A number of documents were considered for review of various policies and studies on ICT sector trends in Uganda and in refugee hosting districts, with view of determining the ICT enablers for delivery of digital services in RHD and associated sector trends
Bench making	1country	4 countries	A review of ICT sector policies and trends in Uganda and other countries (e.g., Germany, Sweden, Jordan, Rwanda) to benchmark best practices for RHD services.
Site survey and mapping	13RHDs	13	Site surveys and environment analyses were conducted in 13 Refugee Hosting Districts (RHDs) to assess

			infrastructure readiness for the digital service centres.

2.2.5 Data Cleaning and Analysis

Collected data was cleaned to remove inconsistencies and errors, ensuring the quality and accuracy of the information. Statistical analysis and qualitative coding were applied to interpret the findings and draw insights relevant to the study's objectives. Data analysis was themed around the specific objectives of the assignment. Quantitative data was analyzed using SPSS and excel while the qualitative data was analyzed using both thematic and content analysis.

2.2.6 Report Writing

The analysis was compiled into a comprehensive report outlining the state of digital infrastructure, service access patterns, and digital literacy in RHDs. The report provided recommendations for improving digital service delivery based on the findings.

2.3 Study Demographics

In total, 3,054 individuals participated in the study. Among them, 2,494 completed the survey questionnaire, 110 took part in key informant interviews, and 450 engaged in Focus Group Discussions(FGD) with an average of 6 participants in each FGD.

a) Survey Respondents Demographics

Of the 2,494 people that responded to the survey questionnaire, 1,195 (47.9%) were from the host community and 1,299 (52.1%) were refugees. Gender distribution was nearly equal, with males survey respondents accounting for 50.8% and females accounting for 49.2% of the total survey respondents. A significant portion, 69.0% of the respondents, was engaged in informal employment however unemployment was notably higher in refugees. In terms of education background, half of the survey respondents 50% had primary (23.8%) or lower secondary (26.6%) education, with a higher percentage of refugees lacking formal education. South Sudan and DR Congo were the most common countries of origin for refugees, accounting for over 80% of the survey respondents from the refugee settlement. Additionally, Persons with Disabilities (PWDs) were represented in both the refugee and host communities, though slightly more prevalent in the host community (12.5%) refer to the figure below.

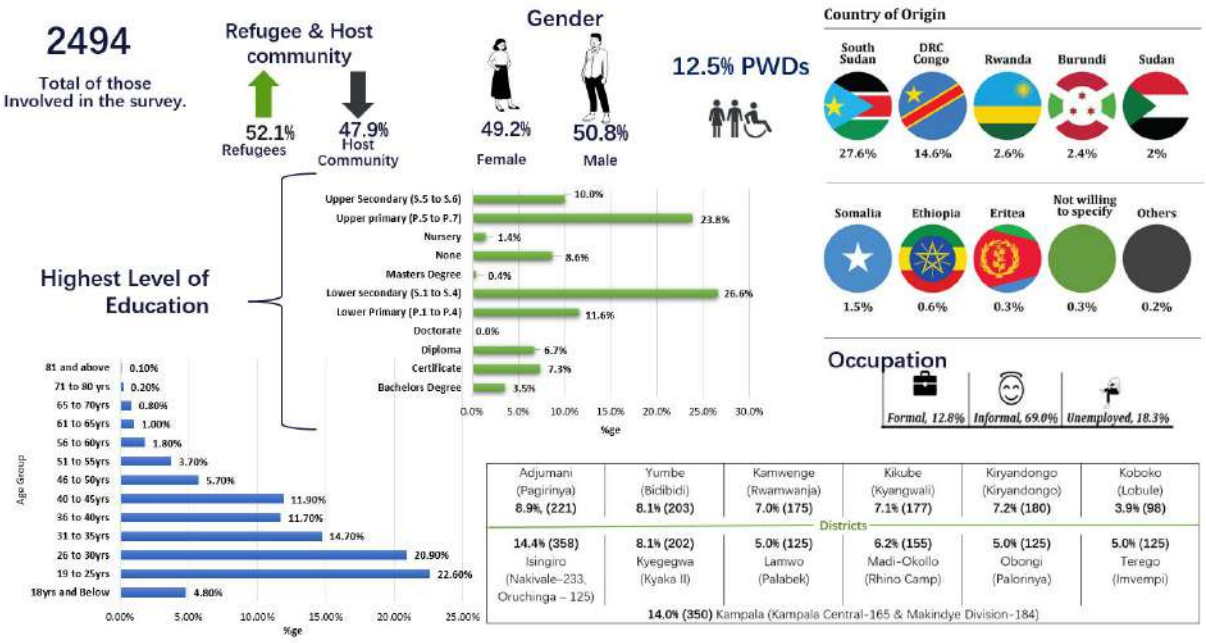


Figure 4: Summary of Key demographics

The sections below provide detailed results on the demographics of the categories of respondents considered in the study.

2.4.1 Refugee and Host Community Specific Demographics

The key statistics of the respondents from the refugee and host community that participated in the study included;

a) Gender Distribution

In terms of gender distribution of survey respondents from the refugee settlement and host community, the overall survey respondents were 50.8% male and 49.2% female respondents of these 52.1% were male and 47.9% were female from the host community while 49.7% were male and 50.3% were female from the refugee settlement.

Gender	Overall	Host Community	Refugee
Male	**50.8%** (1267)	**52.1%** (622)	**49.7%** (645)
Female	**49.2%** (1227)	**47.9%** (573)	**50.3%** (654)

Figure 5: Gender Distribution for Host and Refugee distribution

b) Persons with Disabilities (PWDs)

In terms of the representation of Persons with Disabilities (PWDs), out of the 12.5%(313) survey respondents who identified as Persons with Disabilities, 6.9%(173) were from the host community comprising of 3.8%(94) females and 3.1%(79) males and 5.6%(140) were from the refugee settlement comprising of 2.6%(65) females and 3%(75) males as illustrated in the figure below.

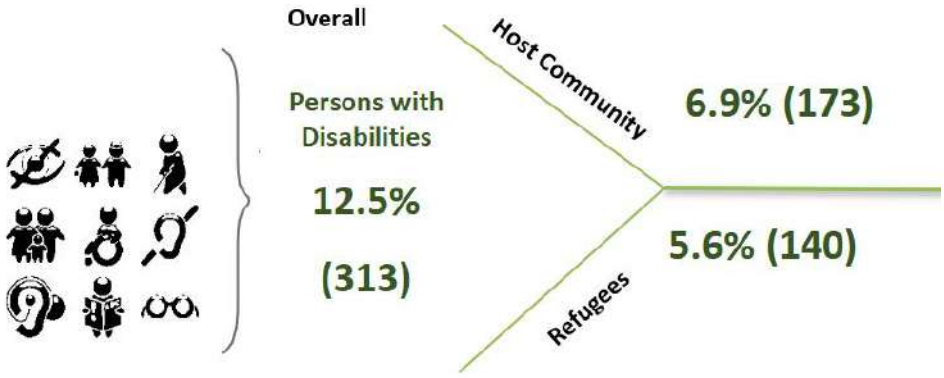


Figure 6: PWDs respondents from Host and Refugee Community

c) Age Distribution

In the host community, the largest age groups were 26 to 30 years 26.6%(318) and 19 to 25 years 25.4%(303), with those aged 31 to 35 years 16.4%(196) following. In the refugee settlement, the most prominent age groups remain 19 to 25 years 20%(260) and 26 to 30 years 15.5%(202); however, the 36 to 40 years age group comprising of 14.4%(187) is larger compared to the host community. Overall, youth and young adults aged 19 to 30 years constitute a significant portion of the population in both communities.

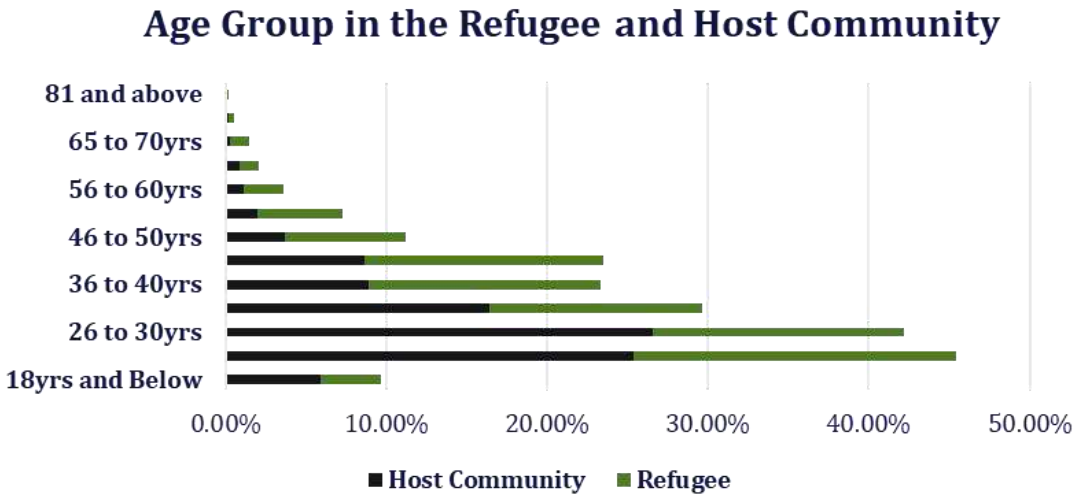


Figure 7: Age group in Refugee and Host Community

d) Occupation Distribution

In the host community, 72.1% (861) of respondents are engaged in informal employment, while 15.4% (184) are in formal employment, and 12.5% (150) are unemployed. In the refugee settlement, 66.1% (859) work in informal employment, but the proportion of unemployed individuals is much higher at 23.6% (306), with only 10.3% (134) in formal employment. This suggests that economic opportunities for refugees are more limited, leading to higher unemployment rates and a heavier reliance on informal work.

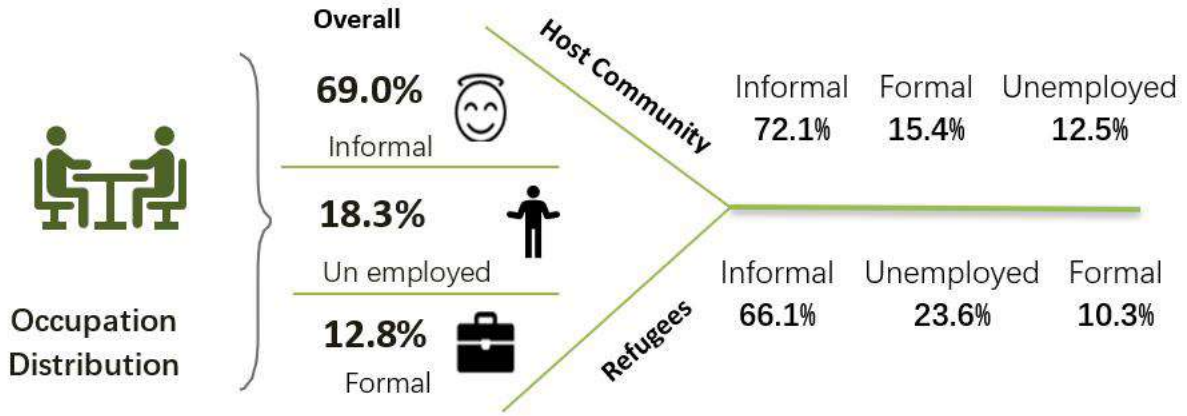


Figure 8: Occupation distribution for each category of respondent

e) Educational Level

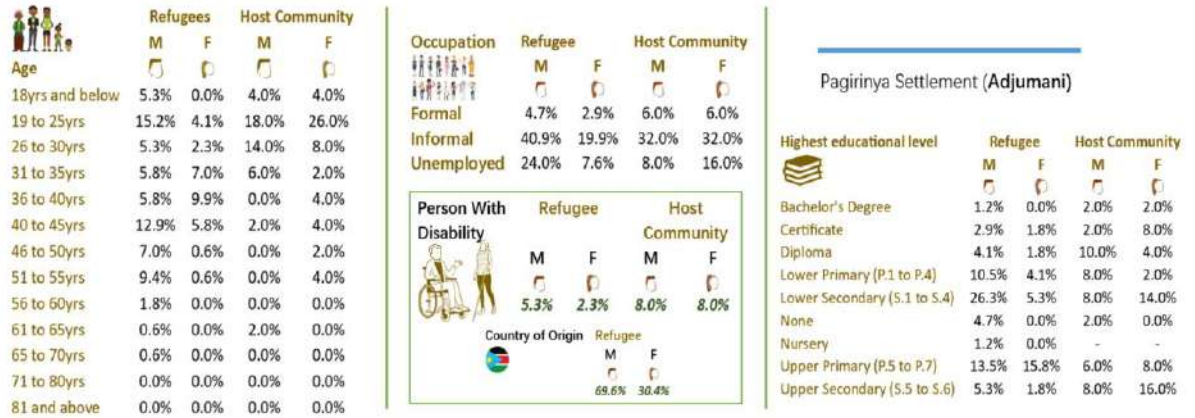
Educational attainment varies between the host and refugee communities, with more respondents having attended primary and secondary education levels in both groups. In the host community, 27.6% (330) have attended lower secondary education (S.1 to S.4), followed by 23.1% (276) with upper primary education (P.5 to P.7). In the refugee community, 25.7% (334) have lower secondary education and 24.5% (318) have upper primary education. Notably, the refugee community has a higher percentage of individuals with no formal education (10.9%) compared to the host community (6.1%) as illustrated in the table below. Additionally, the data suggests that most individuals possess basic education (primary and secondary), making them ideal candidates for skills-based training programs.

Table 2: Survey Respondents Education Level per Category

Education level	Host Community	Refugees
No education	**6.1%** (73)	**10.9%** (142)
Nursery	**0.8%** (10)	**2%** (25)
Lower Primary (P.1 to P.4)	**10.7%** (128)	**12.5%** (162)
Upper Primary (P.5 to P.7)	**23%** (276)	**2%** (25)
Lower secondary (S.1 to S.4)	**27.6%** (330)	**25.7%** (334)
Upper Secondary	**12.2%** (146)	**8%** (104)
Certificate	**8.7%** (104)	**5.9%** (47)
Diploma	**7.0%** (83)	**6.5%** (84)
Bachelor's Degree	**3.3%** (40)	**3.6%** (47)
Doctorate	**0.3%** (1)	**0**

2.4.2 Demographics per Refugee Host District

In Adjumani District where Pagirinya Settlement is located majority of the respondents 67.2% (171) were refugees (all from South Sudan) and 32.8% (50) from the host community. Most respondents were aged between 19 to 25 years, with a notable portion of refugee males 26.3%(45) having lower secondary education, while host community males had higher diploma attainment 10%(5).The data for persons with disabilities indicated that the host community had more at 8%(42) among both male and female while the refugee settlements had 5.3%(8). Both communities were largely engaged in informal work, though unemployment was higher among refugee males (24%). Refugees were predominantly from South Sudan.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	5.3%	0.0%	4.0%	4.0%
19 to 25yrs	15.2%	4.1%	18.0%	26.0%
26 to 30yrs	5.3%	2.3%	14.0%	8.0%
31 to 35yrs	5.8%	7.0%	6.0%	2.0%
36 to 40yrs	5.8%	9.9%	0.0%	4.0%
40 to 45yrs	12.9%	5.8%	2.0%	4.0%
46 to 50yrs	7.0%	0.6%	0.0%	2.0%
51 to 55yrs	9.4%	0.6%	0.0%	4.0%
56 to 60yrs	1.8%	0.0%	0.0%	0.0%
61 to 65yrs	0.6%	0.0%	2.0%	0.0%
65 to 70yrs	0.6%	0.0%	0.0%	0.0%
71 to 80yrs	0.0%	0.0%	0.0%	0.0%
81 and above	0.0%	0.0%	0.0%	0.0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	4.7%	2.9%	6.0%	6.0%
Informal	40.9%	19.9%	32.0%	32.0%
Unemployed	24.0%	7.6%	8.0%	16.0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	5.3%	2.3%	8.0%	8.0%

Country of Origin	Refugee M	Refugee F
	69.6%	30.4%

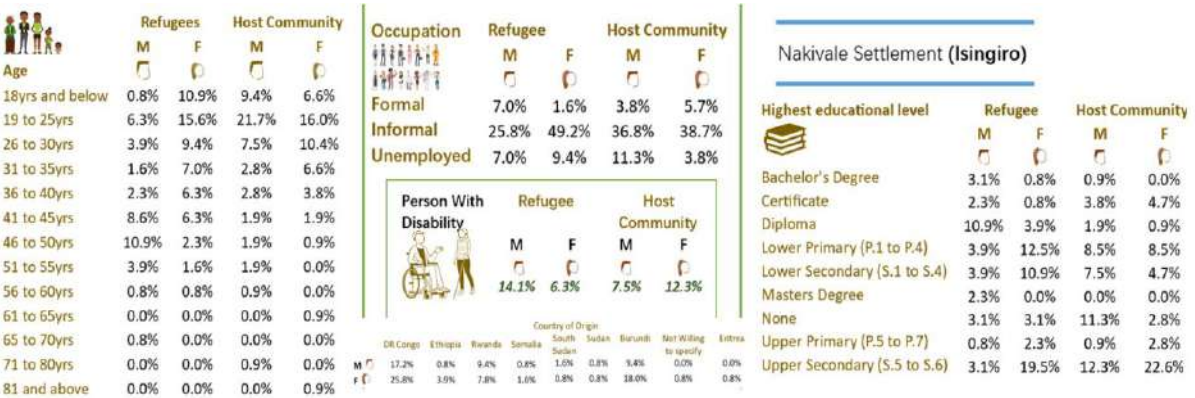
Pagirinya Settlement (**Adjumani**)

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	1.2%	0.0%	2.0%	2.0%
Certificate	2.9%	1.8%	2.0%	8.0%
Diploma	4.1%	1.8%	10.0%	4.0%
Lower Primary (P.1 to P.4)	10.5%	4.1%	8.0%	2.0%
Lower Secondary (S.1 to S.4)	26.3%	5.3%	8.0%	14.0%
None	4.7%	0.0%	2.0%	0.0%
Nursery	1.2%	0.0%	-	-
Upper Primary (P.5 to P.7)	13.5%	15.8%	6.0%	8.0%
Upper Secondary (S.5 to S.6)	5.3%	1.8%	8.0%	16.0%

Figure 9: Adjumani Respondent Demographics

In **Isingiro** where Nakivale settlement and Oruchinga settlement are located, a total of 358 respondents participated in the study, refugees accounted for 42.4% (152) of the respondents, with the host community making up the remaining 57.5% (206). A breakdown of each of the 2 settlements is provided below;

i. ***Nakivale Settlement:*** In Nakivale A total of 233 respondents were engaged, these included 54.5% (127) refugees and 45.5% (106) host communities. Refugee females had a larger proportion of younger respondents (10.9% under 18) compared to males (0.8%), while the host community had more youth aged 19-25 (21.7% males, 16.0% females). Refugees had higher education levels, with 10.9% males and 3.9% females holding diplomas, compared to 1.9% males and 0.9% females in the host community. Refugee males had a higher rate of PWDs (14.1%) than females (6.3%). Informal employment was common in both groups (49.2% refugee females, 36.8% host males). Refugees were mainly from the DRC (25.8% females, 17.2% males).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0.8%	10.9%	9.4%	6.6%
19 to 25yrs	6.3%	15.6%	21.7%	16.0%
26 to 30yrs	3.9%	9.4%	7.5%	10.4%
31 to 35yrs	1.6%	7.0%	2.8%	6.6%
36 to 40yrs	2.3%	6.3%	2.8%	3.8%
41 to 45yrs	8.6%	6.3%	1.9%	1.9%
46 to 50yrs	10.9%	2.3%	1.9%	0.9%
51 to 55yrs	3.9%	1.6%	1.9%	0.0%
56 to 60yrs	0.8%	0.8%	0.9%	0.0%
61 to 65yrs	0.0%	0.0%	0.0%	0.9%
65 to 70yrs	0.8%	0.0%	0.0%	0.0%
71 to 80yrs	0.0%	0.0%	0.9%	0.0%
81 and above	0.0%	0.0%	0.0%	0.9%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	7.0%	1.6%	3.8%	5.7%
Informal	25.8%	49.2%	36.8%	38.7%
Unemployed	7.0%	9.4%	11.3%	3.8%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	14.1%	6.3%	7.5%	12.3%

Country of Origin	DR Congo	Ethiopia	Rwanda	Somalia	South Sudan	Sudan	Burundi	Not Willing to specify	Eritrea
M	17.2%	0.8%	9.4%	0.8%	1.6%	0.8%	9.4%	0.0%	0.0%
F	25.8%	3.9%	7.8%	1.6%	0.8%	0.8%	18.0%	0.8%	0.8%

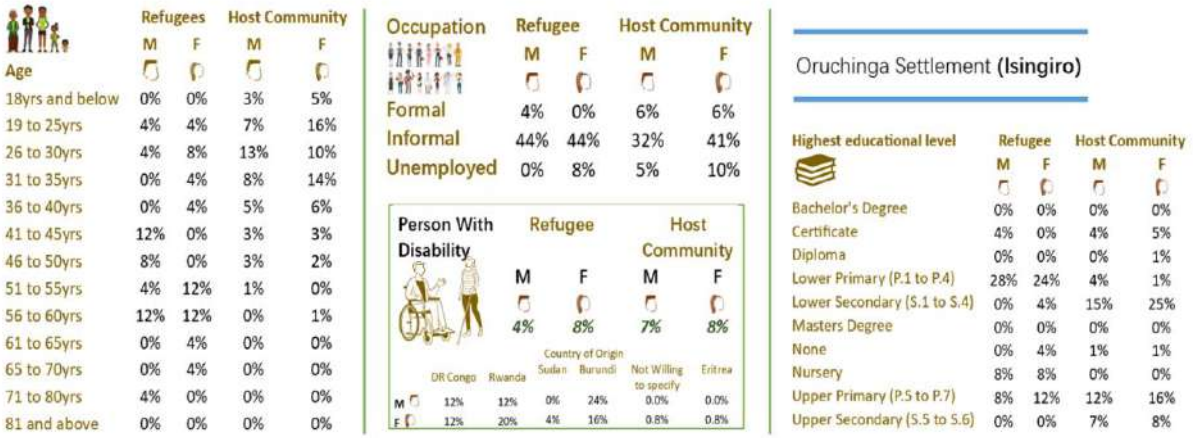
Nakivale Settlement (**Isingiro**)

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	3.1%	0.8%	0.9%	0.0%
Certificate	2.3%	0.8%	3.8%	4.7%
Diploma	10.9%	3.9%	1.9%	0.9%
Lower Primary (P.1 to P.4)	3.9%	12.5%	8.5%	8.5%
Lower Secondary (S.1 to S.4)	3.9%	10.9%	7.5%	4.7%
Masters Degree	2.3%	0.0%	0.0%	0.0%
None	3.1%	3.1%	11.3%	2.8%
Upper Primary (P.5 to P.7)	0.8%	2.3%	0.9%	2.8%
Upper Secondary (S.5 to S.6)	3.1%	19.5%	12.3%	22.6%

Figure 10: Nakivale Respondent Demographics

ii. ***Oruchinga Settlement:*** In Oruchinga a total of 125 respondents participated in the study, refugees accounted for 20% (25) of the respondents and 80% (100) host community respondents. Most refugee respondents were older, with 12% aged 56-60, while host community respondents had a younger age distribution, with 16% of females between 19-25 years. Refugees reported lower education levels, with 28% of male and 24% of female respondents having completed only lower primary, compared to 25% of host females who reached lower secondary. Informal work was the main occupation for refugee respondents

(44%) and host female respondents (41%). The majority of refugee respondents came from Burundi and Rwanda.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0%	0%	3%	5%
19 to 25yrs	4%	4%	7%	16%
26 to 30yrs	4%	8%	13%	10%
31 to 35yrs	0%	4%	8%	14%
36 to 40yrs	0%	4%	5%	6%
41 to 45yrs	12%	0%	3%	3%
46 to 50yrs	8%	0%	3%	2%
51 to 55yrs	4%	12%	1%	0%
56 to 60yrs	12%	12%	0%	1%
61 to 65yrs	0%	4%	0%	0%
65 to 70yrs	0%	4%	0%	0%
71 to 80yrs	4%	0%	0%	0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	4%	0%	6%	6%
Informal	44%	44%	32%	41%
Unemployed	0%	8%	5%	10%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4%	8%	7%	8%

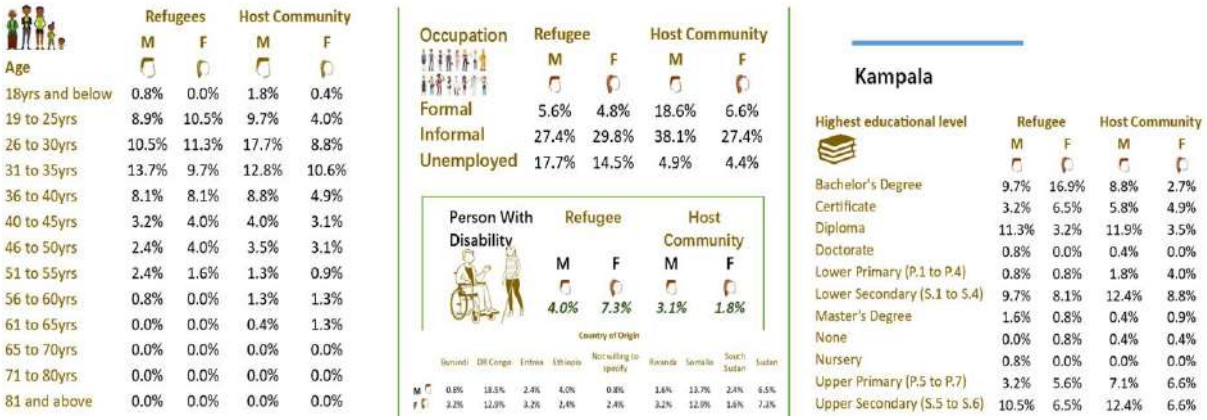
Country of Origin	DR Congo	Rwanda	Sudan	Burundi	Not Willing to specify	Eritrea
M	12%	12%	0%	24%	0.0%	0.0%
F	12%	20%	4%	16%	0.8%	0.8%

Oruchinga Settlement (Isingiro)

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0%	0%	0%	0%
Certificate	4%	0%	4%	5%
Diploma	0%	0%	0%	1%
Lower Primary (P.1 to P.4)	28%	24%	4%	1%
Lower Secondary (S.1 to S.4)	0%	4%	15%	25%
Masters Degree	0%	0%	0%	0%
None	0%	4%	1%	1%
Nursery	8%	8%	0%	0%
Upper Primary (P.5 to P.7)	8%	12%	12%	16%
Upper Secondary (S.5 to S.6)	0%	0%	7%	8%

Figure 11: Oruchinga Respondent Demographics

In **Kampala** where majority of refugees reside in Makindye and Kampala central, out of the 350 respondents participated in the survey 57.7% (202) were male and 42.3% (148), were female, refugees interviewed were 35.4%(124) of respondents, while 64.6% (226) were from the host community, only 16.9%(59) hold bachelor's degrees. Refugee respondents were predominantly young, with a significant portion aged 19 to 35 years. Education levels varied, with a notable percentage of refugee women holding a Bachelor's degree (16.9%) compared to host community women (2.7%). Refugees primarily originated from DR Congo (18.5% of males, 12.9% of females), Somalia, and Sudan. The refugee respondents also had higher unemployment rates, particularly among males (17.7%) as further demonstrated in the figure below.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0.8%	0.0%	1.8%	0.4%
19 to 25yrs	8.9%	10.5%	9.7%	4.0%
26 to 30yrs	10.5%	11.3%	17.7%	8.8%
31 to 35yrs	13.7%	9.7%	12.8%	10.6%
36 to 40yrs	8.1%	8.1%	8.8%	4.9%
40 to 45yrs	3.2%	4.0%	4.0%	3.1%
46 to 50yrs	2.4%	4.0%	3.5%	3.1%
51 to 55yrs	2.4%	1.6%	1.3%	0.9%
56 to 60yrs	0.8%	0.0%	1.3%	1.3%
61 to 65yrs	0.0%	0.0%	0.4%	1.3%
65 to 70yrs	0.0%	0.0%	0.0%	0.0%
71 to 80yrs	0.0%	0.0%	0.0%	0.0%
81 and above	0.0%	0.0%	0.0%	0.0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	5.6%	4.8%	18.6%	6.6%
Informal	27.4%	29.8%	38.1%	27.4%
Unemployed	17.7%	14.5%	4.9%	4.4%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4.0%	7.3%	3.1%	1.8%

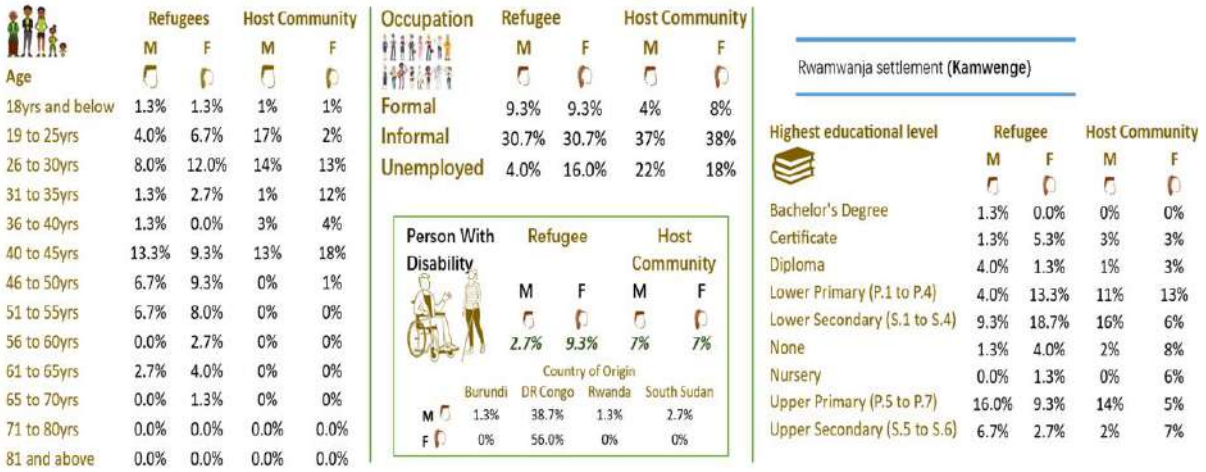
Kampala

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	9.7%	16.9%	8.8%	2.7%
Certificate	3.2%	6.5%	5.8%	4.9%
Diploma	11.3%	3.2%	11.9%	3.5%
Doctorate	0.8%	0.0%	0.4%	0.0%
Lower Primary (P.1 to P.4)	0.8%	0.8%	1.8%	4.0%
Lower Secondary (S.1 to S.4)	9.7%	8.1%	12.4%	8.8%
Master's Degree	1.6%	0.8%	0.4%	0.9%
None	0.0%	0.8%	0.4%	0.4%
Nursery	0.8%	0.0%	0.0%	0.0%
Upper Primary (P.5 to P.7)	3.2%	5.6%	7.1%	6.6%
Upper Secondary (S.5 to S.6)	10.5%	6.5%	12.4%	6.6%

Figure 12: Kampala Respondent Demographics

In Kamwenge district where Rwamwanja refugee settlement is located**,** a total of 175 respondents who participated in the study, 42.9% (75) were refugee respondents and 57.1%, (100) from the host community. Most refugee respondents were from the Democratic Republic of Congo (DRC), comprising 38.7% of males and 56.0% of females. The age distribution showed a higher concentration of individuals aged 19 to 30, with 12% of female refugees and 8% of male refugees in this category, similar to the host community's distribution. Educational attainment for refugees revealed a significant portion had completed lower secondary school (S.1 to S.4), with 18.7% of female and 9.3% of male refugees. A noteworthy percentage of refugees had attained primary

education. Additionally, 9.3% of female refugees reported having a disability, which was higher than their male counterparts at 2.7%, but both aligned with similar percentages in the host community. Occupations were predominantly in the informal sector for both groups, with higher unemployment among female refugees (16.0%) compared to males (4.0%).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	1.3%	1.3%	1%	1%
19 to 25yrs	4.0%	6.7%	17%	2%
26 to 30yrs	8.0%	12.0%	14%	13%
31 to 35yrs	1.3%	2.7%	1%	12%
36 to 40yrs	1.3%	0.0%	3%	4%
40 to 45yrs	13.3%	9.3%	13%	18%
46 to 50yrs	6.7%	9.3%	0%	1%
51 to 55yrs	6.7%	8.0%	0%	0%
56 to 60yrs	0.0%	2.7%	0%	0%
61 to 65yrs	2.7%	4.0%	0%	0%
65 to 70yrs	0.0%	1.3%	0%	0%
71 to 80yrs	0.0%	0.0%	0.0%	0.0%
81 and above	0.0%	0.0%	0.0%	0.0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	9.3%	9.3%	4%	8%
Informal	30.7%	30.7%	37%	38%
Unemployed	4.0%	16.0%	22%	18%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	2.7%	9.3%	7%	7%

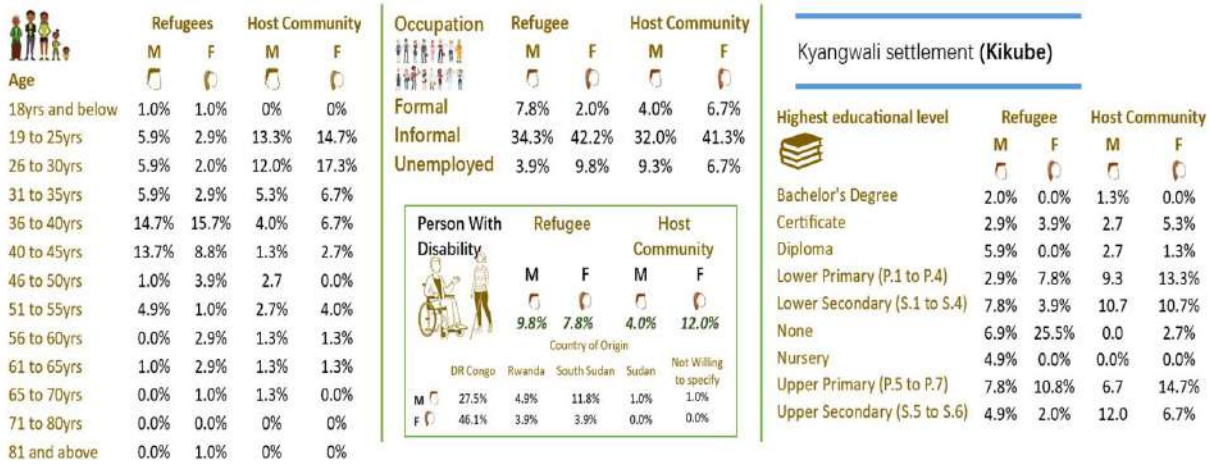
Country of Origin	Burundi	DR Congo	Rwanda	South Sudan
M	1.3%	38.7%	1.3%	2.7%
F	0%	56.0%	0%	0%

Rwamwanja settlement (**Kamwenge**)

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	1.3%	0.0%	0%	0%
Certificate	1.3%	5.3%	3%	3%
Diploma	4.0%	1.3%	1%	3%
Lower Primary (P.1 to P.4)	4.0%	13.3%	11%	13%
Lower Secondary (S.1 to S.4)	9.3%	18.7%	16%	6%
None	1.3%	4.0%	2%	8%
Nursery	0.0%	1.3%	0%	6%
Upper Primary (P.5 to P.7)	16.0%	9.3%	14%	5%
Upper Secondary (S.5 to S.6)	6.7%	2.7%	2%	7%

Figure 13: Kamwenge Respondent Demographics

In Kikube district where Kyangwali settlement is located, a total of 177 respondents participated in the study, 57.6%, (102) were refugees and 42.4%, (75) respondents from the host community. The age distribution among refugees showed a balanced representation across various age groups, with the 36 to 40 years category being the largest for both males (14.7%) and females (15.7%). The host community had a younger population concentration, with the majority of respondents aged 19 to 30 years, particularly females (17.3%) and males (12%). Educational attainment varied, with a significant number of female refugees (25.5%) reporting no formal education, compared to only 6.9% of male refugees. Among the host community, lower primary and upper primary education levels were more prominent. Refugees primarily originated from DR Congo, making up 46.1% of female and 27.5% of male respondents. There were more female PWDs respondents in the host community (12%) compared to 7.8% of female refugees. Occupations in the informal sector dominated for both groups, especially among female refugees (42.2%) and host community males (41.3%).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	1.0%	1.0%	0%	0%
19 to 25yrs	5.9%	2.9%	13.3%	14.7%
26 to 30yrs	5.9%	2.0%	12.0%	17.3%
31 to 35yrs	5.9%	2.9%	5.3%	6.7%
36 to 40yrs	14.7%	15.7%	4.0%	6.7%
40 to 45yrs	13.7%	8.8%	1.3%	2.7%
46 to 50yrs	1.0%	3.9%	2.7	0.0%
51 to 55yrs	4.9%	1.0%	2.7%	4.0%
56 to 60yrs	0.0%	2.9%	1.3%	1.3%
61 to 65yrs	1.0%	2.9%	1.3%	1.3%
65 to 70yrs	0.0%	1.0%	1.3%	0.0%
71 to 80yrs	0.0%	0.0%	0%	0%
81 and above	0.0%	1.0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	7.8%	2.0%	4.0%	6.7%
Informal	34.3%	42.2%	32.0%	41.3%
Unemployed	3.9%	9.8%	9.3%	6.7%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	9.8%	7.8%	4.0%	12.0%

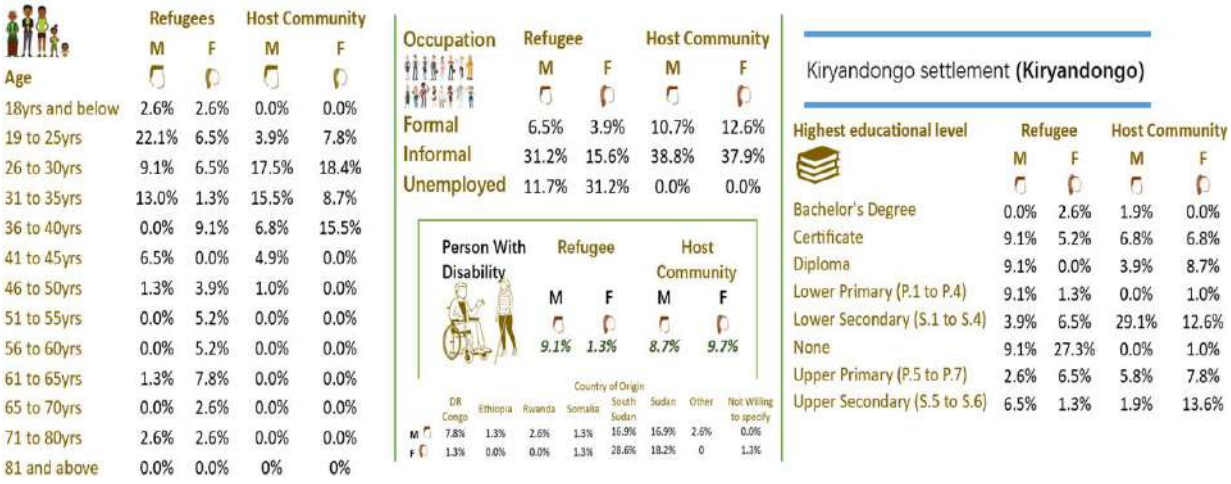
Country of Origin	DR Congo	Rwanda	South Sudan	Sudan	Not Willing to specify
M	27.5%	4.9%	11.8%	1.0%	1.0%
F	46.1%	3.9%	3.9%	0.0%	0.0%

Kyangwali settlement (**Kikube**)

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	2.0%	0.0%	1.3%	0.0%
Certificate	2.9%	3.9%	2.7	5.3%
Diploma	5.9%	0.0%	2.7	1.3%
Lower Primary (P.1 to P.4)	2.9%	7.8%	9.3	13.3%
Lower Secondary (S.1 to S.4)	7.8%	3.9%	10.7	10.7%
None	6.9%	25.5%	0.0	2.7%
Nursery	4.9%	0.0%	0.0%	0.0%
Upper Primary (P.5 to P.7)	7.8%	10.8%	6.7	14.7%
Upper Secondary (S.5 to S.6)	4.9%	2.0%	12.0	6.7%

Figure 14: Kikube Respondent Demographics

In **Kiryandongo district,** Kiryandongo settlement a total of 180 respondents were engaged, 42.7% (77) of the respondents were refugees and 57.2% (103) were from the host community. The refugee respondents were younger, with 22.1% of males aged 19-25, while the host community had more respondents aged 26-30, particularly among males (17.5%) and females (18.4%).Education levels among refugees showed a higher percentage of females with no formal education (27.3%), while the host community had more respondents with lower secondary education, especially among males (29.1%). Employment was mainly informal, with higher rates in the host community (38.8% males, 37.9% females), while refugee females had higher unemployment rates (31.2%). Most refugees were from South Sudan, while the host community was entirely Ugandan.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	2.6%	2.6%	0.0%	0.0%
19 to 25yrs	22.1%	6.5%	3.9%	7.8%
26 to 30yrs	9.1%	6.5%	17.5%	18.4%
31 to 35yrs	13.0%	1.3%	15.5%	8.7%
36 to 40yrs	0.0%	9.1%	6.8%	15.5%
41 to 45yrs	6.5%	0.0%	4.9%	0.0%
46 to 50yrs	1.3%	3.9%	1.0%	0.0%
51 to 55yrs	0.0%	5.2%	0.0%	0.0%
56 to 60yrs	0.0%	5.2%	0.0%	0.0%
61 to 65yrs	1.3%	7.8%	0.0%	0.0%
65 to 70yrs	0.0%	2.6%	0.0%	0.0%
71 to 80yrs	2.6%	2.6%	0.0%	0.0%
81 and above	0.0%	0.0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	6.5%	3.9%	10.7%	12.6%
Informal	31.2%	15.6%	38.8%	37.9%
Unemployed	11.7%	31.2%	0.0%	0.0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	9.1%	1.3%	8.7%	9.7%

Country of Origin	DR Congo	Ethiopia	Rwanda	Somalia	South Sudan	Sudan	Other	Not Willing to specify
M	7.8%	1.3%	2.6%	1.3%	16.9%	16.9%	2.6%	0.0%
F	1.3%	0.0%	0.0%	1.3%	28.6%	18.2%	0	1.3%

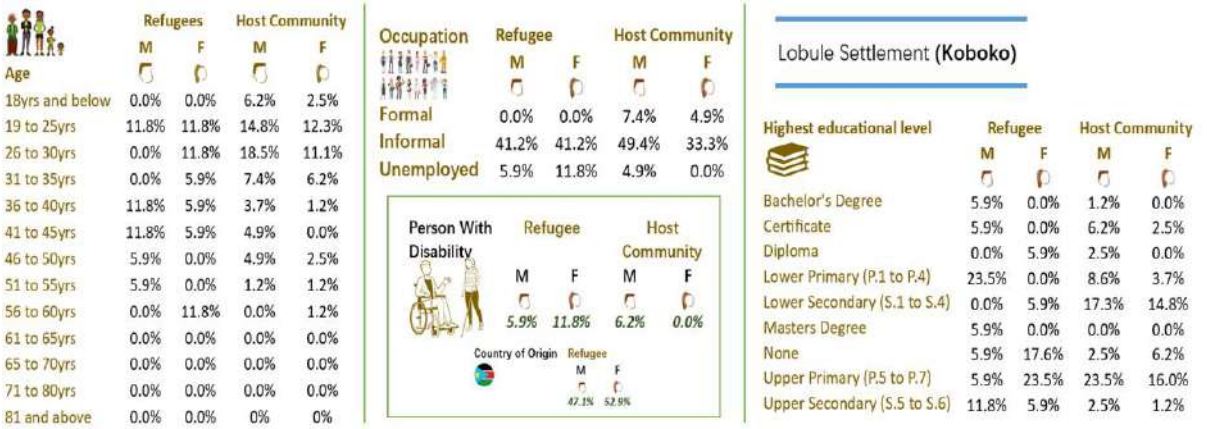
Kiryandongo settlement **(Kiryandongo)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0.0%	2.6%	1.9%	0.0%
Certificate	9.1%	5.2%	6.8%	6.8%
Diploma	9.1%	0.0%	3.9%	8.7%
Lower Primary (P.1 to P.4)	9.1%	1.3%	0.0%	1.0%
Lower Secondary (S.1 to S.4)	3.9%	6.5%	29.1%	12.6%
None	9.1%	27.3%	0.0%	1.0%
Upper Primary (P.5 to P.7)	2.6%	6.5%	5.8%	7.8%
Upper Secondary (S.5 to S.6)	6.5%	1.3%	1.9%	13.6%

Figure 15: Kiryandongo Respondent demographics

In **Koboko district,** where Lobule settlement is located, majority 82.7%, (81) were from the host community and 17.3%, (17) refugees. The refugee respondents predominantly came from the Democratic Republic of Congo (47.1% male, 52.9% female), while the host community was mainly Ugandan (61.7% male, 38.3% female). The host community had a younger population, particularly in the 19-30 age range, whereas the refugees were more distributed across older age groups, especially in the 40-45 age bracket.

Educational attainment among refugees showed a higher percentage with lower primary education (23.5% male), while females had a significant portion in upper primary (23.5%). In contrast, host community members had higher representation in lower secondary education (17.3% male, 14.8% female). Informal employment was the dominant occupation for both groups.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0.0%	0.0%	6.2%	2.5%
19 to 25yrs	11.8%	11.8%	14.8%	12.3%
26 to 30yrs	0.0%	11.8%	18.5%	11.1%
31 to 35yrs	0.0%	5.9%	7.4%	6.2%
36 to 40yrs	11.8%	5.9%	3.7%	1.2%
41 to 45yrs	11.8%	5.9%	4.9%	0.0%
46 to 50yrs	5.9%	0.0%	4.9%	2.5%
51 to 55yrs	5.9%	0.0%	1.2%	1.2%
56 to 60yrs	0.0%	11.8%	0.0%	1.2%
61 to 65yrs	0.0%	0.0%	0.0%	0.0%
65 to 70yrs	0.0%	0.0%	0.0%	0.0%
71 to 80yrs	0.0%	0.0%	0.0%	0.0%
81 and above	0.0%	0.0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	0.0%	0.0%	7.4%	4.9%
Informal	41.2%	41.2%	49.4%	33.3%
Unemployed	5.9%	11.8%	4.9%	0.0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	5.9%	11.8%	6.2%	0.0%

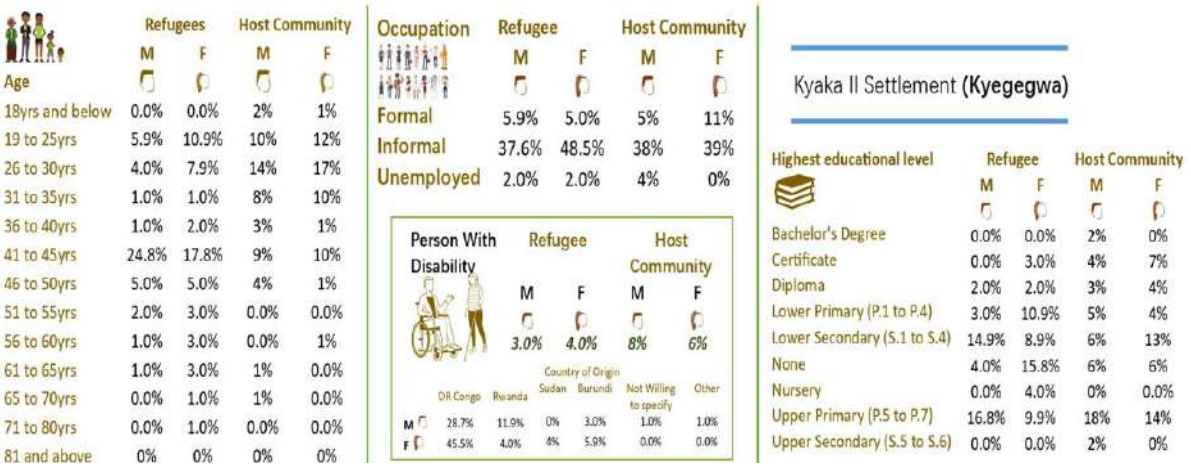
Country of Origin	Refugee M	Refugee F
	47.1%	52.9%

Lobule Settlement **(Koboko)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	5.9%	0.0%	1.2%	0.0%
Certificate	5.9%	0.0%	6.2%	2.5%
Diploma	0.0%	5.9%	2.5%	0.0%
Lower Primary (P.1 to P.4)	23.5%	0.0%	8.6%	3.7%
Lower Secondary (S.1 to S.4)	0.0%	5.9%	17.3%	14.8%
Masters Degree	5.9%	0.0%	0.0%	0.0%
None	5.9%	17.6%	2.5%	6.2%
Upper Primary (P.5 to P.7)	5.9%	23.5%	23.5%	16.0%
Upper Secondary (S.5 to S.6)	11.8%	5.9%	2.5%	1.2%

Figure 16: Koboko Respondent Demographics

In **Kyegegwa District,** home to Kyaka II settlement, the study involved a total of 201 respondents, with 50.2% (101) being refugees and 49.8% (100) from the host community. A significant proportion of refugee respondents were in the 40-45 age range, with 24.8% males and 17.8% females, while the host community had mostly younger respondents, with 17% females aged 26-30. Refugee respondents had lower education levels overall, with 15.8% of refugee females having no formal education compared to 6% of host respondents. Most refugee respondents were from DR Congo (28.7% males, 45.5% females). Informal employment was common among both groups, with 48.5% of refugee females and 39% of host females in informal jobs.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0.0%	0.0%	2%	1%
19 to 25yrs	5.9%	10.9%	10%	12%
26 to 30yrs	4.0%	7.9%	14%	17%
31 to 35yrs	1.0%	1.0%	8%	10%
36 to 40yrs	1.0%	2.0%	3%	1%
41 to 45yrs	24.8%	17.8%	9%	10%
46 to 50yrs	5.0%	5.0%	4%	1%
51 to 55yrs	2.0%	3.0%	0.0%	0.0%
56 to 60yrs	1.0%	3.0%	0.0%	1%
61 to 65yrs	1.0%	3.0%	1%	0.0%
65 to 70yrs	0.0%	1.0%	1%	0.0%
71 to 80yrs	0.0%	1.0%	0.0%	0.0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	5.9%	5.0%	5%	11%
Informal	37.6%	48.5%	38%	39%
Unemployed	2.0%	2.0%	4%	0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	3.0%	4.0%	8%	6%

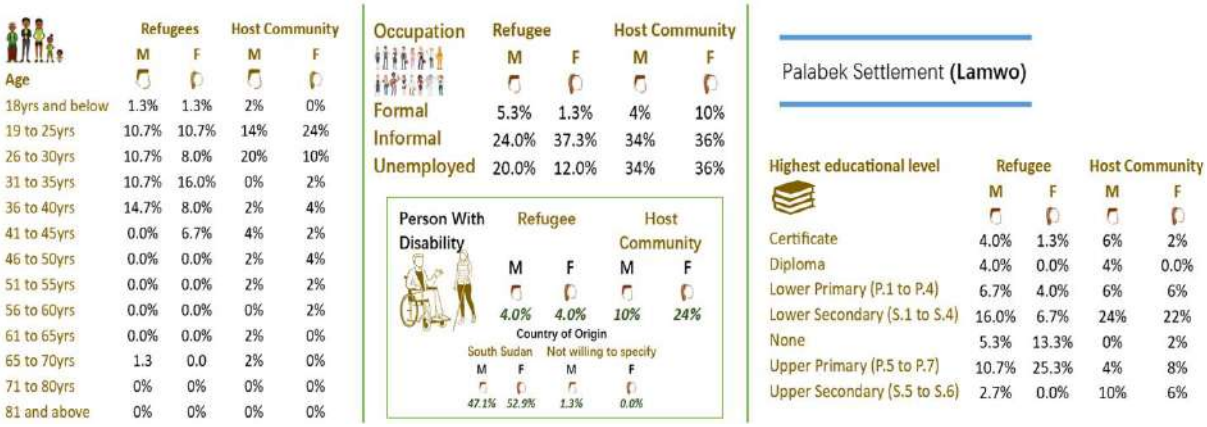
Country of Origin	DR Congo	Rwanda	South Sudan	Burundi	Not Willing to specify	Other
M	28.7%	11.9%	0%	3.0%	1.0%	1.0%
F	45.5%	4.0%	4%	5.9%	0.0%	0.0%

Kyaka II Settlement **(Kyegegwa)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0.0%	0.0%	2%	0%
Certificate	0.0%	3.0%	4%	7%
Diploma	2.0%	2.0%	3%	4%
Lower Primary (P.1 to P.4)	3.0%	10.9%	5%	4%
Lower Secondary (S.1 to S.4)	14.9%	8.9%	6%	13%
None	4.0%	15.8%	6%	6%
Nursery	0.0%	4.0%	0%	0.0%
Upper Primary (P.5 to P.7)	16.8%	9.9%	18%	14%
Upper Secondary (S.5 to S.6)	0.0%	0.0%	2%	0%

Figure 17: Kyegegwa Respondent Demographics

For Palabek settlement found in **Lamwo district** , a total of 125 respondents were involved in the study of which majority 60% (75) of these were refugees. Most refugees were between 19 and 40 years old, with 14.7% males aged 36-40 and 10.7% in the 19-25 age group. Host community respondents were younger, with 24% females and 14% males aged 19-25. Refugees had slightly lower education levels, with 16% males completing lower secondary school, compared to 24% of host community males. PWD representation was higher among the host community, especially among females (24%). Employment was largely informal for both groups, with 37.3% refugee females and 36% host community males and females working in informal sectors.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	1.3%	1.3%	2%	0%
19 to 25yrs	10.7%	10.7%	14%	24%
26 to 30yrs	10.7%	8.0%	20%	10%
31 to 35yrs	10.7%	16.0%	0%	2%
36 to 40yrs	14.7%	8.0%	2%	4%
41 to 45yrs	0.0%	6.7%	4%	2%
46 to 50yrs	0.0%	0.0%	2%	4%
51 to 55yrs	0.0%	0.0%	2%	2%
56 to 60yrs	0.0%	0.0%	0%	2%
61 to 65yrs	0.0%	0.0%	2%	0%
65 to 70yrs	1.3	0.0	2%	0%
71 to 80yrs	0%	0%	0%	0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	5.3%	1.3%	4%	10%
Informal	24.0%	37.3%	34%	36%
Unemployed	20.0%	12.0%	34%	36%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4.0%	4.0%	10%	24%

Country of Origin	South Sudan M	South Sudan F	Not willing to specify M	Not willing to specify F
	47.1%	52.9%	1.3%	0.0%

Palabek Settlement **(Lamwo)**

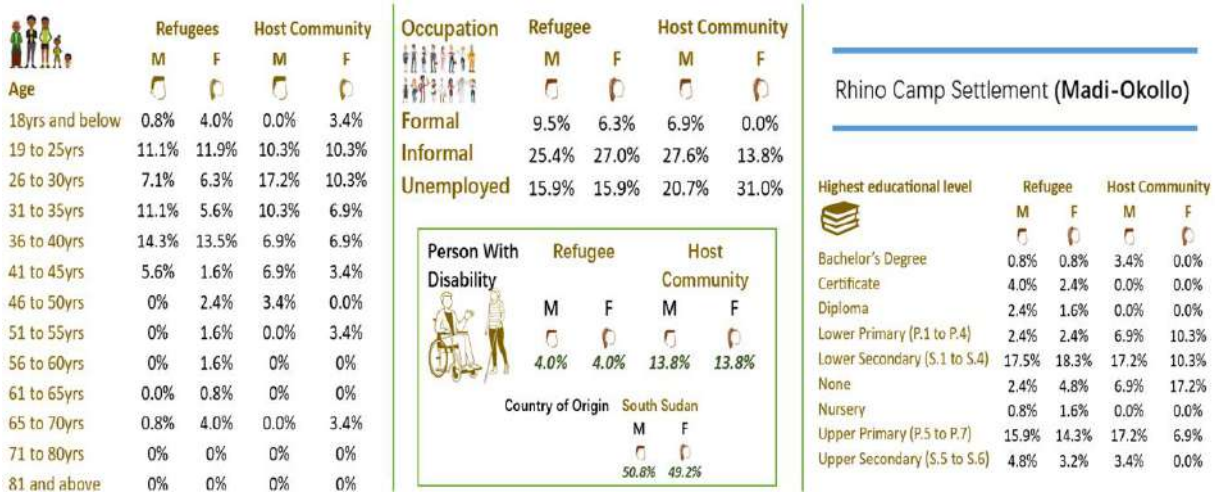
Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Certificate	4.0%	1.3%	6%	2%
Diploma	4.0%	0.0%	4%	0.0%
Lower Primary (P.1 to P.4)	6.7%	4.0%	6%	6%
Lower Secondary (S.1 to S.4)	16.0%	6.7%	24%	22%
None	5.3%	13.3%	0%	2%
Upper Primary (P.5 to P.7)	10.7%	25.3%	4%	8%
Upper Secondary (S.5 to S.6)	2.7%	0.0%	10%	6%

Figure 18: Lamwo Respondent Demographics

In **Madi-Okollo District,** home to Rhino Camp settlement, a total of 155 respondents participated in the study, with 81.3% (126) being refugees. Refugee males aged 36-40 represented the highest age group (14.3%), with similar trends for females (13.5%). Host community males were primarily in the

26-30 age range (17.2%). In regards to education 17.5% refugee males and 18.3% females had completed lower secondary education, closely matching 17.2% host males, while host females had higher rates of no formal education (17.2%).

PWD representation was significant in both groups, especially among host community members (13.8%). Employment was largely informal, with 27.0% of refugee females and 27.6% of host males engaged in informal work.



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0.8%	4.0%	0.0%	3.4%
19 to 25yrs	11.1%	11.9%	10.3%	10.3%
26 to 30yrs	7.1%	6.3%	17.2%	10.3%
31 to 35yrs	11.1%	5.6%	10.3%	6.9%
36 to 40yrs	14.3%	13.5%	6.9%	6.9%
41 to 45yrs	5.6%	1.6%	6.9%	3.4%
46 to 50yrs	0%	2.4%	3.4%	0.0%
51 to 55yrs	0%	1.6%	0.0%	3.4%
56 to 60yrs	0%	1.6%	0%	0%
61 to 65yrs	0.0%	0.8%	0%	0%
65 to 70yrs	0.8%	4.0%	0.0%	3.4%
71 to 80yrs	0%	0%	0%	0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	9.5%	6.3%	6.9%	0.0%
Informal	25.4%	27.0%	27.6%	13.8%
Unemployed	15.9%	15.9%	20.7%	31.0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4.0%	4.0%	13.8%	13.8%

Country of Origin	South Sudan M	South Sudan F
	50.8%	49.2%

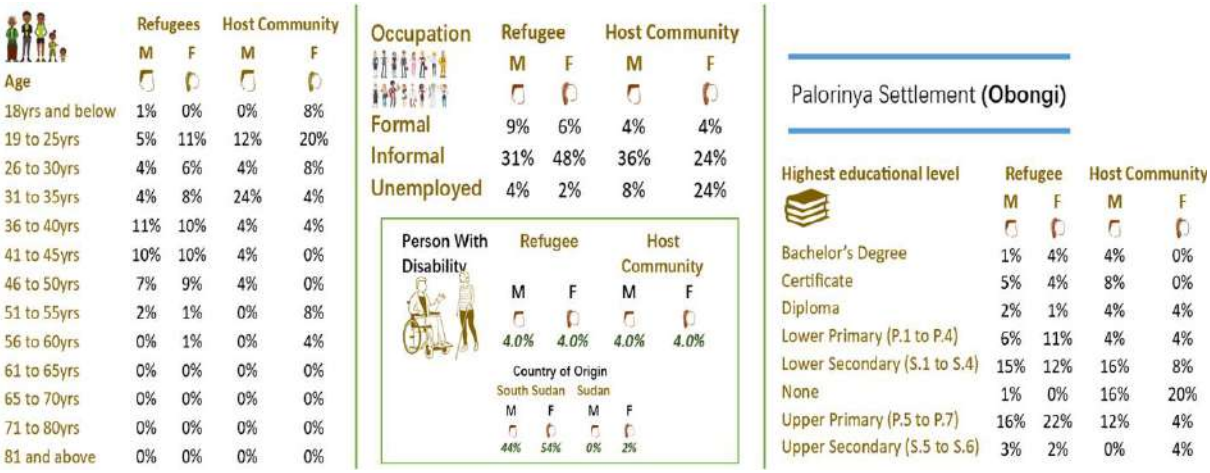
Rhino Camp Settlement **(Madi-Okollo)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0.8%	0.8%	3.4%	0.0%
Certificate	4.0%	2.4%	0.0%	0.0%
Diploma	2.4%	1.6%	0.0%	0.0%
Lower Primary (P.1 to P.4)	2.4%	2.4%	6.9%	10.3%
Lower Secondary (S.1 to S.4)	17.5%	18.3%	17.2%	10.3%
None	2.4%	4.8%	6.9%	17.2%
Nursery	0.8%	1.6%	0.0%	0.0%
Upper Primary (P.5 to P.7)	15.9%	14.3%	17.2%	6.9%
Upper Secondary (S.5 to S.6)	4.8%	3.2%	3.4%	0.0%

Figure 19: Madi-Okollo Respondent Demographics

In **Obongi District** where Palorinya Settlement is found a total of 125 respondents were engaged in the study. 80% (100) were refugee respondents. Refugees had a notable representation in the 36-40 age group (11% male, 10% female), whereas the host community had more respondents aged 31-35 years (24% male). Refugee respondents generally had higher levels of education, with more having completed upper primary (16% male, 22% female) and lower secondary (15% male, 12% female) compared to their host counterparts. However, a higher percentage of host community respondents had no formal education (16% male, 20% female).

Both communities showed a significant presence of informal employment, with 31% of refugee males and 48% of refugee females working informally, compared to 36% and 24% in the host community. However, unemployment was higher among the host community women at 24%, compared to only 2% for refugee women. In terms of disability, both groups reported similar percentages of PWDs, with 4% across all gender categories. Finally, most refugees hailed from South Sudan (44% male, 54% female).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	1%	0%	0%	8%
19 to 25yrs	5%	11%	12%	20%
26 to 30yrs	4%	6%	4%	8%
31 to 35yrs	4%	8%	24%	4%
36 to 40yrs	11%	10%	4%	4%
41 to 45yrs	10%	10%	4%	0%
46 to 50yrs	7%	9%	4%	0%
51 to 55yrs	2%	1%	0%	8%
56 to 60yrs	0%	1%	0%	4%
61 to 65yrs	0%	0%	0%	0%
65 to 70yrs	0%	0%	0%	0%
71 to 80yrs	0%	0%	0%	0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	9%	6%	4%	4%
Informal	31%	48%	36%	24%
Unemployed	4%	2%	8%	24%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4.0%	4.0%	4.0%	4.0%

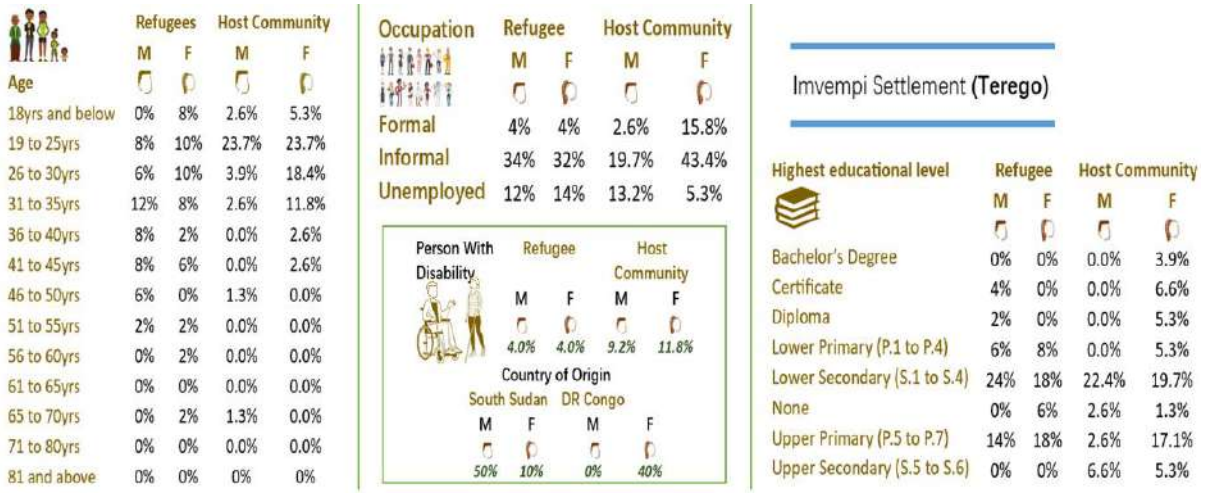
Country of Origin	South Sudan M	South Sudan F	Sudan M	Sudan F
	44%	54%	0%	2%

Palorinya Settlement **(Obongi)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	1%	4%	4%	0%
Certificate	5%	4%	8%	0%
Diploma	2%	1%	4%	4%
Lower Primary (P.1 to P.4)	6%	11%	4%	4%
Lower Secondary (S.1 to S.4)	15%	12%	16%	8%
None	1%	0%	16%	20%
Upper Primary (P.5 to P.7)	16%	22%	12%	4%
Upper Secondary (S.5 to S.6)	3%	2%	0%	4%

Figure 20: Obongi Respondent Demographics

In **Terego District** where Imvempi Settlement is found a total of 126 respondents were engaged of these 60.3% (76) were refugees. Refugee respondents were mostly from South Sudan (60%). 47.4% of host community members were in the 19 to 25 age range compared to refugees (18%). Educational attainment showed that 42% of refugees had lower or upper secondary education, while the host community had 42.1% in the same category. More host respondents (43.4%) had informal jobs compared to refugees (33%), while the unemployed rate was slightly higher among refugees (13%) than the host community (5.3%). Persons with disabilities (PWDs) were more common in the host community (11.8%) than among refugees (4%).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	0%	8%	2.6%	5.3%
19 to 25yrs	8%	10%	23.7%	23.7%
26 to 30yrs	6%	10%	3.9%	18.4%
31 to 35yrs	12%	8%	2.6%	11.8%
36 to 40yrs	8%	2%	0.0%	2.6%
41 to 45yrs	8%	6%	0.0%	2.6%
46 to 50yrs	6%	0%	1.3%	0.0%
51 to 55yrs	2%	2%	0.0%	0.0%
56 to 60yrs	0%	2%	0.0%	0.0%
61 to 65yrs	0%	0%	0.0%	0.0%
65 to 70yrs	0%	2%	1.3%	0.0%
71 to 80yrs	0%	0%	0.0%	0.0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	4%	4%	2.6%	15.8%
Informal	34%	32%	19.7%	43.4%
Unemployed	12%	14%	13.2%	5.3%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	4.0%	4.0%	9.2%	11.8%

Country of Origin	South Sudan M	South Sudan F	DR Congo M	DR Congo F
	50%	10%	0%	40%

Imvempi Settlement **(Terego)**

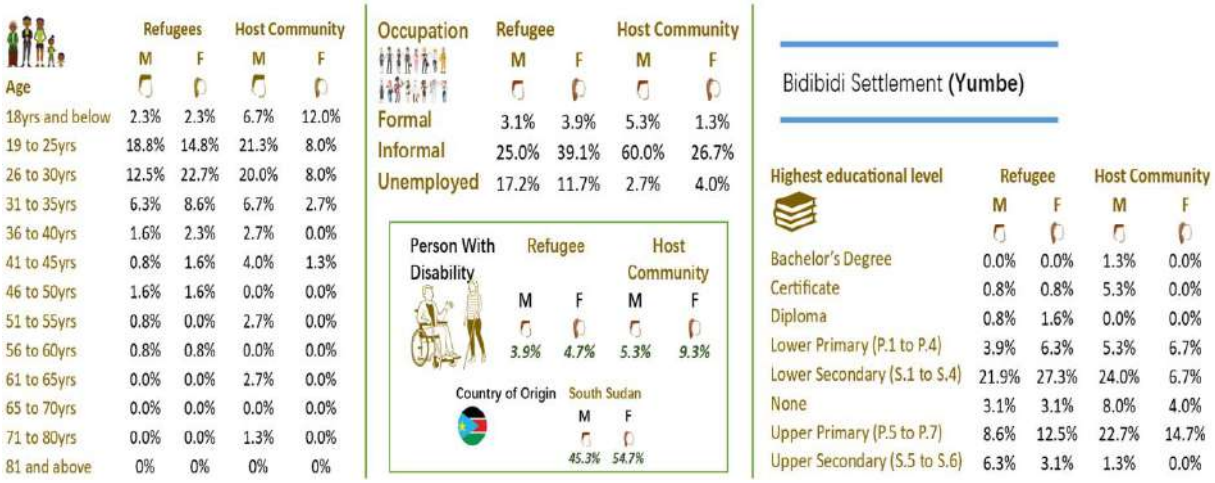
Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0%	0%	0.0%	3.9%
Certificate	4%	0%	0.0%	6.6%
Diploma	2%	0%	0.0%	5.3%
Lower Primary (P.1 to P.4)	6%	8%	0.0%	5.3%
Lower Secondary (S.1 to S.4)	24%	18%	22.4%	19.7%
None	0%	6%	2.6%	1.3%
Upper Primary (P.5 to P.7)	14%	18%	2.6%	17.1%
Upper Secondary (S.5 to S.6)	0%	0%	6.6%	5.3%

Figure 21: Terego Respondent Demographics

Yumbe District where Bidibidi settlement is found, majority of 72.3% (187) were refugee respondents. Refugee respondents were largely South Sudanese, making up 45.3% of males and 54.7% of females. Age-wise, refugees showed a higher percentage of younger adults, with 31.3% of refugee men and 37.5% of refugee women aged 19-30, compared to 41.3% of the host males and only 16% of host females in the same age range.

Educationally, a significant proportion of refugee women (27.3%) and men (21.9%) had lower secondary education (S.1 to S.4), similar to 24% of host males. More refugee respondents (39.1% women, 25% men) were involved in informal occupations compared to the host community, where 60% of men were in informal work. Unemployment was notably higher among refugees, particularly

men (17.2%), compared to the host population (2.7% male). Among persons with disabilities (PWDs), the host community reported higher rates (9.3% female) than refugees (4.7% female).



Age	Refugees M	Refugees F	Host Community M	Host Community F
18yrs and below	2.3%	2.3%	6.7%	12.0%
19 to 25yrs	18.8%	14.8%	21.3%	8.0%
26 to 30yrs	12.5%	22.7%	20.0%	8.0%
31 to 35yrs	6.3%	8.6%	6.7%	2.7%
36 to 40yrs	1.6%	2.3%	2.7%	0.0%
41 to 45yrs	0.8%	1.6%	4.0%	1.3%
46 to 50yrs	1.6%	1.6%	0.0%	0.0%
51 to 55yrs	0.8%	0.0%	2.7%	0.0%
56 to 60yrs	0.8%	0.8%	0.0%	0.0%
61 to 65yrs	0.0%	0.0%	2.7%	0.0%
65 to 70yrs	0.0%	0.0%	0.0%	0.0%
71 to 80yrs	0.0%	0.0%	1.3%	0.0%
81 and above	0%	0%	0%	0%

Occupation	Refugee M	Refugee F	Host Community M	Host Community F
Formal	3.1%	3.9%	5.3%	1.3%
Informal	25.0%	39.1%	60.0%	26.7%
Unemployed	17.2%	11.7%	2.7%	4.0%

Person With Disability	Refugee M	Refugee F	Host Community M	Host Community F
	3.9%	4.7%	5.3%	9.3%

Country of Origin: South Sudan — M 45.3%, F 54.7%

Bidibidi Settlement **(Yumbe)**

Highest educational level	Refugee M	Refugee F	Host Community M	Host Community F
Bachelor's Degree	0.0%	0.0%	1.3%	0.0%
Certificate	0.8%	0.8%	5.3%	0.0%
Diploma	0.8%	1.6%	0.0%	0.0%
Lower Primary (P.1 to P.4)	3.9%	6.3%	5.3%	6.7%
Lower Secondary (S.1 to S.4)	21.9%	27.3%	24.0%	6.7%
None	3.1%	3.1%	8.0%	4.0%
Upper Primary (P.5 to P.7)	8.6%	12.5%	22.7%	14.7%
Upper Secondary (S.5 to S.6)	6.3%	3.1%	1.3%	0.0%

Figure 22: Yumbe Respondent Demographics

2.4.3 Key Informant Demographics

To enrich this research, 110 key informants representing a broad spectrum of organizations were engaged. These included Civil Society Organizations (15 respondents, 14%), Digital Hubs, Innovation Centers, and Small and Medium Enterprises (12 respondents, 11%), and key Project Implementing Partners such as NITA-U, OPM, and UNHCR (83 respondents, 75%). These stakeholders provided critical perspectives as decision-makers, community advocates, digital service providers, policy influencers, and champions of digital inclusion. Additionally, representatives from local government, development partners, NGOs, and officials from central-level Ministries, Departments, and Agencies contributed essential insights, reflecting a diverse cross-section of voices in the digital landscape.

Among the 83 respondents from this group, Local Government (LG) officials accounted for the biggest proportion, comprising 41% (34 respondents). The Office of the Prime Minister (OPM) contributed 18.07% (15 respondents), while Development Partners/NGOs made up 12.05% (10 respondents). Additionally, both UNHCR and religious/cultural leaders represented 4.82% (4 respondents each). Central Government Ministries, Departments, and Agencies (MDAs) accounted for 6.02% (5 respondents), while the National Information Technology Authority Uganda (NITA-U) made up 13.25% (11 respondents).

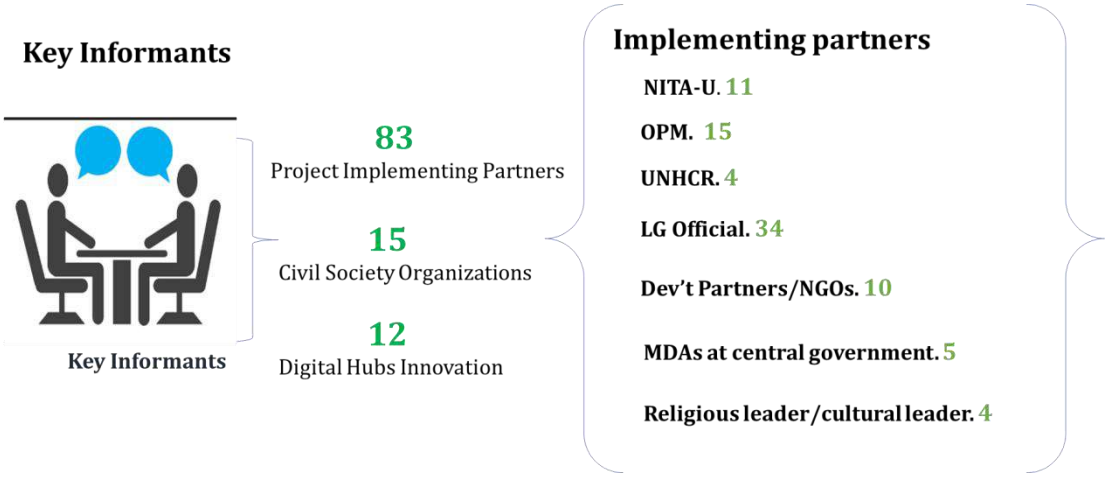


Figure 23: The key informants and implementing partners demographics

Based on the information in the table above, it was important to break down the location and roles of stakeholders across refugee and host communities, district offices, and other areas.

Table 2: Describes the Location and position description for the stakeholders that were interviewed in the study;

Category	No.	Roles
Refugee settlement	27	Refugee Desk officer, NGO Officer, Human resource manager, Assistant admin, Asst. settlement Commander, settlement, commandant, Physiotherapist, Co-Ordinator, Live in Green (NGO), Office assistant, Protection, Parish Chief, RWC- Refugee welfare, council 3 chairperson, M&E Officer Finn Church Aid, Community services officer, Office assistant, Program officer, Education focal OPM.
Host community	20	Town Clerk, Catechist, Educ. Project assistant, Area councilor LC.3, Community Development Officer, Vice chairperson LC 3, chairperson, Perish chief, Sudanese Refugee leader, Sub County chief Burundian Refugee Leader, LC1 Chairman, Senior Community, Development Officer, Imamu, DCDO, District natural resource officer.
District officers	24	CAO, Dept. LC 5, District inspector of schools, Education officer in charge of special needs, Secretary, ICT officer, CCT. Ministry of Education, ICT Officer, Senior Probation and social welfare officer, Acting DCDO, Youth officer, Community Development Officer, Chief Administrative Officer, District Internal Security Officer, Deputy RDC, Principle assistant CAO, Staff surveyor.
Others	12	Head Technical Services – Universal Service Fund, Senior Youth Officer, IT Officer-Ministry of Gender, Information Technology Officer, Manager Business transformation, Director E-Gov, Acting director of planning, research and development.

2.4.4 Focus Group Discussion

75 focus group discussions consisting of 6-10 people accounting for a total of atleast 450 individuals were held in all settlements and host communities, where insights were gathered from various categories of respondents, comprising of at-least 3 groups per category including Persons with Disabilities (PWDs) groups, women, and youth.

3.0 STUDY FINDINGS

The situation analysis provides a comprehensive overview of the digital ecosystem within the Refugee Hosting Districts (RHDs) and assesses key factors that influence the delivery and uptake of digital services.

3.1 Policy, Legal and Regulatory Environment

Uganda has developed a robust regulatory environment for ICT, spearheaded by the Uganda Communications Commission (UCC). The National ICT Policy (2014) promotes digital access for all citizens, including marginalized groups such as refugees and persons with disabilities. The Data Protection and Privacy Act (2019) ensures some level of protection for digital users, though more efforts are required to enhance its implementation in refugee settings[12]. Moreover, the National Broadband Strategy (2020-2025) outlines key goals for expanding digital infrastructure and services, particularly in rural and underserved areas where many refugee settlements are located[13]. Uganda's Digital Uganda Vision also plays a pivotal role in driving digital inclusion, with a focus on creating an environment conducive to digital service delivery, fostering public-private partnerships, and encouraging innovation in underserved communities[14]. UCUSAF formerly known as the the Rural Communications Development Fund (RCDF) further supports digital inclusion by facilitating access to ICT infrastructure in remote areas, including refugee host districts[15]. Additionally, the Comprehensive Refugee Response Framework (CRRF), which Uganda adopted in partnership with UNHCR, emphasizes the need for inclusive access to services, including digital platforms, for refugees and host communities[16].

3.1.1 Overview of Existing Policy, Legal and Regulatory Environment

The key issues identified from the analysis of Uganda's national policies and legal frameworks reveal several gaps in the implementation of digital service delivery, particularly in refugee-hosting districts (RHDs) and among marginalized populations. While the Constitution of Uganda and various policies like the National Gender Policy (2007) and Persons with Disabilities Act (2020) provide a strong legal basis for non-discrimination and inclusivity, practical enforcement remains weak. There is insufficient infrastructure in rural and refugee areas, limiting access to digital services such as e-government and education platforms.

This subsection provides an analysis of the current policy, legal, and regulatory environment that governs digital service delivery in the context of refugees. It examines relevant national and international policies, frameworks, and regulations that influence the implementation and operation of digital services. By understanding this environment, the study illustrates how the instruments enable in terms of (Integration of digital service delivery (Including refugee rights, data privacy, affordability & and access and PWDs & gender inclusion)) and constrain digital service delivery in refugee settings as summarized in the table below.

Summary of the key Policy, Legal and Regulatory instruments forming the enablers for digital service delivery in RHDs at the National and LG level.

[12] Uganda Communications Commission (UCC). (2019). *Data Protection and Privacy Act*. Retrieved from https://ucc.co.ug/data-protection-act
[13] Ministry of ICT and National Guidance. (2022). *National Broadband Strategy*
[14] Uganda Ministry of Finance. (2021). *Digital Uganda Vision Strategy*.
[15] Uganda Communications Commission (UCC). (2023). *Rural Communications Development Fund (RCDF)*
[16] UNHCR Uganda. (2021). *Comprehensive Refugee Response Framework (CRRF) Uganda*.

Table 3: Summary of the key Policy, Legal and Regulatory instruments forming the enablers for digital service delivery in Uganda's RHDs

Instrument details (Title & date)	Instrument Focus (objectives and issue addressed)	Level (National/LG) and Author	How it enables	How it constrains	Way forward (Refer to Annex 1:Desk review report for the provisions to be amended)
Constitution of the Republic of Uganda 1995	The Constitution provides the legal foundation for ensuring fundamental human rights and freedoms for all individuals in Uganda, including refugees and marginalized groups. It upholds the rights to equality, non-discrimination, and access to services.	National - Parliament of Uganda	Enables the inclusion of all Ugandans, including refugees and PWDs, in accessing public services, including digital services. Guarantees the right to privacy, which supports data protection efforts in digital service delivery. Promotes gender equality and access to services for all, regardless of background or status.	Limited practical implementation of rights related to digital inclusion, particularly in marginalized and refugee communities. Lack of explicit digital rights protections within the Constitution itself.	Issue regulations to enforce digital rights and inclusion. Strengthen the enforcement of constitutional rights in practice, ensuring that digital services are extended to all, including marginalized groups.
Refugees Act Cap. 312	Establishes refugee rights in line with international obligations (1951 Convention).	National - Parliament of Uganda	Provides foundational rights for refugees, including women and PWDs that can form the basis for digital service inclusion.	Does not directly address digital inclusion for refugees or PWDs.	Amend the Act to include provisions for digital inclusion, ensuring access to technology and digital literacy programs for refugees and PWDs.
Refugees Regulations 2010	Made pursuant to the Refugees Act, Section 48. General framework for the protection and management of refugees in Uganda.	National - Parliament of Uganda	Facilitates digital identity management crucial for accessing digital services. Provides framework for refugee registration and issuance of identity cards and travel documents, enabling access to services.	No specific provisions for digital inclusion for refugees or PWDs.	Amend Regulations to include provisions for digital inclusion processes, ensuring access to technology and digital literacy programs for refugees and PWDs.
Data Protection and Privacy Act Cap. 97	Establishes a legal framework for protecting personal data and privacy for all individuals, including	National - Parliament of Uganda	Protects refugees' and PWDs' data, ensuring consent and safeguarding digital transactions.	No specific protections for marginalized groups like refugees, women, and PWDs.	Amend Act to include provisions for digital inclusion processes, ensuring access to

	refugees.				technology and digital literacy programs for refugees and PWDs.
Uganda Citizenship and Immigration Control Act Cap. 313	Governs the control and regulation of refugees and aliens in Uganda, including the issuance of identity cards.	National - Parliament of Uganda	Facilitates digital identity and access to digital services through identification and registration systems.	Lacks explicit provisions for digital inclusion for refugees, women, and PWDs.	Revise Act to incorporate digital inclusion policies, prioritizing access to digital identification services and technology for refugees, women, and PWDs.
Comprehensive Refugee Response Framework (CRRF) 2021-2025	Focuses on the inclusion of refugees in national development plans, including digital transformation.	National - Office of the Prime Minister	Promotes digital inclusion as part of the national development agenda, including the use of digital tools.	Relies heavily on international support for implementation.	Fostering stronger local partnerships and capacity-building initiatives to reduce reliance on international support and ensure sustainable, community-driven implementation.
Uganda Country Refugee Response Plan 2024-2025	Holistic and integrated approach to addressing refugee challenges, including financial inclusion.	National - UNHCR and Office of the Prime Minister	Implements digital financial inclusion strategies to facilitate access to banking for refugees.	Lacks comprehensive digital inclusion policy for PWDs and refugees.	Extend Policy to support digital inclusion processes, for refugees and PWDs.
Third National Development Plan (NDPIII) 2020/21-2024/25	Provides a strategic framework for advancing digital service delivery and fostering digital inclusion.	National - Ministry of Finance, Planning, and Economic Development	Bridges the digital divide by focusing on underserved communities, including refugees and PWDs.	Dependent on pending or unamended laws, creating uncertainty.	Ensure the NDPIV provides a strategic framework on digital inclusion of refugees, including women and PWDs. Amending the laws to reflect the digital inclusion concerns
The Education Digital Agenda	Aims to digitize the education system, ensuring equitable access to e-learning tools and platforms for all learners, including	National, Ministry of Education & Sports	Enables access to digital education for marginalized groups, including refugees and PWDs, by improving ICT infrastructure and content	Limited infrastructure i.e electricity and internet in rural and refugee areas hinders full access to digital	Increase investment in digital infrastructure in rural and refugee-hosting districts (RHDs). Provide teacher training

	refugees and host populations. Focuses on integrating ICT into schools and improving digital literacy.		delivery in schools. Promotes gender inclusion through targeted ICT programs for girls.	learning tools. Lack of resources and training for teachers and students.	and affordable digital devices for students.
The National Gender Policy (2007)	Promotes gender equality and women's empowerment in all sectors, addressing gender disparities and ensuring the inclusion of women and girls in national development, including access to services.	National, Ministry of Gender, Labour and Social Development	Supports digital inclusion by mandating equal access to services, including digital platforms for women and girls. Encourages the reduction of gender disparities in access to technology, particularly for marginalized women and refugees.	Limited implementation and monitoring of digital inclusion for women and girls in rural and refugee-hosting areas. Cultural barriers limit women's participation in ICT.	Strengthen implementation of gender-responsive digital programs, particularly in RHDs. Increase awareness and outreach to promote women's participation in ICT.
The National Policy on Elimination of Gender-Based Violence (GBV) in Uganda (2016)	Aims to eliminate gender-based violence by strengthening the legal framework and providing support to survivors, including refugees. Focuses on ensuring safe and equitable access to services for all, especially women and girls.	National, Ministry of Gender, Labour and Social Development	Encourages the use of digital platforms for reporting GBV cases and accessing support services. Promotes the inclusion of refugees in accessing GBV-related digital services.	Low digital literacy and limited access to mobile devices in refugee areas hinder the use of digital GBV reporting tools. Lack of awareness of digital services for GBV survivors.	Expand digital literacy programs focused on GBV prevention and reporting, particularly in RHDs. Improve access to affordable communication devices for survivors.
The Persons with Disabilities Act (2020)	Provides for the rights and inclusion of Persons with Disabilities (PWDs) in all aspects of life, including access to services, education, and employment. Ensures that PWDs are not discriminated against and have access to assistive technologies.	National, Parliament of Uganda	Ensures the integration of PWDs into digital service delivery by mandating the availability of accessible technologies, including assistive devices and digital platforms. Promotes inclusion in e-government services, education, and healthcare.	Limited access to assistive technologies and digital platforms that are PWD-friendly in rural and refugee areas. High cost of assistive devices limits accessibility for PWDs.	Increase funding and partnerships to provide affordable assistive technologies. Ensure that all digital services (e-government, education) are fully accessible to PWDs.

The Equal Opportunities Act (2007)	Seeks to eliminate discrimination and promote equal opportunities for all Ugandans, including refugees and marginalized groups, by ensuring access to services and participation in national development.	National, Equal Opportunities Commission	Promotes digital inclusion by advocating for equal access to ICT services for marginalized groups, including PWDs, women, and refugees. Encourages the reduction of digital inequalities in accessing e-government and other digital services.	Inadequate enforcement of equal access to digital services for refugees and marginalized groups. Limited infrastructure and high costs in rural and refugee areas.	Strengthen enforcement of equal access provisions in digital services. Expand ICT infrastructure and subsidized internet access in RHDs to bridge the digital divide.
Resettlement Policy Framework for Uganda Digital Acceleration Program (UDAP) 2021	Supports the Digital Transformation Program under NDPIII, focusing on refugee response.	National - Ministry of ICT and National Guidance	Provides a structure for digital service delivery to PWDs in refugee contexts, promoting inclusion.	Fails to address specific gender and disability-related challenges.	Incorporate targeted measures within the UDAP to address gender and disability-specific challenges, ensuring equitable access to digital tools and resources for women and PWDs.
Traffic and Road Safety Act Cap. 347	Ensures equal access to driving permits and mobility for refugees and PWDs.	National - Parliament of Uganda	Promotes equal mobility access, which is crucial for engaging with digital tools and services.	Focuses on physical mobility of all persons but no special safeguards for PWDs	Include targeted protections for PWDs
Building Control Act Cap. 136	Governs construction standards, mandating accessibility for PWDs in public spaces, including digital service points.	National - Parliament of Uganda	Ensures public buildings and infrastructure accommodate PWDs, enhancing access to digital services.	Resource constraints limit accessibility in refugee-hosting districts.	Stronger enforcement and monitoring mechanisms are needed to ensure infrastructure adequately safeguards the access of PWDs
Uganda Communications Act Cap. 103	Governs the communication sector, promoting research into technologies for PWDs' accessibility.	National - Parliament of Uganda	Facilitates digital inclusion through technological research for PWDs and marginalized groups.	Lacks specific focus on refugees, particularly PWDs in refugee settings.	Focus on digital inclusion processes, ensuring access to technology and digital literacy programs for refugees including marginalised groups and PWDs.

Employment Act Cap. 226	Governs employment relationships of all persons.	National - Parliament of Uganda	Ensures access to employment opportunities for PWDs in digital work spaces. Prohibits employment discrimination based on disability, including for refugees with disabilities.	Weak enforcement of anti-discrimination policies in digital workplaces.	Strengthen enforcement mechanisms under the Act to ensure compliance with anti-discrimination policies in digital workplaces, including regular audits and penalties for violations.
Children's Act Cap. 62	Governs the rights and protection of children, including those with disabilities.	National - Parliament of Uganda	Protects children with disabilities by facilitating their access to digital education and services.	Digital inclusion for children with disabilities in refugee camps is underdeveloped.	Act to support digital inclusion programs for children with disabilities in refugee camps, ensuring access to adaptive technology and digital education resources.
National ICT Policy October 2003	Promotes the use of ICT to improve service delivery for marginalized groups, including refugees and PWDs.	National - Ministry of ICT and National Guidance	Encourages digital transformation and inclusion strategies for marginalized groups.	Lacks specific implementation targets for refugees with disabilities.	Expand scope of Policy to include clear implementation targets and timelines for providing digital access and services to refugees with disabilities.
Universal Access Policy	Ensures access to communication services for underserved and marginalized communities, including refugees and PWDs.	National - Uganda Communications Commission	Expands communication access to marginalized areas, essential for digital inclusion.	Gaps in implementation in rural refugee-hosting districts.	Allocate targeted resources and set clear benchmarks for the implementation of digital infrastructure in RHDs.

National Broadband Policy September 2018	Aims to increase digital inclusion, improve broadband affordability, and increase access to broadband for all Ugandans (connectivity for all).	National - Ministry of ICT and National Guidance	Aims to extend internet services to underserved areas, promoting digital inclusion and expands broadband access to include marginalized groups.	Limited infrastructure in refugee settlements hinders practical impact.	Prioritize expanding broadband infrastructure in refugee settlements within the Policy to ensure equitable access and bridge the digital divide in these areas.
The Telecommunications (licensing) Regulations (2019)	Provides for the licensing regime of all telecommunications operations and services	National - Ministry of ICT and National Guidance	Includes authorizations for companies wishing to invest in other segments of the telecom market, including digital financial services and digital audio-visual content aggregation services	No specific provisions for service providers in RHDs	Amend the Regulations to include specific provisions that incentivize service providers to operate in RHDs, for wider access to telecommunications services.
Education Digital Agenda Strategy 2021-2025	Provides the Action Plan for integrating ICT into teaching, learning, assessment, sports and administration.		This strategy promotes digital inclusion by incorporating digital literacy training into the education sector and also recognizes that digital skilling is fundamental to ensuring access to public services.	Lacks specific focus on refugees, particularly for marginalised groups like women, youths and PWDs in refugee settings.	Include targeted initiatives that prioritize digital education access for marginalized groups, such as women, youth, and PWDs, in refugee settings.

Based on the identified gaps above, to enhance digital service delivery in Uganda, it is crucial to strengthen the enforcement of existing policies, such as the Persons with Disabilities Act (2020) and the National Gender Policy (2007), ensuring marginalized groups like refugees and PWDs are fully included. Expanding digital infrastructure in rural and refugee-hosting districts through public-private partnerships, alongside improving internet affordability, is essential. Increasing access to affordable devices via partnerships with telecom providers and NGOs will also be key. Additionally, scaling up targeted digital literacy programs for women, PWDs, and refugees, and establishing sustainable digital service centers equipped with solar power and digital training resources in refugee settlements, will foster greater inclusivity. Lastly, stronger data privacy protections under the Data Protection and Privacy Act (2019) must be enforced to ensure secure digital service delivery for all. These steps will bridge the digital divide and improve service access for vulnerable populations in Uganda.

3.1.2 Perceptions of Policy and Regulatory Environment

This section explores stakeholders' perceptions of the policy and regulatory environment, focusing on awareness, impact, and challenges in digital access. It also addresses stakeholder involvement and highlights areas for policy improvement in Refugee-Hosting Districts (RHDs).

3.1.2.1 Awareness of Policies, Legal and Regulatory Instruments

Out of the 2,494 responded to the survey, majority, 2,084 (84%), were unaware of the policies and regulations governing digital services, while only 410 (16%) were aware. Comparing the data between different categories of respondents, 17% (227) of respondents in refugee settlements indicated that they are aware of the policies, which is slightly higher than the 15% (183) of the respondents from host communities who indicated the same awareness of the policies. This results as summarized in the figure below.

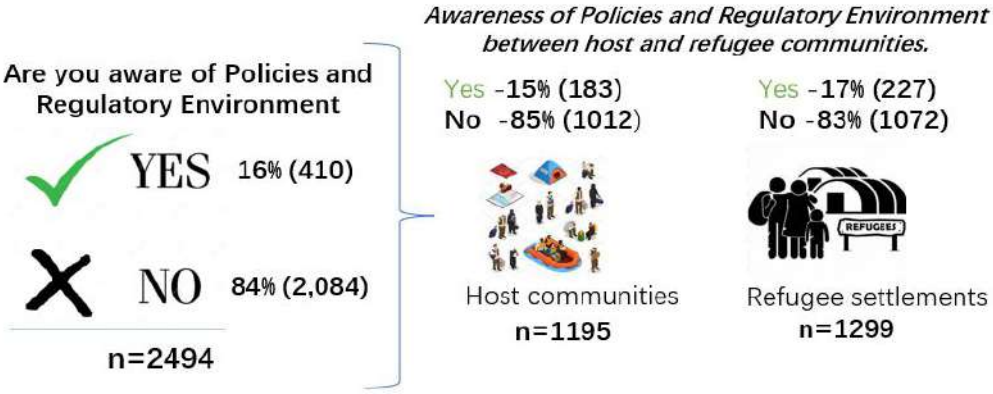


Figure 24: Level of awareness of policies per category of respondents.

The higher awareness of digital policies among respondents in refugee settlements compared to those in host communities reflects several key factors. Refugee settlements often have targeted information programs from NGOs and international organizations that emphasize digital literacy, as well as community engagement initiatives that support refugees' integration into digital and economic systems, inadvertently boosting policy awareness which highlights the need for targeted interventions to raise policy awareness, particularly within host communities.

Examining this data per settlement, the data indicated that across most refugee settlements, awareness of Policies and Regulations is very low however Palorinya and BidiBidi respondents expressed an exemplary level of awareness with 40% and 34% respectively indicating that they are slightly aware of the policies governing digital services. Other settlements' responses indicated a very low level of awareness ranging between 6%-18% in each settlement with the least level of awareness of 6% being noted in Rhino Camp as illustrated in the figure below.

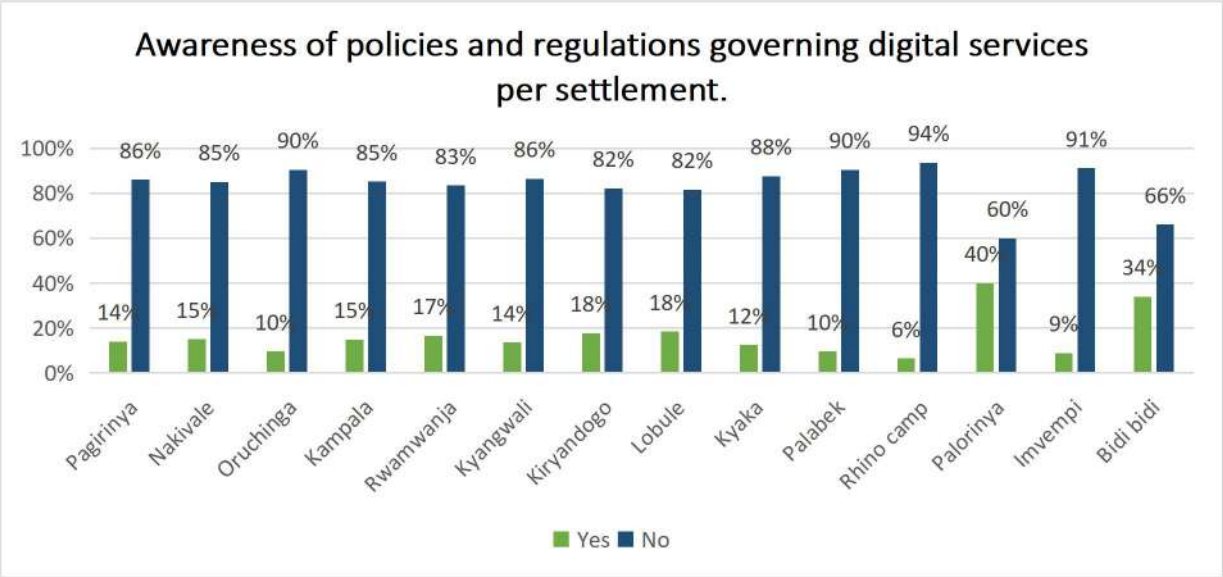


Figure 25: Level of awareness of policies per settlement

The survey findings were further backed by the FGD findings where by of the 75 focus group discussions conducted across all settlements, only 6% (5) of groups had members who reported to be aware of some of the policy legal and regulatory instruments, these groups were primarily from Kyaka, Bidibidi, Kiryandongo, Lobule, and Terego.

The analysis revealed a complex landscape of policy awareness across different KII groups, indicating discrepancies among key informant interview findings. Key informant interviews further underscore these variances, with policy awareness highest among respondents from MDAs (100%), followed by local government officials (74%), NITA-U team (70%), and development partners/NGOs (62.5%). Conversely, religious and cultural leaders showed the lowest level of awareness, with only 14% familiar with policies. Awareness among Civil Society Organizations (67%) was moderate, yet some expressed concerns over policy implementation. ICT centers and MSMEs respondents also indicated low awareness, particularly in host communities, where only 1 of 3 centers indicated awareness, compared to refugee settlements where 5 of 9 centers indicated awareness of some of the policy, legal and regulatory instruments.

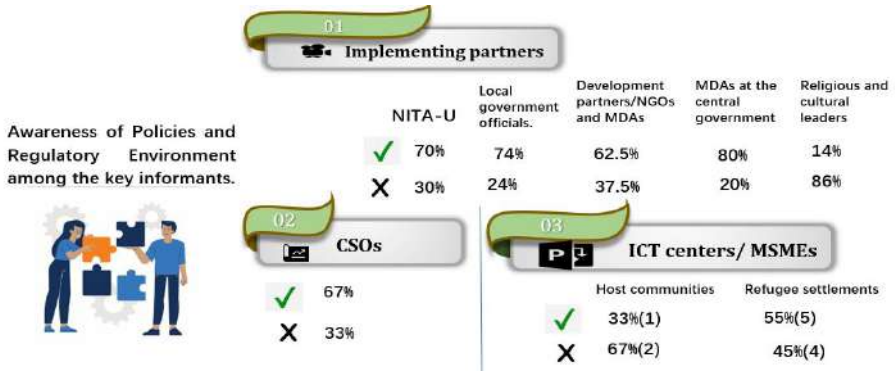


Figure 26: Awareness of policies among the key informants

These layered insights highlight varying levels of engagement and exposure to policy, legal and regulatory instruments pointing to the need for targeted approaches in awareness-building that consider the distinct contexts of each respondent group.

3.1.2.2 Knowledge of the different Policies

Out of 410 survey respondents who indicated awareness of the policies and regulations, only 271 managed to share policies they are aware of. Among these 50% (135) respondents highlighted policies related to Computer Misuse Act, followed by 31% (83) respondents indicated the Excise Duty Act highlighting taxation on digital devices, 9% (25) individuals expressed awareness of the Data Protection and Privacy Act. Additionally, Intellectual property rights, including copyright policies, were mentioned by 6% (16) respondents in relation to protecting digital content and finally The children and Amendment Act 2016 which was highlighted by 4% of the respondents as illustrated in the figure below.

Figure 27: Policies mentioned by survey respondents.

Key informant responses indicate varied levels of familiarity with specific legal instruments, policies and frameworks, with the Computer Misuse Act, 2011 (13 respondents) and the National Information and Communication Technology (ICT) Policy, 2018 (12 respondents) being the most widely recognized. Other policies, such as the Data Protection and Privacy Act, 2019 (5 respondents), show moderate awareness, while only a few respondents acknowledged familiarity with initiatives like the UNDP Digital Strategy, 2022–2025, Digital Transformation Roadmap (2023-2028), National Broadband Policy, 2018, and Anti-Pornography Act, 2014. Additionally, minimal recognition was observed for the Uganda Communications Act, 2013, National Youth Action Plan, National Child Policy, 2020, Access to Information Act, 2005, National E-Government Policy Framework, 2011, and the Electronic Transactions Act, 2011.

The overall trend suggests that key informants are generally aware of core ICT and digital governance frameworks. However, awareness significantly declines for policies with narrower application or less-publicized, newer documents, highlighting gaps in knowledge dissemination and engagement across the digital policy spectrum.

3.1.2.3 Channels of Awareness

This section examines the primary channels of awareness among the stakeholders on the various policy, legal, and regulatory instruments. Among the 410 survey respondents who indicated policy awareness, the most common method was learning from fellow individuals, particularly in Kyaka (72%) and Nakivale (50%). Community meetings also played a significant role, especially in Pagirinya settlement (43%) and Oruchinga (58%). In Rwamwanja, service providers were the primary source of policy information (46%), while workshops were dominant in Kiryandongo (36%) and Imvepi (42%). Self-learning was a key channel in Kyangwali (31%). Understanding these diverse channels provides

insights into effective strategies for disseminating policy information and enhancing digital policy literacy across communities. This is further summarized in the figure below. (*multi select question)*

Refugee settlement	Total number of responses	Training through workshops	Fellow individuals	Community meetings	Service providers	Through social media.	Self-learning	From School
Pagirinya	46	20%	24%	✓ 43%	0%	13%	0%	0%
Nakivale	48	29%	✓ 50%	10%	0%	6%	4%	0%
Oruchinga	12	8%	8%	✓ 58%	0%	0%	0%	25%
Kampala	77	29%	39%	21%	0%	10%	1%	0%
Rwamwanja	39	26%	13%	10%	✓ 46%	0%	3%	3%
Kyangwali	26	27%	27%	8%	0%	8%	✓ 31%	0%
Kiryandongo	45	✓ 36%	31%	20%	0%	2%	2%	9%
Lobule	23	22%	✓ 61%	17%	0%	0%	0%	0%
Kyaka	25	12%	✓ 72%	12%	0%	4%	0%	0%
Palabek	16	25%	19%	✓ 44%	0%	6%	6%	0%
Rhino Camp	14	✓ 36%	✓ 36%	29%	0%	0%	0%	0%
Palorinya	69	16%	✓ 64%	12%	0%	0%	9%	0%
Imvempi	14	✓ 43%	29%	29%	0%	0%	0%	0%
Bidibidi	77	22%	✓ 55%	19%	1%	1%	1%	0%

Figure 28: Method of awareness of the digital service policies

3.1.2.4 Impact of the current Policy, Legal and Regulatory Instruments

In refugee settlements, 24.5%(242), indicated that the existing policies are hindering them from accessing digital services. It was important to assess the extent to which the different instruments support or hinder access to digital services among various respondents. The majority, 68.5% (665), indicated a neutral response, indicating uncertainty regarding the policies' effectiveness. Only 7.0% (392) of the survey respondents indicated that the current instruments support access to digital services, representing a smaller proportion of positive opinions. Similarly, in host communities, 23.4% (241) of respondents indicated that policies hinder their access to digital services, while 51.0% (522) indicate a neutral perception. Notably, a more positive view emerged in host communities, with 25.6% (432) of survey respondents reporting that government policies support their access to digital services reflecting a slightly higher level of agreement compared to the refugees.

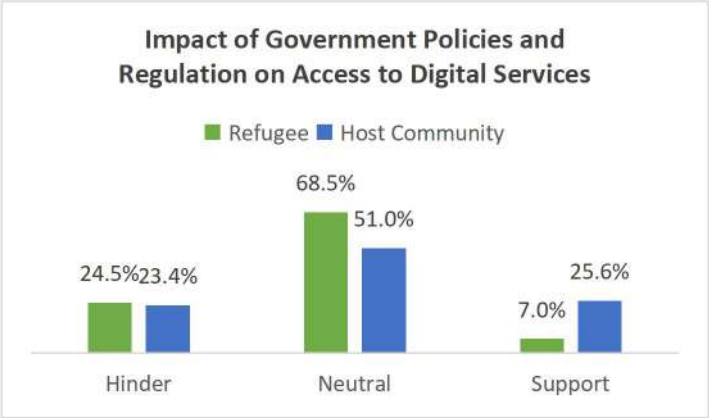
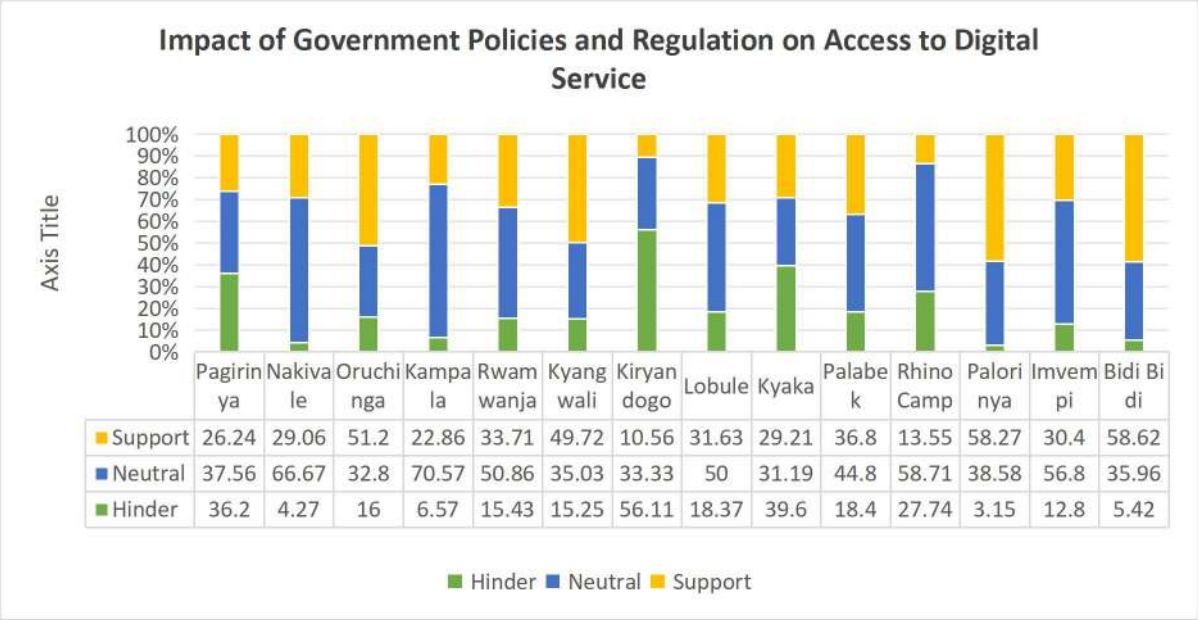


Figure 29: Impact of the current Policy, Legal and Regulatory instruments

Comparing this data per settlement it was observed that the neutral perception is the most common response across RHDs, followed by hindrance, and finally support as the least frequent perception. This indicates that most of the survey respondent are uncertain about the impact of policies on their digital access, while hindrance and support perceptions vary by district. The majority of respondents in most districts (e.g., Kampala with 70.6% (247), Nakivale with 66.7%(156), and Rhino Camp with 58.7%(91)) expressed a neutral stance on whether policies hinder or support their access to digital services. While in several districts, a significant proportion of respondents believe policies hinder their access to digital services. This perception was most prominent in Kiryandongo 56.1%(101) and Kyaka 39.6%(80), indicating notable barriers in these areas. In a few districts, such as Bidi Bidi 58.6%(119) and Palorinya 58.3%(74), a higher percentage of respondents believe policies support their access to digital services. However, supportive perceptions are less common overall compared to neutral or hindering views. This is summarized as shown in the figure below.



	Pagirinya	Nakivale	Oruchinga	Kampala	Rwamwanja	Kyangwali	Kiryandogo	Lobule	Kyaka	Palabek	Rhino Camp	Palorinya	Imvepi	Bidi Bidi
Support	26.24	29.06	51.2	22.86	33.71	49.72	10.56	31.63	29.21	36.8	13.55	58.27	30.4	58.62
Neutral	37.56	66.67	32.8	70.57	50.86	35.03	33.33	50	31.19	44.8	58.71	38.58	56.8	35.96
Hinder	36.2	4.27	16	6.57	15.43	15.25	56.11	18.37	39.6	18.4	27.74	3.15	12.8	5.42

Figure 30: Impact of government policies and regulations on access to digital services

The findings of the survey respondents collaborate with the findings from the key informants as indicated below;

These survey respondent findings align with insights gathered from KIIs, where key stakeholders highlighted who highlighted that the policies are conducive but there is need for amendment on issues regarding inclusivity and the consideration of the standard of living of the refugees hance indicting a neutral position as to whether the policies hinder or support digital access. Furthermore, the FGDs provided nuanced perspectives, revealing that refugees in districts with higher perceptions of hindrance (e.g., Kiryandongo and Kyaka) often face systemic challenges, such as restrictive regulations or limited digital literacy programs, which reinforce the survey trends. On the other hand, the positive perceptions in districts like Bidi Bidi and Palorinya (58.27%) are supported by FGD participants who noted the presence of NGO-driven digital support initiatives. As further highlighted by some of the respondents who indicated that;

"The policies at this stage are rather conducive though some need amendment especially to deal with issues of inclusivity such as PWDs and emerging technologies to ensure minimisation of the digital divide. and inclusion of emerging technologies". ***KII Respondent from Kampala.***

"*The policies developed at central level are not inclusive of the refugees that don't have access to some ICT services and they are developed with no consideration of the standard of living in the refugee settlements people can't afford to buy even airtime poverty levels are high, how does the government develop policies for such people?"* (**Parish chief Bidi Bidi refugee settlement , Yumbe)**

3.1.2.5 Satisfaction with the Government's role in Regulating digital services

Respondents were further assessed on the level of Satisfaction with the government's role in regulating digital services. In refugee settlements, a significant proportion of respondents expressed dissatisfaction with the government's role, with 25.5% (281) individuals indicating they are dissatisfied, and 10.2% (111) reporting being very dissatisfied. Meanwhile, 54.8% (602) respondents took a neutral stance, suggesting uncertainty towards the government's effectiveness in this area. Additionally, only 25.2% (274) respondents felt satisfied, and a smaller group of 2.7% (30) indicated that they are very satisfied, reflecting a limited number of individuals who perceive the government's role positively.

In host communities, the trends are slightly similar, with 23.5% (254) respondents feeling dissatisfied and 8.8% (95) very dissatisfied. 51.6% (557) respondents expressed a neutral view, indicating a significant level of uncertainty. Additionally, 23.1% (249) respondents reported being satisfied, while 3.7% (40) indicated they are very satisfied, again reflecting a relatively small percentage that holds a positive view of the government's regulatory role. This is as shown in the figure below.

Figure 31: Satisfaction with the government's role in regulating digital services

Furthermore, analyzing this data per settlement, nearly all of them had neutral perceptions regarding the government's role in regulating digital services. However, Bidibidi, Rhino Camp, and Oruchinga settlements expressed total dissatisfaction, possibly due to a perceived lack of effective support or engagement from the government in these areas. In contrast, Lobule was the only settlement where the majority of respondents reported high satisfaction with the government's role indicating positive experiences among the Lobule residents. This is summarized in the figure below.

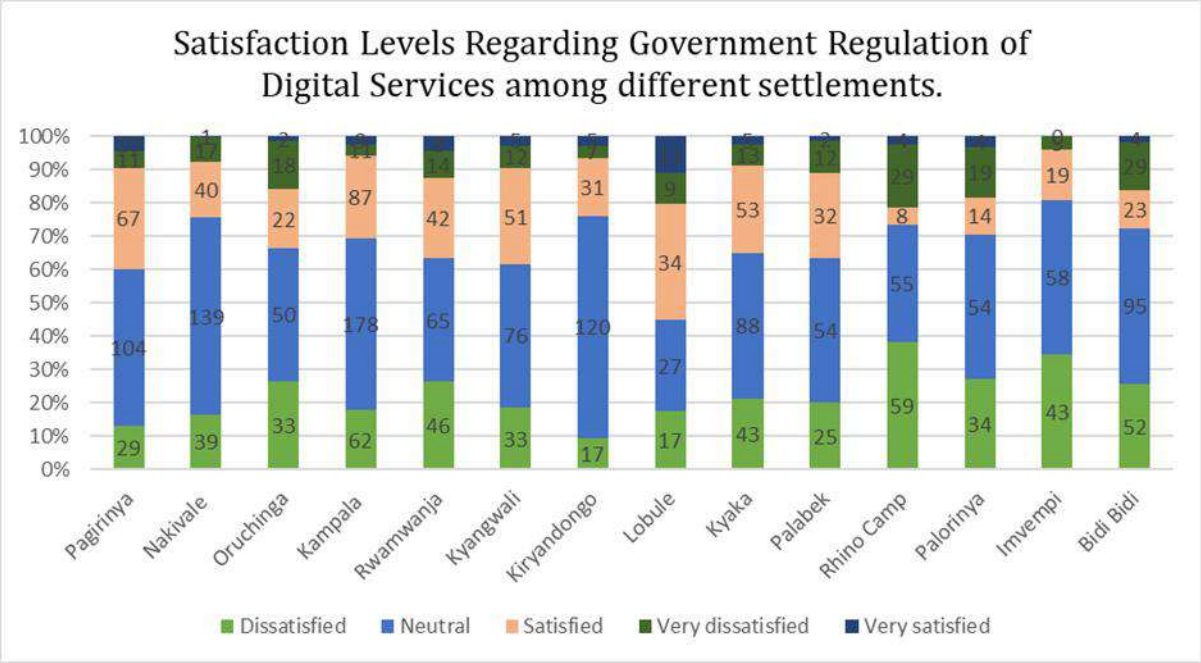


Figure 32: Level of satisfaction on government regulations on digital services.

ICT centers/MSMEs in the settlements visited were also assessed to determine their level of satisfaction with government regulations. The majority of centers in the refugee camps stated that the policies and regulations developed by central and local governments are conducive, citing that these policies provide guidance and support during their operations.

3.1.2.6 Significant Policy, Legal and Regulatory gaps or areas in need of reform to improve access of digital services in RHDs

Several significant policy gaps that hinder the effective delivery of digital services in Refugee Hosting Districts (RHDs) were raised by the implementing partners, prompting a call for targeted reforms to enhance access and infrastructure development in these regions.

1. **In hosting communities**, 87% (13 out of 15) of respondents identified gaps such as a need for greater awareness among community leaders, reforming policies around social media misuse, and reducing internet costs.

2. **In refugee settlements**, 42% (10 out of 24) noted issues like the exclusion of temporary refugees in policy, high taxes limiting access to social media, and inadequate consideration for people with disabilities.

3. **In district offices**, 52% (11 out of 16) pointed out gaps such as the lack of policies on assistive digital technologies, high costs for vulnerable refugees, and insufficient community sensitization.

One of the respondents from Kampala noted that;

"The laws, policies and guidelines are there but we need to talk to the refugees and PWDs to explore them further because refugees are here. There is a need to conduct a needs assessment to talk to the people on what digital technology would benefit them. Furthermore, there is a need to develop technology that can easily be used /interpreted given the differences in language and levels of education."

3.1.2.7 Suggestions for enhancing the Policy legal and Regulatory Framework for Improved Access to Digital Services in RHDs

The insights from refugee respondents on how to improve the Policy, Legal, and Regulatory environment to facilitate better access to digital services highlight practical and community-centered suggestions, focusing on clearer communication of the policies, simplified guidelines, and inclusive policy-making processes. Out of the 2,494 survey respondents, 1,411 shared insights as follows; 24%(340) emphasized the need for clearer communication of policies in local languages they understand, especially through community meetings or visual materials, to help them know their rights and navigate digital services safely. Strengthening Implementation of the rules and guidelines was suggested by 19%(26), to address cost barriers 16%(220) highlighted the importance of setting policies that ensure the affordability and accessibility digital tools for the Refugees, such as reduced-cost internet packages, community Wi-Fi, or phone-sharing programs tailored for refugee communities. Additionally, training on digital literacy was recommended by 13%(190), while 11%(16) called for involving refugee communities in policy-making, suggesting that including their voices in policy discussions would create frameworks that better address real challenges faced in daily life.

To support digital access, 10%(135) advocated for increased access to digital devices through donations or affordable rentals, enabling them to connect with family, find employment, and access information. Lastly, youth and women's digital inclusion programs were recommended by 7%(101), who felt that specific training for these groups would open up job opportunities and empower women to use technology as further illustrated in the figure below.

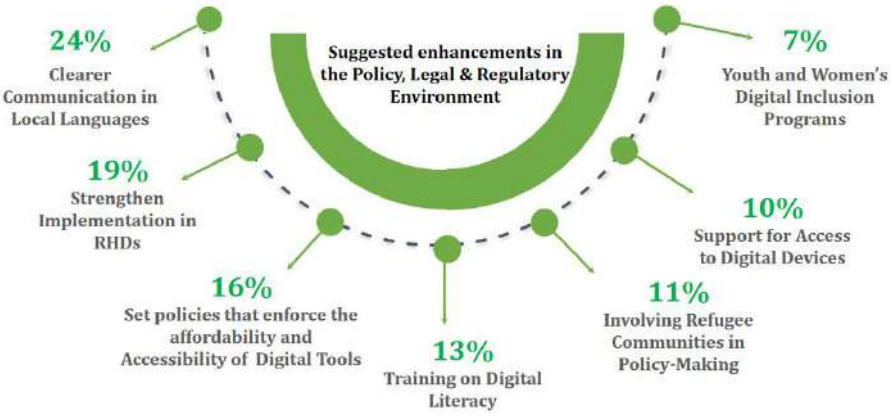


Figure 33: Suggestions for enhancing the Policy, Legal and Regulatory Framework.

3.1.2.8 Stakeholder Involvement in the development of the Policy, Legal and Regulatory Instruments

The study revealed that a majority of participants are not involved in the policy development process, with only a small portion actively engaged. Out of the 3,054 individuals who took part in the research, a notable 81% (2,474) indicated that they have not been part of policy making, while

only 19% (580) reported some level of involvement. The distribution of responses among survey respondents, key informants and Focus group discussions indicated differing levels of involvement in the policy development process as follows; Among survey respondents, only 15% (374) of the survey respondents indicated to have been involved in policy development while the majority 85% (2,120) of the respondents indicated not have participated. In contrast, key informants, 60%(66) often representing organizations or holding decision-making roles, indicated to have been involved in policy development, suggesting they play a more active role in influencing or contributing to policy frameworks.

Survey Respondents

(2,494)

Yes: **374 (15%)**
No: **2,120 (85%)**

Key Informants

(110)

Yes: **66 (60%)**
No: **44 (40%)**

Figure 34: Stakeholder Involvement in the development of the Policy, Legal and Regulatory Instruments

Overall, these results point to a need for more inclusive policy making processes that better integrates input from the wider community, ensuring policies address the needs and challenges experienced by all stakeholders.

3.1.3 Best practices from other jurisdictions and lessons for Uganda Perceptions of Policy and Regulatory Environment

Adopting best practices from countries with advanced digital frameworks can significantly enhance Uganda's approach to creating an inclusive digital environment. The experiences of Germany, Sweden, Jordan, and Rwanda offer valuable insights into how well-crafted Policy, Legal, and Regulatory frameworks can support digital integration and service access for diverse populations, including refugees. These countries were selected based on; Germany, with its high ICT Development Index of 87.3, has developed a robust digital infrastructure and implemented inclusive policies that help bridge the digital divide, especially for refugees. Sweden, ranked 3rd globally with an ICT Development Index of 93.9, excels in high-speed internet access, broad mobile connectivity, and digital literacy initiatives that benefit both refugees and host communities. Jordan, with a similarly strong ICT development level at 78.5, has successfully integrated digital technologies into its humanitarian aid framework, providing scalable solutions for digital service delivery to its large refugee population. Rwanda, despite being a developing country like Uganda, has achieved an ICT Development Index of 40.1 and has made impressive strides in expanding digital services in rural and marginalized areas, including refugee-hosting districts. The following table outlines key policies, objectives, and best practices from each country, offering a comparative view of their approaches to digital service delivery for refugees.

Table 4: Policy Legal and Regulatory Environment of other countries and best practices for Uganda

Country	Key Instruments	Objectives & Focus Areas	Best Practices Uganda Can Adopt
Germany	Asylum Act (Asylgesetz) and	These national laws regulate the legal status and rights of refugees,	• Strengthening the implementation of policies and

	Residence Act (Aufenthaltsgesetz) : Common European Asylum System (CEAS) The General Data Protection Regulation (GDPR),2020.[17]	including their access to services such as digital infrastructure, education, and the labor market[18]. This EU-wide regulation harmonizes asylum procedures across member states, ensuring that digital services for refugees are standardized across borders. It helps refugees access digital services more efficiently across Europe[19]. Provides a robust legal framework for protecting personal data, ensuring that refugees' data is handled securely and with respect for their privacy[20] Government support for digital initiatives, such as Germany's Digital Strategy, highlights the nation's commitment to expanding digital access across sectors, including education, healthcare, and public administration.[21]	laws like the Data Protection and Privacy Act, 2019 • Enhancing enforcement mechanisms, increasing public awareness, and building the capacity of organizations to comply fully with the Act. • Integrating data protection principles more deeply into Uganda's expanding digital infrastructure aligned to the GDPR, such as e-government services and refugee data management systems, to ensure that the Act is not just a legal formality but a robust, actively enforced framework.
Sweden	The Swedish Broadband Strategy The General Data Protection Regulation (GDPR)	This aims for universal internet access, with 97% of households having access to high-speed broadband by 2020, even in rural and remote areas[22]. GDPR ensures stringent data protection for all residents, including refugees, to safeguard personal data. Furthermore, Sweden enforces anti-discrimination laws, supporting inclusivity and preventing barriers to digital access for marginalized groups.	• Ensuring that the Digital Strategy provides for robust data privacy policies. • Promoting universal internet access and inclusivity.
Jordan	The Jordan Compact (2016)	The Jordan Compact (2016) an agreement between Jordan and the international community for supporting Syrian refugees by improving access to education, legal employment, and services[23]. Laid the groundwork for expanding	• Enhancing digital identity management systems to ensure secure refugee data handling and service delivery. • Incorporating refugee employment into broader national economic strategies to improve livelihoods and economic

[17] European Union Agency for Fundamental Rights (FRA), *The EU Charter of Fundamental Rights and the GDPR*, 2020
[18] The Asylum Act, 2016 (https://www.gesetze-im-internet.de/englisch_asylvfg/print_englisch_asylvfg.html)
[19] https://home-affairs.ec.europa.eu/policies/migration-and-asylum/common-european-asylum-system_en
[20] European Commission, *Data Protection Rules*, 2021.
[21] Federal Ministry for Digital and Transport (BMVI), *Germany's Digital Strategy*, 2022.
[22] Swedish Government's Digital Strategy: https://www.government.se/information-material/2017/06/a-digital-strategy-for-sweden/
[23] https://data.unhcr.org/en/documents/download/61932

	Jordan National ICT Strategy (2013-2017) National Digital Identity Law,	digital infrastructure and services, ensuring that digital inclusion extends to marginalized groups, including refugees. Jordan uses digital identity systems to manage refugees and their data, ensuring secure service delivery[24].	contributions. ● Collaborating with international partners to establish formal agreements that focus on enhancing refugee access to education, employment, and essential services through digital platforms as seen from the Jordan Compact.
Rwanda	Rwanda Utilities Regulatory Authority (RURA)[25]. The ICT Sector Strategic Plan (2018-2024)	Focuses on ensuring equitable access to essential utilities and services, such as communication and mobile services, for refugee populations. This ensures universal access to digital services, including specific provisions for refugees[26]	● Inclusion of refugees in the SIM card registration process using refugee identity cards or UNHCR documentation. ● Adopting a more focused regulatory framework that includes specific provisions for digital inclusion in refugee host communities. ● Strengthening data protection laws, to build trust and encourage greater adoption of digital services by refugees and other vulnerable groups.

The analysis of digital service delivery frameworks from Germany, Jordan, Sweden, and Rwanda offers valuable lessons for Uganda. Key best practices Uganda can adopt include strengthening a comprehensive data protection law akin to the GDPR, enhancing digital identity systems for better refugee management, and developing user-friendly e-government platforms to improve service access. Additionally, strengthening regional partnerships and integrating refugee employment into national economic strategies can further improve refugee integration and boost Uganda's economic resilience.

3.1.4 Emerging Issues and Associated Recommendations

The table below summarizes the emerging issues from the analysis of the respondent's feedback on the Policy, Legal and Regulatory Environment and the key recommendations derived from the feedback and best practices observed.

Table 5: Emerging issues and recommendations on analysis of the Policy Legal and Regulatory Environment .

Dimension	Emerging Issues	Recommendations
Awareness of Policies, Legal and Regulatory Instruments	Awareness of digital policies is low, particularly among general community members (84% unaware). Refugee settlements have slightly higher awareness (17%) compared to host communities (15%).	• Implement targeted campaigns using accessible platforms like community radios, TV, and local meetings in local languages • Use visual and community-centered approaches to simplify policy communication.
Participation in the	Limited community involvement in policy	• Establish inclusive channels for

[24] E. Schoemaker, Dina Baslan, Bryan Pon, & Nicola Dell. *Identity at the Margins: Data Justice and Refugee Experiences with Digital Identity Systems in Lebanon, Jordan, and Uganda*. 2020.
[25] https://licensing.rura.rw/
[26] https://www.policyvault.africa/policy/ict-sector-strategic-plan-2018-2024/

policy development process	development, with only 19% overall participation and low engagement among survey respondents (15%). Higher participation from key informants (60%) reflects a disparity in stakeholder influence.	community input in policy-making processes, ensuring diverse voices, especially from refugee and host communities, are integrated.
Knowledge of Specific Digital Service Policies	Familiarity with policies varies; awareness is highest for Computer Misuse Act, Data Protection and Privacy Act, and OTT tax. Key informants are more aware of national policies, while awareness of local frameworks is low among community members.	• Improve access to information on both local and national policies. • Simplify and communicate the relevance of local digital policies, perhaps through partnerships with local ICT centers and community leaders.
Means of Awareness	Informal sources, such as fellow individuals, are primary channels of awareness, with other sources including community meetings, service providers, and workshops. Different methods dominate in various settlements, reflecting a lack of standardized channels.	• Develop standardized, accessible channels for policy dissemination, leveraging trusted community meetings, local leaders, and workshops tailored to specific settlement needs.
Level of Satisfaction	Satisfaction with current policies and regulations is mixed, with a large proportion holding neutral views (68.5% in refugee settlements, 51% in host communities). Dissatisfaction is higher in some settlements (e.g., Kiryandongo).	• Conduct feedback sessions to understand reasons for dissatisfaction, especially in areas with lower satisfaction levels. Tailor policies to address specific needs identified by different communities.
Suggestions for Improvement	Respondents suggest clearer communication of policies, simplified rules, affordable digital tools, digital literacy training, and policy-making involvement. There is also a call for targeted digital inclusion programs for youth and women.	• Implement community meetings, simplified guides, and workshops on digital literacy. Launch programs focused on affordability, accessibility, and inclusion for marginalized groups, such as youth and women, to boost digital access.
Stakeholder Involvement	Key informants have higher involvement in policy-making (60%) than community members, reflecting an imbalance in stakeholder participation. Community involvement in settlements is notably limited.	• Encourage greater community involvement in policy-making by establishing platforms for feedback from diverse stakeholders, particularly from refugee-hosting districts, to ensure policies are representative of all groups.

3.2 State of Digital Infrastructure and Connectivity in RHDs

Digital infrastructure and connectivity in Refugee-Hosting Districts (RHDs) face significant challenges in terms of availability, accessibility, and quality, affecting the region's ability to support essential digital services. Electricity supply is often inconsistent, with limited access to the national grid, which hinders not only daily activities but also the functionality of internet and mobile networks that rely on stable power. Alternative solutions, such as solar power, have been introduced in some areas, yet overall access remains insufficient. Internet connectivity, provided primarily by a few telecom companies, is generally limited and costly, with coverage focused on central locations, leaving many remote areas underserved. Mobile phone networks are more accessible, but coverage quality and signal strength vary, especially in outlying regions, making it difficult for residents to consistently rely on mobile communication. While major telecom providers have attempted to expand network reach, there remains a need for improved infrastructure to ensure reliable digital access for both refugee and host communities in RHDs.

3.2.1 Network and connectivity coverage in the RHDs

The status of network and connectivity in Refugee-Hosting Districts (RHDs) reflects both improvements and ongoing challenges. While major telecom providers have extended mobile network coverage into these regions, access and quality remain inconsistent, with notable disparities between urban centers and remote areas within the districts.

a) Mobile Network Coverage

Most RHDs are covered by major mobile network providers such as MTN, Airtel, and UTL, but the signal strength and quality vary significantly depending on location. Urban centers tend to experience more stable 3G and, in some areas, 4G connections, while more remote or densely populated refugee settlements may face weak or inconsistent signals. This issue is compounded by network congestion, which affects the quality of calls and internet speed during peak hours.[27]

b) **Internet Connectivity and Access**

Broadband internet infrastructure is generally underdeveloped in RHDs, limiting access to reliable and affordable internet. Public Wi-Fi networks are scarce, and where available, internet services are often too costly for the average refugee household. According to the NITA-U 2022 Baseline study, 12.86 million Ugandans live in areas without 4G coverage. Today, broadband services have become the common platform for traditional telecommunications, with digital services like voice over IP, messaging apps, and online streaming replacing traditional telephony, SMS, and broadcasting. Many residents rely on mobile data bundles, which are relatively expensive and may restrict access to essential services online, especially for educational or health-related information. Research indicates that affordability is a key barrier in many RHDs, where households allocate a small budget for connectivity due to other pressing needs.[28] The figure below illustrates National Broadband Infrastructural development phases.

[27] UNHCR (2021). Connectivity for Refugees: Expanding Network Access in Displacement Settings
[28] GSMA (2022). The Mobile Economy Sub-Saharan Africa.

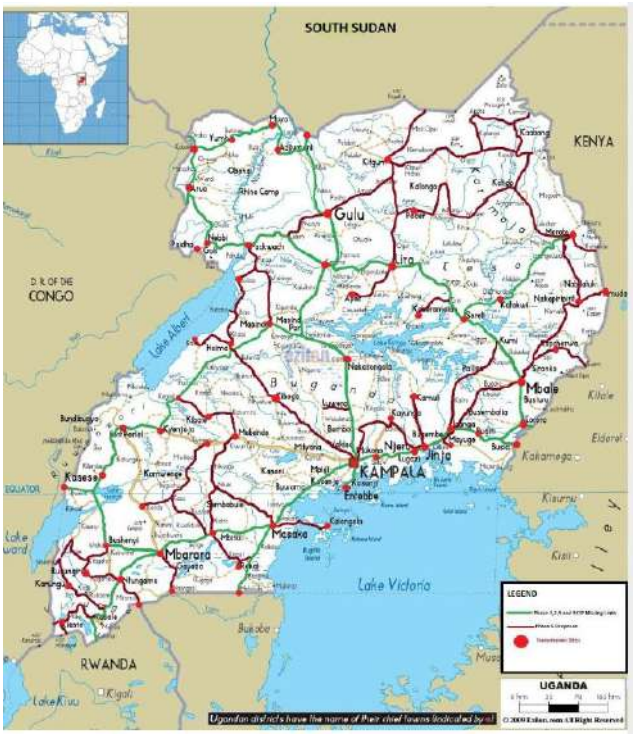


Figure 35: Map showing National Backbone Infrastructural development

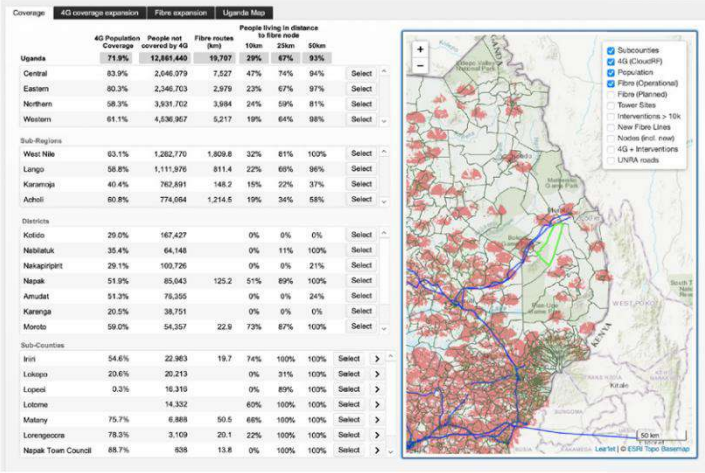


Figure 36: Map showing Network Coverage in Uganda (2020)

In 2022, Uganda's Internet Exchange Point (IXP) had 29 peering networks that also access content from CDN caches, such as Google. Regional carriers like Bandwidth & Cloud Services (BCS), Internet Solutions, Liquid Telecom, and SEACOM enhance the quality of peers at the UIXP. Before the COVID-19 lockdown, peak traffic in 2020 reached 18 Gbps, reducing the need for costly international bandwidth[29]. However, traffic declined as users shifted to mobile internet, which has a lesser impact on the IXP since mobile operators use on-network CDN cache nodes. Traffic has since recovered. Access to fiber remains a challenge. While the availability of fiber routes is a key factor, access to a fiber node is equally important. A node serves as a central connection point for users within a given

[29] Print (nita.go.ug)

area. In Kenya, 41% of the population is within 10 km of a fiber node, compared to only 29% in Uganda.[30]

Internet connectivity to neighboring countries is sufficient, with eight fiber cables extending across borders. In the figure, the dark blue lines indicate existing fiber connections, while the dotted red lines represent planned fiber routes. The majority of the proposed national fiber infrastructure is being developed by Liquid, UETCL, and NITA.

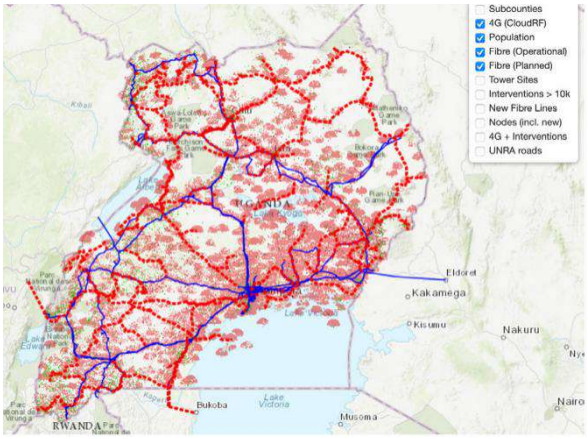


Figure 37: Map showing fiber connections in Uganda (2020)

3.2.2 Source of Energy and Internet accessibility

The most predominant power source widely adopted across RHDs is Solar power highlighting its role as a crucial alternative where traditional electricity grids are limited or inaccessible. Alongside solar energy, access to the national grid, generator use, and alternative sources like torches, dry cell lamps, and firewood also vary significantly across locations as detailed in the subsections below.

3.2.2.1 Sources of Energy

The study reveled that the main source of energy widely adopted across RHDs for both refugees and host communities is Solar power used by 68.9% of refugee survey respondents and 55.5% of host community survey respondents. Notably, the host community has greater access to the national grid at (33.1%) compared to refugees at (17.5%) from the survey respondents. Generator usage remains low, with 3.1% of refugee respondents and 6.1% of host community respondents depending on it.

Sources of energy	Solar	National Grid	Generator	None
				
Refugees (n=1402)	**68.9%** (966)	**17.5%** (245)	**3.1%** (44)	**10.5%** (147)

[30] Ibid

Host Community (n=1461)	**55.5%** (811)	**33.1%** (484)	**6.1%** (89)	**5.3%** (77)

Figure 38: Comparative Analysis of Energy Sources Utilized by Refugees and Host Communities

The above response from the survey questionnaire were collaborated by majority of the participants in Focus Group Discussions who indicated that the following are the main sources of energy to power up their digital devices in the order of importance; a) solar (69), b) electricity(31), and c) Generator(16)as further noted by the following respondents during the FGDs;

"*Solar is a more reliable option for meeting our daily energy needs*" **(Women in host community Isingiro)**

"*Solar power systems are affordable to install and maintain in households, making them long lasting*" **(youth in Rwamwanja Host community)**

"*Power is not consistent, especially during the rainy season. We can go without power for three days. It is very disturbing because some of us don't have solar, We use small touch for lighting*" **(Women in Rwamwanja Refugee settlement Base Camp 2)**

"The cost to use the generator is very high" **(Youth, Palabek settlement)**

The survey respondents further mentioned other energy sources used for lighting and cooking like candles, charcoal, and firewood are minimally used, while alternative sources such as torches and dry cell lamps are more common among refugee respondents (6.6%) compared to the host community respondents (2.1%). Additionally, some respondents indicated that they use other sources of energy like candles, batteries, local bulbs, phone lights, torches, dry cells, and lamps for lighting. Among those using alternative energy sources, the majority rely on torches, dry cells, and lamps, with 6.6% (93) of refugees and 2.1% (31) of the host community using these options for lighting.

Sources of energy used per Settlement

Refugees and host community respondents rely predominantly on solar power, with the highest usage recorded in Rhino Camp, where 96.8% (122) of refugees and 100% (29) of host community survey respondents rely on solar energy. The usage partner further differ in the various settlements as illustrated in the table below;

a. **Pagirinya**: Solar power is the primary energy source for both refugees (87.7%) and host communities (64%), showing a reliance on renewable energy. However, the host community also heavily uses other sources (48%), indicating a need for more reliable energy solutions. Only a small fraction relies on the national grid (9.4% for refugees, 48% for hosts).

b. **Nakivale**: A significant portion of refugees (69.5%) and host communities (67.9%) rely on solar energy. Other energy sources such as candles, lanterns, or firewood are also widely used (48.1% among hosts), reflecting limited infrastructure for sustainable energy.

c. **Oruchinga**: Both refugees (76%) and host communities (78%) heavily depend on solar energy. There is limited national grid access (8% for hosts and only 8% for refugees), and reliance on alternative sources like lanterns and candles remains notable (21% for host community).

d. **Kampala**: The majority of both refugees (90.5%) and host communities (89.8%) have access to the national grid, making it the most connected settlement in terms of traditional electricity. Solar use is minimal (14.3% among refugees, 13.7% among hosts), likely due to grid availability.

e. **Rwamwanja**: Solar power is widely used (73.3% by refugees, 71% by hosts), but reliance on the national grid is relatively low (26.7% refugees, 26% hosts). Other energy sources remain common, highlighting gaps in consistent power supply.

f. **Kyangwali**: Solar is prominent among refugees (67.6%) and less so among hosts (42.7%). The national grid serves 29.4% of refugees and 41.3% of hosts, but many still rely on alternative sources (14.7% refugees), showing limited reach of reliable power.

g. **Kiryandongo**: Solar power dominates for refugees (98.7%), whereas the national grid serves most hosts (80.6%). Refugees here have limited access to the national grid (1.3%), indicating a strong need for alternative energy sources.

h. **Lobule**: While most host community members rely on solar power (95.1%), only 64.7% of refugees do so. A minority of hosts (3.7%) and refugees (35.3%) use other sources, reflecting limited infrastructure support.

i. **Kyaka**: Solar energy is popular among both refugees (66.3%) and hosts (72%), but access to the national grid is low (21.8% refugees, 32% hosts), suggesting an area needing better power distribution.

j. **Palabek**: All host community members (100%) use solar power, with 72% of refugees doing the same. National grid and generator access is negligible, indicating a heavy reliance on solar for all energy needs.

k. **Rhino Camp:** Almost all respondents (96.8% refugees, 100% hosts) rely on solar energy, with very little access to other sources, making it one of the most solar-reliant settlements.

l. **Palorinya**: Solar power usage is high among both refugees (84%) and hosts (96%). The national grid is nearly absent here, underscoring a reliance on off-grid solutions for basic needs.

m. **Imvempi**: Solar power is widely used by both refugees (92%) and hosts (92.1%), with very little use of other sources, making solar the primary energy option in this settlement.

n. **BidiBidi**: All host community members (100%) and most refugees (84.4%) rely on solar energy. The national grid is not present, indicating that the community is heavily dependent on renewable energy for daily needs.

Table 6: Energy Sources Used by Settlements

Settlement	Sources of energy Key guide Refugee i. R-Refugee Respondents ii. H-Host Community Respondents iii. Other sources for cooking, lighting etc (Other energy sources such as Candles, Lanterns, firewood, Charcoal, Local bulb & Torches)							
	Solar power 		Generator 		National Grid 		Others 	
	R	**H**	**R**	**H**	**R**	**H**	**R**	**H**
Pagirinya (R=171) (H=50)	87.7% (150)	64.0% (32)	1.2% (2)	10.0% (5)	9.4% (16)	48.0% (24)	4.1% (7)	2.0% (1)
Nakivale (R=128)(H=106)	69.5% (89)	67.9% (72)	7.0% (9)	8.5% (9)	31.3% (40)	50.9% (54)	10.9% (14)	48.1% (51)
Oruchinga (R=25) (H=100)	76.0% (19)	78.0% (78)	4.0% (1)	0.0% (0)	8.0% (2)	21.0% (21)	12.0% (3)	5.0% (5)
Kampala (R=126)(H=226)	14.3% (18)	13.7% (31)	12.7% (16)	10.6% (24)	90.5% (114)	89.8% (203)	0.8% (1)	0.4% (1)
Rwamwanja (R=75) (H=100)	73.3% (55)	71.0% (71)	4.0% (3)	9.0% (9)	26.7% (20)	26.0% (26)	5.3% (4)	1.0% (1)
Kyangwali (R=102) (H=75)	67.6% (69)	42.7% (32)	2.9% (3)	17.3% (13)	29.4% (30)	41.3% (31)	14.7% (15)	0.0% (0)
Kiryandongo (R=75) (H=103)	98.7% (74)	9.7% (10)	2.7% (2)	7.8% (8)	1.3% (1)	80.6% (83)	5.3% (4)	0.97% (1)
Lobule (R=17) (H=81)	64.7% (11)	95.1% (77)	0.0% (0)	1.2% (1)	0.0% (0)	3.7% (3)	35.3% (6)	2.5% (2)
Kyaka (R=101) (H=100)	66.3% (67)	72.0% (72)	0.0% (0)	1.0% (1)	21.8% (22)	32.0% (32)	21.8% (22)	5.0% (5)
Palabek (R=75) (H=50)	72.0% (54)	100.0% (50)	4.0% (3)	4.0% (2)	0.0% (0)	0.0% (0)	26.7% (20)	2.0% (1)
Rhino Camp (R=126) (H=29)	96.8% (122)	100.0% (29)	3.2% (4)	0.0% (0)	0.0% (0)	0.0% (0)	3.2% (4)	0.0% (0)
Palorinya (R=100) (H=25)	84.0% (84)	96.0% (24)	1.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	16.0% (16)	8.0% (2)
Imvempi (R=50) (H=76)	92.0% (46)	92.1% (70)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	8.0% (4)	9.2% (7)
BidiBidi (R=128) (H=75)	84.4% (108)	100% (75)	0.0% (0)	22.7% (17)	0.0% (0)	4% (3)	15,6% (20)	0.0% (0)

The survey results, which reveal widespread perceptions of limited and poor-quality electricity among refugees and the host community, are strongly reinforced by insights from key informants who consistently highlighted the lack of reliable infrastructure, limited access to alternative energy sources, and insufficient investment in electricity services in refugee settlements as critical barriers. These challenges were further emphasized in their statements, with some respondents noting,

"The electricity supply is inconsistent and barely meets the needs of the communities, especially in refugee settlements." ***KII respondent from Oruchinga***

"Without significant upgrades in infrastructure and extending the electricity to the rural areas, access to reliable electricity will remain a major issue." ***KII respondent from Kampala***

*"Solar is often preferred due to its reliability, especially in off-grid areas where other power sources are inconsistent" (**KII Respondent from Civil Society Organization in Rwamwanja Settlement).***

*"Electricity supply is erratic, especially during the rainy season, which makes it unreliable for powering digital devices consistently" (**Civil Society Representative in Yumbe District).***

"The cost of using a generator is prohibitive, and it's not feasible for many due to high fuel prices" ***(KII Respondent from Palabek Settlement).***

3.2.2.2 Access to Internet

Out of the 2,494 survey respondents, more than half 55.3% (1380) indicated to have access to internet, further analysis reveals that more male respondents from both host communities (32.6%) and refugee settlements (27.3%) reported having internet access. The figure below provides valuable insights into internet accessibility among male and female respondents across host communities and refugee settlements.

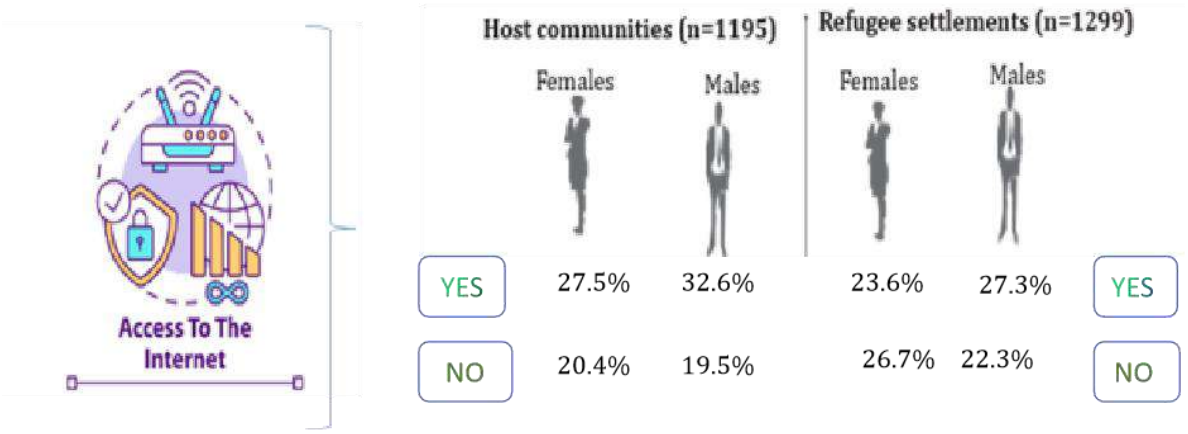


Figure 39: level of internet accessibility in both host and refugee settlements.

Access to internet across age groups: The digital accessibility rates across age groups, as detailed in Table 8, highlight the respondents from both the host community and refugee settlements. Among the 718 respondents from the host community that indicated to have access to internet connectivity, the 19-25 age group showed the highest level of internet access, with 30.1% (99) of 329 female respondents and 21.5% (66) of 389 male respondents having access. In refugee settlements, of the 662 respondents, 20.0% (71) of 355 male respondents had internet access, compared to 21.5% (66) of 307 female respondents. This indicates a slight gender disparity in access within this age group, as shown in the table below.

Table 7: A table showing digital accessibility from host communities and host settlements.

	Host Community (n=718)		Refugee settlement (n=662)	
Age	Female (=329)	Male (n=389)	Female (n=307)	Male (n=355)
18 and below	3.3% (11)	5.4% (21)	3.9% (12)	2.5% (9)
19-25	30.1% (99)	25.4% (99)	21.5% (66)	20.0% (71)
26-30	28.6% (94)	29.8% (116)	21.8% (67)	12.7% (45)
31-35	18.2% (60)	18.0% (70)	13.4% (41)	17.2% (61)
36-40	9.4% (31)	8.0% (31)	16.9% (52)	14.1% (50)
40-45	5.5% (18)	8.0% (31)	11.1% (34)	18.3% (65)
46-50	2.4% (8)	2.8% (11)	6.5% (20)	10.4% (37)
51-55	0.9% (3)	1.0% (4)	2.9% (9)	3.4% (12)
56-60	0.6% (2)	0.8% (3)	1.3% (4)	0.8% (3)
61-65	0.9% (3)	0.8% (3)	0.3% (1)	0
65-70	0	0	0.3% (1)	0.6% (2)

Internet among Persons with Disabilities (PWDs): Of the 173 persons with disabilities surveyed from host communities, Majority 61.3% (106) of the respondents reported having no access to the internet, representing the largest proportion. In contrast, 38.7% (67) of respondents indicated they had internet access. The 140 PWDs from refugee settlements only 33.6% had access to internet while 66.4% did not have as presented in the figure below.

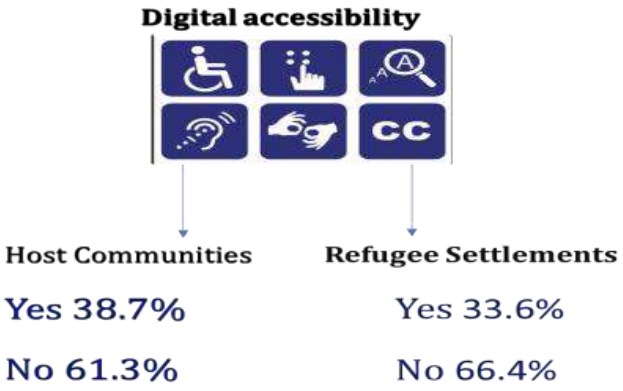


Figure 40: Showing PWDs who have access to internet

Internet accessibility across settlements: In Bidi Bidi, of the 203 respondents, 49.8% (101) reported having access to digital devices, while 50.2% (102) did not, indicating an almost equal split in access. In contrast, in Kampala Central, out of 350 respondents, 77.4% (271) reported having access, with 22.6% (79) lacking access. This shows a significantly higher level of digital accessibility in Kampala Central compared to Bidi Bidi and more information is illustrated in the figure below.

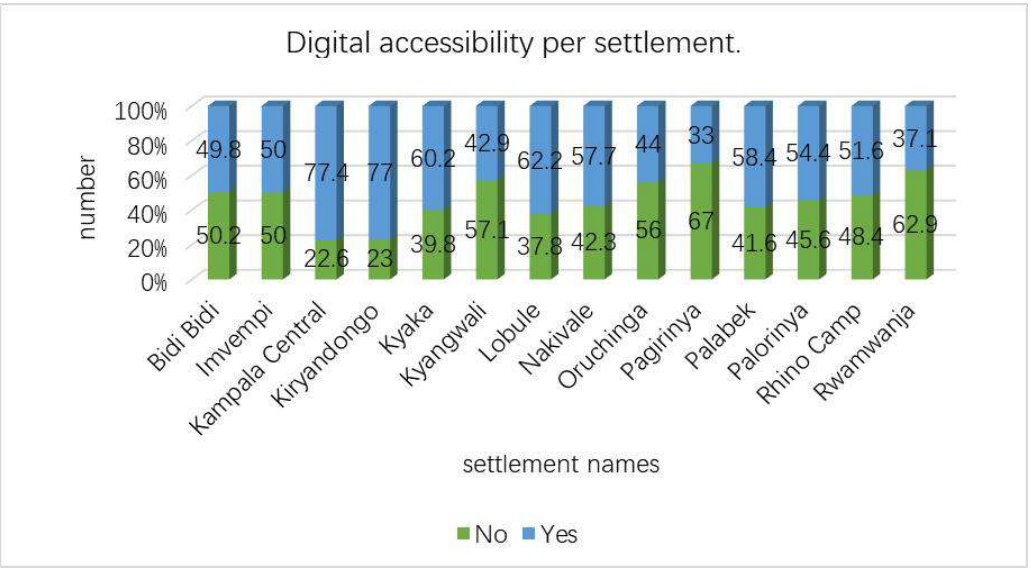


Figure 41: Graph showing respondents who have access to internet per settlement

The data highlights disparities in internet reach, with many settlements showing significant portions of residents lacking digital access, which underscores the need for targeted interventions to improve connectivity and digital inclusion in these regions.

3.2.3 Quality of Service

In an increasingly interconnected world, the quality of essential services such as electricity, mobile network coverage and internet connectivity play a crucial role in enhancing the lives of individuals and communities. This evaluation focused on the perspectives of both refugee and host communities in each RHD.

A. General quality of electricity for the survey respondents

From the survey respondents electricity is perceived as poor in refugee settlements but moderately better in host communities. In refugee settlements, a majority perceive electricity as poor in reliability 63%(812), availability 61%(791), accessibility 60.8%(788), and quality 62%(810), with only 14–16% rating these aspects as good. In contrast, the host community reports better perceptions, with fewer rating electricity as poor (35–38%) and a higher proportion rating it as good across all dimensions (36–40%). These findings suggest that refugees face significantly greater challenges in accessing and benefiting from electricity services compared to the host community, indicating a need for targeted interventions to improve service delivery in refugee settlements.

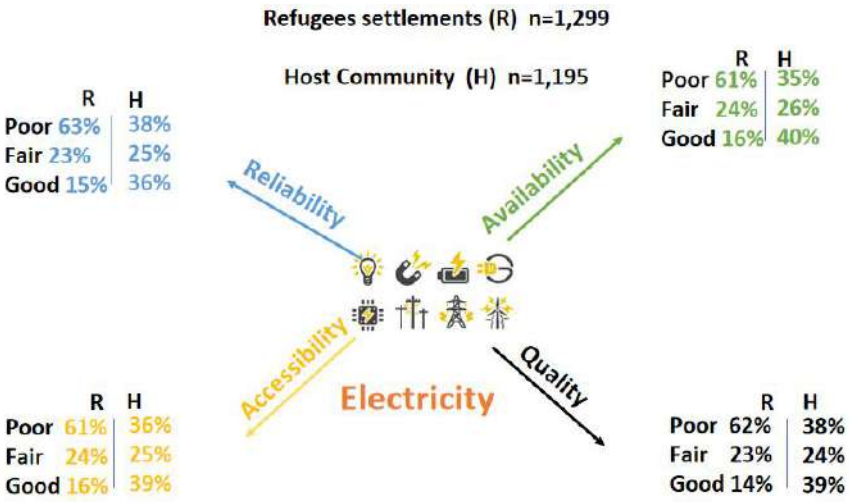


Figure 42: Status of Electricity for Refugees and Host Communities survey respondents

B. Mobile Network

The mobile network is generally perceived as moderately good by both refugees and the host community, though some challenges remain. Among refugees (n=1,299), 42.3% rated reliability as good, 49.3% rated availability as good, 47.9% rated accessibility as good, and 46.2% rated quality as good. Similarly, the host community (n=1,195) reported comparable perceptions, with 43.5% rating reliability as good, 48.4% rating availability as good, 48.7% rating accessibility as good, and 42.5% rating quality as good. However, a consistent minority in both groups (approximately 20–25%) rated these dimensions as poor, indicating persistent gaps in mobile network services. While the overall trends suggest relatively better performance in availability and accessibility, both communities experience similar challenges in quality and reliability.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n=1,299	24.8% (322)	32.9% (427)	42.3% (550)	19.1% (248)	31.6% (410)	49.3% (641)	17.9% (232)	34.2% (444)	48.0% (623)	20.5% (266)	33.3% (432)	46.3% (601)
Host =1,195	25.4% (304)	26.5% (317)	43.5% (520)	21.2% (253)	30.4% (363)	48.5% (579)	20.0% (239)	31.3% (374)	48.7% (582)	24.0% (287)	33.5% (400)	42.5% (508)

C. Internet

Refugees consistently report higher levels of dissatisfaction (i.e., "Poor" ratings) across all categories and services. For instance, 48.6% of refugees rate internet bandwidth reliability as poor compared to 36% of the host community. Similarly, dissatisfaction with fiber optic networks is stark, with over 75% of refugees rating reliability and quality as poor, compared to around 70% in the host community. Cloud service providers are rated poorly by 69.7% of refugees for reliability and 71.9% for quality, while the host community reports lower but still significant dissatisfaction at 67.1% and 68.1%, respectively. Internet Service Providers show the narrowest gap, with 38.1% of refugees and 36.9% of the host community rating reliability as poor, though "Good" ratings are higher in the host community (31.1% vs. 27.9%). Overall, refugees consistently report worse access to internet services compared to the host community, reflecting greater challenges in infrastructure and service delivery.

Table 8: Internet Service provision for Refugees and Host Communities survey respondents

		Reliability			Availability			Accessibility			Quality		
		Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Refugees													
	Internet/Bandwidth	632	447	220	595	429	275	600	437	262	623	420	256
	Fiber Optic cable network	985	233	81	1001	213	85	1013	213	73	1026	193	80
	Internet Service Providers	495	442	362	486	495	318	524	465	310	559	460	280
	Cloud Service Providers	905	253	141	946	233	120	949	231	119	952	222	125
Host	Internet/Bandwidth	430	391	374	416	347	432	429	355	411	469	338	388
	Fiber Optic cable network	855	231	109	873	206	116	884	198	113	877	212	106
	Internet Service Providers	442	381	372	456	352	387	460	358	377	496	358	341
	Cloud Service Providers	802	246	147	816	239	140	838	229	128	837	234	124

The engagement with KIIs affirmed this trend as indicated by some of the key informants below;

*"The electricity is concentrated to the center like at the district offices , and not accessible in all the areas of the district"(**District Official, Kamwenge)***

*"The electricity has a problem of irregularity, 30% of the time its on and 70% its off and people are affected in the hospital, businesses are affected greatly too" (**District Official , Kiryandongo)***

*"Internet accessibility in the area is fair, but quality remains poor, affecting our ability to use digital services effectively." **(Local Leader, Palabek)***

*"The affordability of digital devices is a challenge, and coupled with unreliable power sources, it limits digital adoption in our community." **(KII, Respondent from Bidibidi Refugee Settlement)***

D. Presentation of the findings per settlement

a) Adjumani

In Adjumani, the analysis of electricity and mobile network services highlights key disparities between refugees and the host community. For electricity, the most striking finding is the overall poor ratings across all dimensions for refugees. Furthermore, refugees face substantial challenges in accessing reliable, available, and quality internet-related services, with internet/bandwidth and fiber optic networks rated particularly poorly. The host community, on the other hand, has better access and rates these services more favorably, though limitations still exist. These findings underscore the need for targeted improvements in digital infrastructure for refugees to ensure equitable access to essential internet and cloud services.

Electricity: A majority of refugee respondents rated electricity as unreliable 49.7%(85), poorly available 49%(84), and difficult to access 50.9%(87), with low quality 49%(84). In contrast, the host community gave significantly better ratings, with most respondents finding electricity to be fair or good across these dimensions. This indicates that refugees face considerable challenges in accessing reliable and quality electricity compared to the host community.

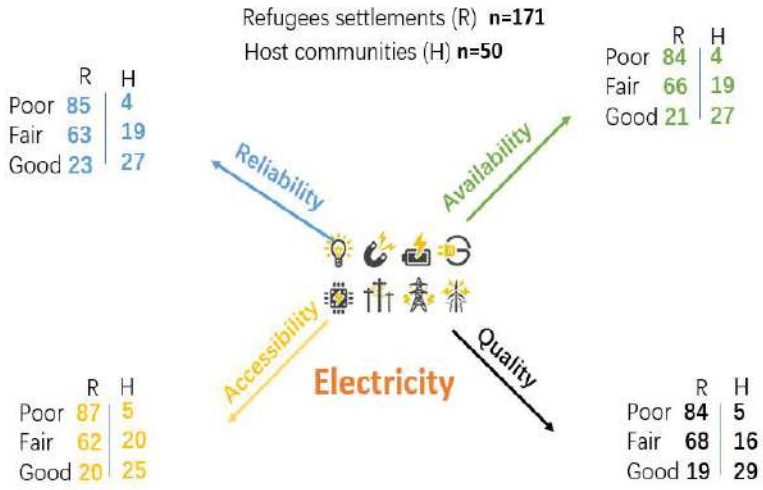


Figure 43: Status of Electricity for Refugees and Host Communities in Adjumani

For the mobile network, the trend is more positive, with both refugees and the host community rating it relatively favorably. A large portion of refugees rated the network as good in terms of reliability 53.2% (91), availability 60.8% (104), accessibility and quality 62% (106), showing general satisfaction. The host community also provided favorable ratings, though slightly lower than the refugees' ratings in the "good" category.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n=171**	36	44	91	25	42	104	22	43	106	20	45	106
Host **n=50**	8	11	31	7	8	35	6	11	33	6	11	33

Internet related services: The data for internet-related services among refugees and the host community in Adjumani highlights significant differences in access, reliability, and quality of these digital resources.

For internet/bandwidth, refugees reported high dissatisfaction, with 94% (94) rating reliability, 95% (95) rating availability, 104% (104) rating accessibility, and 104% (104) rating quality as poor, indicating major challenges. In contrast, the host community rated these aspects more favorably, with 21% (21) rating reliability and 22% (22) rating quality as good. Fiber optic cable networks were particularly problematic for refugees, with 91% (114) rating reliability, availability, accessibility, and quality as poor. Hosts also rated fiber optics poorly but with slightly higher fair ratings. For ISPs, refugees had mixed ratings, with 52% (52) rating reliability and 41% (41) rating availability as good, showing relatively better satisfaction than other services. Hosts rated ISPs even more favorably, reflecting greater accessibility. Cloud services showed prevalent poor ratings among refugees, with 86% (86) marking reliability as poor, though 33% (33) rated it as good, indicating some limited accessibility.

Table 9: Internet Service provision for Refugees and Host Communities in Adjumani

		Reliability			Availability			Accessibility			Quality		
Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**
Refugees	Internet/Bandwidth	94	69	8	95	67	9	104	58	9	104	62	5
	Fiber Optic cable network	114	53	4	113	54	4	114	53	4	110	57	4

	Internet Service Providers	61	58	52	66	64	41	63	71	37	65	69	37
	Cloud Service Providers	86	52	33	86	52	33	87	53	31	89	50	32
Host	Internet/Bandwidth	9	17	21	11	17	22	11	18	21	10	18	22
	Fiber Optic cable network	44	5	1	45	5	0	46	2	2	44	3	3
	Internet Service Providers	31	9	10	32	7	11	31	9	10	33	6	11
	Cloud Service Providers	48	2	0	48	2	49	0	1	0	48	1	1

The host community's fair ratings suggest moderate accessibility, though quality and reliability remain issues.

b) Isingiro

Electricity access in Isingiro remains a challenge for both refugees and the host community, particularly in terms of reliability and accessibility. However, quality is perceived more positively by refugees. The mobile network shows moderate satisfaction levels, with fair to good ratings being common, indicating reasonable access but with potential for enhancement in reliability and quality.

For electricity, Overall, refugees perceive electricity services slightly more positively than host community in Isingiro, particularly in availability and quality, though challenges in reliability and accessibility persist for both groups.

Among refugees, reliability is rated poor by 34% (52), fair by 49% (74), and good by 17% (26), while in host communities, 47% (97) rate it poor, 26% (53) fair, and 27% (56) good. For availability, 33% (50) of refugees rate it poor, 37% (57) fair, and 30% (45) good, compared to 49% (101), 24% (49), and 27% (56), respectively, in host communities. Accessibility is seen as poor by 31% (47) of refugees and 51% (104) of hosts, with good ratings of 23% (35) and 27% (56), respectively. For quality, refugees rate it poor at 34% (51), fair at 24% (36), and good at 42% (65), while hosts rate it poor at 54% (112), fair at 24% (50), and good at 21% (44).

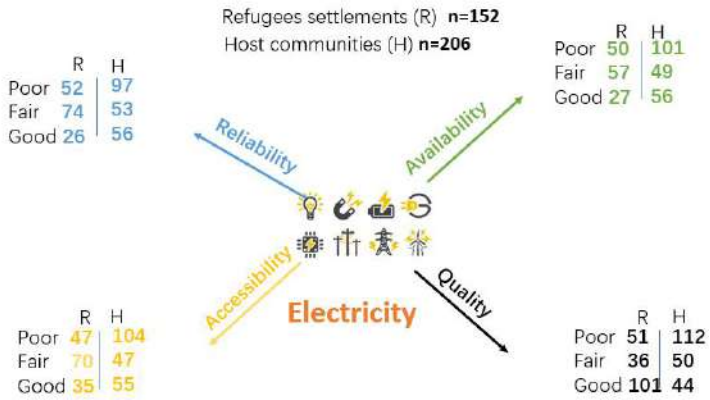


Figure 44: Status of Electricity for Refugees and Host Communities in Isingiro

In terms of the mobile network, both refugees and the host community in Isingiro showed moderate satisfaction. For reliability, a fair number of refugees rated it positively (36.1%(55) good, 20.3%(3) fair), but poor ratings were also notable 43.4%(66). Availability and accessibility were fairly balanced across the categories, though accessibility had more positive ratings among refugees 38.8%(59) rated it as good. The host community's ratings were fairly dispersed, with a slight preference for fair to good ratings across all dimensions, indicating general satisfaction with mobile network access but with room for improvement. Both groups rated quality similarly, with fair (44 for

refugees, 39.8%(82) for host community and good (24.3%(50) for refugees, 22.8%(47) for host community) ratings, suggesting that while network access is reasonably available, its quality could be improved.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n=152	66	31	55	55	42	55	46	47	59	58	44	50
Host n = 206	80	69	57	68	61	77	63	67	76	77	82	47

Internet related services: Similarly, 43.4% (66) found the availability of internet services to be fair, 49.3%(75)highlighting internet is fairly accessible with 53.3% (81) respondent rated internet as fair quality. Fiber optic cable networks garnered relatively lower ratings, 40.1% (61) of refugees viewed fiber optic cable network's reliability as poor, reflecting ongoing challenges. Mobile networks also suffered from lower ratings, with a notable portion indicating poor experiences. In contrast, the host community, 206 respondents, demonstrated slightly favorable ratings, with 27% (53) of them rating electricity reliability as good as detailed in the table below;

Table 10: Internet Service provision for Refugees and Host Communities in Isingiro

		Reliability			Availability			Accessibility			Quality		
		Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Refugees n=152	Internet/Bandwidth	63	61	28	56	66	30	49	75	28	55	81	16
	Fiber Optic cable network	125	22	5	128	19	5	132	16	4	139	9	4
	Internet Service Providers	61	43	48	48	63	41	63	55	34	66	61	25
	Cloud Service Providers	125	22	5	128	19	5	125	23	4	125	22	5
Host Community n = 206	Internet/Bandwidth	108	76	22	103	67	36	107	57	42	114	63	29
	Fiber Optic cable network	182	13	11	182	13	11	183	15	8	183	16	7
	Internet Service Providers	96	73	37	100	64	42	98	63	45	109	63	34
	Cloud Service Providers	170	29	7	175	25	6	179	19	8	186	17	3

The stark differences in service quality between refugees and host communities underscore an urgent need for targeted improvements in essential services for the refugee population to ensure equitable access to vital resources.

c) Kamwenge

In Kamwenge, The data on electricity, mobile network, and internet services reveals contrasting experiences between refugees and the host community, with clear challenges across multiple dimensions for both groups.

Electricity: Among the 100 refugee respondents, 39% (39) rated electricity as fair for both availability and accessibility, while 42%(42) rated its reliability as fair, and 39% (39) respondents rated the quality of electricity as fair. In contrast, the host community had a more balanced distribution, with a larger number of good ratings (e.g., 16%(16) for reliability and availability), though a significant portion still rated each aspect poorly. This suggests that while both groups face issues, refugees

experience more pronounced difficulties with electricity, particularly in terms of consistent availability and reliability.

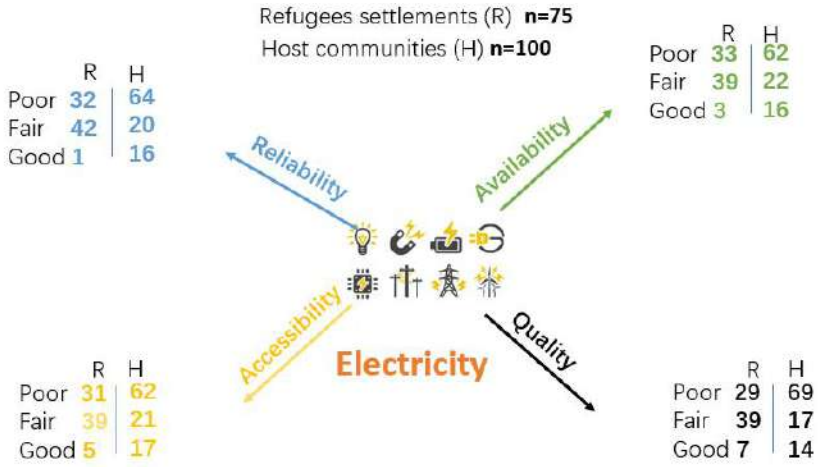


Figure 45: Status of Electricity for Refugees and Host Communities in Kamwenge

This was further noted by a respondent from the district office who indicated that;

> *"The electricity is concentrated to the center, and not accessible in all the areas, it's expensive to connect a house as they need certificate of inspection and to first the buy a pole"*

For mobile network services, both refugees and the host community rated them slightly better than electricity. Among refugees, reliability was rated as good by 17% (13), fair by 59% (44), and poor by 24% (18). Availability was rated good by 43% (32), fair by 39% (29), and poor by 19% (14). Accessibility received a good rating from 20% (15), fair from 60% (45), and poor from 20% (15). For quality, 23% (17) rated it as good, 59% (44) as fair, and 19% (14) as poor.

The host community rated the mobile network slightly better, with reliability marked as good by 23%, fair by 29%, and poor by 48%. Availability was rated good by 23%, fair by 31%, and poor by 46%. Accessibility was marked good by 22%, fair by 34%, and poor by 44%. For quality, 21% rated it as good, 32% as fair, and 47% as poor.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n=75	18	44	13	14	29	32	15	45	15	14	44	17
Host n=100	48	29	23	46	31	23	44	34	22	47	32	21

For internet services (including bandwidth, fiber optic, ISPs, and cloud services), both refugees and the host community face notable challenges, with refugees experiencing more severe limitations. Among refugees, fiber optic networks were particularly poorly rated, with reliability marked as poor by 65% (49), and quality also rated poorly by over half. Cloud services also received low scores, with reliability rated poor by 57% (43) and quality by 57% (43).

The host community rated internet services slightly better but still had issues, especially with fiber optic networks, where reliability was rated poor by 90% (90). ISPs had relatively higher satisfaction ratings for both groups, with more respondents selecting fair or good, indicating that, among internet services, ISPs provide a more satisfactory experience.

Table 10: Internet Service provision for Refugees and Host Communities in Kamwenge

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees (N=75)	Internet/Bandwidth	31	38	6	30	33	12	31	34	10	30	33	12
	Fiber Optic cable network	49	19	7	50	18	7	53	17	5	51	20	4
	Internet Service Providers	25	35	15	29	31	15	27	33	15	27	37	11
	Cloud Service Providers	43	20	12	44	23	8	43	20	12	43	21	11
Host Community N=100													
	Internet/Bandwidth	70	21	9	73	15	12	71	18	11	69	24	7
	Fiber Optic cable network	90	8	2	92	8	0	91	4	5	91	7	2
	Internet Service Providers	67	26	7	72	21	7	68	24	8	74	20	6
	Cloud Service Providers	73	13	14	72	14	14	71	17	12	68	18	14

In summary, refugees face substantial barriers across electricity, mobile network, and internet services, with poor ratings dominating. The host community also reports challenges, though with slightly better access and quality, especially for mobile networks. These findings highlight the need for targeted improvements to infrastructure and service quality, especially for refugees who experience significantly lower access and satisfaction across all categories.

d) Kikube

In Kikube, electricity and mobile network services are generally rated more positively than internet and fiber optic services, especially among the host community. However, significant limitations exist for internet services in both groups, with refugees facing more pronounced challenges in accessing reliable internet, particularly for fiber optic connectivity.

Electricity: Among 102 refugees, electricity services were rated with mixed perceptions. Reliability and quality were rated as poor by 35% (36). Availability was marked as fair by 41% (42), and accessibility was rated fair by 39% (40). This suggests that refugees experience challenges with consistent access to reliable electricity. While For the 75 host community respondents, electricity services received more favorable ratings. Reliability was rated good by 33% (25), availability by 47% (35), accessibility by 43% (32), and quality by 49% (37). However, there were no excellent ratings, indicating that while electricity is more accessible for the host community than refugees, room for improvement remains.

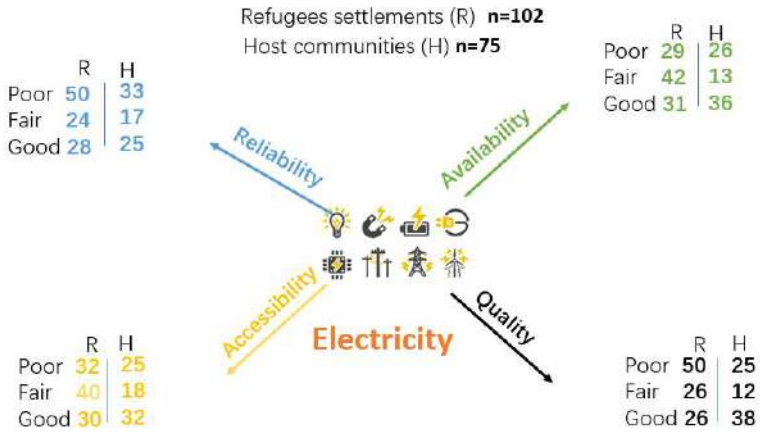


Figure 46: Status of Electricity for Refugees and Host Communities in Kikube

A key informant also noted that;

"Power is not consistent, especially during the rainy season. We can go without power for three days. It is very disturbing because some of us don't have solar. We use small touch for lighting."

Mobile networks: Among 102 refugee respondents, mobile networks received mixed ratings but leaned towards moderate satisfaction. Reliability was rated as good by 60% (61), availability was rated as good by 67% (68), accessibility was rated as good by 66% (67), and quality was rated as good by 61% (62). This indicates that refugees generally find mobile network services to be accessible and satisfactory, particularly in terms of availability and accessibility. While for the 75 host community respondents, mobile networks were also rated favorably, though with slightly lower percentages in the good category. Reliability was rated as good by 47% (35), availability as good by 47% (35), accessibility as good by 47% (35), and quality as good by 47% (35) as illustrated in the table below;

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n=102	21	20	61	17	17	68	13	22	67	14	26	62
Host n=75	25	15	35	22	18	35	23	17	35	22	18	35

Internet Services: Internet and bandwidth services among refugees were rated moderately, with reliability marked as poor by 53% (54), fair by 27% (27), and good by 21% (21). Availability was similarly rated, with 52% (52) marking it as poor, 24% (24) as fair, and 26% (26) as good. Accessibility was rated as poor by 53% (53), fair by 23% (23), and good by 26% (26). Quality had similar ratings, with poor marked by 54% (54) and good by 25% (25). The fiber optic network was rated poorly, with 92% (94) rating both reliability and availability as poor, and 91% (93) rating quality as poor, indicating significant limitations in fiber optic accessibility. Internet Service Providers (ISPs) showed more favorable ratings, with 36% (36) rating reliability, availability, and accessibility as good, suggesting that ISPs are relatively more accessible for refugees. However, cloud service providers faced low ratings, with over 80% of refugees rating each dimension as poor.

For the host community, internet services also presented challenges, particularly with fiber optic networks. Reliability and availability of fiber optics were rated as poor by 79% (59) and 81% (61), respectively, with only 1% rating these aspects as good, indicating minimal access to fiber optic services. Internet and bandwidth services received moderate ratings, with reliability marked as poor

by 39% (29), fair by 33% (25), and good by 28% (21). ISPs were rated positively, with 33% (25) rating reliability and availability as good, though quality received mixed reviews. Cloud services were largely rated poorly, with reliability marked as poor by 81% (61), and only 12% marking reliability as fair.

Table 11: Internet Service provision for Refugees and Host Communities in Kikube

		Reliability			Availability			Accessibility			Quality		
		Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Refugees n=102	Internet/Bandwidth	54	27	21	52	24	26	53	23	26	54	23	25
	Fiber Optic cable network	94	4	4	94	4	4	94	5	3	93	6	3
	Internet Service Providers	43	23	36	45	21	36	46	20	36	49	17	35
	Cloud Service Providers	85	9	8	89	6	7	87	10	5	86	12	4
Host Community n=75	Internet/Bandwidth	29	25	21	27	25	23	32	26	17	32	19	24
	Fiber Optic cable network	59	15	1	61	12	2	63	0	0	57	18	0
	Internet Service Providers	27	23	25	27	28	20	32	23	20	28	26	21
	Cloud Service Providers	61	12	47	28	2	0	64	9	2	63	10	2

This highlights substantial gaps in quality for most internet services, particularly in fiber optics, though ISPs received relatively better feedback compared to other services.

e) Kiryandongo

In Kiryandongo, the evaluation of essential services such as electricity and internet access reveal notable differences in experiences between refugees and the host community regarding reliability, availability, accessibility, and quality.

Electricity: The evaluation of electricity services reveals notable disparities between refugees and the host community, with the host community consistently rating each aspect more favorably. For reliability, 79% (81) of host respondents rated it as good, compared to only 12% (9) of refugees. Availability showed a similar contrast, with 79% (81) of hosts rating it as good, while 67% (50) of refugees rated it as poor. In terms of accessibility, 78% (80) of host respondents rated it as good, whereas 80% (60) of refugees rated it poorly. Finally, quality was rated as good by 79% (81) of hosts, but 83% (62) of refugees marked it as poor.

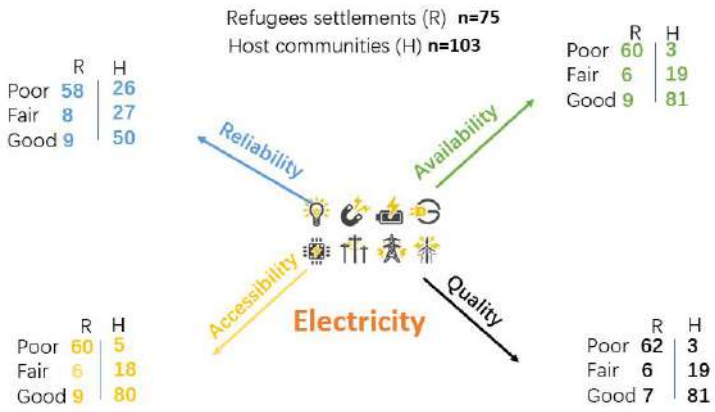


Figure 47: Status of Electricity for Refugees and Host Communities in Kiryandongo

These results highlight substantial challenges faced by refugees in accessing reliable, available, accessible, and high-quality electricity, pointing to a critical need for infrastructure improvements in refugee settlements to bridge this service gap.

Mobile Network: Among refugees, the mobile network received mixed reviews. Reliability was rated as poor by 42% (32), fair by 16% (12), and good by 42% (31). Availability was similarly rated, with 41% (31) marking it as poor, 17% (13) as fair, and 41% (31) as good. Accessibility received slightly better feedback, with 43% (32) rating it as good, although 41% (31) still rated it as poor. For quality, 40% (30) rated it as good, while 40% (30) marked it as poor, showing a divided perception on service quality among refugees.

The host community rated mobile networks much more favorably. Reliability was rated as good by 83% (83), with only 7% (7) marking it as poor. Availability received similar high ratings, with 89% (89) rating it as good and only 6% (6) as poor. Accessibility was also well-rated, with 89% (89) marking it as good, while only 5% (5) marked it as poor. Quality followed the same trend, with 85% (85) rating it as good and only 4% (4) as poor.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n=75**	32	12	31	31	13	31	31	12	32	30	15	30
Host **n= 103**	7	13	83	6	8	89	5	9	89	4	14	85

These findings indicate that the host community has a generally positive experience with mobile network services, in stark contrast to the more limited access and quality reported by refugees.

Internet Services: Internet services among refugees were rated poorly across most dimensions. For internet/bandwidth, reliability was rated poor by 57% (43) and good by only 14% (11). Availability and accessibility were similarly rated, with 58% (44) marking availability as poor and only 15% (12) as good. Quality was rated as poor by 61% (47), with only 15% (12) marking it as good. Fiber optic cable networks performed the worst, with 82% (63) rating reliability as poor and only 5% rating it as good. Internet Service Providers (ISPs) had slightly better ratings, with 41% (53) rating reliability as poor, while 8% (6) marked it as good. Cloud service providers were also rated poorly, with 84% (64) marking reliability as poor and only 4% rating it as good.

The host community rated internet services significantly better than refugees. For internet/bandwidth, reliability was rated good by 73% (73), with only 13% (13) rating it as poor. Availability and accessibility were both rated good by 80% (82 and 80, respectively). Fiber optic cable networks showed a broader range of ratings, with 76% (76) rating reliability as poor, though 14% rated it as good. ISPs were viewed favorably, with 78% (78) marking reliability as good and only 9% as poor. Cloud service providers received mixed ratings, with 34% rating reliability as good and 61% as poor.

Table 12: Table 12: Internet Service provision for Refugees and Host Communities in Kiryandogo

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**

Refugees **n=75**	Internet/Bandwidth	43	21	11	44	19	12	43	21	11	47	16	12
	Fiber Optic cable network	63	7	5	65	6	4	65	6	4	64	6	5
	Internet Service Providers	53	16	6	50	20	5	52	16	7	55	13	7
	Cloud Service Providers	64	8	3	68	3	4	68	3	4	68	3	4
Host communities **n= 103**	Internet/ Bandwidth	13	17	73	11	10	82	11	12	80	13	13	77
	Fiber Optic cable network	76	13	14	77	14	12	78	12	13	79	8	16
	Internet Service Providers	9	16	78	9	9	85	9	9	85	10	12	81
	Cloud Service Providers	61	8	34	63	7	33	64	9	30	64	9	30

In summary, the host community in Kiryandongo enjoys significantly better mobile network and internet services than refugees. The majority of host respondents rate mobile network reliability, availability, accessibility, and quality as good, whereas refugees experience substantial limitations, particularly in internet and fiber optic services, with high percentages rating these as poor across all dimensions. This disparity highlights a need for improved digital infrastructure and access for refugees in Kiryandongo.

f) Koboko

In Koboko, there is a significant difference in the perception of electricity services between refugees and the host community. For reliability, 48% (39) of host respondents rated it as good, compared to none among refugees, where 100% (17) rated it as poor. Availability was rated as good by 42% (34) of hosts, while none of the refugees rated it positively, with 82% (14) marking it as poor. Accessibility showed a similar pattern, with 37% (30) of hosts rating it as good, whereas 82% (14) of refugees rated it as poor. Lastly, for quality, 41% (33) of hosts rated it as good, but none of the refugees gave a good rating, with 88% (15) rating it as poor.

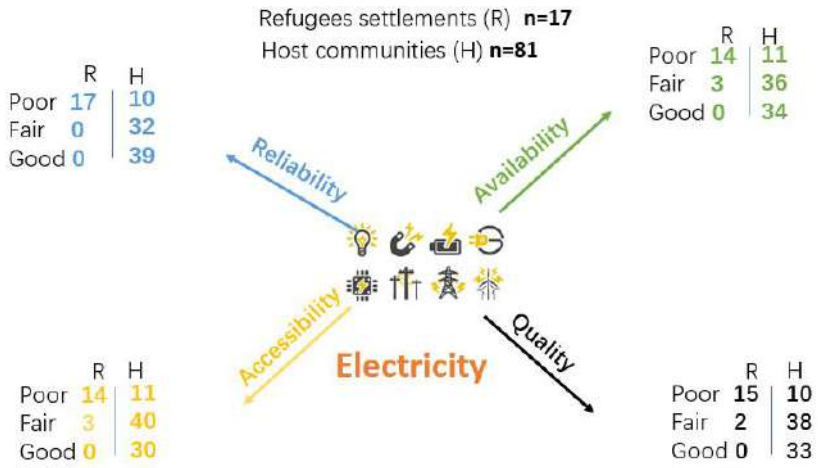


Figure 48: Status of Electricity for Refugees and Host Communities in Koboko

These findings underscore the critical challenges refugees face in accessing reliable, available, accessible, and quality electricity, highlighting the need for targeted interventions to improve electricity infrastructure for refugees in Koboko.

Mobile network services among refugees are notably limited, with no respondents rating any aspect as good. For reliability, 65% (11) rated it as poor and 35% (6) as fair. Availability followed a similar trend, with 47% (8) rating it as poor and 53% (9) as fair. Accessibility and quality were rated as poor by 71% (12) and 65% (11), respectively, with none rating them as good. This data indicates a critical lack of adequate mobile network services for refugees on the hand, the host community rated mobile network services much more positively. Reliability was rated good by 35% (28), while 42% (34) rated it as fair, and 23% (19) as poor. Availability was rated as good by 35% (28) and fair by 51% (41). Accessibility and quality had higher good ratings as well, with accessibility rated as good by 46% (37) and quality by 37% (30) as illustrated in the table below. This shows that the host community has significantly better access to mobile network services than refugees.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 17**	11	6	0	8	9	0	12	5	0	11	6	0
Host **n= 81**	19	34	28	12	41	28	4	40	37	4	47	30

Internet services among refugees were rated poorly across all dimensions. For internet/bandwidth, 53% (9) rated reliability as poor, with none rating availability or quality as good. The fiber optic network was rated poorly across all dimensions, with 88% (15) marking reliability as poor and no respondents marking it as good. Internet Service Providers (ISPs) were similarly rated poorly, with 76% (13) rating reliability as poor and only 12% (2) rating accessibility as good. Cloud service providers had the worst ratings, with 82% (14) rating reliability as poor and only 6% (1) rating quality as fair.

For the host community, internet services were rated more favorably. Internet/bandwidth reliability was rated as good by 40% (32) and as fair by 53% (43), indicating better satisfaction than among refugees. Fiber optic networks still faced challenges, with 56% (45) rating reliability as poor, though 10% (8) rated it as good. ISPs had better ratings, with 33% (27) marking reliability as good and 58% (47) as fair. Cloud service providers were also rated more positively, with 36% (29) rating reliability as good and only 10% (8) rating it as poor.

Table 13: Internet Service provision for Refugees and Host Communities in Koboko

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees	Internet/Bandwidth	9	3	5	16	1	0	16	1	0	15	2	0
	Fiber Optic cable network	15	2	0	15	2	0	14	1	2	15	2	0
	Internet Service Providers	13	2	2	11	6	11	5	1	0	15	1	1
	Cloud Service Providers	14	3	0	16	0	1	14	3	0	16	1	0
Host	Internet/Bandwidth	6	43	32	7	37	37	6	47	28	8	34	39
	Fiber Optic cable network	45	28	8	54	15	12	55	15	11	53	17	11
	Internet Service Providers	7	47	27	7	45	29	7	44	30	9	53	19
	Cloud Service Providers	8	44	29	7	50	24	8	52	21	9	52	20

"Internet services are really available and where we can access it, it is very expensive for many to use"

In conclusion, the host community in Koboko has significantly better access to and satisfaction with both mobile network and internet services compared to refugees. Refugees consistently rated mobile network and internet services poorly across reliability, availability, accessibility, and quality, highlighting substantial gaps in digital access and service quality. The host community's better ratings across all dimensions highlight the need for targeted improvements in digital infrastructure for refugees to bridge this disparity.

g) Kyegegwa

In Kyegegwa, there is a notable difference in the ratings of **electricity** services between refugees and the host community. For reliability, 30% (30) of host respondents rated it as good, compared to only 24% (24) of refugees, with 68% (69) of refugees rating it as poor. Availability was rated as good by 32% (32) of hosts, while only 24% (24) of refugees rated it positively, with 67% (68) of refugees marking it as poor. Accessibility was rated as good by 34% (34) of hosts, contrasting with only 24% (24) of refugees, where 65% (65) rated it poorly. Finally, for quality, 29% (29) of hosts rated it as good, compared to 24% (24) of refugees, with 68% (69) of refugees rating quality as poor as illustrated in the figure below.

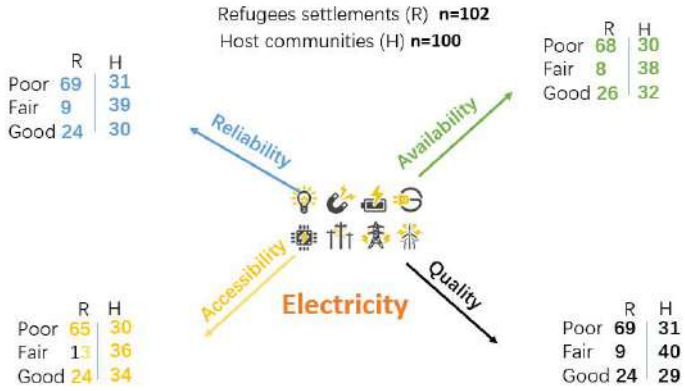


Figure 49: : Status of Electricity for Refugees and Host Communities in Kyegegwa

These figures reflect significant gaps in the accessibility and quality of electricity services for refugees compared to the host community in Kyegegwa, indicating a pressing need for improvements in the reliability and availability of electricity in refugee settlements.

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

> "*Electricity is mainly on the centers, and because of that we can't afford the internet*"

Other respondents from the women focus group further added their voice that;

> "*The electricity is most of the times on and off, especially during the rain then u also find that electricity is only in some zones that is Bukere, and sweswe are connected of the 9 zones. And in Bukere it is not everyone connected*"

In terms of the Mobile Network in Kyegegwa; Refugees rated the mobile network services moderately. For reliability, 47% (48) rated it as good, while 30% (31) rated it as poor. Availability had a good rating from 56% (57), with only 20% (20) marking it as poor. Accessibility was rated as good by 61% (62), with just 15% (15) rating it as poor. Quality received the highest good rating, with 62% (63) rating it positively and 13% (13) marking it as poor. On the other-hand, the host community also rated mobile network services favorably. Reliability was rated as good by 46% (46) and poor by 25%

(25). Availability received a good rating from 53% (53), with only 19% (19) marking it as poor. Accessibility had a similar pattern, with 56% (56) rating it as good and 14% (14) as poor. Quality was rated as good by 57% (57) of respondents and poor by 14% (14). These results show that the host community has similar levels of satisfaction as refugees, with slightly better perceptions in reliability and availability.

	Reliability			Availability			Accessibility			Quality		
	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Refugees **n=102**	31	23	48	20	25	57	15	25	62	13	26	63
Host **n= 100**	25	29	46	19	28	53	14	30	56	14	29	57

Internet services received lower ratings among refugees, especially for fiber optic networks and cloud services. For internet/bandwidth, 30% (31) rated reliability as good, while 58% (59) rated it as poor. Availability and accessibility had fair ratings, with 31% (32) rating availability as good and 37% (38) rating accessibility as good. Fiber optic networks were poorly rated, with 88% (90) marking reliability as poor and only 9% rating it as good across dimensions. ISPs received better feedback, with 38% (39) rating reliability as good, but 31% (32) still rating it as poor. Cloud service providers were rated poorly, with 78% (80) rating reliability as poor and only 8% as good.

For the host community, internet services were rated slightly better than by refugees, but challenges remained. Internet/bandwidth had a good reliability rating from 24% (24), while 36% (36) rated it as poor. Fiber optic networks were still rated poorly, with 86% (86) marking reliability as poor and only 6% as good. ISPs had a mixed rating, with 29% (29) marking reliability as good, but 53% (53) rating it as poor. Cloud services received similarly poor ratings, with 79% (79) rating reliability as poor and only 9% as good.

Table 14: Internet Service provision for Refugees and Host Communities in Kyegegwa

		Reliability			Availability			Accessibility			Quality		
		Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Good
Refugees **n=102**	Internet/Bandwidth	59	12	31	51	19	32	47	17	38	49	14	39
	Fiber Optic cable network	90	3	9	92	5	5	94	4	4	96	3	3
	Internet Service Providers	32	31	39	37	35	30	42	34	26	47	31	24
	Cloud Service Providers	80	14	8	91	6	5	96	4	2	96	4	2
Host Community **n =100**	Internet/Bandwidth	36	40	24	40	38	22	42	35	23	41	38	21
	Fiber Optic cable network	86	8	6	87	9	4	90	8	2	91	7	2
	Internet Service Providers	53	18	29	55	17	28	58	15	27	60	17	23
	Cloud Service Providers	79	12	9	84	10	6	86	9	5	87	8	5

Overall, mobile network services in Kyegegwa are perceived more favorably by both refugees and the host community, particularly in accessibility and quality. However, internet services, especially fiber optic networks and cloud services, are rated poorly across both groups, with refugees experiencing greater limitations in reliability and availability. The data highlights a need for improved internet infrastructure, especially for refugees who face more significant accessibility and quality issues than the host community.

h) Lamwo

In Lamwo, there is a stark contrast between the ratings of **electricity services** among refugees and the host community. For reliability, only 1% (1) of refugees rated it as good, while 96% (72) rated it as poor. In comparison, 70% (35) of the host community rated reliability as good, with only 6% (3) marking it as poor. Availability was also rated poorly by refugees, with 99% (74) marking it as poor and none rating it as good. In contrast, 70% (35) of host respondents rated availability as good. Accessibility was a significant issue for refugees, with 100% (75) rating it as poor, while 56% (28) of host respondents rated accessibility as fair and 38% (19) as good. For quality, all refugees rated it as poor (99%), while the host community had more positive ratings, with 54% (27) marking it as good and only 6% (3) marking it as poor.

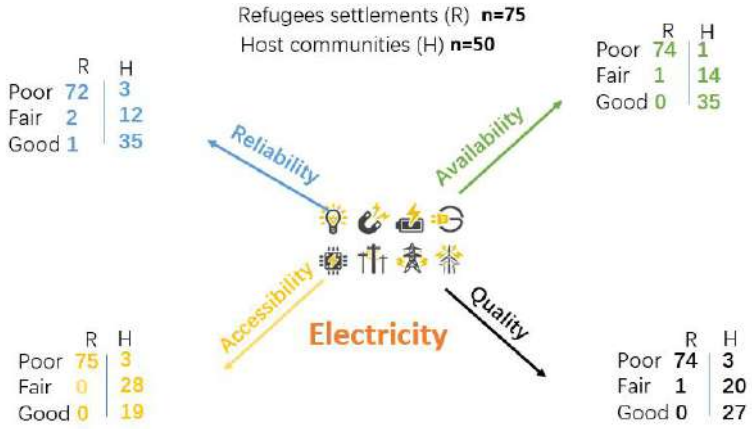


Figure 50: Status of Electricity for Refugees and Host Communities in Lamwo

These results highlight severe challenges in electricity access and quality for refugees in Lamwo, compared to the much more favorable conditions for the host community, underscoring a critical need for improved infrastructure to support electricity access in refugee settlements.

Mobile Network: In Lamwo, there is a noticeable disparity in the perception of mobile network services between refugees and the host community. Among refugees (n=75), reliability was rated as good by 47% (35), whereas 80% (40) of the host community (n=50) rated it as good, highlighting a difference in satisfaction levels. For availability, 59% (44) of refugees rated it as good, compared to 78% (39) of hosts. In terms of accessibility, 53% (40) of refugees rated it as good, while 66% (33) of hosts marked it similarly. When it comes to quality, 59% (44) of refugees rated it as good, contrasting with 46% (23) of hosts, suggesting that refugees find the quality relatively acceptable, while hosts may have higher expectations for service quality.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n =75	13	27	35	7	24	44	8	27	40	15	16	44
Host n =50	3	7	40	2	9	39	1	16	33	11	16	23

These results were also backed up by some youth in Lamwo during the focus group discusion who indicated that;

> "When it comes to network here in Lamwo, even the big companies we know like *MTN and Airtel their network here is very poor*"

Internet Services: Refugees and the host community reported significant challenges with internet services, particularly with fiber optic networks. Among refugees, 75% (56) rated reliability as poor,

whereas 88% (44) of the host community rated it poorly, indicating broad dissatisfaction with fiber optic services. Internet Service Providers (ISPs) received more favorable ratings, with 33% (25) of refugees marking reliability as good, compared to only 28% (14) of hosts. Cloud service providers were rated poorly by both groups, with 63% (47) of refugees and a substantial 94% (47) of hosts marking reliability as poor. Overall, while the host community has a slightly better experience with mobile network services, both groups face significant limitations with internet services, particularly with fiber optic and cloud service providers, underscoring the need for infrastructure improvements in Lamwo.

Table 15: Internet Service provision for Refugees and Host Communities in Lamwo

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 75**	Internet/ Bandwidth	53	21	1	50	24	1	50	23	2	45	28	2
	Fiber Optic cable network	56	16	3	59	13	3	59	16	0	63	10	2
	Internet Service Providers	17	33	25	19	36	20	22	34	19	23	33	19
	Cloud Service Providers	47	12	16	50	10	15	50	11	14	49	13	13
Host **n= 50**	Internet/Bandwidth	13	18	19	12	15	23	14	17	19	26	8	16
	Fiber Optic cable network	44	4	2	48	1	1	48	1	1	49	1	0
	Internet Service Providers	23	13	14	22	14	14	23	13	14	28	14	8
	Cloud Service Providers	47	3	0	49	1	0	50	0	0	50	0	0

Overall, the host community in Lamwo experiences slightly better mobile network services but faces similar challenges with internet, especially in fiber optics and cloud services, as the refugees do. This highlights a widespread need for improvements in internet infrastructure for both groups.

i) Madi-Okollo

In Madi Okollo, there are substantial challenges across electricity, mobile network, and internet services for both refugees and the host community, with refugees facing the most severe limitations. Electricity services received overwhelmingly poor ratings from both groups, with almost all refugees and host respondents indicating issues with reliability, availability, accessibility, and quality, underscoring a critical need for improvements in basic infrastructure. Mobile network services were rated somewhat better, but satisfaction remained moderate, with the majority of refugees marking aspects as fair or poor, while the host community showed only slightly better perceptions, primarily in reliability and accessibility. Internet services, especially fiber optic networks and cloud providers, were the least accessible and satisfactory for both groups. Refugees in particular experienced severe restrictions, with almost all dimensions of internet access rated poorly as detailed in the data below.

Electricity: Both refugees and the host community face extreme limitations in electricity services across all dimensions. Reliability is a significant issue, with 95% (120) of refugees and 100% (29) of the host community rating it as poor. Availability is equally problematic, with 98% (123) of refugees and all host respondents marking it as poor, highlighting pervasive accessibility challenges. Accessibility itself is severely lacking, as 98% (124) of refugees and 100% (29) of hosts rated it poorly. For quality, 98% (124) of refugees and 97% (28) of the host community rated it as poor, with almost no fair or good ratings across any group.

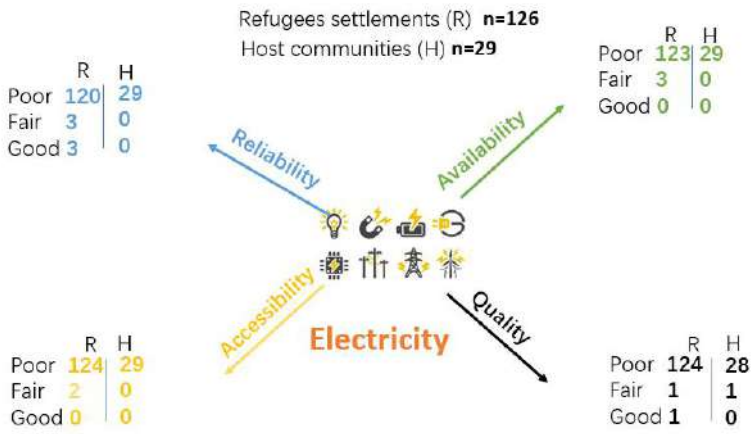


Figure 51: Status of Electricity for Refugees and Host Communities in Madi-Okollo

Mobile Network: In Madi Okollo, there are notable differences in the perception of mobile network services between refugees and the host community. Among refugees (n=126), reliability was rated poorly by 29% (36), with 52% (66) rating it as fair and only 19% (24) as good. Availability had a similar trend, with 21% (27) rating it as poor, 56% (70) as fair, and 23% (29) as good. Accessibility was rated as poor by 21% (26), fair by 58% (73), and good by 21% (27). For quality, 37% (47) of refugees rated it as poor, 39% (49) as fair, and 24% (30) as good. In contrast, the host community (n=29) reported much lower satisfaction, with the majority rating each aspect as fair. For reliability, 76% (22) rated it as fair and only 10% (3) as good. Similar patterns were seen for availability, accessibility, and quality, with limited good ratings across each dimension. Overall, both groups experience moderate satisfaction, though fair ratings dominate among host respondents.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 126**	36	66	24	27	70	29	26	73	27	47	49	30
Host **n= 29**	4	22	3	4	21	4	7	17	5	24	1	4

Internet Services: Internet services, particularly fiber optic networks and cloud services, were rated poorly by both groups, though refugees reported more severe challenges. Among refugees, internet/bandwidth reliability was rated poor by 60% (76), with only 12% (15) rating it as good. For fiber optic networks, 98% (123) of refugees rated reliability as poor, with only 2 rating it as good. Similarly, cloud services were rated poorly, with 92% (116) of refugees marking reliability as poor and only 4% (5) as good. Among the host community, internet/bandwidth reliability was somewhat better, with 76% (22) rating it as fair and only 10% (3) as good. However, fiber optic networks were rated poorly by all host respondents, with no good ratings. Internet Service Providers (ISPs) received slightly better feedback, with 17% (5) of hosts rating reliability as good, but cloud services were still largely rated poorly. This data underscores the significant gaps in internet access and quality for both groups, especially among refugees who face more limited options and poorer service quality.

Table 16: Internet Service provision for Refugees and Host Communities in Madi-Okollo

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 126**	Internet/Bandwidth	76	35	15	72	37	17	74	34	18	88	21	17
	Fiber Optic cable network	123	1	2	123	2	1	125	1	0	125	1	0

	Internet Service Providers	60	39	27	53	47	26	63	41	22	74	29	23
	Cloud Service Providers	116	5	5	118	7	1	120	5	1	116	8	2
Host **n= 29**	Internet/Bandwidth	4	22	3	7	21	1	7	20	2	23	3	3
	Fiber Optic cable network	29	0	0	29	0	0	29	0	0	28	1	0
	Internet Service Providers	14	10	5	15	8	6	18	7	4	23	2	4
	Cloud Service Providers	27	0	2	27	0	2	27	0	2	27	0	2

Overall, the findings highlight a pressing need to enhance infrastructure and digital connectivity in Madi Okollo, especially to improve accessibility and service quality for the refugee population, ensuring equitable access to essential services

j) Obongi

In Obongi, the assessment of electricity services highlights substantial issues across all dimensions for both refugees and the host community, with refugees facing particularly severe challenges. Both refugees and the host community in Obongi face significant limitations with internet services, especially with fiber optics and cloud providers. While mobile network ratings are relatively positive among refugees, there is a clear need for improved internet infrastructure to enhance connectivity for both groups.

Electricity: For reliability, 82% (82) of refugees rated it as poor, while all host community respondents (100%) rated it as poor. Availability was similarly rated poorly, with 81% (81) of refugees marking it as poor, while once again, all host respondents rated it poorly. Accessibility followed the same trend, with 80% (80) of refugees and 100% (25) of the host community rating it as poor. In terms of quality, 83% (83) of refugees rated it as poor, while 100% (25) of host community respondents rated it poorly as well as illustrated in the figure below.

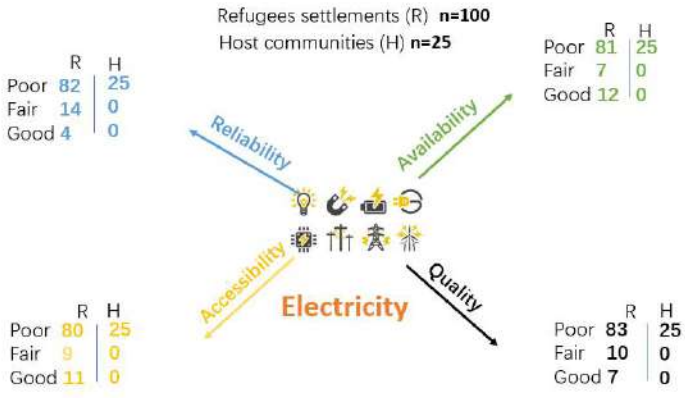


Figure 52: Status of Electricity for Refugees and Host Communities in Obongi

The minimal fair and good ratings among refugees such as 11% (11) rating accessibility as good suggest slight variations, but overall, both communities experience significant deficiencies in electricity services, indicating an urgent need for infrastructure improvements in Obongi.

Mobile Network: Among the refugees in Obongi (n=100), mobile network reliability received positive ratings, with 60% (60) marking it as good and 36% (36) as fair, while only 4% (4) rated it as

poor. Availability was similarly favorable, with 69% (69) rating it as good, 27% (27) as fair, and 3% (3) as poor. Accessibility received good ratings from 63% (63) of refugees and fair ratings from 34% (34), with only 3% (3) rating it poorly. Quality showed a more balanced distribution, with 56% (56) rating it as fair, 40% (40) as poor, and just 4% (4) as good.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 100**	4	36	60	3	27	69	3	34	63	40	56	4
Host **n= 25**	11	14	0	6	17	2	12	12	1	11	14	0

Internet Services: For internet services among refugees in Obongi, Internet/Bandwidth was rated poorly by 46% (46), with only 14% (14) rating it as good. Fiber Optic was particularly low-rated, with 95% (95) marking reliability as poor, and no one rated it as good. Internet Service Providers (ISPs) received more varied responses, with 33% (33) rating reliability as poor, 14% (14) as fair, and just 3% (3) as good. Cloud Services had a predominantly poor rating, with 48% (48) marking reliability as poor and only 2% (2) giving it a fair rating. The host community (n=25) rated all internet services poorly, with 100% (25) marking Internet/Bandwidth, Fiber Optic, and Cloud Services as poor as illustrated in the table below.

Table 17: Table 16: Internet Service provision for Refugees and Host Communities in Obongi

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 100**	Internet/Bandwidth	46	45	9	39	43	18	44	42	14	48	40	12
	Fiber Optic cable network	95	5	0	96	4	0	95	4	1	97	1	2
	Internet Service Providers	19	49	32	17	49	34	18	48	34	24	46	30
	Cloud Service Providers	73	23	4	72	25	3	76	22	2	75	21	4
Host **n= 25**	Internet/Bandwidth	25	0	0	25	0	0	25	0	0	25	0	0
	Fiber Optic cable network	24	1	0	24	1	0	24	1	0	24	1	0
	Internet Service Providers	24	1	0	24	1	0	24	1	0	24	1	0
	Cloud Service Providers	25	0	0	25	0	0	25	0	0	25	0	0

k) Terego

In Terego, the assessment of electricity services reveals severe limitations for both refugees and the host community, with nearly universal dissatisfaction. Mobile network services are more accessible for refugees in Terego, but both refugees and the host community experience severe limitations with internet services, especially with fiber optics and cloud services. Improving internet access would significantly enhance connectivity for both groups.

Electricity: For reliability, 98% (49) of refugees and 93% (70) of the host community rated it as poor, with only 2% (1) of refugees and 5% (4) of the host community marking it as fair, and just 1 host respondent rating it as good. Availability was rated as poor by all refugees (100%) and 89% (67) of host respondents, with only 1 host respondent rating it as good. Accessibility was similarly constrained, with 96% (48) of refugees and 95% (71) of the host community rating it as poor. For quality, 96% (48) of refugees and 95% (71) of the host community also rated it as poor, with minimal

fair ratings and no good ratings among refugees, and only 4% (3) of hosts rating it as good. These results highlight a critical lack of reliable, available, accessible, and quality electricity for both communities, indicating an urgent need for intervention to address electricity infrastructure in Terego.

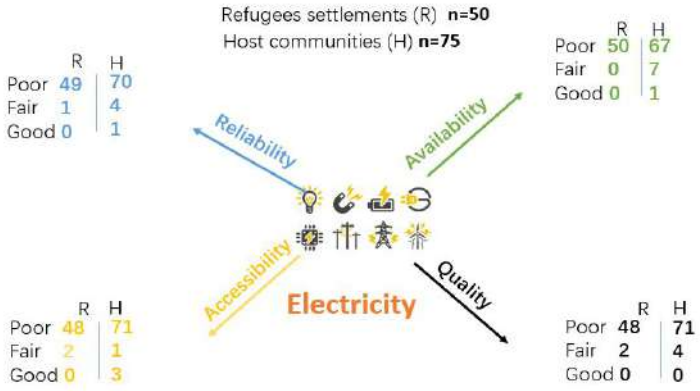


Figure 53: Status of Electricity for Refugees and Host Communities in Terego

A key informant implementing a project in the settlement also further noted that;

> *"The settlement where we are implementing Tech programs have no access to electricity. We are relying on solar power"*

Mobile Network: In Terego, refugees (n=50) rated the mobile network fairly positively. Reliability was rated as good by 74% (37) and as fair by 8% (4), with only 18% (9) rating it as poor. Availability had similar results, with 80% (40) rating it as good, 12% (6) as fair, and 8% (4) as poor. Accessibility was rated as good by 78% (39) and fair by 14% (7). Quality received the highest good rating, with 70% (35) marking it as good. The host community (n=75) had more moderate ratings, with 55% (41) rating reliability as fair, 14% (10) rating it as good, and 32% (24) as poor as illustrated below.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees n =50	9	4	37	4	6	40	4	7	39	4	11	35
Host n =75	24	41	10	19	44	12	18	47	10	20	48	7

Internet Services: For internet services, refugees in Terego reported significant challenges, particularly with Fiber Optic and Cloud Services. Internet/Bandwidth was rated poorly by 32% (16) and fair by 40% (20). Fiber Optic saw the poorest ratings, with 98% (49) of refugees rating it poorly and no good ratings. ISPs received somewhat better feedback, with 20% (10) rating reliability as good, though 68% (34) rated it as poor. For the host community, Internet/Bandwidth was rated poorly by 65% (49), with no good ratings across any internet services.

Table 17: Internet Service provision for Refugees and Host Communities in Terego

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 50**	Internet/Bandwidth	16	20	14	12	21	17	12	22	16	12	25	13
	Fiber Optic cable network	49	1	0	49	1	0	49	1	0	49	1	0

	Internet Service Providers	33	14	3	34	14	2	34	15	1	35	15	0
	Cloud Service Providers	48	2	0	49	1	0	47	2	1	50	0	0
Host community **n =75**	Internet/Bandwidth	49	26	0	46	24	5	44	27	4	49	25	1
	Fiber Optic cable network	59	16	0	62	12	1	61	12	2	61	11	3
	Internet Service Providers	26	40	9	28	36	11	32	33	11	32	31	12
	Cloud Service Providers	47	21	7	50	20	5	56	16	3	56	18	1

As noted by one of the respondent in the FGD; "*We have not used Fiber Optic cable network, and the challenge is it is static, and it is inconveniencing*"

l) Yumbe

While both communities in Yumbe experience significant issues with electricity reliability, availability, accessibility, and quality, the host community shows marginally better ratings across all dimensions, pointing to slightly improved but still inadequate access compared to the refugee settlements. Furthermore, Refugees in Yumbe have moderate satisfaction with mobile networks but face substantial limitations with internet services, especially fiber optics and cloud providers. The host community shares similar concerns, though mobile network services are slightly more accessible for them. Internet infrastructure improvements are necessary to ensure reliable connectivity for both groups.

Electricity: For reliability, 84% (105) of refugees rated it as poor, while 59% (44) of the host community marked it as poor, with 25% (19) of hosts rating it as fair and 16% (12) as good. Availability was rated poorly by 83% (104) of refugees, while 52% (39) of host respondents rated it as poor; however, 32% (24) of hosts rated availability as fair, and 16% (12) rated it as good, showing a relatively better experience among the host community. Accessibility was rated as poor by 80% (101) of refugees, with only 22% (16) rating it as fair and 11% (9) as good. Among the host community, 56% (42) rated accessibility as poor, with 32% (24) marking it as fair and 12% (9) as good, indicating slightly better access for hosts. For quality, 84% (105) of refugees rated it as poor, with only 11% (9) rating it as good. The host community had a more balanced perception, with 60% (45) rating quality as poor, 32% (24) as fair, and 8% (6) as good.

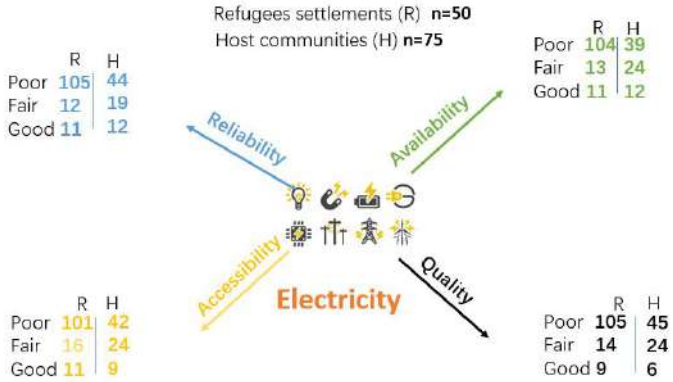


Figure 53: Status of Electricity for Refugees and Host Communities in Yumbe

Mobile Network: In Yumbe, among refugees (n=128), reliability was rated as good by 30% (39) and fair by 45% (57), while only 25% (32) rated it as poor. Availability was marked as good by 41% (53) and fair by 37% (48), with 22% (27) rating it as poor. Accessibility was also rated positively, with 40%

(51) marking it as good. Quality showed the highest satisfaction, with 43% (55) rating it as fair and 37% (48) as good. For the host community (n=75), reliability was mostly fair, with 48% (36) marking it as such.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 128**	32	57	39	27	48	53	28	49	51	25	55	48
Host **n= 75**	36	36	3	34	33	8	36	32	7	36	32	7

Internet Services: Internet services in Yumbe were rated poorly, particularly Fiber Optic and Cloud Services. Internet/Bandwidth reliability was marked as poor by 48% (62) of refugees, and Fiber Optic reliability was rated poorly by 66% (85). ISPs received slightly better feedback, with 33% (25) rating it as fair and 20% (19) as good. Among the host community, Internet/Bandwidth was rated poorly by 63% (47) and Fiber Optic by 58% (44)

Table 18: Internet Service provision for Refugees and Host Communities in Yumbe

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n= 128**	Internet/ Bandwidth	62	42	24	61	29	38	61	35	32	59	30	39
	Fiber Optic cable network	85	33	10	85	27	16	85	30	13	88	28	12
	Internet Service Providers	58	45	25	59	46	23	63	44	21	63	46	19
	Cloud Service Providers	79	38	11	87	28	13	88	27	13	87	24	17
Host Community **n= 75**	Internet/Bandwidth	47	25	3	39	30	6	41	27	7	41	27	7
	Fiber Optic cable network	44	27	4	43	26	6	41	29	5	4	39	32
	Internet Service Providers	38	33	4	39	32	4	38	36	1	37	36	2
	Cloud Service Providers	43	31	1	42	31	2	40	34	1	41	33	1

m) Kampala

In Kampala, electricity services are perceived quite differently between refugees and the host community, with the host community reporting significantly better experiences across all dimensions.

Electricity: For reliability, 52% (66) of refugees rated it as poor, while only 9% (20) of host community respondents marked it as poor. In contrast, 64% (144) of hosts rated reliability as good, compared to only 2% (3) among refugees. Availability of electricity showed a similar trend, with 17% (21) of refugees rating it as poor, whereas only 6% (14) of hosts rated it as poor. A substantial 65% (148) of hosts rated availability as good, in contrast to 49% (62) of refugees who rated it as fair. Accessibility was rated positively by the host community, with 73% (164) marking it as good, while only 48% (61) of refugees rated it as good, and 17% (22) rated it as poor. In terms of quality, 13% (16) of refugees rated it as poor, whereas only 9% (20) of the host community shared this view. Meanwhile, 71% (160) of hosts rated quality as good, compared to 52% (65) of refugees.

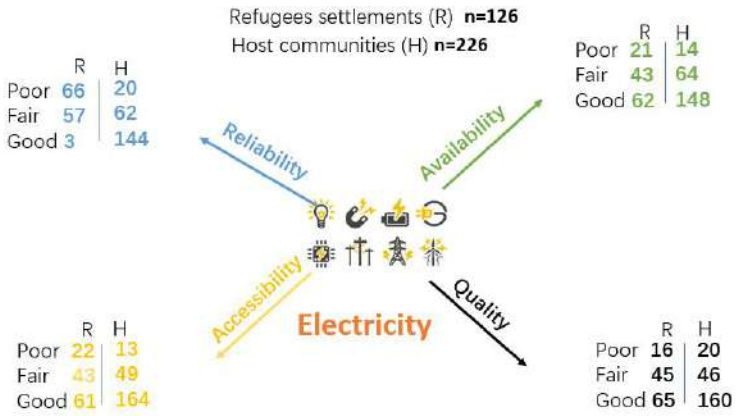


Figure 54: Status of Electricity for Refugees and Host Communities in Kampala

Mobile Network: In Kampala, refugees (n=126) and the host community (n=226) had relatively high ratings for mobile networks. Among refugees, reliability was rated as good by 44% (56) and fair by 45% (57), with only 10% (13) rating it as poor. The host community rated it even higher, with 71% (161) marking it as good and only 6% (14) as poor. Availability was rated as good by 47% (59) of refugees and 77% (174) of hosts, indicating strong satisfaction across both groups. Accessibility and quality also received high ratings, with 49% (62) of refugees marking accessibility as good and 68% (178) of hosts doing the same.

	Reliability			Availability			Accessibility			Quality		
	Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n=126**	13	57	56	9	58	59	9	55	62	12	59	55
Host **n=226**	14	51	161	8	44	174	6	42	178	11	56	159

Internet Services: Both refugees and the host community rated internet services well in Kampala, with Internet/Bandwidth reliability marked as good by 41% (52) of refugees and 65% (147) of hosts. Fiber Optic had lower ratings, but still, 32% (40) of refugees and 27% (60) of hosts rated it as good. ISPs received favorable ratings from 42% (52) of refugees and 56% (127) of hosts, showing a high level of satisfaction as illustrated in the table below.

Table 19: Internet Service provision for Refugees and Host Communities in Kampala

		Reliability			Availability			Accessibility			Quality		
		Poor	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**	**Poor**	**Fair**	**Good**
Refugees **n=126**	Internet/Bandwidth	18	56	52	18	45	63	16	52	58	16	46	64
	Fiber Optic cable network	27	67	32	32	58	36	33	58	35	36	50	40
	Internet Service Providers	20	54	52	18	63	45	20	49	57	15	62	49
	Cloud Service Providers	45	45	35	48	53	25	48	48	30	52	43	31
Host **n=226**													
	Internet/Bandwidth	18	61	147	15	48	163	18	51	157	18	66	142
	Fiber Optic cable network	72	94	60	68	91	67	74	88	64	72	94	60
	Internet Service Providers	27	72	127	25	71	130	23	82	121	28	78	120
	Cloud Service Providers	113	71	42	112	68	46	119	64	43	113	68	45

Generally, the quality of electricity, mobile network, and internet services varies significantly across regions, with both refugees and host communities facing distinct challenges, though refugees generally experience more severe limitations. Electricity services are consistently rated poorly across all districts, with both reliability and accessibility cited as major issues, especially in remote areas like Obongi and Terego. Mobile network services tend to be more accessible and better rated than electricity, with Kampala showing the highest levels of satisfaction across both refugees and host communities, reflecting a more developed infrastructure in urban areas. Internet services, particularly fiber optics and cloud providers, are the most problematic, with consistently poor ratings in rural areas, especially among refugee populations, who face limited access and quality across all internet dimensions. Overall, while urban areas like Kampala offer relatively better connectivity and service quality, there is an urgent need for infrastructure development in rural and refugee-hosting districts to ensure reliable access to electricity and digital services for all communities.

3.2.4 Challenges hindering digital infrastructure development and connectivity

Limited funding, geographical barriers, and poor existing infrastructure are the primary challenges hindering digital infrastructure development and connectivity in refugee and host communities.The primary challenges hindering digital infrastructure development and connectivity among 2,494 survey respondents from refugee and host communities include; limited funding and investment, cited by 20% (498), highlighting a critical need for financial support. Geographical barriers followed closely, reported by 16% (399), reflecting difficulties in reaching remote or isolated areas. Poor existing infrastructure was cited by 15% (374), indicating the foundational challenges in establishing connectivity. Lack of skilled personnel was another significant barrier, noted by 12% (299), emphasizing the need for technical expertise. Uncoordinated efforts among regulating bodies were raised by 10% (249), suggesting governance challenges impacting infrastructure development. The high cost of internet access was highlighted by 10% (249), affecting affordability, especially in refugee areas. Other notable barriers include regulatory and policy constraints at 8% (199) and security concerns at 6% (149), while limited digital literacy was identified by 3% (75) as illustrated in the figure below.

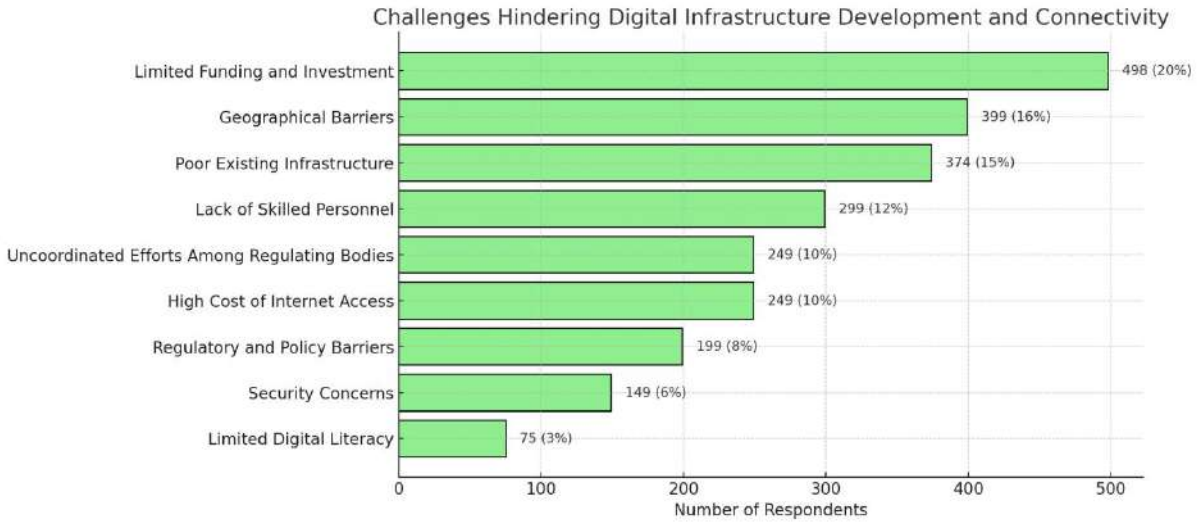


Figure 55: Challenges Hindering Digital Infrastructure development and connectivity

Furthermore, discussions with Implementing partners, Local Government Officials and MDAs at Central Government on several regulatory challenges hindering digital Further infrastructure development in Refugee Hosting Districts (RHDs) highlighted Infrastructure issues, such as electricity and network coverage, were most mentioned in respondents from hosting communities (47%) and refugee settlements (29%). Financial barriers such as high internet costs and limited funding were largely suggested by respondents in the host communities (32%) and district offices (24%). Policy implementation related challenges, like delays and unclear regulations were also highlighted by district offices (33%) and entities like UCC and NITA-U as a big concern. Lastly, Skills gaps, language barriers, and low awareness of regulations were identified as common challenges in refugee settlements, with 29% of respondents highlighting these issues.

As further noted by some of the respondents that;

"Language barrier is a big issues for refugees like those from Congo and South Sudan who may find it difficult to understand English and other languages. And Most of the technology is built in a language that is not easily adapted by each person but also not embraced by the community because of the difference in language." ***KII respondent from Adjumani***

"The lack of Human resource that is competent enough to be able to train the users/people in these communities remains a challenge." ***KII respondent from Oruchinga***

"In the Northern Uganda, land here is owned by communities and landlords this means that everything done on the land has to be temporary and has affecting infrastructure development in RHDs mainly in the Northern Uganda Settlements." ***KII respondent from Lamwo***

3.2.5 Best practices from other jurisdictions and lessons for Uganda on digital Infrastructure and connectivity

Germany and Sweden are recognized for their advanced digital frameworks, strong regulatory environments, and investment in rural connectivity, while Jordan and Rwanda provide valuable insights into expanding digital access within refugee and rural communities. Each of these countries has implemented unique approaches to overcome connectivity challenges, especially in areas with high infrastructure demands. By analyzing these practices, we drew lessons that can be adapted to Uganda's context, especially to improve digital infrastructure and connectivity in underserved and refugee-hosting regions.

Table 20: Best practices from other jurisdictions and lessons for Uganda on digital Infrastructure and connectivity

Country	Current status	Best Practices
Germany	Germany has made substantial investments in its digital infrastructure, High-speed internet access and 4G/5G coverage across both urban and rural areas is available, with 89% of businesses in Germany having access to fast broadband connections (30 Mbps or higher) as of 2023, placing it above the EU average . Furthermore, the country's data center industry is	• Investing in robust digital infrastructure, including high-speed internet, extensive mobile network coverage, and data centers, are crucial for efficient service delivery especially in the RHDs • Addressing the digital divide

	growing rapidly, with investments in colocation and hyper scale data centers projected to exceed €24 billion by 2029. These facilities form a backbone for Germany's digital transformation efforts, supporting a wide array of services including cloud computing and AI. Additionally, Germany has expanded fibre optic networks aimed at creating nationwide gigabit connectivity by 2025, further enhancing digital access in both urban and rural regions.[31] This extensive network infrastructure plays a critical role in ensuring reliable and inclusive digital service delivery for marginalized groups, including refugees. Germany has invested in expanding public Wi-Fi networks, particularly in refugee shelters and community centers. This ensures that refugees and host communities can access the internet for essential services, education, and communication.	between urban and rural areas, will help ensure reliable connectivity for refugee settlements. ● Providing free public Wi-Fi in refugee shelters and community centers will be effective in facilitating communication, online learning, and access to government services for refugees. ● Encouraging Public Private Partnerships to support in the provision of public Wi-Fi networks helps to bridge the digital divide in refugee communities.
Sweden	By 2021, 90% of Swedish households had access to fiber-optic broadband including those in rural areas and refugee communities. This is backed by public-private partnerships, with Telia, the largest telecom in Sweden, playing a key role in expanding connectivity. The Digital Government Act ensures that 80% of public services are available online, making healthcare, education, and employment services easily accessible[32].	● Investing in high-speed internet access for all citizens, particularly refugees in the underserved areas. ● Encouraging public-private partnerships (PPP) which could lead to an increase in online public service usage in Uganda's refugee districts. ● Extending Broad band connectivity for all citizens including those in refugee settlements.
Jordan	Jordan has made significant strides in its digital infrastructure and connectivity, with widespread access to mobile networks and high internet penetration. Approximately 98% of Jordan's population has access to 3G and 4G mobile networks, with urban areas experiencing strong internet connectivity[33]. The country's National ICT Strategy has helped drive the expansion of digital services, ensuring that even marginalized groups, including refugees, have access to digital platforms. The Refugee Connectivity Initiative (by UNHCR) facilitates digital access for refugees by enabling them to use mobile services legally in Jordan.	● Investing in expanding internet access and mobile coverage in rural areas where majority of the marginalized groups, including refugees reside. ● Establishing partnerships with different service providers especially telecom providers to improve mobile phone penetration and offer more affordable internet access to enhance digital service delivery in the RHDs.
Rwanda	According the GSMA Report (2019), Rwanda's mobile phone penetration is at 72% with a 3G Coverage of 94%. The mobile money prevalence in the country is at 31%. Rwanda has developed a nationwide 4G LTE broadband network, extended to remote and underserved areas, including refugee camps, through Public-Private Partnerships (PPP).	● Investing in more ICT infrastructure in order to expand its reach to the refugees and host communities and ensure affordable connectivity. ● Expanding 4G broadband coverage in Refugee Hosting Districts (RHDs) to significantly

[31] https://www.deutschland.de/en/topic/business/digitisation-germany-is-expanding-its-digital-infrastructure
[32] Swedish Broadband Strategy Report: https://www.government.se/articles/2017/07/broadband-strategy-for-sweden/
[33] https://dco.org/council/jordan/

	Rwanda leverages satellite technology and local ISPs to provide low-cost connectivity options in refugee settlements. Mobile network operators are also required to provide subsidized data plans to refugees, improving connectivity.	improve access to essential digital services empowering refugees to integrate better into host communities. ● Formulating clear regulatory guidelines to foster Public-Private Partnerships (PPP) in expanding digital infrastructure.

In conclusion, from table 21 above, Uganda can adopt several impactful practices from these countries to enhance digital infrastructure and connectivity, particularly in refugee-hosting and underserved areas. From Germany, Uganda can focus on investing in robust digital infrastructure, such as high-speed internet and expanding fiber optic networks, as well as establishing public Wi-Fi in refugee shelters and community centers to provide essential internet access for education, health, and communication. Sweden's model of public-private partnerships (PPP) to achieve nationwide broadband coverage can guide Uganda in fostering collaborations with telecom providers to expand connectivity across all regions, ensuring that even remote communities have access to digital public services. Jordan's approach demonstrates the importance of working with telecom providers to increase mobile network reach and offer affordable internet options for marginalized groups, which Uganda can replicate to improve mobile access and affordability in refugee areas. Lastly, Rwanda's use of PPPs for expanding 4G coverage and its subsidized data plans for refugees show that tailored policies can enhance digital inclusion. By adopting these strategies, Uganda can build a more inclusive, accessible, and sustainable digital infrastructure that empowers both refugees and host communities.

3.2.6 Emerging Issues and Recommendations

The table below summarizes the emerging issues from the analysis of findings on the State of digital infrastructure in RHDs and their associated Recommendations.

Table 21: Emerging issues and recommendation on the state of digital infrastructure and connectivity

Dimension	Emerging Issues	Recommendation
Network and Connectivity Coverage	Limited mobile network coverage in remote areas; coverage disparities, with some areas having only basic connectivity while others have 3G/4G.	• Expand mobile network infrastructure with a focus on remote and underserved areas. • Establish partnerships with telecom providers to ensure consistent and widespread mobile coverage.
Sources of Energy (Solar, National Grid, Generator)	Heavy reliance on solar and generators due to limited access to the national grid; 98% reliance on non-grid sources in refugee settlements (e.g., Obongi, Terego). There is a significant gap in access to electricity between refugees and host communities. Only 17.5% of refugees have access to electricity	• Increase investment in extending the national grid to refugee areas and RHDs. • Encourage the deployment of more sustainable solar systems, especially in schools and health centers, for reliable and clean energy access. • Establish partnerships between government agencies, NGOs, and private sector

	from the national grid, compared to 33.1% of the host community. Hence relying on more unstable, unsustainable, unreliable and costly sources of energy like solar, generator, torches and candles.	stakeholders to secure funding and resources for these initiatives in both refugees and host communities. • Developing community-based solar microgrid systems could provide a sustainable energy source that reduces the overall reliance on costly generators, while also promoting energy independence
Access to Internet	Poor internet access for refugees, with 95% of respondents in remote areas rating availability as poor; limited fiber optic coverage across RHDs.	• Provide affordable, subsidized internet packages in refugee communities. • Implement public Wi-Fi hotspots in community centers and schools to increase access to essential digital resources.
Quality of Service	**Electricity**: The majority of respondents in districts like Adjumani, Yumbe, Terego and Isingiro consistently rated electricity as fairly reliable and available, but poorly accessible and of poor quality. This reflects widespread dissatisfaction with the quality of these essential services	• Conduct comprehensive assessments of the electricity infrastructure in districts like Adjumani, Yumbe, Terego, and Isingiro to identify specific areas of improvement. • Enhance energy infrastructure by expanding access to stable electricity sources, especially in critical areas like health facilities and community centers • Implement targeted upgrades to enhance both accessibility and quality, such as increasing the number of distribution points and ensuring regular maintenance of existing infrastructure.
	Mobile Network: Fairly accessible in urban areas, but rural regions show limited satisfaction (e.g., 30% satisfaction among refugees in remote districts).	• Implement network upgrades, focusing on the quality of service in underserved regions. • Collaborate with local telecommunications companies to improve the infrastructure for mobile network services.
	I**nternet/Bandwidth:** Accessibility and quality of internet services remains a critical concern. Many respondents noted that even when internet services were reliable and available, they were often not accessible due to technical issues or infrastructural challenges. For example, in areas of Adjumani.	• Introduce affordable data plans for refugees and residents in RHDs, perhaps through subsidized telecom initiatives. • Improve infrastructure to support stronger and more reliable internet connectivity.

	Fiber Optic Cable Network: Limited reach, with 98% of respondents in areas like Terego and Obongi marking it as unavailable.	• Prioritize extending fiber optic networks into RHDs through public-private partnerships. • Consider satellite-based solutions for areas where fiber extension is currently unfeasible.
	Internet Service Providers (ISPs): Mixed satisfaction, with 38% fair rating among refugees; affordability is a primary concern in underserved regions.	• Encourage ISPs to develop low-cost packages tailored to refugees and rural communities. Introduce policy support to incentivize ISPs to extend coverage to remote areas.
	Cloud Service Providers: Limited awareness and accessibility among refugees, with only 5% accessing cloud services in areas like Terego.	• Encourage cloud providers to offer accessible packages and services that cater to refugee needs. • Establish a regulatory framework that encourages competition among ISPs. • Promote digital literacy programs to increase understanding and usage of cloud services. • Encourage these providers to invest in local data centers and improve their infrastructure to enhance performance and build trust with users, thereby increasing overall satisfaction.
Challenges hindering digital infrastructure development and connectivity	**Funding**: Lack of funding is a major barrier to infrastructure development, with 20% citing it as the primary challenge.	• Strengthen investment in digital infrastructure through government and donor support, with targeted funding for RHD connectivity projects.
	Geographical Barriers: Remoteness of settlements complicates infrastructure expansion, with 16% identifying it as a key challenge.	• Implement alternative connectivity solutions, such as satellite internet and community-based network models, to reach remote areas.
	Uncoordinated Efforts: Inconsistent regulatory support and coordination between providers and government bodies cited by 12%.	• Establish a coordinated regulatory framework and enhance partnerships between the government and private sector to streamline efforts in infrastructure development.

3.3 Access to Communication Devices

The analysis reveals varying levels of access to communication and digital devices, with basic phones being the most widely owned and accessed device across settlements. In many areas, smartphone ownership and access also show significant uptake, although a notable portion of the population still lacks access. Ownership of radios and televisions is moderate, reflecting a reliance on traditional media, while access to computers, both desktops and laptops remains low, reflecting potential digital exclusion. This analysis provides insight into the technological landscape within refugee settlements, emphasizing both areas of connectivity and digital gaps.

a. General Analysis on Device Ownership and Access

Majority of the survey respondents indicated to have access to a basic mobile phone and as well as own one as the main communication devices. The analysis of the data on access and usage of communication devices revealed that basic phones (button Phones) are the most used by the respondents (84.1%), followed by Radio (67.6%) and smartphone (65.2%), Television(45.2%), laptop (12.4) and desktop computer (5.2%) in that order of importance. While access to devices among Persons with Disabilities is as follows; Button phones (69%) 216, Radio 61.7%(193), smart phones 36.1%(113), Television 14.4%(45) Laptop 6.2%(19) and Desktop 3.2%(10) in that order of importance.

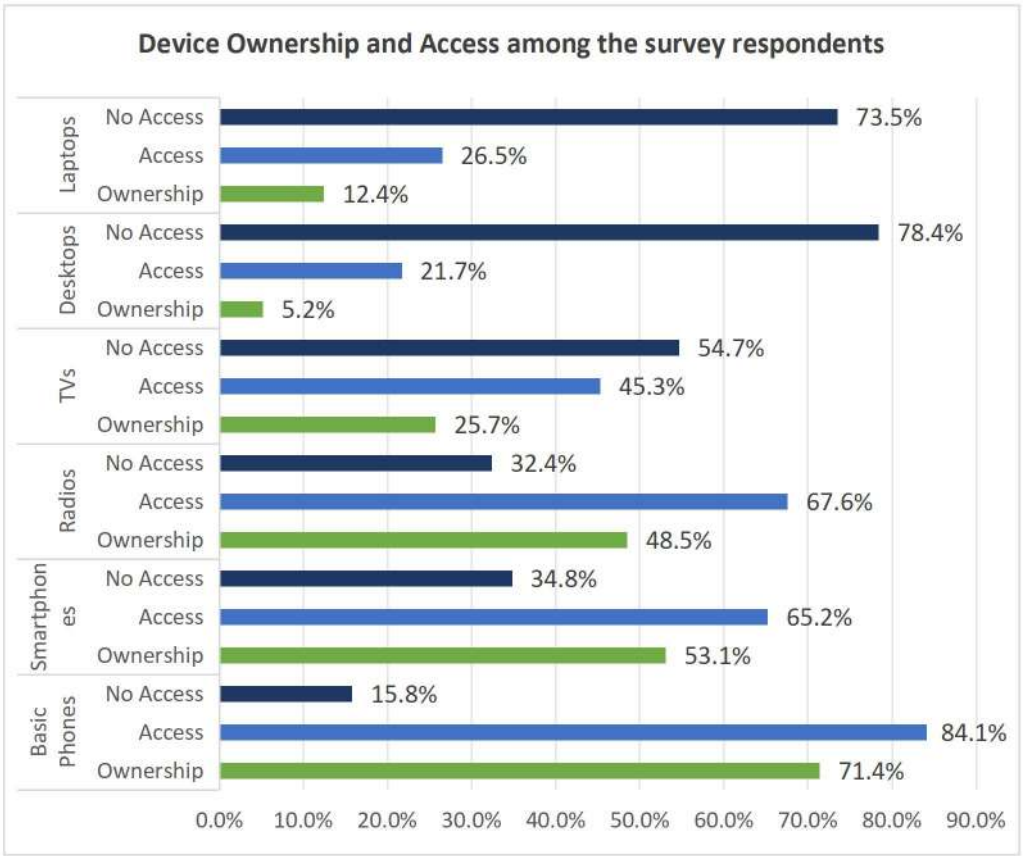


Figure 56: General Analysis on Digital Device Ownership

The analysis of data revealed that access to devices colorates to ownership i.e of the 84% who have access to basic phones, 71% actually own them while of the 65% survey respondents that have access to a smart phone, 53% own the smart phone, this implies that there is limited sharing of devices

b. Analysis of Device Ownership and Access by Gender

There is a consistent gender gap in digital device ownership and access, with males generally having more access to the different digital devices compared to females. For basic phones, 29% (368) of males own one compared to 22.3% (274) of females, with a higher proportion of males 51.5% (652) having access, while 61.1% (750) of females have no access. This trend continues for smartphones, where 59.7% (756) of males own one compared to 46.3% (568) of females, and 40.8% (501) of females reported no access compared to 28.9% (366) of males. Similarly, males lead in radio ownership 54.9% (696) vs. 41.8% (513) and access 73% (925) vs. 61.9% (760), while more females 38.1% (467) lack access. TV ownership and access also shows a disparity, with more males 29% (368) owning TVs than females 22.3% (274), and 61.1% (750) of females have no access compared to 48.5% (615) of males. Desktop and laptop ownership is generally low, but males have higher access, with only 15.9% (195) of females having access to a desktop compared to 27.2% (345) of males, and 19.6% (241) of females having laptop access versus 33.1% (419) of males.

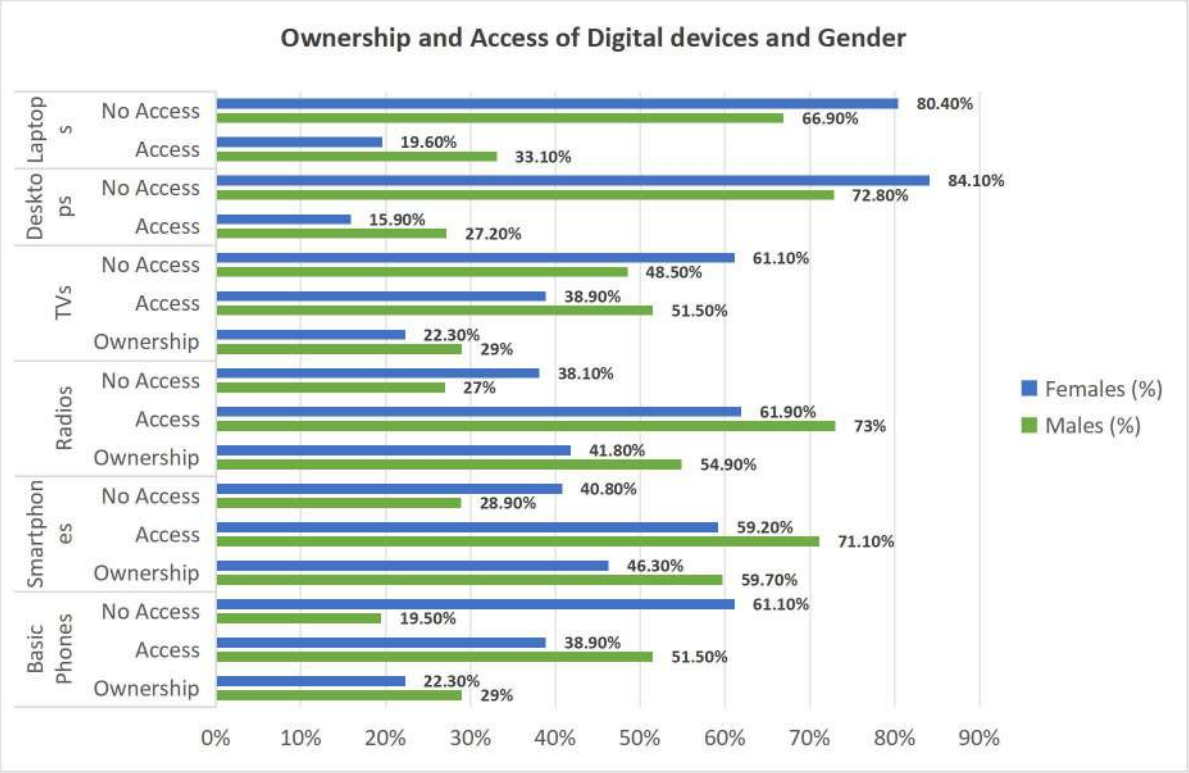


Figure 57: Digital Device Ownership and Access by Gender

c. Analysis of Device Ownership and Access by Persons with Disabilities

While it is generally known from other studies that ownership and access of digital devices is low compared to other social demographics, the analysis of the data from the survey respondents revealed that of the 313 persons with disabilities that participated in the study, 69%(216) persons own basic phones, 8%(25) do not own but have access while, 23% (72) have no access to one. Smartphone ownership among this group is significantly lower at 36.1% (113), with 51.8% (162) reporting no access. Radio access is relatively better, with 61.7% (193) having access, though 38.3% (120) lack access. When it comes to televisions, only 14.4% (45) own one, while a significant 69.3% (217) report no access. Ownership and access to computers are particularly limited. Only 3.2% (10) of disabled individuals own a desktop, and 6.1% (19) own a laptop, while 87.2% (273) have no access

to laptops. This highlights significant barriers to digital device access among people with disabilities, particularly for more advanced devices like smartphones, TVs, and computers.

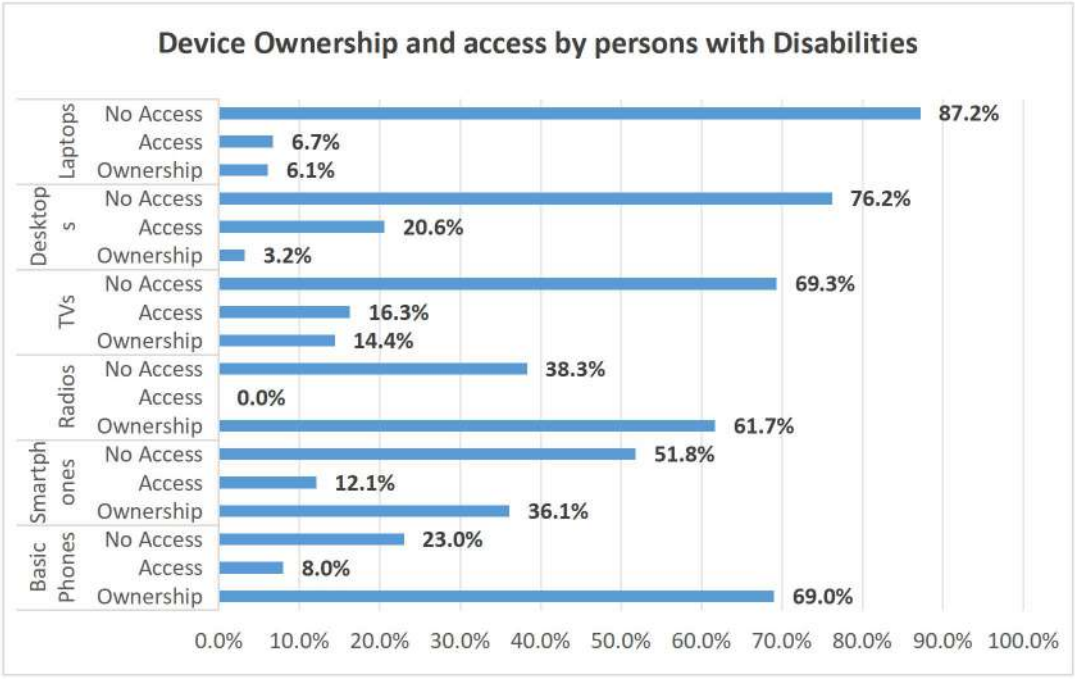


Figure 58: Digital Device Ownership and Access by Persons with Disability

d. Analysis of Device Ownership and Access in Host Communities

Basic phone ownership is high at 73.6% (879), with access rising to 87.0% (1040), leaving 13.0% (155) without access. Smartphone ownership is lower at 51.0% (610), with 65.9% (787) having access and 34.1% (408) without access. Radio ownership stands at 55.6% (664), with 77.0% (920) having access, while 23.0% (275) lack access. TV ownership is limited to 32.2% (385), though access rises to 55.0% (657), leaving 45.0% (538) without access. Desktop ownership is minimal at 5.2% (62), with 26.3% (314) having access, and a substantial 73.7% (881) lacking access. Laptop ownership is similarly low at 11.7% (140), with access at 28.5% (341), while 71.5% (854) lack access.

Figure 59: Device Ownership and Access in Host Communities

e. Analysis of device ownership and access in Refugee Settlements

Ownership of digital devices among refugees is generally low. Of the 1299 refugees in refugee settlements, majority own basic phones, with 69.4% (902) reporting ownership and 81.4% (1058) having access, while 18.6% (241) lack access. Smartphone ownership is lower, with 55.0% (714) owning one and 64.7% (840) having access, but 35.3% (459) still have no access. Radio ownership is reported by 42.0% (545) and access by 58.9% (765), leaving 41.1% (534) without access. TV ownership is minimal at 19.8% (257), though 36.3% (472) have access, with 63.7% (827) having no access. Desktop ownership is very low at 5.2% (67), with only 17.4% (226) accessing one, and 82.6% (1073) have no access. Laptop ownership is slightly higher at 13.1% (170), with 24.6% (319) having access, though 75.4% (980) still lack access.

Figure 60: Digital Device Ownership and Access in Refugee Settlements

f. Analysis of device ownership and access by age

The analysis reveals clear generational shifts in technology usage, with younger age groups (19-35) having higher ownership and access to modern devices like smartphones and laptops, while older age groups (51 and above) show a marked decline in access and ownership across all device categories, particularly smartphones, desktops, and laptops. Button phone ownership remains relatively high in middle-aged groups (36-50) but declines significantly among those aged 56 and above. Traditional devices like radios and TVs see consistent usage across most age groups, though access to these also declines sharply in older generations. Overall, the trend shows a clear gap between younger generations who are more comfortable with technology and older groups who have less access to it.

Table 22: Analysis of device ownership by age group

		18 and below (n=120)	19-25 (n=563)	26-30 (n=520)	31-35 (n=367)	36-40 (n=293)	41-45 (n=296)	46-50 (n=142)	51-55 (n=93)	56-60 (n=46)	61-65 (n=26)	66-70 (n=20)	71-80 (n=6)	81 and above (n=2)
Button Phone	Own	39.2%	65.5%	76.9%	73.3%	82.6%	77.4%	78.9%	74.2%	50.0%	46.2%	30.0%	33.3%	50.0%
	Access	55.0%	83.3%	87.3%	85.6%	90.1%	88.5%	90.1%	81.7%	69.6%	61.5%	65.0%	50.0%	50.0%
	No Access	45.0%	16.7%	12.7%	14.4%	9.9%	11.5%	9.9%	18.3%	30.4%	38.5%	35.0%	50.0%	50.0%
Smart phone	Own	26.7%	54.2%	59.6%	60.5%	54.3%	55.7%	46.5%	39.8%	32.6%	38.5%	15.0%	0.0%	0.0%
	Access	45.8%	71.2%	71.3%	70.3%	66.2%	61.5%	58.5%	51.6%	41.3%	42.3%	25.0%	0.0%	0.0%
	No Access	54.2%	28.8%	28.7%	29.7%	33.8%	38.5%	41.5%	48.4%	58.7%	57.7%	75.0%	100.0%	100.0%
Radio	Own	32.5%	38.7%	49.6%	53.7%	51.2%	55.7%	62.0%	54.8%	47.8%	46.2%	35.0%	16.7%	50.0%
	Access	49.2%	62.2%	71.2%	72.8%	70.0%	71.3%	78.2%	62.4%	56.5%	65.4%	40.0%	33.3%	50.0%
	No Access	50.8%	37.8%	28.8%	27.2%	30.0%	28.7%	21.8%	37.6%	43.5%	34.6%	60.0%	66.7%	50.0%
TV	Own	10.0%	17.4%	30.0%	34.3%	27.6%	27.0%	32.4%	25.8%	17.4%	26.9%	15.0%	0.0%	50.0%
	Access	34.2%	46.0%	49.6%	50.4%	44.0%	44.9%	47.9%	34.4%	21.7%	34.6%	15.0%	16.7%	50.0%
	No Access	65.8%	54.0%	50.4%	49.6%	56.0%	55.1%	52.1%	65.6%	78.3%	65.4%	85.0%	83.3%	50.0%
Desktop	Own	0.8%	4.6%	6.9%	6.5%	4.8%	4.7%	3.5%	3.2%	4.3%	11.5%	0.0%	0.0%	50.0%
	Access	20.0%	24.7%	26.3%	25.6%	19.8%	18.6%	13.4%	5.4%	8.7%	15.4%	0.0%	0.0%	50.0%
	No Access	80.0%	75.3%	73.7%	74.4%	80.2%	81.4%	86.6%	94.6%	91.3%	84.6%	100.0%	100.0%	50.0%
Laptop	Own	8.3%	10.8%	14.8%	16.6%	15.0%	9.5%	9.2%	6.5%	6.5%	19.2%	5.0%	0.0%	50.0%
	Access	22.5%	30.6%	31.9%	30.0%	24.6%	22.0%	17.6%	10.8%	8.7%	19.2%	15.0%	0.0%	50.0%
	No Access	77.5%	69.4%	68.1%	70.0%	75.4%	78.0%	82.4%	89.2%	91.3%	80.8%	85.0%	100.0%	50.0%

g. **Analysis of device ownership in each RHD**

i) **Yumbe District - Bidi Bidi Settlement**

The data from Bidi-bidi refugee settlement shows high ownership and access to basic phones, with 80.8% (164) access. Smartphone access is moderate, with 57.6% (117) access, but 42.4% (86) lack access. Radios are accessed by 49.8% (101), while TV ownership and access are very low, with 80.3% (163) lacking access. Desktop and laptop ownership is minimal (2.5% (5) and 6.4% (13), respectively), with the majority of people having no access to either. Overall, there's a significant gap in access to advanced technologies like smartphones, TVs, desktops, and laptops in this settlement.

Own	74.4%	48.8%	38.4%	5.9%	2.5%	6.4%
Access	80.2%	57.6%	49.8%	19.7%	18.7%	26.6%
No Access	19.2%	42.4%	50.2%	80.3%	81.3%	73.4%

Figure 61: Digital Device ownership in Bidi Bidi Refugee settlement

ii) **Terego District - Imvempi**

The analysis shows a high prevalence of basic phone ownership, with 77.0% (97) owning a basic phone and 87.3% (110) having access. Smartphones are less common, with only 59.5% (75) access. Radio ownership is relatively strong, with 71.4% (90) having access, though 28.6% (36) still lack access. TV ownership is very low, at just 5.6% (7), though access is somewhat higher at 44.4% (56), indicating shared or community use. Desktop and laptop ownership is minimal, with only 4.0% (5) owning desktops and 9.5% (12) having laptops. Access to these devices is limited, with just 34.9% (44) having access to a desktop and 41.3% (52) having access to a laptop, suggesting a digital divide in the community, particularly in access to advanced computing devices.

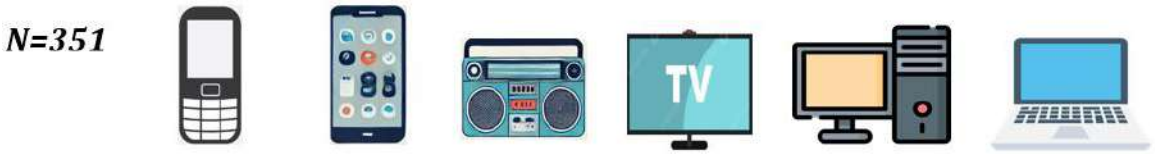
Own	77.0%	42.1%	54.8%	5.6%	4.0%	9.5%
Access	87.3%	59.5%	71.4%	44.4%	34.9%	41.3%
No Access	12.7%	40.5%	28.6%	55.6%	65.1%	58.7%

Figure 62: Digital Device Ownership and Access in Imvempi

iii) **Kampala District- Makindye and Kampala central**

The analysis for device ownership in Kampala shows that a majority of individuals own Smartphone with 81.5% (286) owning one and 89.5% (314) having access, leaving 10.5% (37)

without access. Furthermore, basic phones, with 73.8% (259) owning one, while 90.6% (318) have access, and only 9.4% (33) have no access. Radio ownership stands at 61.5% (216), with 78.3% (275) having access and 21.7% (76) without. TV ownership is also prominent, with 80.6% (283) owning one and 87.5% (307) having access, while only 12.5% (44) report no access. Desktop ownership is low at 15.7% (55), with access at 43.0% (151) and 57.0% (200) lacking access. Laptop ownership is relatively higher than desktops, at 41.6% (146), with 49.9% (175) having access, and 50.1% (176) without access. These figures indicate that while basic and advanced communication tools are widely accessible in Kampala, digital devices like desktops and laptops still have lower ownership and access levels.



Own	73.8%	81.5%	61.5%	80.6%	15.7%	41.6%
Access	90.6%	89.5%	78.3%	87.5%	43.0%	49.9%
No Access	9.4%	10.5%	21.7%	12.5%	57.0%	50.1%

Figure 63: Digital Device Ownership and Access in Kampala

iv) Kiryandongo District - Kiryandongo Settlement

Smartphone ownership in this settlement is higher at 79.8% (142), with 84.3% (150) access, leaving only 15.7% (28) without access followed by Basic phone ownership with 65.7% (117) owning one, while 83.1% (148) have access. Radio ownership is lower, with 35.4% (63) and a significant portion 33.1% (59) still lacks access. TV access stands at 64.0% (114), with 36.0% not having access. Desktop and laptop ownership are low, with only 9.0% (16) and 13.5% (24) ownership, respectively, and access also remains low at 45.5% (81) for desktops and 31.5% (56) for laptops, indicating that over half the population lacks access to these computing devices.

Own	65.7%	79.8%	35.4%	34.8%	9.0%	13.5%
Access	83.1%	84.3%	66.9%	64.0%	45.5%	31.5%
No Access	16.9%	15.7%	33.1%	36.0%	54.5%	68.5%

Figure 64: Digital Device Ownership and Access in Kiryandongo

v) Kyegegwa District - Kyaka II Settlement

Most individuals either own or can access basic phones with ownership at 70.1% (141), with a high access rate of 88.6% (178). In contrast, smartphone ownership is significantly lower at 50.7% (102), although access is relatively decent at 70.6% (142). The radio ownership is higher, with 64.2% (129) owning one and 82.1% (165) having access. Ownership of TVs is low at 26.4%

(53), but access is notable at 62.7% (126). Desktop and laptop ownership is minimal, at 3.0% (6) and 4.5% (9) respectively, with no access rates of 76.1% (153) and 73.1% (147). Overall, the data suggests that while basic communication devices are widely owned and accessed, access to more advanced technology like desktops and laptops is severely limited.

Own	70.1%	50.7%	64.2%	26.4%	3.0%	4.5%
Access	88.6%	70.6%	82.1%	62.7%	23.9%	26.9%
No Access	11.4%	29.4%	17.9%	37.3%	76.1%	73.1%

Figure 65: Digital Device Ownership and Access in Kyaka

vi) Kikube District - Kyangwali Settlement

In this settlement, ownership of basic phones is high at 74.0% (131), with access at 81.9% (145), In contrast, smartphone ownership is considerably lower at 46.9% (83), with access slightly higher at 55.9% (99). Radio ownership is relatively higher, with 57.6% (102) owning one and 67.8% (120) having access, while TV ownership is much lower at 27.7% (49), although access remains moderate at 39.0% (69). The data further shows a lack of ownership and access to desktops (only 6.8% (12) own one) and laptops (9.6% (17) ownership), with very high no-access rates of 91.5% (162) and 87.0% (154), respectively. This indicates that the refugee settlement has limited access to advanced technology, impacting opportunities for communication and information access.

Own	74.0%	46.9%	57.6%	39.0%	6.8%	9.6%
Access	81.9%	55.9%	67.8%	39.0%	8.5%	13.0%
No Access	18.1%	44.1%	32.2%	61.0%	91.5%	87.0%

Figure 66: Digital Device Ownership and Access in Kyangwali

vii) Koboko District - Lobule settlement

A significant majority in this settlement have access to basic phones, with 90.8% (89) reporting ownership access. Smartphone ownership is considerably lower at 34.7% (34), with 52% (51) having access. The radio is more prevalent, with 44.9% (44) ownership and 72.4% (71) access. In contrast, ownership of televisions is minimal at 5.1% (5), but access is higher at 33.7% (33). Ownership of desktop and laptop computers is almost negligible (4.1% (4) and 1.0% (1) respectively), with access levels remaining low, underscoring a digital divide in the settlement. Overall, the data indicates that while basic communication tools are widely available, access to more advanced technologies is limited.

Own	81.6%	34.7%	44.9%	5.1%	4.1%	1.0%
Access	90.8%	52.0%	72.4%	33.7%	20.4%	16.3%
No Access	9.2%	48.0%	27.6%	66.3%	79.6%	83.7%

Figure 67: Digital Device Ownership and Access in Lobule

viii) Isingiro District - Nakivale Settlement

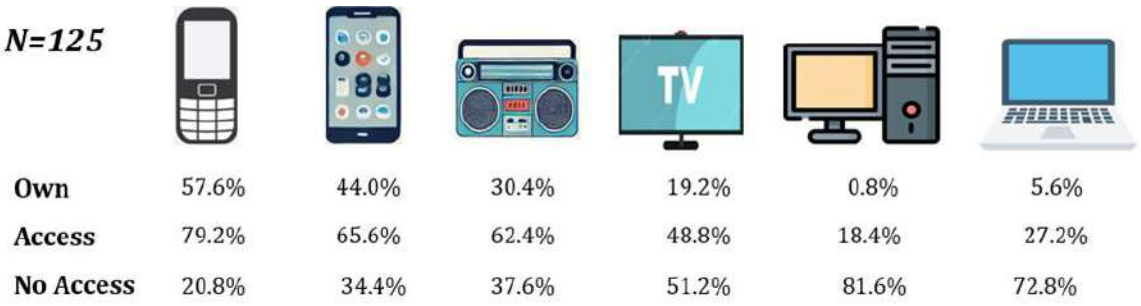
Basic phones are the most widely owned, with 67.9% (159) ownership and 82.9% (194) having access. Smartphones are owned by 49.1% (115), with access extending to 67.5% (158). Radio ownership is a bit similar, at 48.7% (114) ownership with access rising to 63.7% (149). TV ownership stands at as low as 28.2% (66), with 43.6% (102). Ownership of desktops and laptops is minimal, with just 2.6% (6) owning desktops and 7.7% (18) owning laptops. The majority lack access to these devices, with 91% (213) having no access to desktops and 85.9% (201) to laptops. This suggests that while basic communication tools are common, access to more advanced technology remains a challenge for many in Nakivale.

Own	67.9%	49.1%	48.7%	28.2%	2.6%	7.7%
Access	82.9%	67.5%	63.7%	43.6%	9.0%	14.1%
No Access	17.1%	32.5%	36.3%	56.4%	91.0%	85.9%

Figure 68: Digital Device Ownership and Access in Nakivale

ix) Isingiro District - Oruchinga Settlement

In Oruchinga settlement, majority own basic phones, with 57.6% (72) owning one, and 79.2% (99) having access, while only 20.8% (26) report no access. Smartphone ownership is moderate at 44.0% (55), with 65.6% (82) having access, but 34.4% (43) still lack access. Radio ownership is relatively low, with only 30.4% (38) owning one, though 62.4% (78) have access, leaving 37.6% (47) without access. TV ownership is reported by 19.2% (24), with 48.8% (61) having access, while 51.2% (64) have no access. Desktop ownership is almost nonexistent at 0.8% (1), with 18.4% (23) having access, while 81.6% (102) have no access. Laptop ownership is similarly low at 5.6% (7), with 27.2% (34) having access, leaving 72.8% (91) without access. The data highlights widespread access to basic phones and moderate access to other devices, but ownership remains low for more advanced technologies.



Own	57.6%	44.0%	30.4%	19.2%	0.8%	5.6%
Access	79.2%	65.6%	62.4%	48.8%	18.4%	27.2%
No Access	20.8%	34.4%	37.6%	51.2%	81.6%	72.8%

Figure 69: Digital Device Ownership and Access in Oruchinga

x) Adjumani District - Pagirinya Settlement

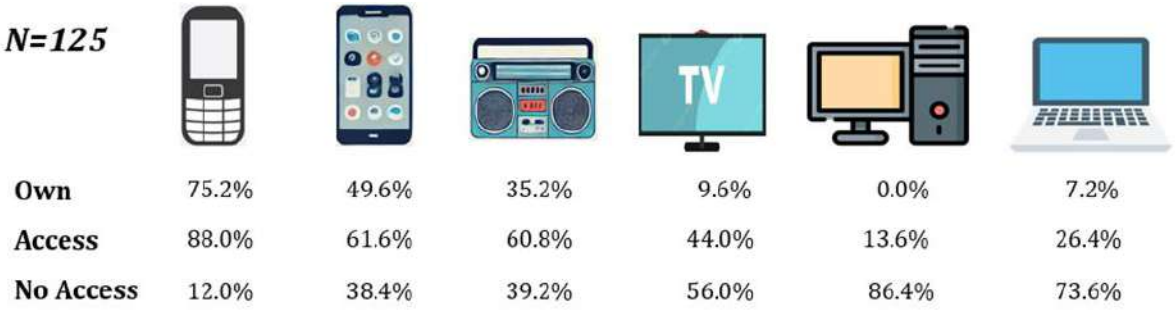
This analysis reveals that a large proportion of respondents own basic phones, with 72.4% (160) owning one, and 77.8% (172) having access, while only 22.2% (49) have no access. Smartphone ownership is lower, at 44.8% (99), though 52.5% (116) have access, leaving 47.5% (105) with no access. Radio ownership stands at 46.2% (102), with access for 60.2% (133), while 39.8% (88) report no access. Television ownership is notably low at 8.6% (19), but 30.3% (67) have access, with the majority, 69.7% (154), lacking access. Desktop ownership is very low at 2.3% (5), with 13.1% (29) having access and 86.9% (192) having no access. Similarly, laptop ownership is low at 8.6% (19), with 20.4% (45) having access and 79.6% (176) without access. Overall, the data highlights a high ownership and access to basic communication devices, while access to more advanced technologies remains limited.

Own	72.4%	44.8%	46.2%	8.6%	2.3%	8.6%
Access	77.8%	52.5%	60.2%	30.3%	13.1%	20.4%
No Access	22.2%	47.5%	39.8%	69.7%	86.9%	79.6%

Figure 70: Device Ownership and Access in Pagirinya

xi) Lamwo District - Palabek Settlement

Of the 221 refugees in Palabek, 75.2% (94) own a basic phone, while 88% (110) have access to one, leaving only 12% (15) without access. Smartphone ownership is lower at 49.6% (62), with 61.6% (77) having access, and 38.4% (48) lacking access. For radios, 35.2% (44) own one, and 60.8% (76) have access, but 39.2% (49) still lack access. TV ownership is very low at 9.6% (12), though 44% (55) have access, and 56% (70) have no access. No one owns a desktop, though 13.6% (17) have access, leaving 86.4% (108) without access. Laptop ownership is minimal at 7.2% (9), with 26.4% (33) having access, and 73.6% (92) without access.



Own	75.2%	49.6%	35.2%	9.6%	0.0%	7.2%
Access	88.0%	61.6%	60.8%	44.0%	13.6%	26.4%
No Access	12.0%	38.4%	39.2%	56.0%	86.4%	73.6%

Figure 71: Digital Device Ownership and Access in Palabek

xii) Obongi District - Palorinya Settlement

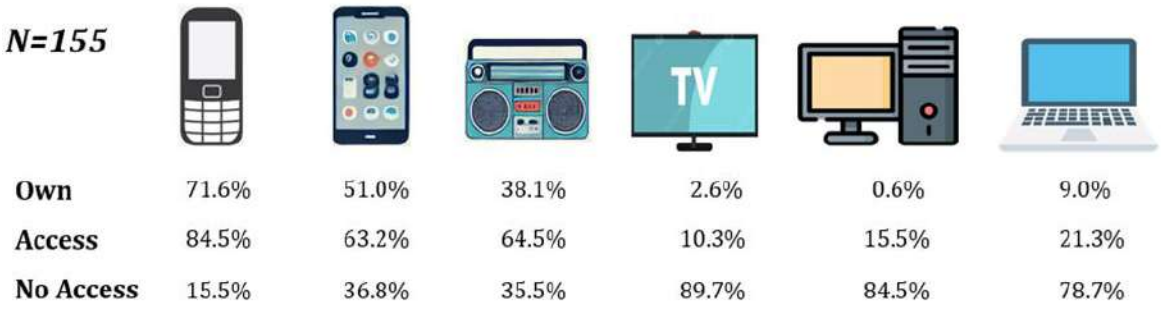
The analysis shows that 74.4% (93) own a basic phone, with 84.8% (106) having access, leaving 15.2% (19) without access. Smartphone ownership stands at 41.6% (52), with 60.8% (76) having access, while 39.2% (49) lack access. Radio ownership is 31.2% (39), and 56.0% (70) have access, but 44.0% (55) do not. Television ownership is very low at 2.4% (3), with 13.6% (17) having access, while 86.4% (108) have no access. Desktop ownership is almost negligible at 0.8% (1), and only 4.8% (6) have access, leaving 95.2% (119) without access. Laptop ownership is slightly higher at 4.8% (6), with 12.8% (16) having access, and 87.2% (109) having no access.

Own	74.4%	41.6%	31.2%	2.4%	0.8%	4.8%
Access	84.8%	60.8%	56.0%	13.6%	4.8%	12.8%
No Access	15.2%	39.2%	44.0%	86.4%	95.2%	87.2%

Figure 72: Digital Device Ownership and Access in Palorinya

xiii) Madi-Okollo District - Rhino Camp Settlement

In Rhino Camp, basic phones are widely owned by 71.6% (111), with an even higher 84.5% (131) having access and only 15.5% (24) lacking access. Smartphones are less common, with 51.0% (79) owning one and 63.2% (98) having access, though 36.8% (57) do not. Radio ownership stands at 38.1% (59), while 64.5% (100) have access, leaving 35.5% (55) without. TV ownership is extremely low at 2.6% (4), though 10.3% (16) have access, and 89.7% (139) lack access. Desktop ownership is nearly nonexistent at 0.6% (1), with 15.5% (24) having access, but 84.5% (131) have no access. Lastly, laptops are owned by 9.0% (14), with 21.3% (33) having access, while 78.7% (122) lack access.



Own	71.6%	51.0%	38.1%	2.6%	0.6%	9.0%
Access	84.5%	63.2%	64.5%	10.3%	15.5%	21.3%
No Access	15.5%	36.8%	35.5%	89.7%	84.5%	78.7%

Figure 73: Digital Device Ownership and Access in Rhino Camp

xiv) Kamwenge District - Rwamwanja Settlement

Basic phones are the most widely owned, with 66.3% (116) of residents owning them and 76.6% (134) having access, while 23.4% (41) report no access. In contrast, smartphone ownership is notably lower at 36.0% (63), with access slightly higher at 41.1% (72), showing that while some have smartphones, a larger portion remains without. Ownership of radios is relatively common at 62.9% (110), and access is high at 77.7% (136), while only 22.3% (39) lack access. Television ownership stands at 22.9% (40), with access at 36.0% (63) and a significant 64.0% (112) reporting no access. Desktop computers and laptops show particularly low ownership at 1.7% (3) and 6.3% (11), respectively, with 92.0% (161) of refugees having no access to desktops and 81.7% (143) lacking access to laptops.

Own	66.3%	36.0%	62.9%	22.9%	1.7%	6.3%
Access	76.6%	41.1%	77.7%	36.0%	8.0%	18.3%
No Access	23.4%	58.9%	22.3%	64.0%	92.0%	81.7%

Figure 74: Digital Device Ownership and Access in Rwamwanja

Findings from the Key Informant Interviews (KIIs) align with the survey results regarding the prevalence of basic and affordable devices like smartphones among refugees. Of the 12 respondents from ICT centers, 66.7% observed that smartphones are the most commonly owned devices, but access to advanced devices like computers or tablets is rare. Affordability issues and limited digital literacy were commonly cited as barriers to device ownership.

The perspectives of implementing partners, government officials, and community leaders also corroborate the survey findings. Among the 70 respondents, 82.9% reported that refugees own digital devices, especially smartphones. However, 14.3% noted the lack of ownership due to barriers like affordability, illiteracy, and negative attitudes towards technology. This feedback reinforces the survey's observation that device ownership is concentrated around basic and entry-level communication tools, with limited access to advanced devices like desk tops or laptops.

3.3.1 Device Life Cycle Management Practices

As access to digital devices expands in Refugee-Hosting Districts (RHDs), the management of electronic devices at the end of their life cycle becomes increasingly important. Effective device life cycle management not only ensures environmental sustainability but also supports the ongoing digital inclusion of vulnerable populations. This section explores the current practices for managing electronic device end-of-life in RHDs, including how devices are repaired, repurposed, or discarded.

3.3.5.1 Survey respondents Overall device life cycle management practices

Majority of the respondents indicated disposing off their electronic devices by throwing them away (57.5%). It was also reported that 28.1% repurpose or reuse their devices, while 27.2% utilize recycling centers. Additionally, 18.2% of total respondents donate their devices to others, possibly to repair them and lastly, only 7.3% indicated following other disposal methods which included burning and selling off the devices they are no longer using. This is as summarized below.

Table 23: Device life cycle management practices among the survey respondents

Donation to others	Repurpose or reuse	Throw away	Recycling centers	Others
18.2% (453)	28.1% (701)	57.5% (1433)	27.2% (678)	7.3% (183)

a) Analysis by Gender

Among the male and female respondents, the primary disposal method identified among them was throwing away the digital devices which might bring about environmental concerns in most of those areas. However, In terms of re-purposing or reusing the digital devices, females are slightly behind males due to a higher response rate among the males hence males have a higher usage of recycling centers as compared to females as summarized in the figure below.

Table 24: Device life cycle management practices against gender

	Donation to others	Repurpose or reuse	Throw away	Recycling centers	Others
Male	11% (193)	22% (383)	40% (691)	22% (380)	5% (90)
Female	15% (260)	19% (318)	43% (742)	17% (298)	5% (93)

b) Analysis by Persons with Disabilities

Among respondents with disabilities, the most common method of managing digital devices was donating them to others, This was followed by throwing them away with 32% (177) survey respondents. Re-purposing or reusing was less common, with only 12% (92) instances, and just 9% (70) individuals indicated use recycling centers.

Table 25: Device life cycle management practices used by Person with Disabilities

	Donation to others	Repurpose or reuse	Throw away	Recycling centers	Others
Yes	53% (408)	12% (92)	32% (177)	9% (70)	3% (20)
No	2% (45)	23% (608)	47% (1256)	23% (608)	6% (163)

c) Analysis by Age Group

Across all age categories, the analysis revealed disposing of devices by throwing them away as a predominant practice, with a consistent trend observed from all age groups. This prevalent reliance on disposal through throwing away raises significant environmental concerns and emphasizes the urgent need for enhanced awareness and accessibility to sustainable disposal options across all demographics.

Table 26: Device life cycle management practices used against Age Group

Age Group	Donation to Others	Repurpose or Reuse	Throw Away	Recycling Centers	Others
18 years and below	13% (22)	17% (28)	45% (75)	22% (36)	4% (6)
19-25	13% (102)	20% (158)	41% (326)	21% (169)	5% (41)
26-30	14% (102)	20% (147)	41% (304)	20% (152)	5% (38)
31-35	14% (75)	22% (117)	38% (201)	21% (115)	5% (27)
36-40	13% (53)	24% (95)	42% (167)	17% (66)	5% (19)
40-45	14% (51)	18% (69)	45% (170)	16% (60)	7% (27)
46-50	13% (25)	21% (40)	38% (73)	21% (41)	7% (13)
51-55	12% (14)	22% (26)	40% (47)	23% (27)	3% (4)
56-60	12% (7)	19% (11)	51% (30)	10% (6)	8% (5)
61-65	3% (1)	17% (5)	53% (16)	17% (5)	10% (3)
66-70	4% (1)	17% (4)	78% (18)	0% (0)	0% (0)
71-80	0% (0)	17% (1)	83% (5)	0% (0)	0% (0)
81 and above	0% (0)	0% (0)	50% (1)	50% (1)	0% (0)

The Survey Questionnaires (SQ) revealed limited awareness and structured practices for managing end-of-life electronic devices in refugee and host communities. This was particularly evident in the lack of established recycling or disposal systems reported by the majority of respondents, as well as minimal engagement with digital waste management initiatives.

d) Analysis Per settlement

In Kampala's host community, recycling centers are widely utilized by respondents, with 57.1% (129 out of 226) of people choosing this method for electronic waste disposal. The practice of re-purposing or reusing electronics is similarly strong, with 61.5% (139) opting for it. Despite these encouraging numbers, a substantial 31.0% (70) still throw away their electronics, indicating that there is room for improvement in managing electronic waste. Donations to others are less common, with only 13.3% (30) choosing this method. Among refugees, recycling is even more prevalent, with 71.8% (89 out of 124) of respondents using recycling centers. Re-purposing or reusing electronics accounts for 28.2% (35), while 25.8% (32) rely on throwing away electronics. Donations are still a significant option, with 21.0% (26) reporting that they donate their electronics.

Category of Respondent	Donation to others	Recycling centers	Repurpose or reuse	Throw away
Host Community	13.3%	57.1%	61.5%	31.0%
Refugee	21.0%	71.8%	28.2%	25.8%

Nakivale Settlement (Isingiro District): In Nakivale's host community, 67.9% (72) of respondents report that they dispose off electronics by throwing them away. Recycling centers and re-purposing or reusing methods are equally utilized by 25.5% (27) each, while donations to others are less frequent at 12.3% (13). The refugee community paints a similar picture, with 56.3% (72) of respondents throwing away their electronics. A quarter of respondents (25%, or 32 respondents) use recycling centers, while 16.4% (21) donate their electronics.

Category of Respondent	Donation to others	Burn	Giving to Children	Recycling centers	Repurpose or reuse	Throw away
Host Community	12.3%	0.9%	1.9%	25.5%	25.5%	67.9%
Refugee	16.4%	0.0	0.0	25.0%	7.8%	56.3%

Oruchinga Settlement (Isingiro District): In Oruchinga's host community, the majority of respondents, 71% (71), throw away their electronics. However, 43% (43) of individuals donate their electronics, which indicates a strong inclination toward giving away usable devices. Re-purposing or reusing electronics is also practiced by 26% (26), while 16% (16) opt for recycling centers. Among the refugees, the trend is even more alarming, with 80% (20) of respondents throwing away their electronics. A smaller group, 32% (8), repurpose or reuse their devices, while 20% (5) donate them to others.

Category of Respondent	Donation to others	Burn	Giving to Children	Recycling centers	Repurpose or reuse	Throw away
Host Community	43%	2%	1%	16%	26%	71%
Refugee	20%	0	0	4%	32%	80%

Rwamwanja Settlement (Kamwenge District): In Rwamwanja's host community, nearly half of the respondents (46.1%, or 47 out of 100) report throwing away their electronics, while 50.0% (50 respondents) donate them. Among refugees, the situation is somewhat worse, with 61.3% (46 out of 75) of respondents discarding their electronics. However, a significant number, 44.0% (33 respondents), repurpose or reuse their devices.

Category of Respondent	Donation to others	Burn	Recycling centers	Repurpose or reuse	Throw away
Host Community	50%	1%	6%	15%	47%
Refugee	28%	1.3%	1.3%	44%	61.3%

Kyangwali Settlement (Kikube District): **In Kyangwali, the host community shows a strong tendency to throw away electronics, with 78.7% (59 out of 75) of respondents reporting this practice.** Only 14.7% (11 respondents) use recycling centers. Among the refugee community, 64.7% (66 out of 102) of respondents throw away their electronics, while 26.5% (27 respondents) use recycling centers.

Category of Respondent	Donation to others	Recycling centers	Repurpose or reuse	Throw away
Host Community	2.7%	14.7%	12%	78.7%
Refugee	17.6%	26.5%	2%	64.7

Kiryandongo Settlement (Kiryandongo District): In Kiryandongo, 75.7% (78 out of 103) of respondents in the host community report throwing away their electronics. The refugee community is not far behind, with an even higher rate of 88.0% (66 out of 75 respondents) using this method.

Category of Respondent	Donation to others	Burn	Sell as scrap	Recycling centers	Repurpose or reuse	Throw away
Host Community	4.9%	1.0%	3.9%	1.9%	15.5%	75.7%
Refugee	12%	2.7%	4%	6.7%	12%	88%

Lobule Settlement (Koboko District): In Lobule, the host community shows a promising trend, with 58% (47 out of 81) of respondents using recycling centers and 38.3% (31 respondents) opting to repurpose or reuse their electronics. On the other hand, in the refugee community, 70.6% (12 out of 17) of respondents report throwing away their electronics.

Category of Respondent	Donation to others	Burn	Giving to Children	Recycling centers	Repurpose or reuse	Throw away
Host Community	4.9%	0.0	1.2%	58%	38.3%	42%
Refugee	11.8%	11.8%	0.0	5.9%	11.8%	70.6%

Kyaka Settlement (Kyegegwa District): In Kyaka's host community, 45% (45 out of 100) of respondents throw away their electronics, while 32.0% (32) use recycling centers. The refugee community displays a greater reliance on waste disposal, with 71.3% (72) of respondents throwing away their electronics.

Category of Respondent	Donation to others	Burn	Sell as scrap	Recycling centers	Repurpose or reuse	Throw away
Host Community	13%	0	4%	32%	1%	45%
Refugee	1.0%	3%	0.0	2%	6.9%	71.3%

Palabek Settlement (Lamwo District): In Palabek, the host community has a startling 92.0% (46) of respondents who report throwing away their electronics. The refugee community also shows a high rate of waste disposal, with 73.3% (55) of respondents using this method.

Category of Respondent	Donation to others	Burn	Giving to Children	Recycling centers	Repurpose or reuse	Throw away
Host Community	8%	0	0	6%	40%	92%
Refugee	1.3%	1.3%	1.3%	0.0	54.7%	73.3%

Rhino Camp (Madi-Okollo District): In Rhino Camp, 69% (20) of respondents in the host community throw away their electronics. However, recycling is more common among refugees, with 46.0% (58) of respondents using recycling centers. Still, 51.6% (65) rely on waste disposal.

Category of Respondent	Donation to others	Recycling centers	Repurpose or reuse	Throw away
Host Community	13.8%	10.3%	31.0%	69%
Refugee	42.1%	46%	35.7%	51.6%

Palorinya Settlement (Obongi District): In Palorinya, a staggering 92.0% (23 out of 25) of respondents in the host community throw away their electronics. The refugee community fares better, with 63.0% (63 out of 100) of respondents using recycling centers, although 54.0% (54 respondents) still dispose of their electronics through waste.

Category of Respondent	Donation to others	Burn	Recycling centers	Repurpose or reuse	Throw away
Host Community	0	4%	0	0	92%
Refugee	31%	0	3%	63%	54%

Imvempi Settlement (Terego District): In Imvempi, 63.2% (48 out of 76) of respondents in the host community report throwing away their electronics, with 53.9% (41 respondents) repurposing or reusing them. Among refugees, 58.0% (29 out of 50) of respondents throw away their electronics, while 50.0% (25 respondents) use recycling centers.

Category of Respondent	Donation to others	Burn	Recycling centers	Repurpose or reuse	Throw away
Host Community	9.2%	0.0	27.6%	53.9%	63.2%
Refugee	12.0%	6.0%	50.0%	16.0%	58.0%

Bidi Bidi Settlement (Yumbe District): In Bidi Bidi, 54.7% (41) of respondents in the host community repurpose or reuse their electronics. However, in the refugee community, 64.1% (82) of respondents throw away their electronics, while 36.7% (47) use recycling centers.

Category of Respondent	Donation to others	Recycling centers	Repurpose or reuse	Throw away
Host Community	12%	26.7%	54.7%	33.3%
Refugee	50%	36.7%	14.1%	64.1%

Pagirinya Settlement (Adjumani District): In Pagirinya, 50.0% (25 out of 50) of respondents in the host community report throwing away their electronics. Re-purposing **or reuse** is also relatively common, with 24.4% (12 respondents) engaging in this practice. **Recycling centers** are used by 20.0% (10 respondents), and **donations** are less frequent at 9.3% (8 respondents).

Among the refugee community, **throwing away electronics** is the most common method, with 42.4% (72 out of 171) of respondents using this method. Recycling, however, is close behind, with 32.3% (55) choosing to recycle. Re-purposing or reuse is used by 24.0% (41 respondents).

Category of Respondent	Donation to others	Recycling centers	Repurpose or reuse	Throw away
Host Community	9.3%	20%	24%	50%
Refugee	0	32.3%	24%	42.4%

Key Informant Interviews (KIIs) with representatives from Digital Hubs, Innovation Centres, and MSMEs provided more context. Respondents identified several existing practices, including: Informal resale of old devices within the community, Cannibalizing electronic devices for spare parts to repair other devices and basic storage or dumping of unusable devices due to a lack of formal disposal systems.

From the Focus Group Discussions (FGDs), community members, especially in refugee settlements, expressed concerns about the lack of awareness of proper e-waste management and the potential environmental and health risks posed by the accumulation of unusable electronics. Participants cited affordability challenges as a driver for reusing or reselling old devices rather than disposing of them properly. However, FGDs also underscored the growing interest in formal solutions, such as recycling programs, when facilitated by NGOs or development partners.

These practices highlight that electronic device management is largely unregulated and heavily reliant on ad hoc or informal strategies as further highlighted by some of the respondents below;

Many centers opt to scrap electronic devices and sell the resulting materials. For instance, at the Rwamwanja Skills Training Centre for Refugees and Host Community Youths in Kamwenge, the approach is straightforward: "We focus on damping and scrapping devices to manage the waste effectively," ***explains the Training Coordinator.***

"We often end up burning the devices and selling the scraps to generate some income." ***Youth from Palabek Innovation Village Field Office in Lamwo***

In several host communities, informal methods like dumping and burning are common. While these practices help in quickly reducing waste, they pose significant environmental and health risks.

A representative from Multi-Tech Computers Solutions in Kiryandongo notes, "We don't have formal systems in place, so disposal often happens without considering the environmental impact."

On a more positive note, some organizations are embracing repair and resale strategies.

The Youth Empowerment Foundation in Adjumani organizes community repair sessions, stating, "Our repair sessions not only manage electronic waste but also empower the youth with valuable skills."

Additionally, the Refugee Innovation Centre in Kamwenge mentions, "We try to resell devices after repairs, but unfortunately, many still end up being thrown away."

The SQ, KII and FGD findings together, highlight the urgent need for structured e-waste management initiatives, coupled with awareness campaigns to promote sustainable practices in both refugee and host communities.

3.3.5.2 Challenges faced in accessing repair or re-purposing services

Both refugees and host community members face key barriers in accessing repair services, with cost being the biggest challenge for around 33% of both groups. Lack of spare parts and service providers also pose significant issues, particularly for refugees, where **41.2%** struggle with spare parts and **31%** with service providers. Distance and lack of awareness are additional hurdles, affecting refugees more than the host community. Overall, refugees face slightly greater challenges across most areas.

Table 27: Challenges faced in accessing repair or re-purposing service by Refugees and Host communities

	R- Refugees n=1299 HC – Host community n=1195									
	Not challenging		Slightly challenging		Moderately challenging		Challenging		Very Challenging	
	R	HC	R	HC	R	HC	R	HC	R	HC
Cost of Repair	1.0%	2.6%	11.0%	14.9%	12.7%	14.6%	31.6%	34.3%	32.9%	33.6%
Lack of Service Providers	2.8%	8.2%	8.9%	11.6%	14.5%	16.7%	42.7%	36.9%	31.0%	26.5%
Lack of Spare Parts	2.5%	8.3%	9.4%	11.0%	12.1%	16.2%	34.8%	36.6%	41.2%	27.9%
Distance to Service Centers	3.3%	12.0%	9.3%	12.7%	14.2%	14.7%	38.5%	32.3%	34.7%	28.3%
Lack of Awareness of Services	2.8%	7.9%	9.8%	15.5%	13.9%	16.0%	43.1%	34.7%	30.3%	25.9%

Challenges faced in accessing repair or re-purposing services for every RHD.

i. **In Yumbe District - Bidi Bidi Settlement, cost of repair and distance to service centers were identified as the most significant challenge**s, with **34.5%** and **39.9%** of the host community finding them "very challenging," respectively. Additionally, **lack of awareness** and **lack of spare parts** posed difficulties for over **30%** of respondents.

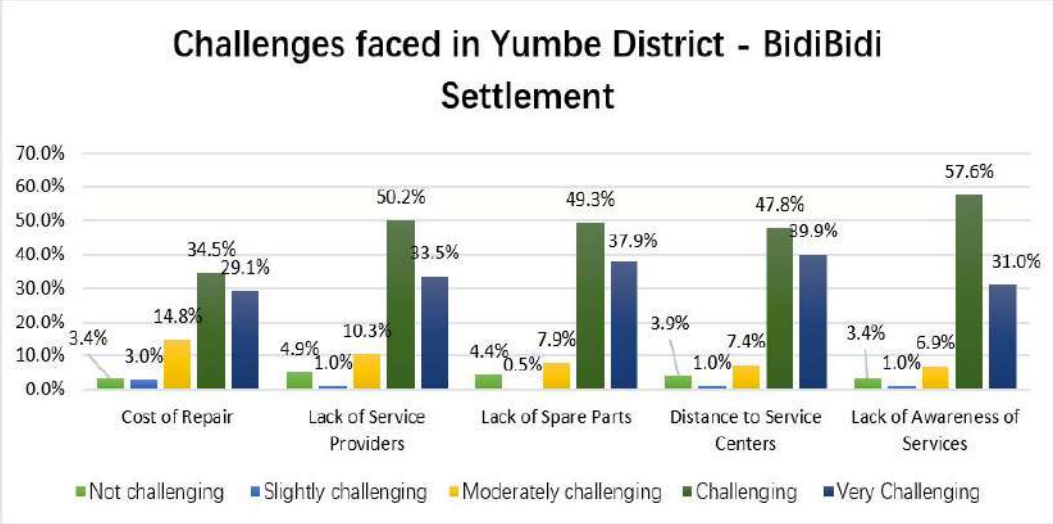


Figure 75: Challenges faced in accessing repair or re-purposing services in Yumbe District - Bidibidi Settlement

ii. **In Terego District - Imvempi settlement, the distance to service centers and lack of spare parts were the most significant challenges,** with **54.0%** and **49.2%** of respondents finding them "very challenging." Additionally, **cost of repair** and **lack of service providers** were considered challenging by over **55%** of respondents.

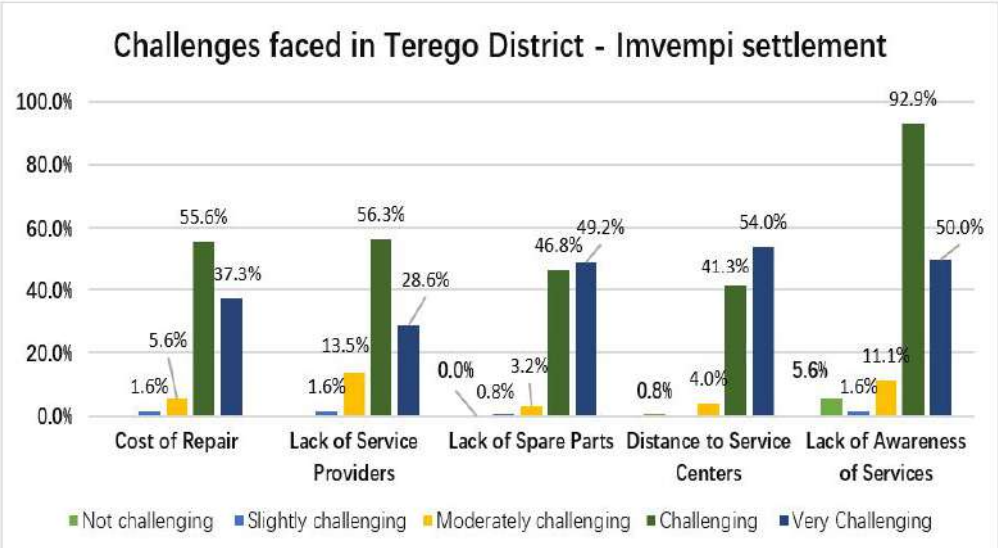


Figure 76: Challenges faced in accessing repair or re-purposing services in Terego District - Imvempi Settlement

iii. **In Kampala, cost of repair was a significant barrier,** with **46.6%** of respondents rating it as "challenging" and **35.4%** finding it "very challenging." On the other hand, **lack of service providers** and **distance to service centers** were less of a challenge, with **17.1%** and **28.3%** respectively marking these as "not challenging."

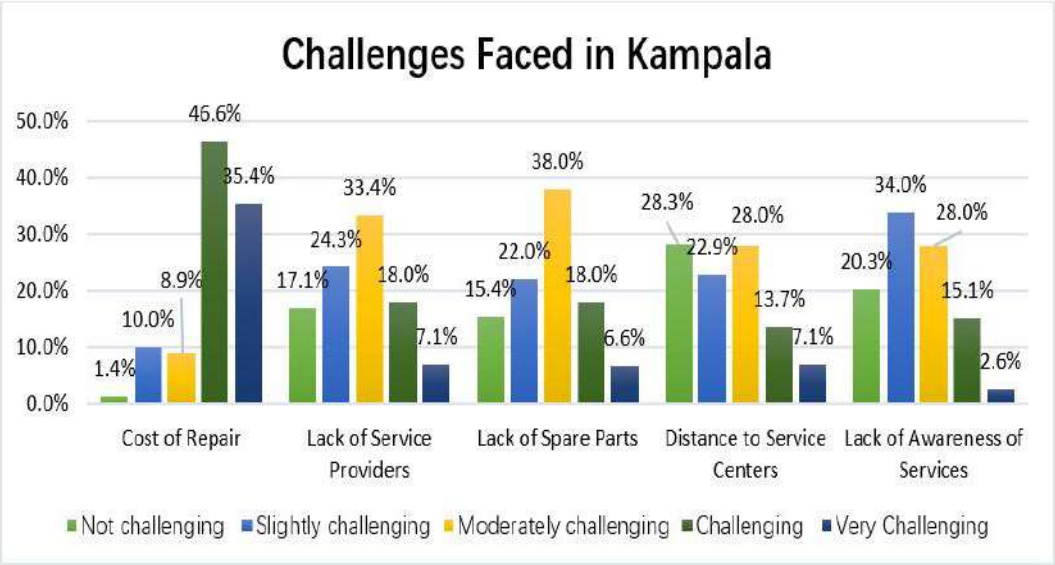


Figure 77: Challenges faced in accessing repair or re-purposing services in Kampala

iv. **In Kiryandongo District - Kiryandongo Settlement, the cost of repair was the most significant challenge,** with **30.9%** of respondents finding it "very challenging." Other prominent issues included **lack of spare parts** and **lack of service providers**, with **23.0%** and **19.7%** of respondents rating them as "very challenging," respectively.

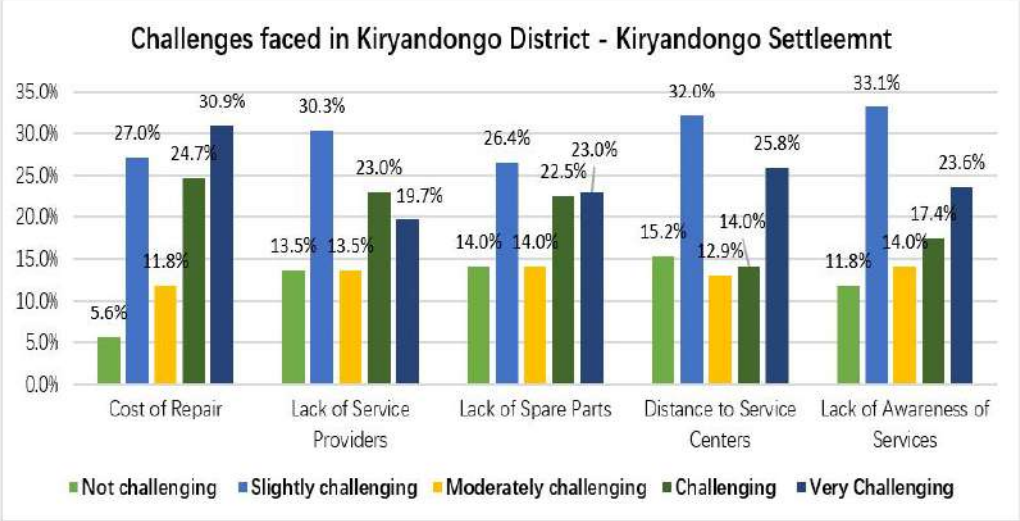


Figure 78: Challenges faced in accessing repair or re-purposing services in Kiryandongo District - Kiryandongo Settlement

v. **In Kyegegwa District - Kyaka II settlement, the cost of repair emerged as a major challenge, with 32.3% of respondents finding it "very challenging"** and **38.8%** rating it as "challenging." Additionally, **lack of service providers** and **distance to service centers** were

significant barriers, with **32.8%** and **28.4%** of respondents respectively marking these as "very challenging."

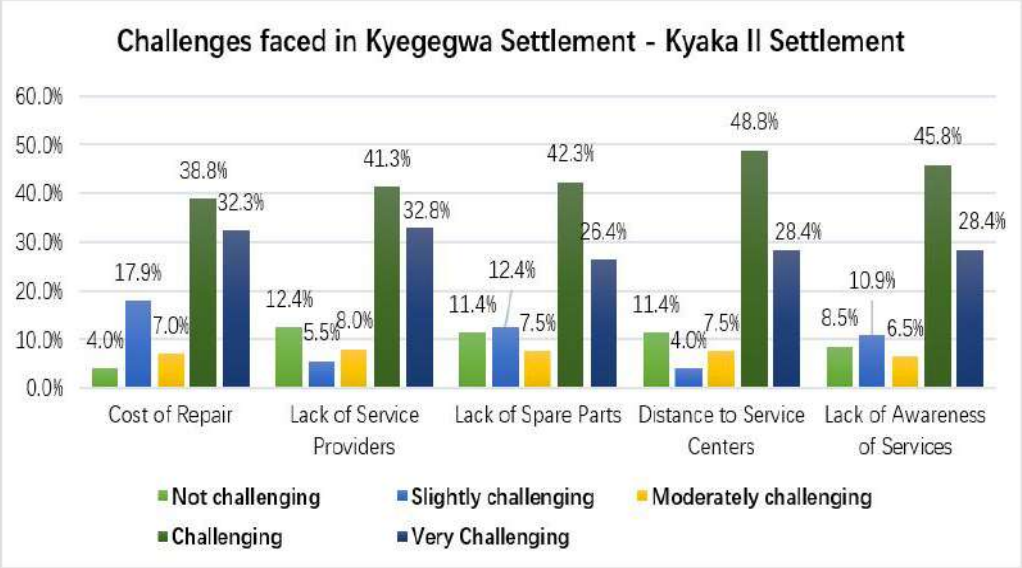


Figure 79: Challenges faced in accessing repair or re-purposing services in Kyegegwa District - Kyaka II Settlement

vi. **In Kikube District - Kyangwali settlement, cost of repair was a significant challenge, with 46.3% of respondents finding it "challenging"** and **32.2%** rating it as "very challenging." Similarly, **lack of service providers** and **lack of spare parts** were highly challenging, with **52.5%** and **50.8%** respectively marking these as "challenging" and over **30%** finding both issues "very challenging."

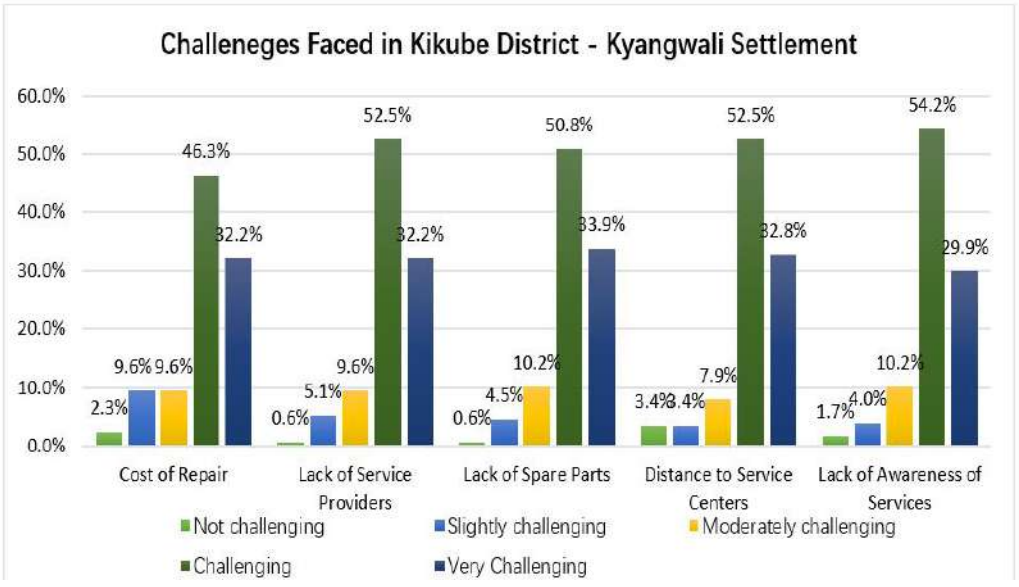


Figure 80: Challenges faced in accessing repair or re-purposing services in Kikube District - Kyangwali Settlement

vii. **In koboko District - Lobule settlement, cost of repair was moderately challenging for 29.6% of the host community, while 21.4% found it very challenging**. Lack of service

providers and spare parts posed substantial issues, with 43.9% and 31.6% rating them moderately challenging, respectively. Distance to service centers was also a key challenge, with 35.7% finding it challenging and 23.5% rating it very challenging.

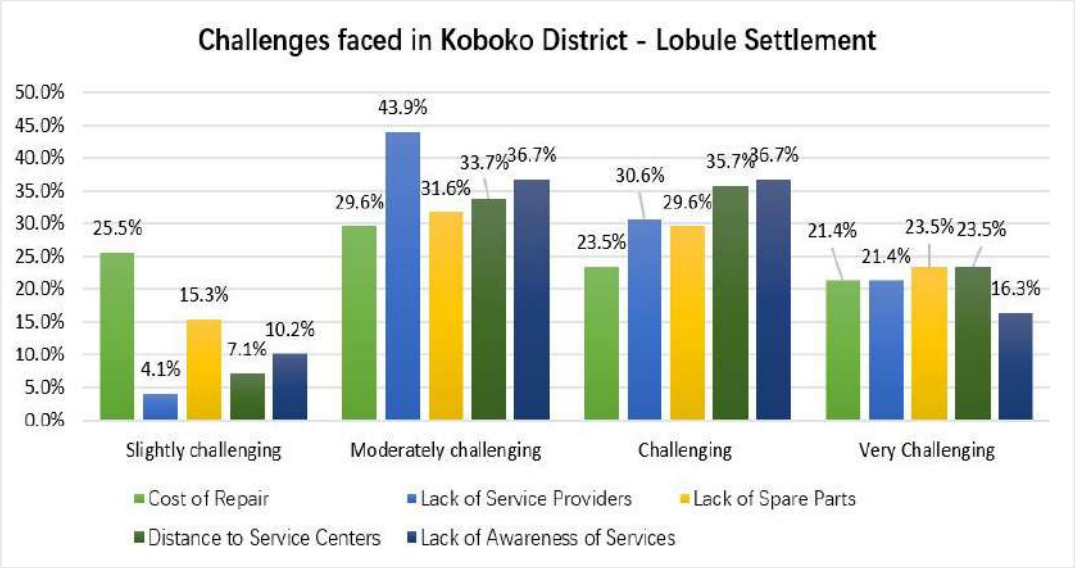


Figure 81: Challenges faced in accessing repair or re-purposing services in Koboko District - Lobule Settlement

viii. **In Isingiro District - Nakivale settlement, key barriers include cost of repair (47.0% challenging, 35.9% very challenging) and lack of service providers (52.6% challenging). Lack of spare parts** and **distance to service centers** were also significant issues, with **45.3%** and **42.3%** finding them challenging, respectively. **Lack of awareness of services** was challenging for **52.1%** of respondents.

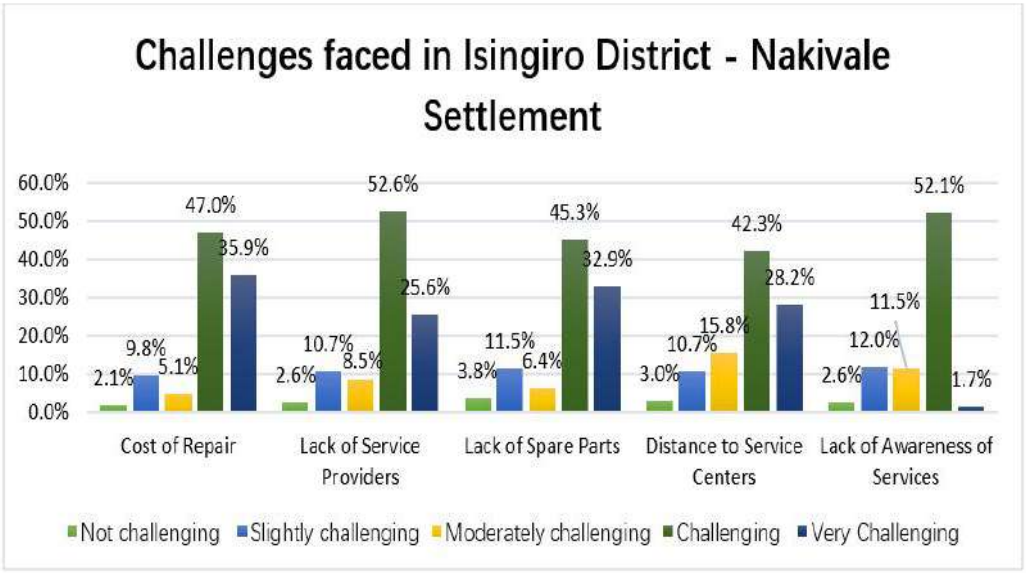


Figure 82: Challenges faced in accessing repair or re-purposing services in Isingiro District - Nakivale Settlement

ix. **In Isingiro District - Oruchinga Settlement, the most significant challenges were distance to service centers (51.2% very challenging) an**d lack of awareness of services (44.8% very challenging). Cost of repair and lack of service providers were also substantial barriers, with over 30% rating them as very challenging.

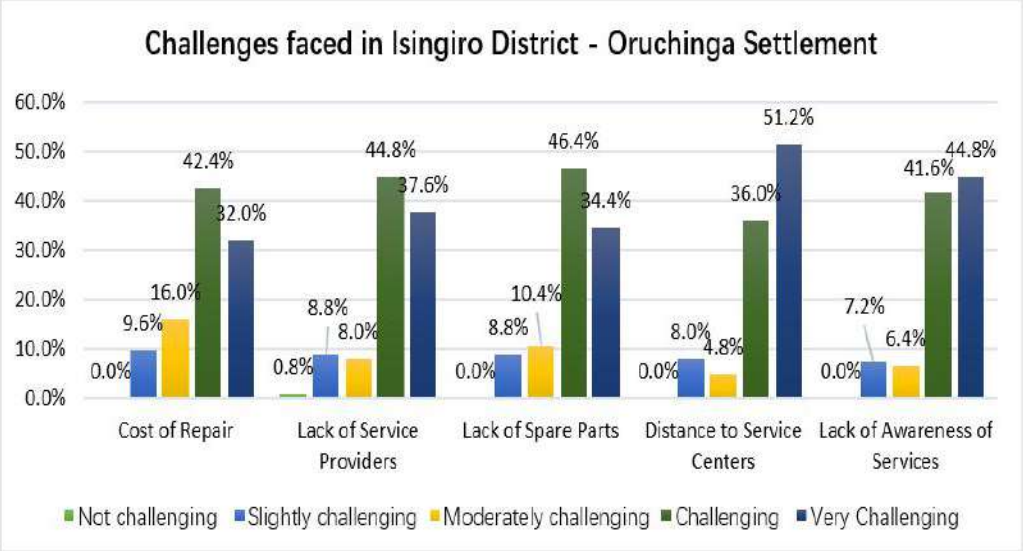


Figure 83: Challenges faced in accessing repair or re-purposing services in Isingiro District - Oruchinga Settlement

x. **In Adjumani District - Pagirinya settlement, cost of repair is the most significant challenge with 51.6% rating it as very challenging.** Lack of awareness of services follows closely, with 48% considering it very challenging. Distance to service centers is also a key barrier, rated very challenging by 40.7% of respondents.

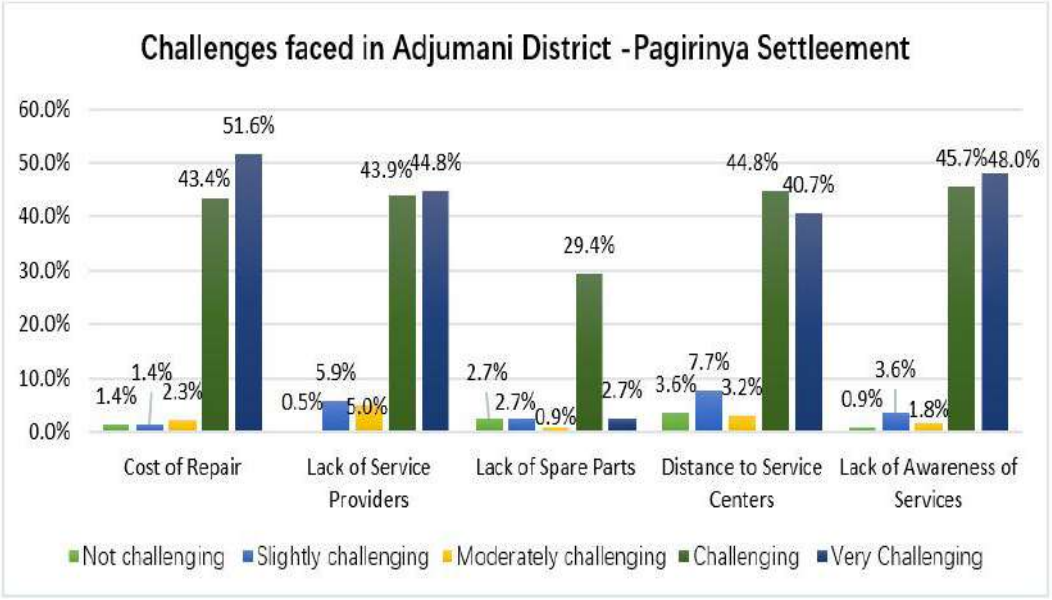


Figure 84: Challenges faced in accessing repair or re-purposing services in Adjumani District - Pagirinya Settlement

xi. **In Lamwo District - Palabek settlement, lack of spare parts poses the greatest challenge, with 51.2% rating it as very challenging.** Distance to service centers follows closely, with 52% indicating it as very challenging. Additionally, cost of repair is significant, as 42.4% find it very challenging, highlighting the barriers to accessing repair services.

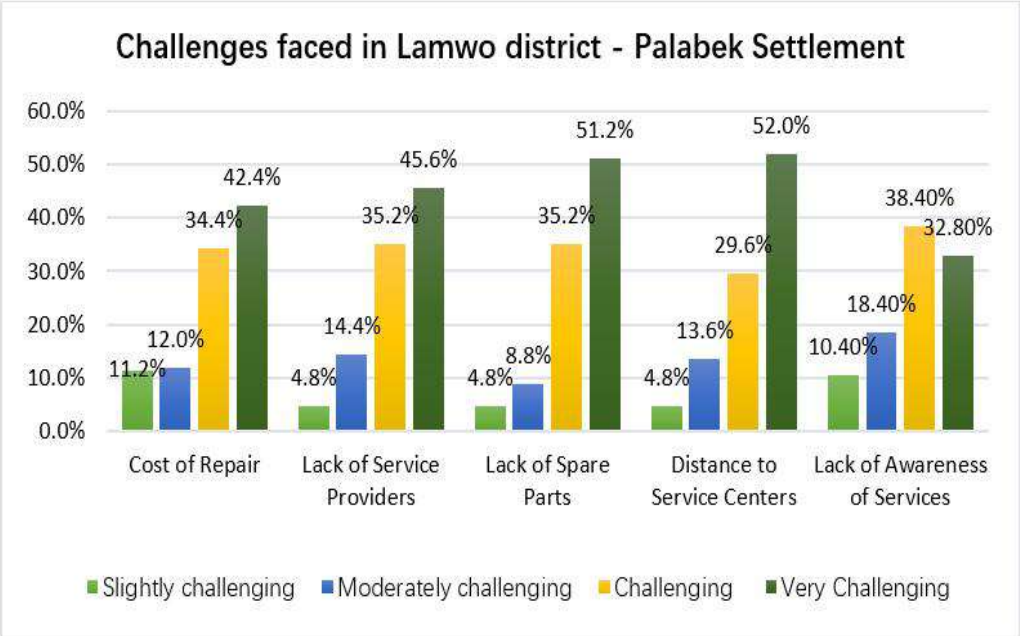


Figure 85: Challenges faced in accessing repair or re-purposing services in Lamwo District - Palabek Settlement

xii. In Obongi District - Palorinya settlement, **lack of spare parts** emerges as the most significant challenge, with **72%** of respondents indicating it as very challenging. **Cost of repair** and **lack of service providers** are also considerable barriers, with **52%** and **45.6%** respectively rating them as very challenging. Additionally, **distance to service centers** is noted as a challenge for **43.2%** of respondents, while **lack of awareness of services** affects **32.8%**.

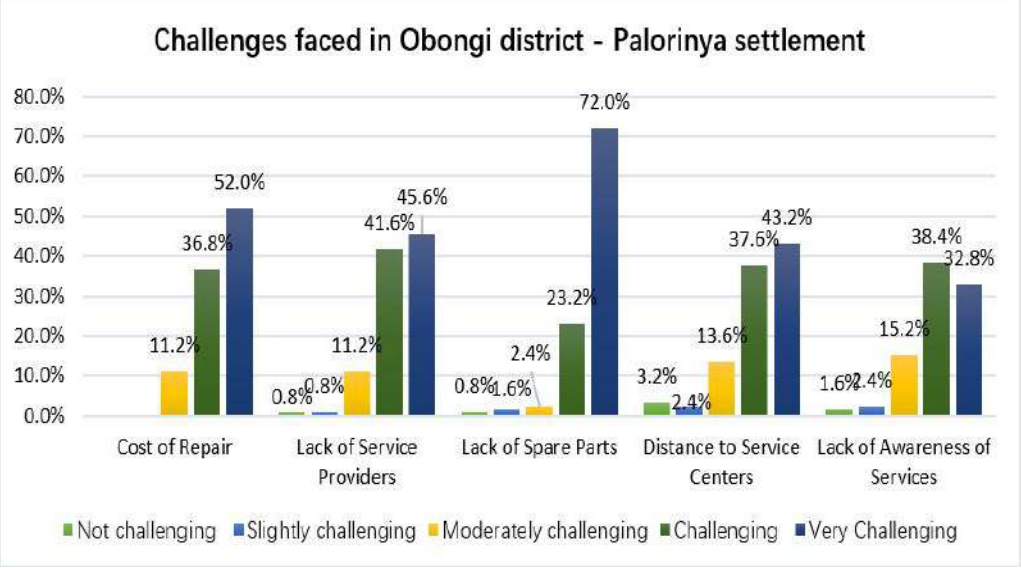


Figure 86: Challenges faced in accessing repair or re-purposing services in Obongi District - Palorinya Settlement

xiii. **In Madi Okollo District - Rhino Camp, the cost of repair is the primary barrier, with 58.1% of respondents rating it as challenging.** The lack of service providers also poses a significant issue, affecting 56.1%. Additionally, 38.7% face challenges due to a lack of spare parts, while 28.4% struggle with distance to service centers. Lastly, 43.9% report a lack of awareness of available services as a critical challenge.

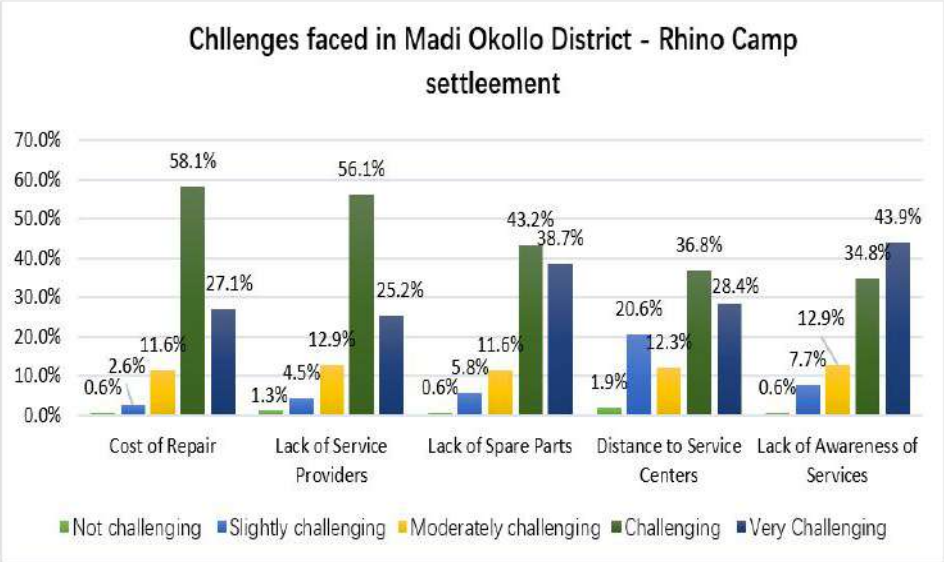


Figure 87: Challenges faced in accessing repair or re-purposing services in Madi Okollo District - Rhino camp Settlement

xiv. **In Kamwenge District - Rwamwanja Settlement, the cost of repair is identified as a major barrier, with 37.7% of respondents rating it as very challenging.** The lack of service providers is also significant, with 30.9% facing challenges in this area. Similarly, 30.9% struggle with the lack of spare parts, while 30.9% report difficulties due to distance to service centers. Additionally, 36.0% of respondents express that a lack of awareness of available services presents a considerable challenge.

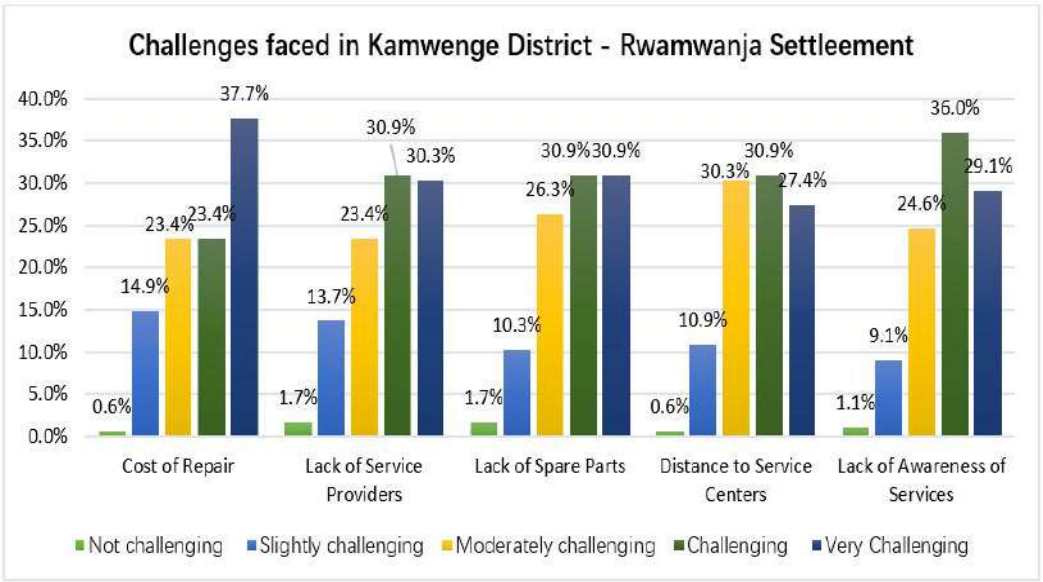


Figure 88: Challenges faced in accessing repair or re-purposing services in Kamwenge District - Rwamwanja Settlement

3.3.5.4 Local initiatives focused on device repairs and e-waste management

From the 2494 respondents involved in the survey, these were asked if there any local initiatives focused on device repairs and e-waste management and only 26% (650) indicated to be aware of existing initiatives towards e-waste management.

From the 26% that indicated to have initiatives for device repairs and e-waste management in their communities. The mentioned initiatives included:

i. Local repair shops, especially for mobile phones, seem to be the main source of device repair.
ii. Private repair businesses also play a role, although they're often informal and not necessarily focused on e-waste management.
iii. There's also mention of scrap collectors, which suggests some form of informal e-waste management.
iv. However, most of the initiatives focus solely on repairing devices, and e-waste management seems to be largely ignored.

So, while there are some efforts to repair devices, there's a big gap when it comes to properly handling electronic waste. **From those that indicated not to be aware of any existing initiatives,** key takeaways from their responses included:

i. No organized e-waste management: People are repairing their devices, but there's no clear system for handling the waste when these devices reach the end of their life.
ii. Geographical challenges: Many people reported that services like these aren't available in their area, particularly in rural or refugee communities. Some noted that they have to travel long distances to access such services if they exist.
iii. Lack of awareness: A large number of people simply didn't know if any initiatives existed, which suggests that even if there are services, they're not being communicated **well** to the public.

From further discussions with KIIs on Local Initiatives in Settlements and Host Districts Focused on E-Waste Management: Almost all the KIIs reported no existing local initiatives towards e-waste management. However KIIs in Lamwo indicated to have collection points for e-waste while

in Kyangwali there were existing campaigns on e-waste management as reported by the M&E Officer.

"None existing, the issue of e-waste is not practiced here." **— (Senior ICT Officer)**

"No existing waste management practices available." **(Assistant Settlement Commander)**

3.3.5.3 Suggestions for improving Device Life Cycle Management Practices

Key insights from the Key Informants on t**he practices for managing electronic device end-of-life in refugee and host communities** were;

1. **Establishment of Collection and Recycling Centers: This was a Recurring Recommendation displaying the need for centralized e-waste collection points.**

"Business partner to help in corrections, establishment of a collection center." **(Community Development Officer)**

"Centralized waste collecting centre should be put in place e.g. lagoon is in place in Palabek refugee settlement." **(Human Resource Manager)**

"Waste be collected in one place by the town council." **(Vice Chairperson LC 3)**

2. **Community Sensitization and Awareness: Many respondents emphasized the need for awareness campaigns.**

"Sensitization of people and provision of incinerators." **(Area Councillor LC.3)**

"There's need to have trainings on e-waste." **(Principal Asst Secretary)**

"Sensitization should be key for both refugees and people in the community." **(Deputy RDC)**

3. **Policy and Regulatory Frameworks: This recommendation was geared towards having a robust legal frameworks**

"Robust E-waste legal frameworks, Provide incentives to local collectors." **(Information Technology Officer)**

"PPPs are critical. We also need to start somewhere like UCUSAF is doing to pioneer e-waste management in schools." **(Head Technical Services)**

3.3.2 Best practices from other jurisdictions and lessons for Uganda on Access to Communication devices

Providing affordable devices and fostering digital inclusion for refugees is essential for enabling access to vital online services and improving integration opportunities. Countries like Germany, Sweden, Jordan, and Rwanda have implemented impactful strategies to support device access and digital literacy for refugees. In Germany, programs like Project Reconnect supply Chromebooks to refugees, including accessibility features and digital literacy training, helping them access essential services and enhance digital skills. Sweden promotes device accessibility through public-private partnerships, with initiatives like DigiComp providing low-cost or free smartphones and tablets to vulnerable groups, fostering equal opportunities for digital

participation. In Jordan, high smartphone ownership among refugees (96%) is supported by collaboration with international organizations to distribute affordable mobile devices, ensuring widespread access to communication tools. Rwanda leverages partnerships with organizations like UNHCR to distribute affordable devices and pilot device-sharing models in refugee camps, bridging the access gap with financing options that make devices more accessible.

Table 28: Best practices from other jurisdictions and lessons for Uganda on Access to Communication devices

Country	Current status	Best Practices
Germany	Deutsche Telekom estimates that up to 80% of adult refugees arriving in Germany have a smartphone[34]. Several programs, such as *Project Reconnect* (funded by Google.org), provided refugees with Chromebooks to ensure they had access to digital resources. These devices were equipped with accessibility features to cater to refugees with disabilities, ensuring inclusive digital learning and communication opportunities[35]. Germany has focused on digital literacy programs for refugees to help them use these tools effectively. NGOs and government initiatives offer training in basic computer skills, online safety, and accessing online services.[36]	● Providing low-cost or donated smartphones, laptops, or tablets to refugees to allow them access essential online services as observed in project reconnect. ● Integrating digital literacy programs is essential to help refugees maximize the use of these devices and improve their prospects for education and employment.
Sweden	Sweden's government, through public-private partnerships, facilitates the distribution of affordable devices like smartphones and tablets. In 2020, 80% of refugees owned smartphones, enabling them to access digital services. Projects like DigiComp provide low-cost or free devices to vulnerable groups, ensuring that they remain connected[37]. This commitment to device accessibility is key to fostering equal opportunities for digital participation across the country.	● Partnering with telecom companies to provide affordable/low-cost communication devices, such as smartphones and tablets, to refugees. ● Partnering with development partners and other entities to provide communication devices to the refugees.
Jordan	Jordan, in collaboration with international organizations, has facilitated the distribution of mobile devices, tablets, and laptops to refugees. The GSMA Report (2019) highlights a high level of mobile phone ownership among refugees in Jordan, with 96% of refugees owning phones, 73% of which are smartphones[38].	● Collaborating with international organizations and mobile network providers to distribute affordable devices in refugee host districts. ● Establishing community hubs that will support device-sharing models to enhance access to communication tools. ● Exploring financing schemes to make devices more accessible to

[34] https://mixedmigration.org/hype-or-hope-new-evidence-on-the-use-of-smartphones-and-social-media-in-mixed-migration/
[35] Online help for refugees –DW – 09/22/2015
[36] Germany's Digital Inclusion Report, 2024
[37] Sweden's public-private partnerships and government initiatives
[38] The Digital Lives of Refugees, 2019 (https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07)

		refugees and PWDs.
Rwanda	According to the study carried out in Kiziba: Bridging the mobile Gender Gap, (2019)[39] indicated that 62% of the refugees own phones. Rwanda, in collaboration with UNHCR and other international organizations, has implemented programs to distribute affordable devices, such as mobile phones and tablets, to refugees. Device-sharing models have been piloted in several camps, and partnerships with private companies have enabled the procurement of low-cost devices[40]. Additionally, device financing options are available to refugees to ensure greater accessibility.	• Establishing partnerships with international organizations and private sector players to facilitate the distribution of affordable or subsidized devices in refugee host districts. • Lobbying for various financing initiatives that facilitate device distribution and sharing models to bridge the gap in access to communication devices among refugees and vulnerable populations.

These best practices emphasize the importance of affordable devices and digital training in creating inclusive digital environments for refugees, which Uganda could adopt to support its own refugee and undeserved communities.

3.3.3 Emerging Issues and Recommendations

The table below summarizes the emerging issues from the analysis of findings on the Access to communication devices and their associated Recommendations.

Table 29: Emerging issues and recommendation on assessment for the Access to Communication Devices

Dimensions	Emerging Issues	Recommendation
Device Ownership and Access	Limited access to advanced devices, with 84.1% owning basic phones but only 5.2% owning desktops and 12.4% owning laptops.	Increase access to basic devices and prioritize affordability for smartphones, laptops, and desktops in under served and refugee communities.
General Analysis on Device Ownership and Access	High access to basic phones, but smartphone and advanced device access remains low; many rely on shared access.	Provide subsidized smartphones and laptops in high-need areas to bridge the digital divide.
Analysis of Device Ownership by Gender	Gender gap in device ownership: 51.5% of males have access to radios compared to only 38.9% of females.	Promote equitable access programs focused on increasing device ownership among females, especially radios and smartphones.
Analysis of Device Ownership by Persons with Disabilities	People with disabilities have low ownership of essential devices, with only 36.1% owning smartphones and even fewer having access to desktops.	Provide subsidized or donated devices and adaptive technology to improve access for people with disabilities.

[39] https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/wp-content/uploads/2019/04/M4H_GenderGapRefugeeContexts.pdf
[40] UNHCR 2023 report on device distribution programs in refugee camps in Rwanda.

Analysis of Device Ownership in Host Communities	Host communities have 73.6% access to basic phones, but ownership of computers (desktops and laptops) remains low, affecting digital literacy.	Focus on enhancing access to desktops and other digital tools through community centers or shared resources.
Analysis of Device Ownership in Refugee Settlements	Refugee settlements show 81.4% basic phone access but limited access to laptops (13.1%), affecting access to online resources and opportunities.	Increase device distribution efforts and encourage partnerships to expand access to advanced devices like laptops and desktops.
Device Life Cycle Management Practices	High rates of electronic disposal, especially in Kyangwali (78.7%), Kiryandongo (75.7%), and Palabek (92%). Limited access to recycling centers, though some recycling is reported in Lobule. Refugee settlements like Rhino Camp (46%) show higher recycling practices, though overall e-waste disposal remains high.	• Strengthen recycling infrastructure by setting up mobile recycling units in refugee and host communities. • Incentivize device repurposing through trade-in programs and partnerships with local businesses. • Launch educational campaigns on e-waste impacts and recycling options. • Establish community-based e-waste collection points in collaboration with NGOs to make recycling more accessible.

3.4 Access and Usage of Digital Services

The **analysis of the data revealed that among the 1,195 respondents from the host community, the most frequently used services were SMS and social media, with daily usage reported by 45.6% (545) and 32.6% (390) of participants, respectively. In contrast, among the 1,299 respondents from the refugee settlement, 34.9% (454) reported daily SMS usage, while 29.2% (379) used social media.** Notably, the largest proportion of respondents did not utilize digital services, as illustrated in the table below.

Table 30: Showing how respondents use the digital services

Description	Host Community					Refugee Settlement				
	Daily	Weekly	Monthly	Rarely	I don't use	Daily	Weekly	Monthly	Rarely	I don't use
SMS	45.6%	19.0%	3.3%	18.2%	14.0%	34.9%	21.2%	6.7%	17.1%	20.0%
Online news	15.3%	12.5%	5.0%	23.8%	43.4%	15.0%	16.4%	5.5%	20.9%	42.2%
Emails	6.0%	9.1%	7.9%	24.8%	52.2%	6.2%	13.6%	8.7%	19.6%	52.0%
Social media	32.6%	9.9%	4.4%	16.7%	36.4%	29.2%	15.1%	3.9%	13.8%	38.0%
Video conferencing	0.8%	3.7%	5.8%	20.7%	69.1%	2.1%	5.9%	4.4%	19.5%	68.1%
e-gov't services	2.1%	2.3%	7.9%	19.4%	68.3%	0.7%	2.5%	6.5%	16.2%	74.1%
online markets	1.0%	3.2%	5.1%	17.8%	72.9%	0.5%	2.2%	4.3%	15.8%	77.2%
Online Banking	1.6%	4.1%	11.5%	17.8%	64.9%	0.8%	3.0%	8.3%	18.6%	69.2%
entertainment services	6.9%	4.8%	3.9%	17.0%	67.4%	4.1%	4.7%	4.4%	13.2%	73.6%

An analysis of the data reveals that SMS is the most frequently used service among persons with disabilities, with 120 daily users (approximately 38.3%). This trend aligns with findings for both genders: 35.4% (434) of females and 44.6% (565) of males use SMS daily. In contrast, online news is less utilized, with 49.1% (603) of females and 36.6% (464) of males not using it at all. Overall, this indicates a significant preference for SMS over online news among both genders and persons with disabilities as illustrated in figure 77 and 78 below.

Table 31: Showing usage of digital services among Male and Female respondents

Description	Female					Male				
	D	W	M	R	I don't use	D	W	M	R	I don't use
SMS	17.4%	9.3%	2.5%	10.4%	9.6%	22.7%	10.9%	2.6%	7.2%	7.5%
Online news	5.7%	6.2%	2.7%	10.4%	24.2%	9.4%	8.3%	2.6%	11.9%	18.6%
Emails	2.1%	4.5%	3.6%	10.3%	28.7%	4.0%	6.9%	4.7%	11.7%	23.4%
Social media	12.9%	4.8%	2.1%	8.3%	21.1%	18.0%	7.8%	2.0%	6.9%	16.1%
Video conferencing	0.7%	1.9%	1.8%	7.9%	36.9%	0.8%	2.9%	3.2%	12.2%	31.7%
e-gov't services	0.7%	1.0%	3.0%	6.9%	37.7%	0.6%	1.4%	4.3%	10.9%	33.6%
online markets	0.3%	0.8%	2.0%	6.7%	39.5%	0.4%	1.8%	2.7%	10.1%	35.7%
Online Banking	0.4%	1.2%	3.9%	7.9%	35.7%	0.8%	2.3%	5.9%	10.3%	31.4%
entertainment services	2.0%	1.9%	1.8%	6.1%	37.4%	3.5%	2.8%	2.4%	8.9%	33.2%

Table 32: Showing frequency of usage of digital services among PWDs who have access to digital device.

	Daily	Weekly	Monthly	Rarely	I don't use
SMS	38.3%	18.2%	4.2%	15.3%	24.0%
Online news	7.3%	11.5%	3.2%	21.7%	56.2%
Emails	4.2%	6.4%	5.1%	19.2%	65.2%
Social media	18.5%	7.7%	6.1%	17.6%	50.2%
Video conferencing	0.6%	2.2%	2.2%	17.3%	77.6%
e-gov't services	2.2%	1.0%	6.1%	14.7%	76.0%
online markets	0.3%	0.0%	3.2%	12.5%	84.0%
Online Banking	0.0%	1.6%	5.4%	16.3%	76.7%
entertainment services	5.4%	2.9%	2.2%	14.1%	75.4%

In conclusion, the SQ data shows that SMS is the most frequently used digital service across all groups, including 38.3% of persons with disabilities, 44.6% of males, and 35.4% of females, while other services like social media are used less frequently. A significant portion of respondents, however, do not utilize digital services, particularly online news, with 49.1% of females and 36.6% of males not engaging with it. These findings align with some key informants recommendations that emphasise that;

"There should be free sensitization programs on the different digital services and their use." ***(NGO Officer Kamwenge)***

"There is need to extend power, digital/ICTs services near to the people and also sensitize them on how to use and the benefits of these services digital sensitization." ***(Education Project Assistant, Isingiro)***

3.4.1 Usage of digital services per host and refugee settlements

i. Bidi Bidi

Among the 203 respondents from Bidi Bidi host community and refugee settlement it was found that the majority did not use internet-based services, with e-government services being the least utilized at 65.02% (132 respondents). In contrast, SMS was the most frequently used service, with 32.5% (66 respondents) using it daily. Further details are provided in the table below.

Table 33: Showing frequency of usage of digital services among respondents in Bidi bidi

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	32.5%	30.0%	5.4%	19.2%	12.81%
Online news	12.8%	13.8%	8.9%	34.5%	30.05%
Emails	6.9%	14.8%	11.3%	32.0%	34.98%
Social media	29.6%	10.8%	9.9%	23.2%	26.6%
Video conferencing	2.5%	6.4%	7.9%	33.5%	49.75%
e-gov't services	2.0%	4.4%	4.4%	24.1%	65.02%
online markets	0.5%	3.0%	3.9%	32.0%	60.59%
Online Banking	0.5%	2.0%	5.9%	33.5%	58.13%
entertainment services	2.05	4.43%	3.4%	30.5%	59.61%

ii. Imvempi

Among the 126 participants from Imvempi host community and refugee settlement, 50.0% (63 respondents) use SMS daily, making it the most frequently used service. However, a significant 78.57% (99 respondents) do not use online banking, representing the highest percentage of non-users. Further information is analyzed in the table below.

Table 34: Showing frequency of usage of digital services among respondents in Imvempi

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	50.0%	7.9%	10.3%	22.2%	9.52%
Online news	15.1%	11.9%	1.6%	27.8%	43.65%
Emails	6.3%	8.7%	7.1%	25.4%	52.38%
Social media	25.4%	12.7%	4.0%	15.9%	42.06%
Video conferencing	4.8%	9.5%	0.8%	15.1%	69.84%
e-gov't services	0.0%	0.0%	0.8%	23.0%	76.19%
online markets	0.0%	0.0%	2.4%	19.0%	78.57%
Online Banking	0.8%	4.0%	14.3%	22.2%	58.73%
entertainment services	8.7%	7.1%	0.8%	18.3%	65.08%

iii. Kampala

The analysis reveals that among the 351 respondents from Kampala settlement, social media is the most frequently used digital service, with 60.7% (213 respondents) using it daily. In contrast, video conferencing platforms like Zoom are the least used, with 47.58% (167 respondents) indicating they do not use them, making it the most unpopular service. The usage of other services is detailed in the analysis below.

Table 35: Showing frequency of usage of digital services among respondents in Kampala

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	34.2%	27.9%	7.7%	26.2%	3.989%
Online news	28.2%	27.9%	10.5%	18.2%	15.1%
Emails	9.7%	25.4%	16.2%	24.5%	24.22%
Social media	60.7%	18.5%	5.7%	6.8%	8.262%
Video conferencing	2.3%	11.7%	12.3%	26.2%	47.58%
e-gov't services	1.7%	8.5%	26.8%	31.1%	31.91%
online markets	0.3%	10.8%	18.2%	29.3%	41.31%
Online Banking	2.0%	11.7%	22.2%	21.7%	42.45%
entertainment services	3.4%	13.4%	11.1%	19.7%	52.42%

iv. Kiryandongo

Among the 178 respondents from Kiryandongo host community and refugee settlement, SMS emerged as the most frequently used digital service, with 75.8% (135 respondents) using it regularly. On the other hand, 62.4% (111 respondents) reported not using video conferencing tools like Zoom, making it the least known digital service among Kiryandongo respondents, as shown in the table below.

Table 36: Showing frequency of usage of digital services among respondents in Kiryandongo

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	75.8%	10.1%	0.6%	7.9%	5.6%
Online news	23.6%	10.7%	1.1%	29.8%	34.8%
Emails	12.4%	13.5%	4.5%	25.8%	43.8%
Social media	62.9%	7.9%	0.0%	5.6%	23.6%
Video conferencing	0.6%	2.8%	3.9%	30.3%	62.4%
e-gov't services	7.3%	2.2%	13.5%	21.3%	55.6%
online markets	3.4%	6.7%	6.7%	29.8%	53.4%
Online Banking	5.1%	7.9%	18.5%	26.4%	42.1%
entertainment services	23.6%	3.9%	1.7%	18.0%	52.8%

v. Kyaka

Among the 201 respondents from Kyaka host community and refugee settlement, SMS is the most widely used digital service, with 47.3% (95 respondents) using it daily, while only 19.4% (39 respondents) do not use it at all. In contrast, other services, such as entertainment platforms like

Netflix, have a much lower usage rate, with 74.1% (149 respondents) reporting that they do not use these services, as shown in the table below

Table 37: Showing frequency of usage of digital services among respondents in Kyaka

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	47.3%	21.9%	3.0%	8.5%	19.4%
Online news	21.4%	15.4%	2.0%	7.5%	53.7%
Emails	7.5%	9.5%	4.0%	13.9%	65.2%
Social media	32.3%	16.4%	1.0%	3.5%	46.8%
Video conferencing	1.0%	3.5%	1.5%	16.9%	77.1%
e-gov't services	1.0%	0.0%	2.0%	14.9%	82.1%
online markets	2.0%	0.5%	2.0%	8.0%	87.6%
Online Banking	1.5%	0.5%	7.5%	17.4%	73.1%
entertainment services	9.0%	3.5%	4.0%	9.5%	74.1%

vi. Kyangwali

Among the 177 respondents from Kyangwali host community and refugee settlement, SMS emerged as the most commonly used digital service, with 46.9% (83 respondents) utilizing it on a daily basis. In contrast, e-government services were the least utilized, with 83.1% (147 respondents) reporting no use, as detailed in the table below.

Table 38: Showing frequency of usage of digital services among respondents in Kyaangwali

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	46.9%	13.6%	1.7%	20.3%	17.5%
Online news	10.2%	11.3%	2.8%	24.9%	50.8%
Emails	5.1%	8.5%	6.8%	24.3%	55.4%
Social media	33.3%	6.2%	0.6%	15.3%	44.6%
Video conferencing	1.7%	5.1%	7.3%	20.9%	65.0%
e-gov't services	0.0%	0.0%	2.8%	14.1%	83.1%
online markets	0.0%	0.0%	2.3%	15.3%	82.5%
Online Banking	0.0%	1.1%	10.7%	12.4%	75.7%
entertainment services	1.1%	1.7%	6.8%	11.9%	78.5%

vii. Lobule

In Lobule host community and refugee settlement, 98 respondents participated in the survey. SMS was identified as the most frequently used digital service, with 25.5% (25 respondents) using

it daily. In contrast, online marketplaces like Jumia were the least utilized, with 81.6% (80 respondents) reporting no use, as shown in the table below.

Table 39: Showing frequency of usage of digital services among respondents in Lobule

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	25.5%	51.0%	2.0%	12.2%	9.2%
Online news	7.1%	24.5%	9.2%	28.6%	30.6%
Emails	1.0%	8.2%	6.1%	27.6%	57.1%
Social media	7.1%	9.2%	6.1%	29.6%	48.0%
Video conferencing	1.0%	4.1%	2.0%	19.4%	73.5%
e-gov't services	1.0%	3.1%	3.1%	21.4%	71.4%
online markets	0.0%	1.0%	0.0%	17.3%	81.6%
Online Banking	0.0%	2.0%	12.2%	33.7%	52.0%
entertainment services	7.1%	3.1%	1.0%	20.4%	68.4%

viii. Nakivale

Based on the data presented in the table below, 234 respondents participated in the survey conducted in Nakivale host community and refugee settlement. SMS emerged as the most used digital service, with 20.1% (47 respondents) using it daily. However, 88.0% (206 respondents) reported not using online marketplaces like Jumia, making it the least used digital service in the settlement.

Table 40: Showing frequency of usage of digital services among respondents in Nakivale

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	20.1%	24.8%	11.1%	24.4%	19.7%
Online news	12.0%	6.4%	5.6%	24.4%	51.7%
Emails	5.6%	9.0%	9.0%	12.8%	63.7%
Social media	19.2%	15.8%	8.5%	19.7%	36.8%
Video conferencing	0.9%	2.1%	0.9%	17.5%	78.6%
e-gov't services	0.9%	0.4%	9.0%	13.7%	76.1%
online markets	0.0%	0.9%	1.3%	9.8%	88.0%
Online Banking	0.9%	0.9%	3.8%	12.4%	82.1%
entertainment services	2.6%	2.1%	3.8%	17.1%	74.4%

ix. Oruchinga

Out of the 125 respondents from the Oruchinga host community and refugee settlement, SMS is the most frequently used digital service, with 24.0% (30 respondents) using it daily. Despite this, a

significant majority—88.8% (111 respondents)—reported not using certain digital services, such as online marketplaces like Jumia, as illustrated in the table below.

Table 41: Showing frequency of usage of digital services among respondents in Oruchinga

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	24.0%	24.8%	8.8%	16.8%	25.6%
Online news	2.4%	8.0%	11.2%	16.0%	62.4%
Emails	1.6%	4.8%	14.4%	18.4%	60.8%
Social media	4.8%	11.2%	12.0%	16.0%	56.0%
Video conferencing	0.0%	2.4%	5.6%	10.4%	81.6%
e-gov't services	0.0%	1.6%	4.0%	14.4%	80.0%
online markets	0.8%	0.8%	2.4%	7.2%	88.8%
Online Banking	0.0%	0.8%	6.4%	8.0%	84.8%
entertainment services	0.8%	4.0%	4.0%	10.4%	80.8%

x. Pagirinya

During the survey conducted in Pagirinya host community and refugee settlement, 35 respondents participated. Social media emerged as the most frequently used digital service, with 37.1% (13 respondents) using it daily. However, when asked about other services such as online banking, e-government services, and others, the majority—94.3% (33 respondents)—reported that they do not use online marketplaces like Jumia, as shown below.

Table 42: Showing frequency of usage of digital services among respondents in Pagirinya

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	22.9%	25.7%	5.7%	28.6%	17.1%
Online news	11.4%	5.7%	2.9%	42.9%	37.1%
Emails	5.7%	8.6%	0.0%	40.0%	45.7%
Social media	37.1%	22.9%	0.0%	20.0%	20.0%
Video conferencing	0.0%	0.0%	5.7%	34.3%	60.0%
e-gov't services	0.0%	0.0%	0.0%	14.3%	85.7%
online markets	0.0%	0.0%	0.0%	5.7%	94.3%
Online Banking	0.0%	0.0%	5.7%	5.7%	88.6%
entertainment services	5.7%	0.0%	0.0%	22.9%	71.4%

xi. Palabek

Among the 125 respondents from the Palabek refugee settlement and host community, it was observed that a significant majority did not utilize online marketplaces such as Jumia, which had

the lowest usage rate at 87.2% (109 respondents). In contrast, SMS emerged as the most commonly used service, with 52.0% (65 respondents) using it daily, as illustrated in the table below.

Table 43: Showing frequency of usage of digital services among respondents in Palabek

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	52.0%	8.0%	0.8%	12.8%	26.4%
Online news	16.0%	21.6%	2.4%	12.8%	47.2%
Emails	3.2%	4.8%	2.4%	26.4%	63.2%
Social media	27.2%	15.2%	0.0%	15.2%	42.4%
Video conferencing	0.0%	0.0%	1.6%	17.6%	80.85
e-gov't services	0.0%	0.0%	0.8%	12.8%	86.4%
online markets	0.0%	0.0%	0.0%	12.8%	87.2%
Online Banking	0.0%	3.2%	8.8%	17.6%	70.4%
entertainment services	0.0%	1.6%	0.8%	22.4%	75.2%

xii. Palorinya

Among the 124 respondents from Palorinya settlement, 34.7% (43 respondents) from both the host community and the refugee settlement use SMS digital services daily. In contrast, a significant 96.0% (119 respondents) do not utilize entertainment services such as Netflix, as shown in the table below.

Table 44: Showing frequency of usage of digital services among respondents in Palorinya

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	34.7%	17.7%	4.8%	11.3%	31.5%
Online news	1.6%	9.7%	4.0%	29.0%	55.6%
Emails	3.2%	6.5%	7.3%	20.2%	62.9%
Social media	12.1%	7.3%	2.4%	31.5%	46.8%
Video conferencing	0.0%	0.0%	1.6%	12.9%	85.5%
e-gov't services	0.0%	0.8%	0.0%	4.0%	95.2%
online markets	0.0%	0.0%	0.0%	2.4%	97.6%
Online Banking	0.8%	0.0%	1.6%	16.9%	80.6%
entertainment services	0.0%	0.0%	0.0%	4.0%	96.0%

xiii. Madi-Okollo

Among the 155 respondents from Rhino Camp refugee settlement and the host community, the most frequently used digital services are SMS and social media, utilized by 50.3% (78 respondents)

and 21.9% (34 respondents) daily, respectively. Conversely, online banking is the least used digital service, with 72.3% (112 respondents) indicating that they do not use it, as shown in the table below.

Table 45: Showing frequency of usage of digital services among respondents in Madi-Okollo

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	50.3%	11.0%	3.9%	25.8%	9.0%
Online news	12.3%	18.1%	4.5%	33.5%	31.6%
Emails	5.2%	13.5%	8.4%	32.3%	40.6%
Social media	21.9%	17.4%	4.5%	28.4%	27.7%
Video conferencing	3.2%	4.5%	8.4%	27.1%	56.8%
e-gov't services	1.3%	2.6%	5.2%	23.9%	67.1%
online markets	1.9%	1.9%	6.5%	18.7%	71.0%
Online Banking	0.6%	1.9%	3.2%	21.9%	72.3%
entertainment services	8.4%	5.8%	5.8%	11.6%	68.4%

xiv. Rwamwanja

Among the 175 respondents from Rwamwanja refugee settlement and the host community, SMS is the most frequently used digital service, with 43.4% (76 respondents) utilizing it daily compared to other services. However, a significant number of respondents do not use various services, including e-government services, online marketplaces like Jumia, and entertainment services such as Netflix. Notably, online marketplaces like Jumia have the highest rate of non-use, with 84.0% (147 respondents) as shown in the table below.

Table 46: Showing frequency of usage of digital services among respondents in Rwamwanja

Description	Daily	Weekly	Monthly	Rarely	I don't use
SMS	43.4%	18.9%	6.3%	5.7%	25.7%
Online news	6.9%	16.0%	5.7%	9.1%	62.3%
Emails	5.7%	9.1%	3.4%	10.9%	70.9%
Social media	17.7%	12.6%	2.3%	5.1%	62.3%
Video conferencing	1.1%	8.6%	5.1%	8.6%	76.6%
e-gov't services	1.7%	2.9%	2.9%	10.9%	81.7%
online markets	0.6%	1.1%	3.4%	10.9%	84.0%
Online Banking	2.3%	4.6%	9.1%	8.0%	76.0%
entertainment services	4.0%	6.9%	5.1%	6.9%	77.1%

3.4.2 Demanded digital services.

The survey results above revealed significant gaps in digital service availability, access and usage hence the need to establish the demanded digital services among the survey respondents. Respondents highlighted a strong demand for e-learning platforms and ICT training programs, with 72% (1,796) emphasizing their importance. Refugees showed a higher demand at 78% (1,013), compared to 65% (777) in the host community. The need for digital content creation and online job platforms was also significant, cited by 58% (1,447) of respondents, with refugees reporting slightly higher interest (63%, 818) than host community members 53%, (629). In addition, 67% (1,670) of respondents stressed the importance of e-government and e-banking services, indicating a growing reliance on digital tools for public services and financial management, with 69% (896) of refugees and 65% (774) of host community members highlighting these gaps.

Printing and document-related services also emerged as critical needs. Approximately 55% (1,372) of respondents identified large-scale printing (e.g., banners and posters) as important, with 57% (740) of refugees and 53% (632) of host community members expressing demand. Similarly, 48% (1,197) cited basic photocopying and secretarial services, with slightly higher interest among refugees 54%, (701) than hosts (41%, 496). Access to the internet and improved connectivity was the most frequently cited priority, with 76% (1,895) of respondents calling for better internet access. Refugees reported this need more strongly 81%(1,052) than host community members 71%(843).

Mobile services and related digital solutions were also identified as areas of high demand. Approximately 64% (1,596) of respondents cited the need for mobile money services and digital repair facilities, with demand higher among refugees 69%(896) compared to host community members 58%(700). Similarly, 52%(1,297) expressed interest in teleconferencing rooms, including 56% (727) of refugees and 48% (570) of host community survey respondents.

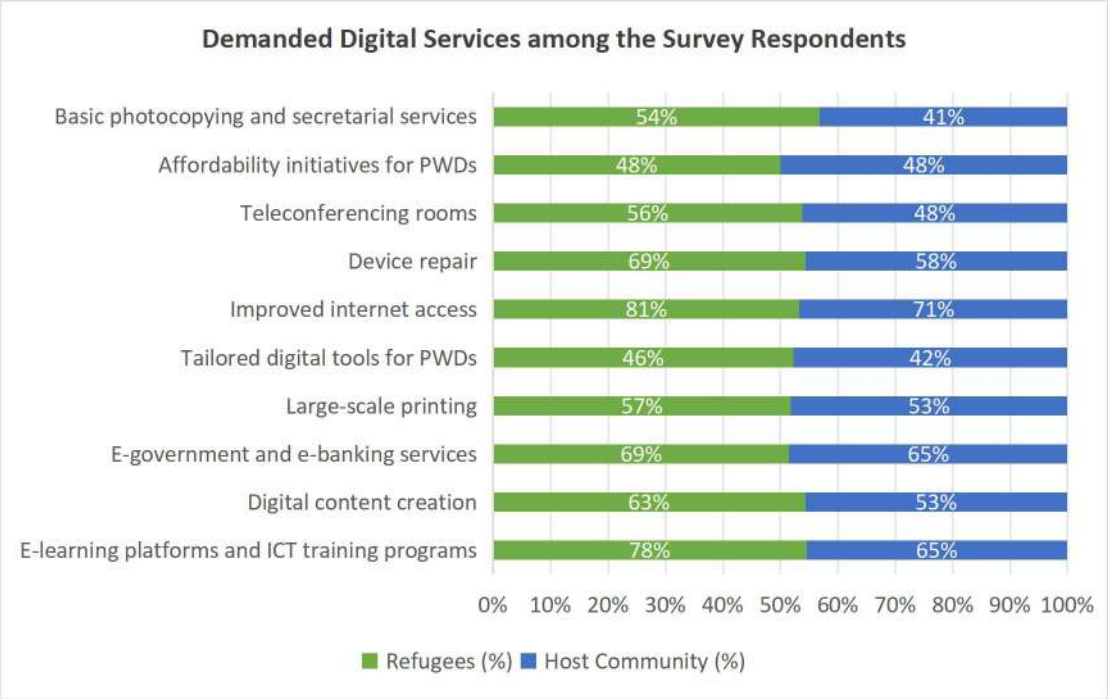


Figure 89: Demanded Digital Services among the survey respondents in Refugee and Host communities

It is worth noting that, for persons with disabilities (PWDs), the survey highlighted specific needs, with 44% (1,097) emphasizing the importance of tailored digital tools, including assistive technologies and accessible digital formats. Respondents also noted the necessity of affordability initiatives (e.g., reduced data prices and lower mobile money taxes) to ensure equal access for vulnerable groups. Overall, 48% (1,197) of respondents emphasized the importance of improving accessibility for PWDs, with slightly higher demand among refugees than host community respondents.

These finding are in relation with recommendations from civil society organizations advocating for digital accessibility measures such as stable networks, electricity, and PWD-friendly tools. Further alignment is evident in the call for affordability initiatives like regulated data prices and reduced taxes on mobile money transactions, alongside awareness workshops to safeguard PWDs from cyberbullying. One of the civil society respondents emphasized:

"Digital tools define the specifics of what every PWD needs and at what levels. There is a need to bring services closer to communities with specific focus on the persons with disabilities needs."

“Digital literacy campaigns and awareness workshops can also be a tool. Inclusivity of grassroot organizations supporting refugees and refugee PWD is also key’’

Furthermore, the findings from the survey (SQ) align strongly with qualitative insights provided by ICT Centre respondents, implementing partners, and civil society organizations. Together, they reveal a comprehensive picture of digital service needs, infrastructure gaps, and priorities in refugee settlements and host communities.

The survey data identifies e-learning platforms (72%), digital content creation (58%), and e-government and e-banking services (67%) as key demands. This aligns with feedback from ICT Centres emphasizing the need for basic ICT training, advanced programs, and freelancing opportunities, as well as DIT certification to boost employability. While Implementing partners highlighted the importance of e-learning centers, online marketing platforms, and digital literacy programs, resonating with the survey's focus on improving computer skills and access to educational resources.

Both the survey and qualitative data underscore the demand for large-scale printing (55%) and basic photocopying and secretarial services (48%). Respondents from ICT Centres emphasized these needs, with one stating:

"Printing is really needed because sometimes in the community we have Villages Saving groups and other NGOs, small business and they need some printing."

Implementing partners echoed this, identifying gaps in digital printing, photocopy services, and the lack of internet cafés as barriers to accessing essential services.

The survey highlights significant infrastructure needs, with 76% of respondents identifying improved internet access. These findings align with feedback from ICT Centres, which stressed the importance of better internet and electricity connectivity to support youth and community access. Implementing partners also identified infrastructure as a critical gap, citing the necessity for quality network coverage and robust electricity systems to sustain digital services. A respondent noted:

"The need improve internet, electricity supply and to avail laptops and desktops to the refugees as they can't be useful without reliable network access."

3.4.3 Barriers and threats to Digital Service Access and Usage

Digital service access and usage in both host and refugee settlements is hindered by a variety of barriers and threats. These challenges limit the ability of communities to fully benefit from available digital tools and services. This section highlights the most significant obstacles, as identified by the respondents.

A. General analysis of the respondents Barriers and threats

Cybersecurity threats, network and connectivity issues, and high costs are the most significant barriers to digital service access in both host and refugee settlements, further exacerbated by gaps in digital skills and the prevalence of malicious software. The most common concern was cyber security issues, affecting 34.2% (853) of users, followed by network and connectivity problems at 25.6% (638). High costs related to data, devices, and power were barriers for 20.3% (506), while 15.4% (384) cited a lack of digital skills or access. Malicious software, such as viruses and spyware, affected 4.5% (112). These findings highlight the main challenges as security risks, connectivity issues, costs, and digital literacy gaps.

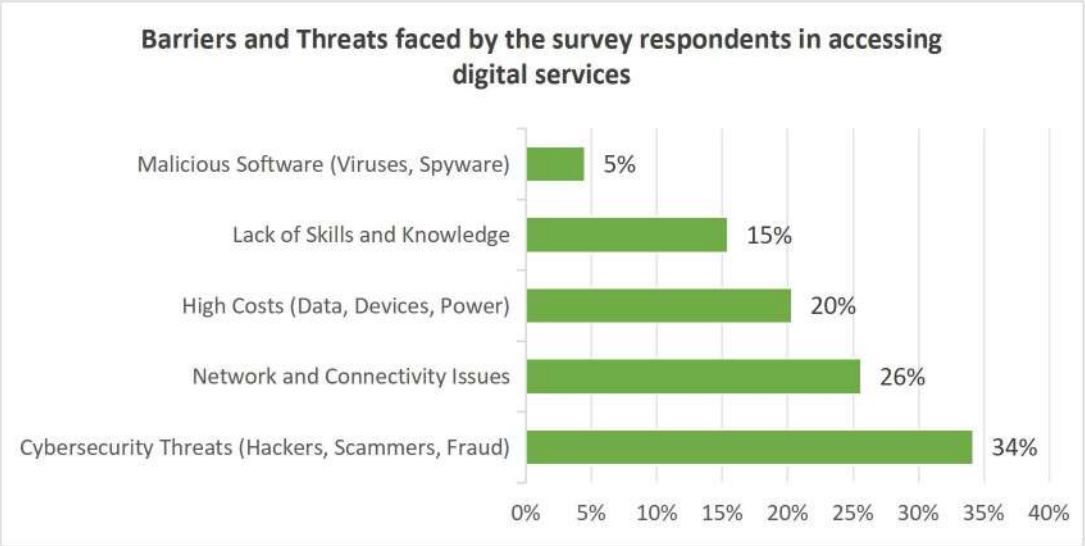


Figure 90: A graph showing barriers and threats faced by respondents in accessing digital services

The survey results are in line with the information obtained from the KIIs who reinforced that High costs for acquiring the devices, cyber security threats and limited infrastructure in terms of internet and electricity in that order are the main threats and fears faced by the refugees in accessing digital services as further noted by some of the key informants below;

"Some time ago, hackers attempted to steal money from my phone. I noticed an unauthorized transaction and quickly canceled it. This experience shows how challenging it can be to safely use online services." so on hearing such scenarios people fear when using these services ***(KII Respondent , Kyegegwa)***

"Persons with disabilities are the most disadvantaged. We need devices tailored to their needs and better infrastructure in rural areas," ***stated a respondent working with a disability-focused NGO, kampala***

B. Barriers and threats faced according to the survey respondents from each settlement

The analysis identifies key factors limiting digital service adoption, including cost, connectivity, digital literacy, awareness, and lack of devices. Each of these barriers impacts the ability of both refugees and host community members to access and benefit from digital resources. By understanding the challenges faced in each settlement, this section highlights the need for targeted interventions to improve digital inclusivity and bridge the digital divide within Refugee-Hosting Districts (RHDs).

i. Bidi Bidi

Among the 203 respondents surveyed on connectivity barriers in Bidi Bidi settlement, cost emerged as a significant issue, with 39.9% (81) identifying it as a barrier to a large extent and 23.6% (48) reporting it as a barrier to a very large extent. Additionally, 21.2% (43) classified cost as a moderate barrier. In contrast, 9.9% (20) felt it was a small barrier, and 5.4% (11) were not affected by the cost of digital services.

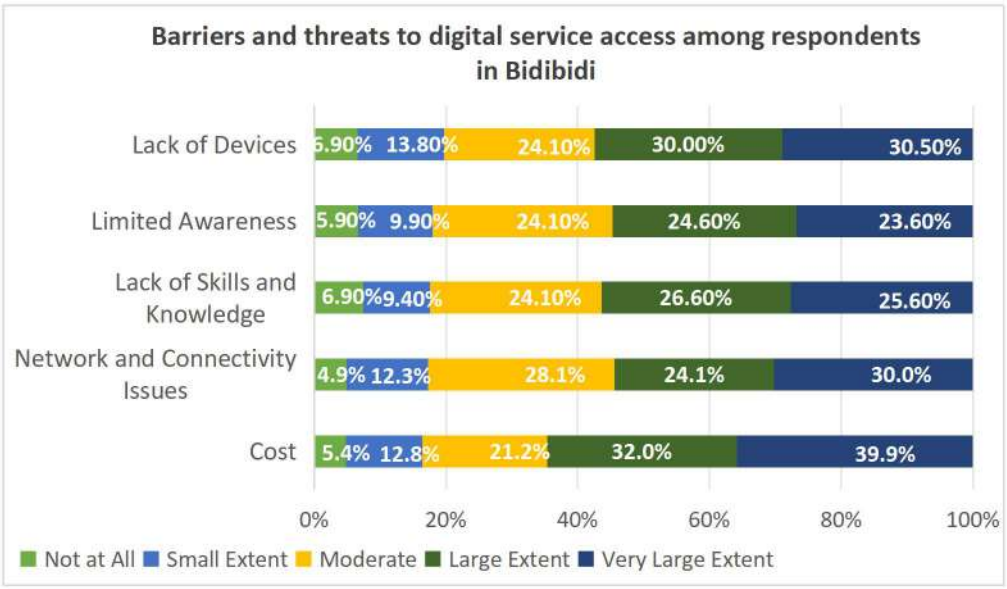


Figure 91: Graph showing Barriers and threats to digital services access among respondents in Bidibidi

ii. Imvempi

Out of the 126 respondents in Imvempi Settlement, the lack of devices was identified as a significant barrier to connectivity. Specifically, 43.7% (55) reported being affected to a very large extent, while 37.3% (47) indicated a large extent of impact. Additionally, 8.7% (11) rated the impact as moderate, and 6.3% (8) felt it affected them to a small extent. Only 4.0% (5) stated they were not affected at all by the lack of devices.

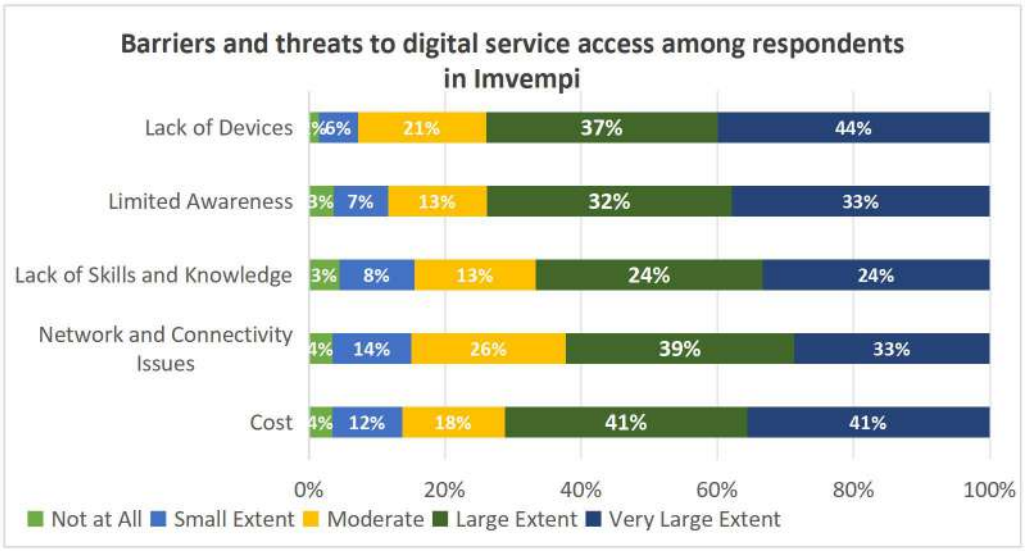


Figure 92: Graph showing Barriers and threats to digital services access among respondents Imvempi

iii. Kiryandongo

Out of the 178 respondents surveyed in Kiryandongo Settlement, cost emerged as a significant barrier to connectivity followed by network and connectivity issues, lack of devices, lack of skills and knowledge to utilise the services, and limited awareness in that order of prevalence as illustrated in the figure below.

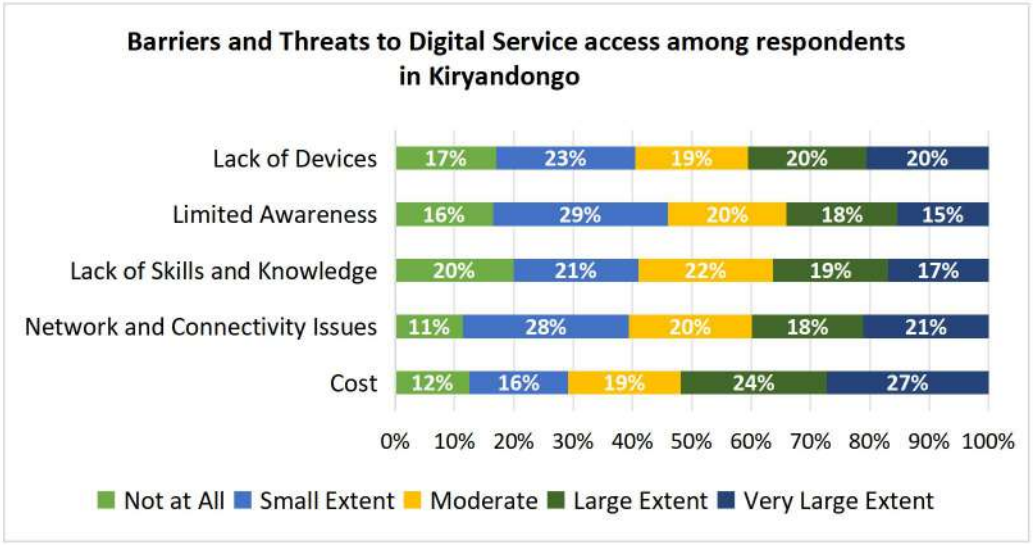


Figure 93: Graph showing Barriers and threats to digital services access among respondents in Kiryandongo

iv. Kyaka

The findings from Kyaka settlement highlight a significant in Limited awareness and cost followed by lack of devices, lack of skills and knowledge, and Network and connectivity issues in that order of prevalence as further illustrated in the figure below.

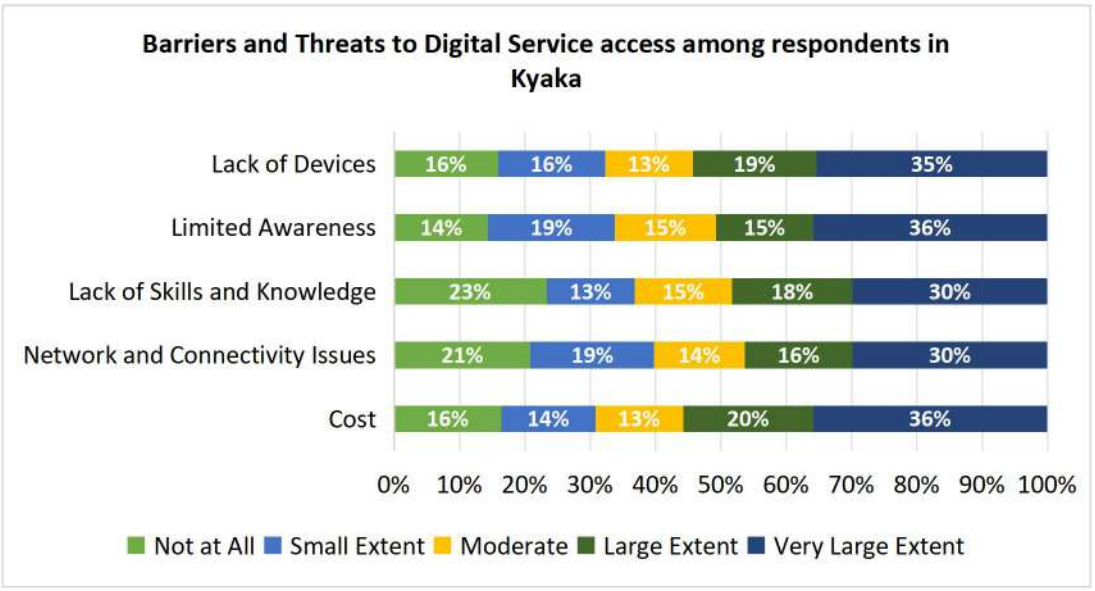


Figure 94: Graph showing Barriers and threats to digital services access among respondents in Kyaka

v. Kyangwali

Out of 117 respondents from Kyangwali, cost was a major barrier with 56% (65) and 60% (70) reporting being affected to a very large and large extent, respectively. Additionally, 21.4% (25) rated the impact as moderate, while 8.5% (10) felt it was small, and 6.0% (7) were not affected. This was followed by the lack of digital literacy skills, 53.0% (62) and 52.1% (61) reported being affected to a very large and large extent, while 19.7% (23) rated it as moderate, 18.8% (22) as small, and 7.7% (9) were not impacted by literacy barriers as further illustrated in the figure below.

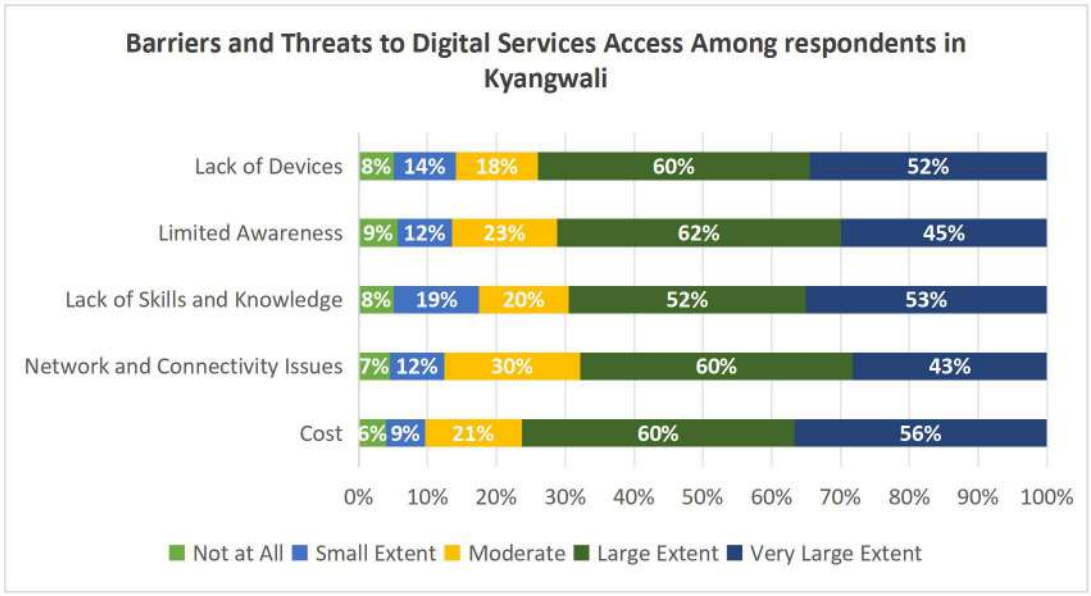


Figure 95: Graph showing Barriers and threats to digital services access among respondents in Kyangwali

vi. Lobule

Among the 98 respondents from Lobule settlement, Digital literacy skills was a notable barrier, with 29% (28) and 31% (30) reporting being affected to a very large and large extent, respectively. Additionally, 27.6% (27) rated it as moderate, while 8.2% (8) felt a small effect, and

5.1% (5) were not affected. Regarding cost, 43.9% (43) were impacted to a large extent, 22.4% (22) moderately, and 12.2% (12) to a small extent. This was followed by Lack of devices, network and connectivity issues, limited awareness and cost in that order of prevalence as illustrated in the figure below.

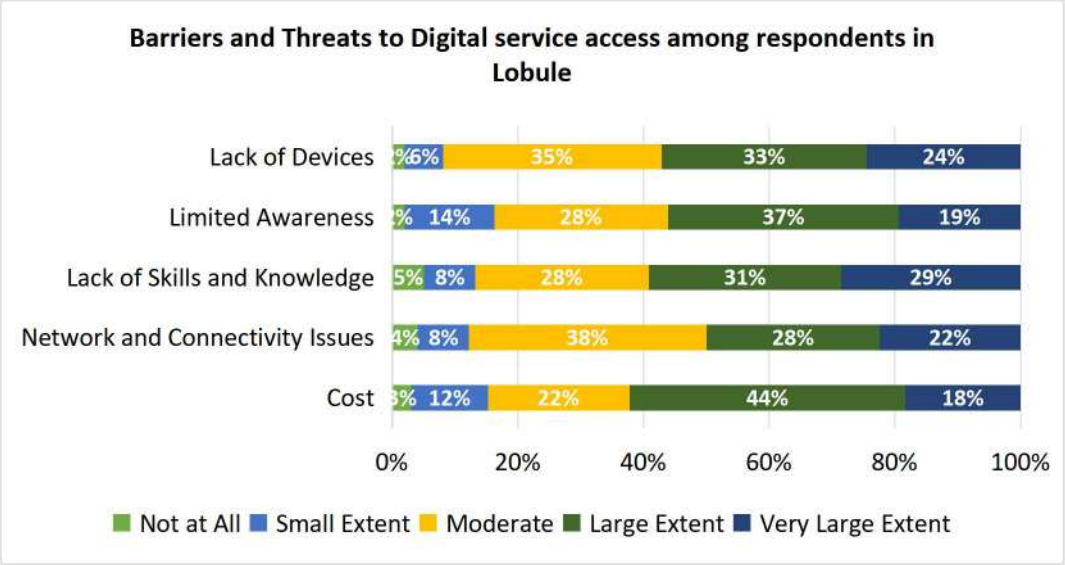


Figure 96: Graph showing Barriers and threats to digital services access among respondents in Lobule

vii. Nakivale

Among the 234 respondents, most of the responses rated the factors as moderatly affecting their access to digital services with Limited awareness 43% and network and connectivity issues 41% standing standing out followed by Cost of the services, Lack of skills and knowledge, lack of devices as illustratedin the figure below.

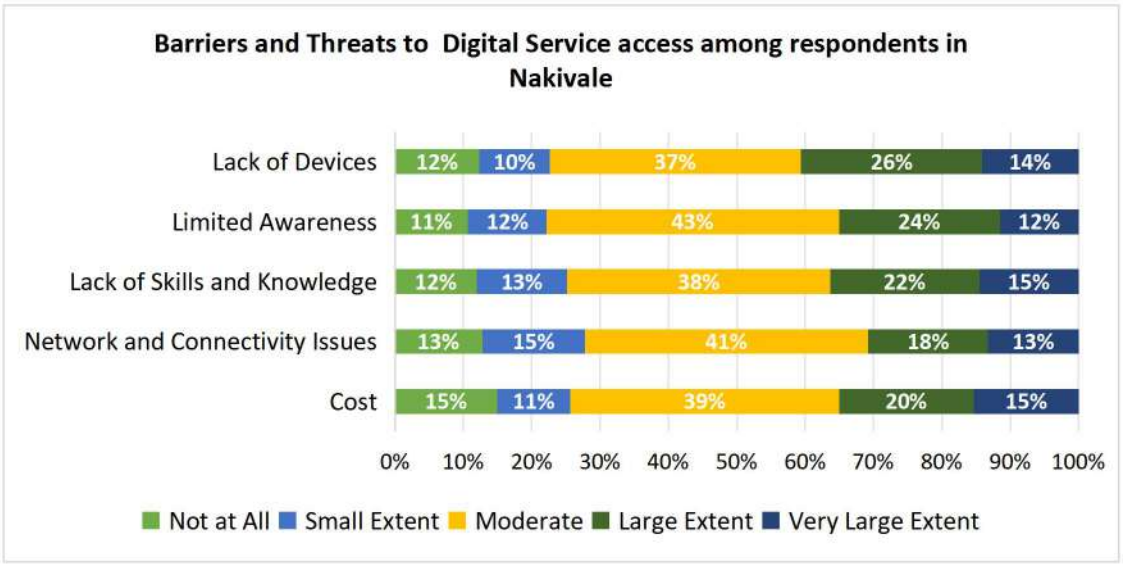


Figure 97: Graph showing Barriers and threats to digital services access among respondents in Nakivale

viii. Oruchinga

Among the 125 respondents, Lack of devices and network and connectivity issues were identified as key barriers to digital access, with 31%(39) and 30% (38)respondents respectively indicating a moderate impact on their access to digital services, followed by Lack of skills and Knowledge at 28% (35), Limited awareness and finally cost in that order of prevalence as illustrated in the figure below.

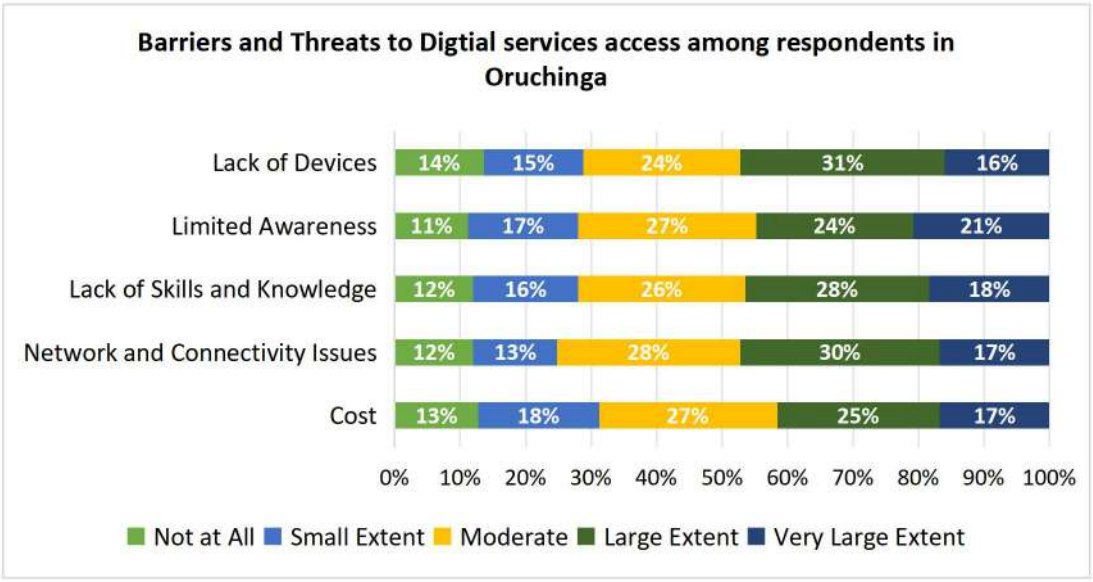


Figure 98: Graph showing Barriers and threats to digital services access among respondents in Oruchinga

ix. Pagirinya

Among the 221 respondents from Pagirinya, cost was a significant barrier to digital access, with 28% (62) affected, followed by lack of devices 27%(61), limited awareness at 26%(59), Lack of skills and Knowledge and Network and Connectivity issues at 21%(48) in that order of prevalence as illustrated in the figure below.

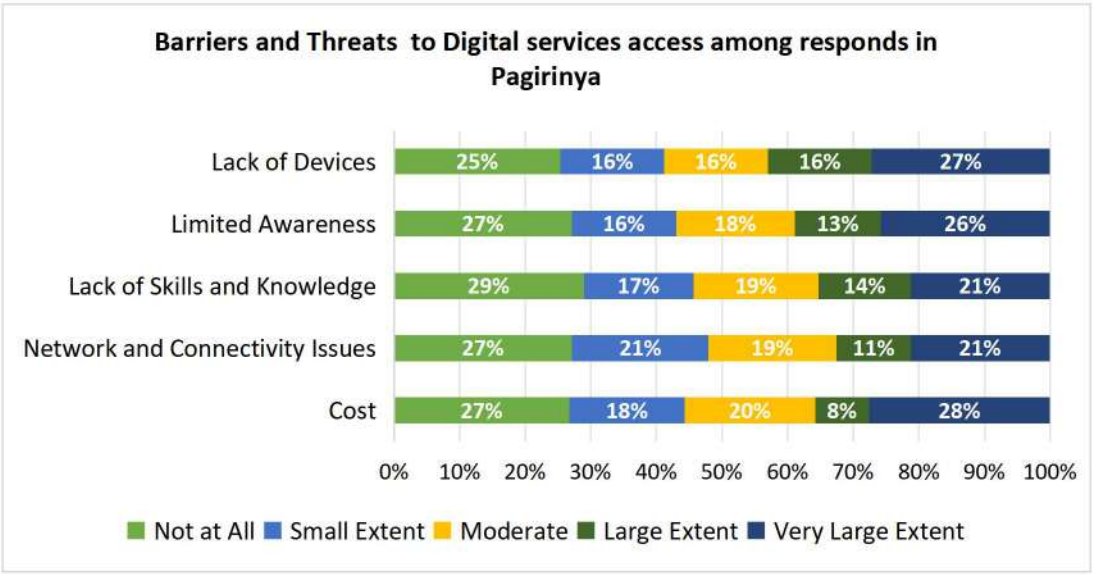


Figure 99: Graph showing Barriers and threats to digital services access among respondents in Pagirinya

x. Palabek

Among the 125 respondents, cost was a major barrier, with 31.2% (39) affected to a very large extent and 27.2% (34) to a large extent. Additionally, 23.2% (29) reported a moderate impact, 16.0% (20) noted a small impact, and only 2.4% (3) were not affected. Similarly, connectivity challenges were prevalent, with 50.4% (63) experiencing a moderate impact, 23.2% (29) a large impact, and 15.2% (19) a very large impact as further illustrated in the figure below.

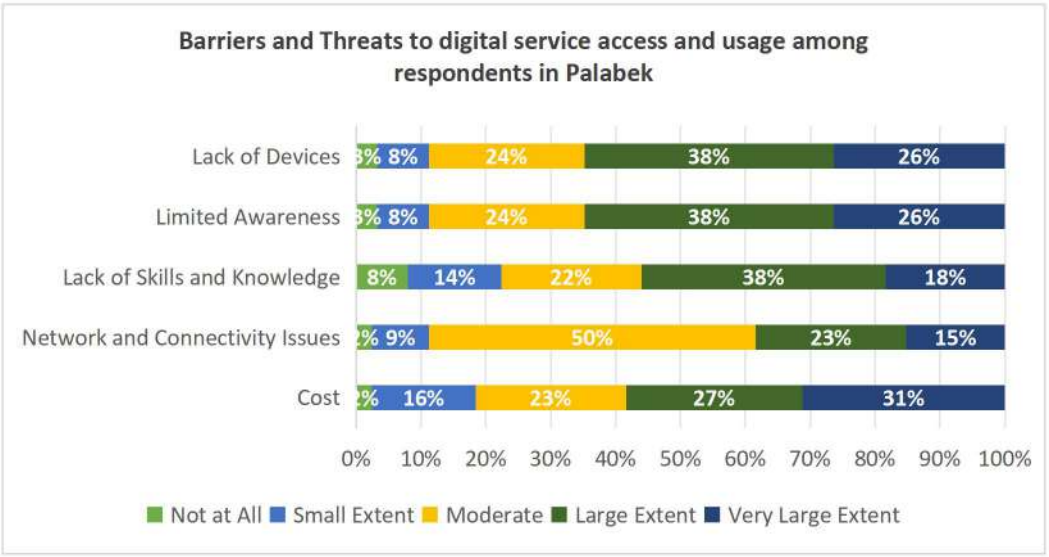


Figure 100: Graph showing Barriers and threats to digital access among respondents in Palabek

xi. Palorinya

Among the 125 respondents, lack of devices was a significant barrier indicated by 52%(65) followed by Lack of digital literacy skills, with 50.4% (63) affected to a very large extent, 14.4% (18) reporting a large impact, and another 14.4% (18) noting a moderate effect. Meanwhile, 9.6% (12) experienced a small impact, and 2.8% (14) were not affected. Similarly, the lack of devices posed challenges, with 52.0% (65) experiencing a very large impact, 20.8% (26) reporting a large impact, and 12.0% (15) noting a moderate effect as illustrated in figure below.

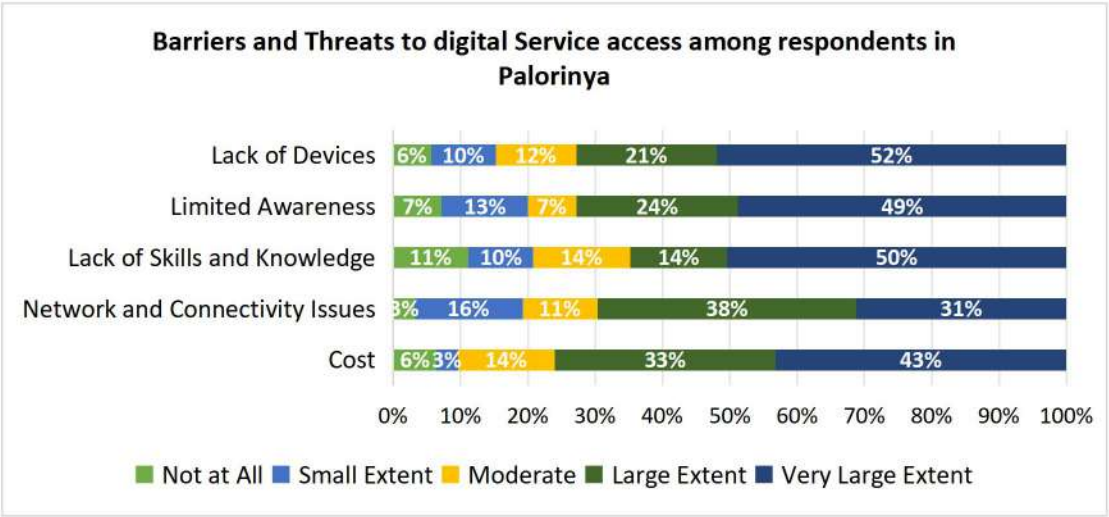


Figure 101: Graph showing Barriers and threats to digital service access among respondents in Palorinya

xii. Rhino Camp

Among the 155 respondents from Rhino Camp, Limited awareness and lack of devices were indicated as a significant barriers with 37% (57) indicating it affects them to a very large extent. However, Network and connectivity issues and cost were also indicated by 43% ad 41% of the respondents respectively as barriers that affect the respondents to a large extent as illustrated in the figure below.

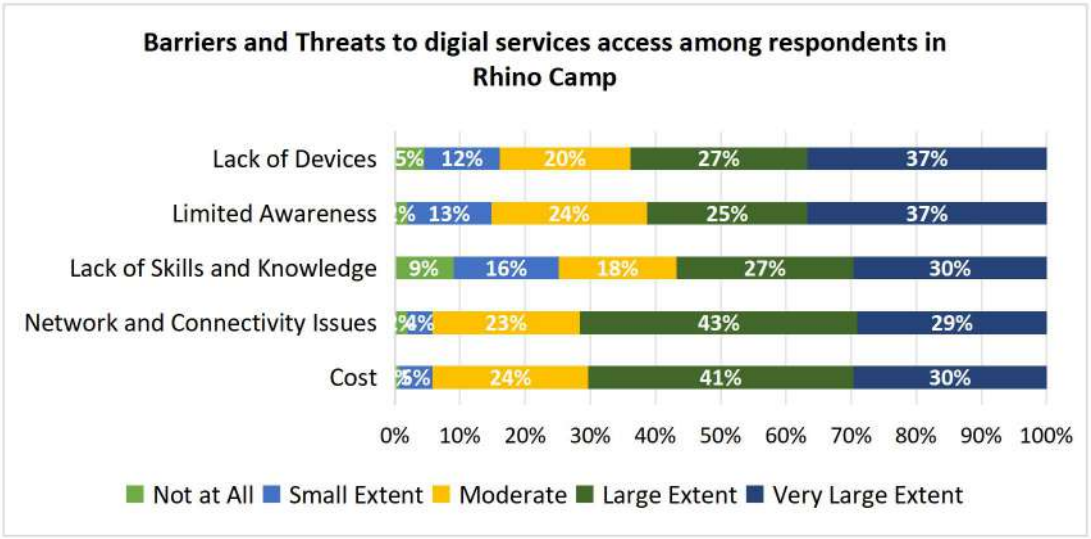


Figure 102: Graph showing Barriers and threats to digital service access among respondents in Rhino Camp

xiii. Rwamwanja

Among the 175 respondents, the lack of devices was identified as a significant barrier, with 33.1% (58) reporting they were affected to a very large extent and 18.3% (32) indicating a large extent of impact. Additionally, 26.9% (47) rated the impact as moderate, while 9.7% (17) noted a small impact, and 12.0% (21) stated they were not affected at all by the lack of devices.

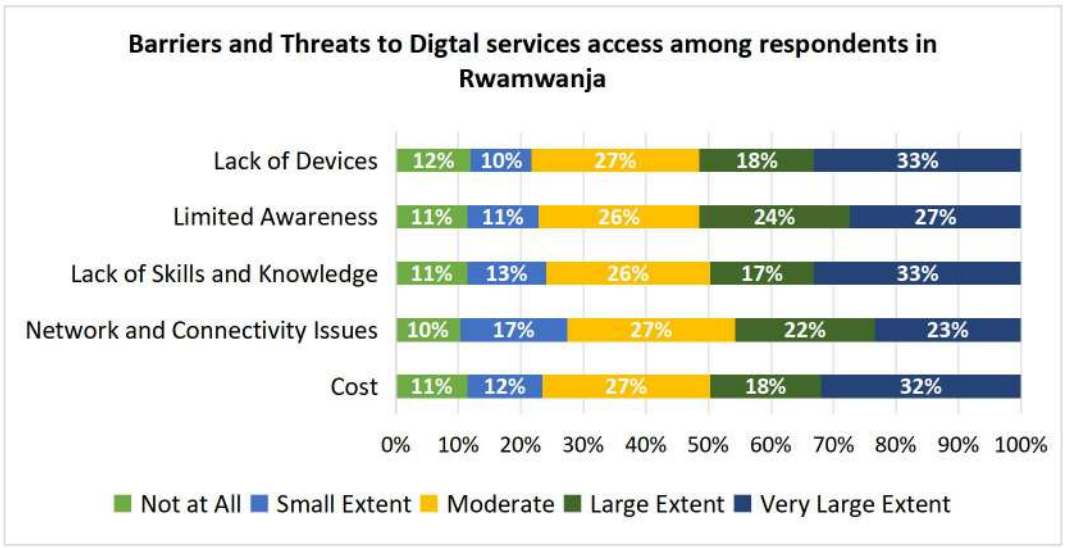


Figure 103: Graph showing Barriers and threats to digital service access among respondents in Rwamwanja

xiv. Kampala

Among the 350 respondents, all the factors were to affect the respondents moderately with the lack of devices indicated by 33%, followed by limited awareness, lack of skills and knowledge and the cost of the various services as illustrated in the figure below.

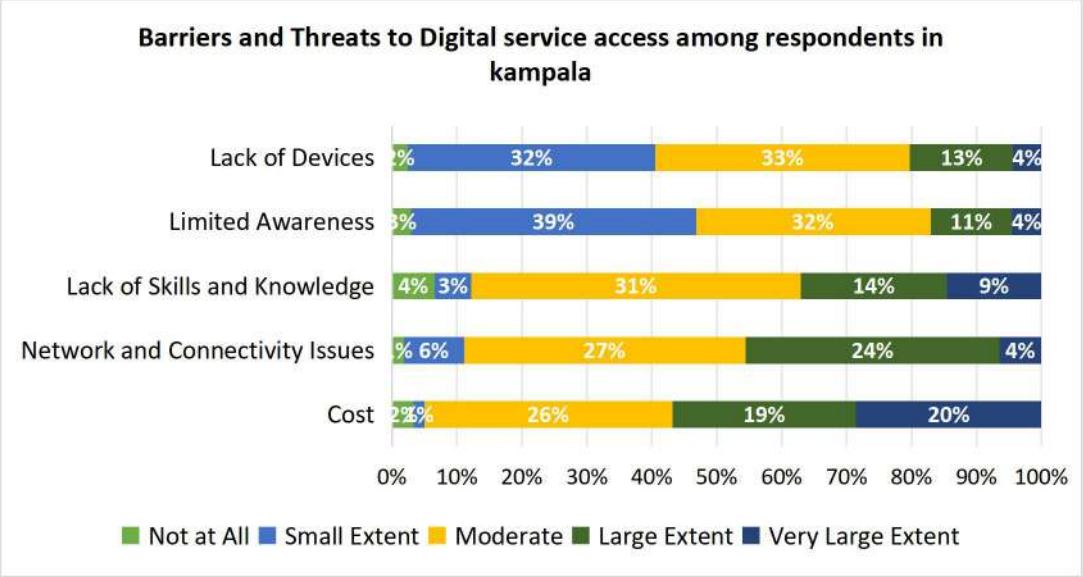


Figure 104: Graph showing Barriers and threats to digital service access among respondents in Kampala

The findings from the survey data, key informant interviews (KIIs), and ICT Centre/SME responses converge on several key barriers to digital service access and usage in refugee and host communities. The challenges span infrastructure, financial constraints, knowledge gaps, accessibility issues, and social or cultural obstacles.

Key Insights:

Across all sources, infrastructure was a dominant barrier. Poor network connectivity, unstable electricity, and limited access to services were reported by 26% of ICT Centre respondents, 27% of civil society organization representatives, and a significant portion of key informants. This aligns with survey findings where 38.1% of respondents cited connectivity issues as a "large" or "very large" barrier.

"The network here is unreliable, and electricity is even worse. It's hard to use any digital service consistently," ***shared a key informant from lobule refugee settlement.***

High costs of devices, internet bundles, and other digital services emerged as a critical barrier. Financial constraints were reported by 22% of ICT Centres, 31% of civil society respondents, and a significant number of KIIs, corroborated by the survey findings where 40.5% of respondents cited cost as a significant barrier.

"Many refugees can't afford even basic smartphones, let alone data. Without subsidies, digital services are out of reach," ***noted a civil society representative.***

A lack of basic digital skills or literacy was frequently highlighted. This issue was reported by 19% of ICT Centre respondents, 23% of civil society organizations, and 25% of key informants, reinforcing the survey findings where 35.7% of respondents identified literacy as a barrier to a "large" or "very large" extent.

"Even when services are available, people don't know how to use them. We need training programs to address this gap," ***emphasized an ICT Centre manager, Isingiro.***

Stigma, fear of scams, and cyberbullying concerns were raised by 18% of key informants, 15% of ICT Centre respondents, and 19% of civil society organizations. These align with the survey findings where lack of awareness (33.3%) emerged as a notable barrier.

"Many people are afraid of being scammed online, and this fear prevents them from even trying digital services," ***noted a KII participant from a refugee settlement.***

3.4.4 Best practices from other jurisdictions and lessons for Uganda on Access and Usage of Digital Services

Developing inclusive digital platforms and identification systems for refugees can enhance access to essential services and promote social integration. The Countries assessed such as Germany, Sweden, Jordan, and Rwanda have established impactful digital infrastructure to support refugee integration. Germany has pioneered the Integreat App, a one-stop platform offering localized information on settlement services, e-health, and e-learning resources for refugees, supporting informed decisions and smoother integration. Sweden exemplifies the benefits of digitized public services under the Digital Government Act, with 75% of refugees using online platforms for healthcare, education, and job markets. This model, along with Sweden's digital literacy programs, supports active digital engagement among refugees. Jordan's Refugee Connectivity Initiative and its use of biometric technology for secure aid distribution highlight innovative approaches to digital service delivery, enabling access to healthcare, education, and legal documentation. Additionally, Jordan's bilingual call center provides crucial information and support to refugees. Rwanda has implemented a comprehensive refugee ID card system, integrated with digital platforms like Irembo, which provides refugees access to healthcare, education, and employment services without the need for work permits.

Table 47: Best practices from other jurisdictions and lessons for Uganda on Access and Usage of Digital Services

Country	Current status	Best Practices
Germany	The country is known for its long hospitality history and today it has pioneered "Integreat" an App that enables refugees to get integrated quickly in to the host communities. Integreat is a central, one-stop-shop to garner all relevant information for one to settle and live in any given city in Germany. The local content is created by public administrations and NGOs on site which is then translated and made available via the Integreat-Apps. Refugees get up-to-date information from local experts and are enabled to make well-informed decisions upon their arrival in a German city. Similarly, e-learning platforms	• Developing comprehensive digital platforms similar to the Integreat App that support the integration of refugees into host communities • Providing refugees with localized information and digital services, fostering smoother integration and improving access to critical digital services like e-health, e-learning, and job market platforms.

	have become crucial for refugees seeking to learn German and acquire new skills for integration into the labor market[41].	
Sweden	Sweden has digitized most public services, with 75% of refugees using online platforms to access healthcare, education, and job markets. The Digital Government Act mandates e-services (health, education etc.), ensuring that public platforms are user-friendly [42]. In 2022, 85% of Swedes used e-government services, reflecting high digital literacy. Digital literacy programs targeting refugees have resulted in 60% of refugees actively using online services for employment and social integration[43].	• Digitizing public services across sectors like healthcare, education, and employment, coupled with user-friendly online platforms for refugees. • Implementing digital literacy programs will enable marginalized groups to engage effectively in digital service usage
Jordan	Jordan's government, in partnership with UNHCR, provides access to digital government services through platforms such as the Refugee Connectivity Initiative[44]. Jordan also uses biometric technology (iris-scanning) to securely distribute cash assistance to refugees through bank ATMs and mobile money providers. It complements existing regulations and allows refugees to obtain SIM cards and access mobile services, crucial for communication and accessing digital platforms. Jordan has a call service center where refugees can ask questions or file complaints. This call center provides information on all UNHCR activities and recent updates. The Helpline is offered in two languages: Arabic and English.	• Developing integrated platforms for digital service delivery similar to Jordan's Refugee Connectivity Initiative to improve digital service delivery in RHDs. • The use of biometric technology to identify and securely distribute assistance to refuges can be adopted as a way to manage social welfare programs for refugees in RHDs in Uganda. • Establishing Call center services that provide access to information for refugees
Rwanda	Rwanda has a robust refugee identification system that allows refugees to access public and private services. In 2018, the Government and UNHCR launched the National Refugee Identification Card initiative, giving refugees verified IDs that enable access to employment, healthcare, and other essential services. The Government implemented a verification exercise for the registration of refugees in order to prepare identification cards[45]. Rwanda's Irembo platform allows both refugees and host communities to access critical digital government services like healthcare, legal documentation, and education. In refugee camps, specialized digital health services (telemedicine)	• Implementing a robust digital national refugee identification system • Developing integrated digital platforms that provide access to education, healthcare, and employment services. • Ensuring equitable access to all digital services.

[41] Germany's Digital Services Usage Report, 2024), Germany's E-Health Implementation Report, 2024, Germany's E-Learning Integration Report, 2024, Germany's Digital Accessibility Report, 2024
[42] Sweden's Digital Government Act
[43] Refugee Digital Access Report: https://ec.europa.eu/home-affairs/what-we-do/networks/european-migration-network_en
[44] Refugee Connectivity Initiative (https://refugeeconnectivity.org/)
[45] https://reporting.unhcr.org/individual-documentation-17

	are integrated into the broader digital ecosystem. Digital financial services, including mobile money, are also available to refugees, enabling them to access social protection programs and remittances[46].	

These best practices demonstrate how Uganda could adopt digital platforms, refugee identification systems, and supportive infrastructure to improve access to essential services, enhance integration, and streamline social support for refugees and marginalized groups.

3.4.5 Emerging issues and Recommendations

The table below summarizes the emerging issues from the analysis of findings on the access and usage of digital services in RHDs and their associated Recommendations.

Table 48: Emerging issues and recommendation on the Access and Usage of Digital Services

Category	Emerging issue	Recommendations
Usage of Digital Services	Disparity in digital service usage: Higher daily usage in host communities compared to refugee settlements. Lower digital adoption in refugee communities due to barriers like limited digital literacy, infrastructure, and affordability. Significant non-usage of digital services across both communities, pointing to a broader issue of digital inclusion.	• Establish Community Technology Hubs in refugee settlements to provide device access, internet, and training resources. • Implement Awareness Campaigns in local languages to educate on the benefits and availability of digital services. • Introduce Digital Literacy Programs focusing on essential skills like internet navigation, social media usage, and access to e-services.
Barriers to Usage of Digital Services	Cost is a primary barrier, especially in Kyaka (35.8%) and Kyangwali (55.6%). Lack of devices is significant in Imvempi (43.7%) and Kyangwali (52%). Limited literacy presents challenges in using digital tools, particularly in Kyangwali and Lobule. Awareness gaps and connectivity issues vary by location, impacting adoption rates.	• Offer affordable data plans and device subsidies to reduce cost barriers. • Expand access to digital devices, particularly in high-need areas. • Conduct digital literacy training to improve skills for digital tool navigation. • Develop subsidized device rental programs to increase access, especially for youth and women in refugee communities.

[46] Rwanda Ministry of ICT and Innovation's report on the Irembo platform and its impact on service delivery (2023).

3.5 Digital Literacy Demand

In this section exploration of the current demand for digital literacy in RHDs, assessing the existing skills, training needs, barriers, and opportunities for sustainable digital literacy initiatives. The findings from both quantitative surveys and qualitative insights gathered through key informant interviews (KIIs) and focus group discussions (FGDs) highlight the specific gaps in digital skills, accessibility challenges, and the steps necessary to foster greater digital inclusion in these vulnerable communities. As of the latest data, Uganda's digital literacy rate is around 33%[47]. This indicates the percentage of the population with the necessary skills to effectively use digital technologies. The country has made significant strides in digital infrastructure and policy, but there is still a considerable gap to bridge, especially in rural areas and among women.[48] By identifying the most pressing digital literacy needs, this section aims to provide actionable insights and recommendations for developing inclusive and effective digital literacy programs that can bridge the existing digital divide.

3.5.1 Assessment of Existing Digital Literacy Skills

The survey assessed the digital literacy skills of the 2,494 sampled respondents across five key areas: ***basic computer skills, internet navigation, email and communication tools, social media usage, and the use of online services (e-government, e-learning, e-business, etc.)***

The selection of the above key areas was to understand how many respondents are skilled in navigating the internet, which is critical for accessing information and services online, Assess respondents' abilities in using email and other communication platforms, which are vital for personal and professional communication, Examine how many respondents are using social media, which can indicate their engagement with digital communities and resources and finally Analyze respondents' proficiency in using e-government services, e-learning, and e-business, which reflect their ability to utilize essential online platforms.

a) Overall analysis on digital Literacy Skills

The findings indicate that most respondents have limited digital literacy, particularly in advanced skills. The majority are either at a basic level or lack skills entirely in all categories, with the lowest proficiency noted in the use of online services and email communication tools. Social media usage has the highest percentage of advanced users, though a significant number still report no skills in this area.

In regards to basic computer skills, 40% of the respondents had no proficiency, while only a relatively small percentage (7.6%) indicated to have advanced knowledge in this area. As for internet navigation, a significant number (37.7%) lacked skills, while those at the advanced level made up only 7.2%. Most respondents indicated to have basic and intermediate skills . For email and communication tools, the majority of respondents (46.6%) lacked proficiency, making this a particularly weak area of digital literacy among the surveyed population. Only 5.9% were advanced users in this category. Social media usage had the highest proportion of advanced users (10.3%) compared to the other skills assessed. However, about a third (34.6%) of respondents

[47] Uganda's Digital Transformation Journey | United Nations Development Programme (undp.org)
[48] A call to fast-track Uganda's digitalisation agenda. – Economic Policy Research Centre (eprcug.org)

reported having no social media skills. The use of online services showed the least proficiency, with a majority (57.6%) indicating no skills in this area. Only a small fraction (3.6%) considered themselves advanced.

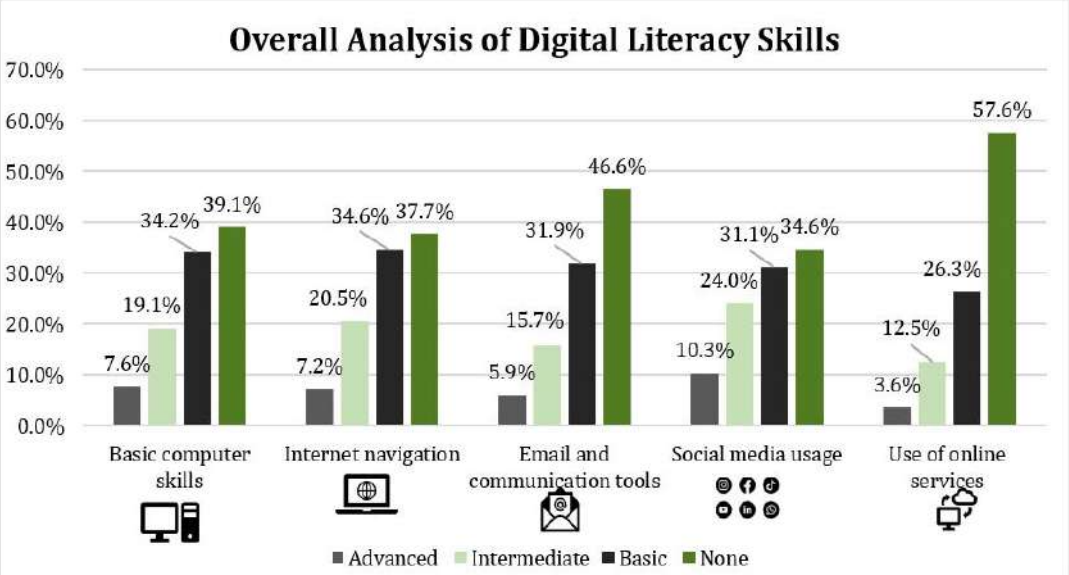


Figure 105: Overall Analysis of Digital Literacy Skills

The survey findings, focus group discussions (FGDs), and key informant interviews (KIIs) reveal that both refugee and host communities face significant gaps in digital skills, with refugees demonstrating lower proficiency levels overall.

Overall, comparing the Refugee and Host communities, both groups demonstrated limited proficiency in digital skills, with refugees consistently lagging behind. In particular, **40.9%** of refugees reported having no basic computer skills, compared to **37.2%** in the host community, and **41.0%** of refugees reported no internet navigation skills, compared to **34.2%** in the host community. This highlights a general lack of exposure to computers across both groups, though the disparity is more pronounced in refugee settlements due to structural and educational disadvantages.

"Host communities have a higher knowledge of digital literacy because some have been trained in school, unlike refugees who flee without ever attending school to learn, for instance, about computers." ***(LC1 Chairperson, Old Kampala)***

FGDs provided further insights into the barriers refugees face in digital engagement. Refugees not only struggle with affordability but also with the functional use of smartphones. Educational backgrounds also play a significant role in shaping digital literacy. Refugees often arrive in settlements with limited or no formal education, placing them at a disadvantage compared to host communities, where formal schooling is more accessible and includes exposure to technology.

"Many refugees arrive with no schooling background, which puts them at a disadvantage when it comes to learning digital skills."
(Refugee Desk Officer, Palabek)

"It is very poor. Most of them lack the knowledge. The ratio of smartphone ownership is 1 to 5, and those who own them still do not know how to operate them."
(Women FGD, Palorinya Settlement)

"The level of literacy is low because levels of education are low. People are not so enlightened on what to do." ***(Youth Officer, Palabek)***

b) Analysis of digital literacy skills by gender

The analysis of digital literacy skills by gender reveals that women consistently had low digital skills compared to men across all skill areas assessed. In basic computer skills, **47.9% of women** reported having no skills compared to **30.5% of men**. Similarly, **46.2% of women** had no internet navigation skills, while only **29.5% of men** fell into this category. The gap was widest in email and communication tools, where **55.2% of women** reported no skills compared to **38.3% of men**. Social media usage showed a smaller gap, though men still had a moderate proportion of advanced users (**12.5% vs. 8.0%**). The largest disparity was in the use of online services, where **65.0% of women** lacked skills compared to **50.5% of men**. These findings highlight the need for targeted interventions to bridge the gender gap in digital literacy

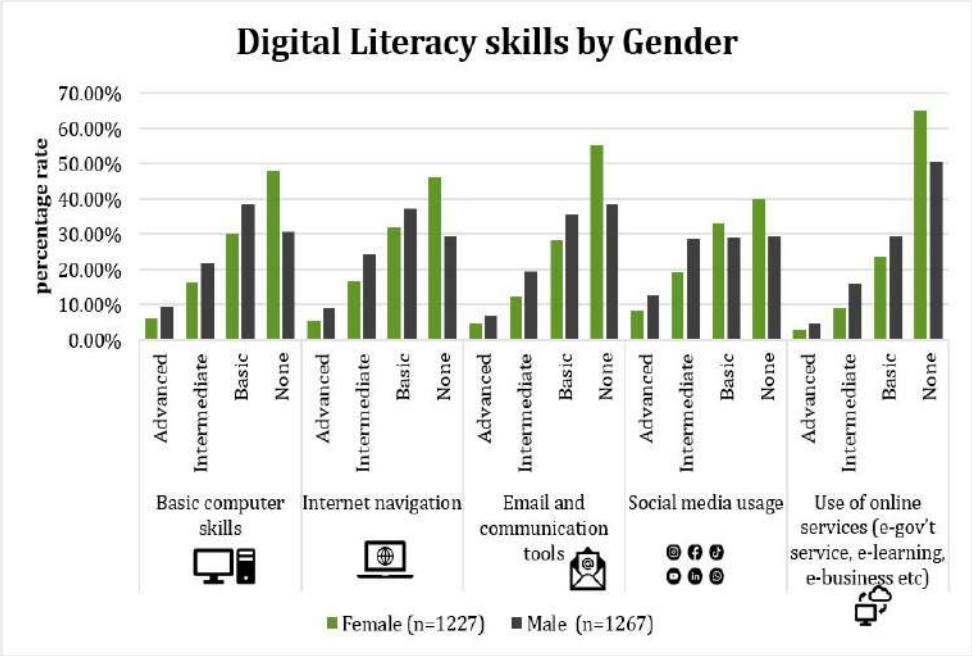


Figure 106: Digital Literacy skills by Gender

c) Analysis of digital literacy skills by PWD status

There's a significant gap in proficiency in digital skills among Persons with Disabilities with the majority lacking essential skills, especially in the use of online services. This highlights the need for targeted interventions to improve digital literacy among PWDs.

Table 49: Digital literacy skills among Persons with Disabilities (PWDs)

How would you rate your own digital literacy skills?	PWDs (n=313)			
	Advanced	**Intermediate**	**Basic**	**None**
Basic computer skills	5.1%	11.5%	26.5%	56.9%
Internet navigation	4.5%	13.4%	30.0%	52.1%
Email and communication tools	3.5%	10.5%	26.2%	59.7%
Social media usage	6.4%	16.3%	30.0%	47.3%
Use of online services (e-gov't service, e-learning, e-business etc)	2.6%	10.5%	20.8%	66.1%

d) Analysis of digital literacy skills by Category of Respondent

Overall, when comparing the Refugee and Host communities, both groups demonstrated limited proficiency in digital skills, with refugees consistently lagging behind. In particular, **40.9%** of refugees reported having no basic computer skills, compared to **37.2%** in the host community, and **41.0%** of refugees reported no internet navigation skills, compared to **34.2%** in the host community.

Table 50: Analysis of digital literacy skills by category of Respondent

		Host Community (n=1195)	**Refugees (n=1299)**
Basic computer skills	Advanced	**8.8%**	**6.5%**
	Intermediate	**21.0%**	**17.3%**
	Basic	**33.1%**	**35.3%**
	None	**37.2%**	**40.9%**
Internet navigation	Advanced	**7.8%**	**6.6%**
	Intermediate	**22.0%**	**19.2%**
	Basic	**36.0%**	**33.3%**
	None	**34.2%**	**41.0%**
Email and communication tools	Advanced	**6.0%**	**5.7%**
	Intermediate	**17.1%**	**14.4%**
	Basic	**31.7%**	**32.0%**
	None	**45.2%**	**47.9%**
Social media usage	Advanced	**11.9%**	**8.9%**
	Intermediate	**24.6%**	**23.4%**
	Basic	**30.1%**	**32.0%**
	None	**33.4%**	**35.7%**
Use of online services (e-gov't service, e-learning, e-business etc)	Advanced	**3.1%**	**4.1%**
	Intermediate	**13.2%**	**11.8%**
	Basic	**26.9%**	**24.9%**
	None	**55.9%**	**59.2%**

e) Analysis of digital literacy skills by Age Group

The survey on digital literacy skills among different age groups reveals significant insights into the perceived capabilities of respondents.

i. Basic Computer Skills: The highest percentage of respondents rated themselves at the basic level, particularly among those aged 41 to 45 years (46.3%). A notable 34.9% of the 31 to 35-year-olds considered their skills as none, indicating a critical gap in this demographic.

ii. Internet Navigation: Again, the basic level was predominant, especially among respondents aged 31 to 35 years (30.9%), while 73.9% of those 61 years and older rated themselves with no skills in this area.

iii. Email and Communication Tools: A substantial 45.8% of respondents aged 18 years and below rated their skills as none. The intermediate level skills were most common among 19 to 25 years (14.0%).

iv. Social Media Usage: A large 42.5% of those aged 18 years and below reported no skills, while a significant proportion of 19 to 25-year-olds (25.4%) rated themselves as intermediate.

v. Use of Online Services: A considerable 58.3% of the 18 years and below group claimed they had no skills, and 51.8% of the 31 to 35-year-olds rated themselves as basic.

f) Analysis of digital literacy skills in each settlement

Below is the analysis of responses from all the settlements included in this study, detailing the digital literacy skills for all refugees and host community participants from each settlement.

i. Bidi Bidi (Yumbe District)

Of the 203 in Bidi Bidi, **39.4%** of respondents reported having no basic computer skills, with only **0.5%** identifying as advanced. Similarly, **40.9%** lacked internet navigation skills, and **67.5%** had no skills in using online services, indicating a critical need for foundational digital literacy training.

Bidi Bidi (Yumbe District):	**Basic computer skills**	**Internet navigation**	**Email and communication tools**	**Social media usage**	**Use of online services**
Advanced	0.50%	1.50%	0.50%	1.00%	0.00%
Intermediate	7.90%	9.40%	8.90%	18.20%	8.40%
Basic	52.20%	48.30%	44.80%	45.80%	24.10%
None	39.40%	40.90%	45.80%	35.00%	67.50%

ii. Imvempi (Terego District)

In Imvempi, **33.3%** of the 126 respondents had no basic computer skills, with only **2.4%** at the advanced level. The lack of proficiency extended to internet navigation (**34.9%** reporting no skills) and online services (**62.7%** lacking skills), underscoring the necessity for targeted digital literacy programs.

Imvempi (Terego District)	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	2.40%	2.4%	2.4%	9.5%	2.4%
Intermediate	19%	21.4%	16.7%	17.5%	4.8%
Basic	45.2%	41.3%	37.3%	34.9%	30.2%
None	33.3%	34.9%	43.7%	38.1%	62.7%

iii. **Kiryandongo (Kiryandongo District)**

Kiryandongo exhibited a better overall profile, with **32.0%** of the 178 respondents having no basic computer skills and **7.3%** reporting advanced skills in internet navigation. However, **46.6%** lacked skills in using online services, highlighting the need for further development in digital literacy.

Kiryandongo (Kiryandongo District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	3.9%	7.3%	6.7%	10.7%	1.1%
Intermediate	14.6%	18%	12.9%	33.1%	7.9%
Basic	49.4%	49.4%	41.6%	34.3%	44.4%
None	32%	25.3%	38.8%	21.9%	46.6%

iv. **Kyaka II (Kyegegwa District)**

In Kyaka II out of the 201 interviewed, **50.7%** of respondents indicated no basic computer skills, while only **3.0%** reported being advanced. Additionally, **67.2%** reported no skills in online services, suggesting a significant gap in digital literacy that requires urgent attention.

Kyaka II (Kyegegwa District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	3%	2.5%	1.5%	15.9%	0.5%
Intermediate	19.4%	17.4%	15.4%	21.4%	9.5%
Basic	26.9%	30.3%	27.4%	22.9%	22.9%
None	50.7%	49.8%	55.7%	39.8%	67.2%

v. **Kyangwali (Kikube District)**

Kyangwali reported **55.4%** of the 177 respondents with no basic computer skills, with only **5.1%** classified as advanced. Furthermore, **70.1%** of respondents had no skills in using online services, indicating a considerable need for enhanced digital literacy training.

Kyangwali (Kikube District)	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	5.1%	3.4%	4%	7.3%	2.3%
Intermediate	17.5%	20.9%	14.7%	29.4%	13.6%
Basic	22%	20.3%	20.9%	15.3%	14.1%
None	55.4%	55.4%	60.5%	48%	70.1%

vi. **Lobule (Koboko District)**

Of the 98 respondents in Lobule, **38.8%** reported having no basic computer skills, while **14.3%** were advanced. The usage of online services was low, with **58.2%** indicating no skills, revealing a gap that needs addressing through focused training initiatives.

Lobule (Koboko District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	14.3%	17.3%	18.4%	20.4%	17.3%
Intermediate	26.5%	12.2%	10.2%	11.2%	8.2%
Basic	20.4%	33.7%	25.5%	19.4%	16.3%
None	38.8%	36.7%	45.9%	49%	58.2%

vii. **Nakivale (Isingiro District)**

Nakivale showed that **46.2%** of the 234 respondents had no basic computer skills, with **9.4%** identifying as advanced. Additionally, **59.4%** reported lacking skills in online services, highlighting the importance of comprehensive digital literacy programs.

Nakivale (Isingiro District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	9.4%	6.4%	6.4%	8.5%	3.4%
Intermediate	16.7%	22.6%	17.1%	21.4%	13.2%
Basic	27.8%	35.5%	22.2%	35.5%	23.9%
None	46.2%	35.5%	54.3%	34.6%	59.4%

viii. **Oruchinga (Isingiro District)**

In Oruchinga, **36.8%** of the 125 respondents reported having no basic computer skills, while **12.8%** were advanced. The data revealed that **65.6%** had no skills in online services, emphasizing the need for targeted digital training efforts.

Oruchinga (Isingiro District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	12.8%	7.2%	3.2%	3.2%	0.8%
Intermediate	24%	20.8%	14.4%	20.8%	7.2%
Basic	26.4%	32.8%	32.8%	33.6%	26.4%
None	36.8%	39.2%	49.6%	42.4%	65.6%

ix. **Pagirinya (Adjumani District)**

Pagirinya reported **35.7%** of the 221 respondents lacking basic computer skills, with **16.3%** at the advanced level. Additionally, **57.5%** reported no skills in using online services, suggesting a need for improved digital literacy training.

Pagirinya (Adjumani District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	16.3%	15.8%	15.4%	18.1%	14%
Intermediate	6.8%	5.9%	8.1%	8.1%	7.2%
Basic	41.2%	38.5%	32.1%	34.4%	21.3%
None	35.7%	39.8%	44.3%	39.4%	57.5%

x. **Palabek (Lamwo District)**

51.2% of the 125 respondents in Palabek had no basic computer skills, while only **4.0%** were advanced. Furthermore, **75.2%** reported lacking skills in online services, indicating a significant gap in digital literacy that needs to be addressed.

Palabek (Lamwo District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	4%	2.4%	1.6%	4.8%	0.8%
Intermediate	14.4%	17.6%	7.2%	20%	3.2%
Basic	30.4%	31.2%	36.8%	30.4%	20.8%
None	51.2%	48.8%	54.4%	44.8%	75.2%

xi. **Palorinya (Obongi District)**

Palorinya showed that **55.2%** of 125 respondents reported having no basic computer skills, and only **0.8%** were advanced. Notably, **78.4%** indicated no skills in using online services, highlighting a critical need for targeted training programs.

Palorinya (Obongi District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	0.8	0.8	1.6	3.2	0.8
Intermediate	5.6	5.6	4.8	7.2	2.4
Basic	38.4	34.4	31.2	44.8	18.4
None	55.2	59.2	62.4	44.8	78.4

xii. **Rhino Camp (Madi-Okollo District):**

In Rhino Camp, **28.4%** of the 155 respondents reported having no basic computer skills, while **11.6%** were advanced. Additionally, **52.3%** lacked skills in online services, demonstrating a need for enhanced digital literacy initiatives.

Rhino Camp (Madi-Okollo District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	11.6%	8.4%	4.5%	9.7%	2.6%
Intermediate	27.1%	26.5%	23.2%	31.6%	11%
Basic	32.9%	34.8%	32.3%	31.6%	34.2%
None	28.4%	30.3%	40%	27.1%	52.3%

xiii. **Rwamwanja (Kamwenge District)**

of the 175 respondents in Rwamwanja **56.0%** of respondents had no basic computer skills, with no one reporting advanced skills. Moreover, **66.3%** lacked proficiency in using online services, highlighting a critical need for foundational digital literacy training.

Rwamwanja (Kamwenge District):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	0%	1.1%	0%	1.7%	0%
Intermediate	11.4%	16.6%	9.1%	18.3%	9.1%
Basic	32.6%	28%	26.3%	22.9%	24.6%
None	56%	54.3%	64.6%	57.1%	66.3%

xiv. **Kampala (Kampala Central & Makindye Division)**

Kampala demonstrated the highest levels of digital literacy, with only **14.3%** of respondents reporting no basic computer skills of the 350, and **14.9%** identifying as advanced. However, **24.3%** still reported lacking skills in online services, indicating room for improvement.

Kampala (Kampala Central & Makindye Division):	Basic computer skills	Internet navigation	Email and communication tools	Social media usage	Use of online services
Advanced	14.9%	15.4%	10.9%	19.4%	4.9%
Intermediate	40.9%	45.1%	33.7%	46.9%	36%
Basic	30%	28.6%	34.6%	28.9%	34.9%
None	14.3%	10.9%	20.9%	4.9%	24.3%

From further interactions through Focus group discussions with Youths, Women and PWDs the following key responses were observed

i. **Women** across refugee and host communities generally assessed digital literacy levels as low. In settlements like Palorinya and Kyaka II, respondents reported very limited digital skills among women, with some estimating only 2% having such skills. Limited access to learning centers and the high cost of the internet were cited as key barriers.

ii. **Youth** respondents offered varied assessments, ranging from "low" to "medium" and "high" in some areas. For example, in Nakivale and Rwamwanja, digital literacy was described as particularly low, with young people lacking access to proper skilling opportunities. In other areas like Nakivale refugee settlement, youths highlighted some progress, describing literacy levels as "high." However, challenges like expensive internet and language barriers, especially in Kyangwali, were also pointed out as obstacles to increasing digital skills.

iii. **Persons with Disabilities (PWDs):** in both refugee settlements and host communities assessed their digital literacy as moderate or below average. In areas like Lobule and Ruhoko PS, the literacy levels were rated moderate, though barriers related to accessibility and the availability of assistive technologies remain. In Terego and Nakivale, however, digital literacy among PWDs was seen as below average, with limited access to specialized training programs and tools to support learning.

Based on discussions with key informants, they were asked to evaluate the level of digital literacy among refugees and host communities in RHDs and provide reasons for their assessments. Their responses are summarized below:

i. **General Low Levels of Digital Literacy**: The overall sentiment among key informants is that digital literacy is low, both in refugee and host communities. This is attributed to various factors such as limited access to devices, low income, lack of educational opportunities, and language barriers. Several respondents mentioned that many refugees have not had the opportunity to attend school or participate in digital literacy training.

"Very poor, many refugees are not educated and don't have skills to use ICTs. Also access to ICTs is not easy in the settlement." **(Parish Chief)**

"Very poor, most of them apart from the young ones now have never gone to school" **(Cultural Leader)**

ii. **Disparities Between Refugees and Host Communities**: There is a mixed perspective on whether refugees or host communities are more digitally literate. Some key informants

suggest that refugees are offered more digital literacy training through NGOs, giving them an advantage in certain cases over the host communities, where access to these resources might be more limited.

"Most refugee communities own smartphones more than the host community, which means higher digital literacy levels in the refugee communities." **(LC3 Chairperson)**

"Refugees are more Literate than host communities because they are offered free training." **(Human Resource Manager)**

iii. **The Role of NGOs and Training Centers**: Some areas have better digital literacy due to the presence of training centers and the efforts of NGOs, though these services are not widespread enough to reach all communities, particularly those in rural areas.

"Very low for those in the villages, but in the center, we have a youth center and Finnchurch providing trainings though they can't reach everywhere." **(NGO officer)**

"The camps are ok because they have 2 digital training centers funded by Windle Trust. The community only has one." **(ICT Officer)**

Discussions with ICT Centers informants was not so different from the key informants and also aligns with the earlier observations from the survey that digital literacy remains a challenge in both refugee and host communities. However, refugees might have an advantage in social media usage, largely due to smartphone ownership, while host communities tend to have better access to digital devices in general.

Specific mentions were on;

1. Low Digital Literacy Among Refugees: Many ICT center representatives noted that digital literacy remains very low among refugees. A key reason cited is limited access to digital devices in refugee settlements.

"Low digital literacy in refugee communities than host communities due to high access to digital devices in the latter." **(Youth Leader)**

2. Access to Training and Digital Devices: A few centers highlighted the availability of free digital literacy training programs, but participation remains limited.
3. Refugees Have an Edge in Social Media Use: Interestingly, some respondents felt that refugees, especially those who own smartphones, might be more adept in using social media compared to the host community.

"When it comes to social media, the refugees are better because they own smartphones." **(Founder Go Use Tech)**

4. Disparity in Exposure: There is an interesting contrast in perspectives regarding who receives more digital literacy training. While some note that humanitarian organizations target refugees for digital literacy training, others suggest that host communities have better access due to the availability of digital devices.

"Refugees are more exposed to digital literacy because they are targeted by most humanitarian organizations." **(Administrative Assistant, Youth Empowerment)**

3.5.2 Existing Digital Literacy Initiatives

The data reveals low participation in digital skilling training across refugee settlements, with some regional variation. Of the 2,494 respondents, majority 92.1% (2,296) of the survey respondents indicated not to have participated in digital literacy initiatives while only 7.94% (198) have had. With specific analysis on host and refugee respondents, analysis revealed that 7.61% of the host community (91 participants) and 8.24% of refugees (107 participants) have engaged in digital literacy programs.

Of the 198 respondents who indicated to have participated in digital literacy programs, 46% (91) are from host communities, and 54% (107) are refugees. **Nakivale** had the highest total participation, with 34 individuals (16 from refugees and 18 from the host community). **Rwamwanja** followed with 29 participants (23 refugees and 6 from the host community), with refugees dominating participation. **Imvempi** had 21 participants, all from the host community, indicating a concentration of efforts towards the host community in this region. **Pagirinya** has a higher refugee engagement, with 22 refugees participating and none from the host community.

Kyangwali, Palorinya, and Rhino Camp had very low participation rates, with only a few participants (below 5 in each category). **Lobule** stands out as having the only host community participants (10), with no refugees respondents indicating to have participated in digital literacy training. This is further represented in the graphic below

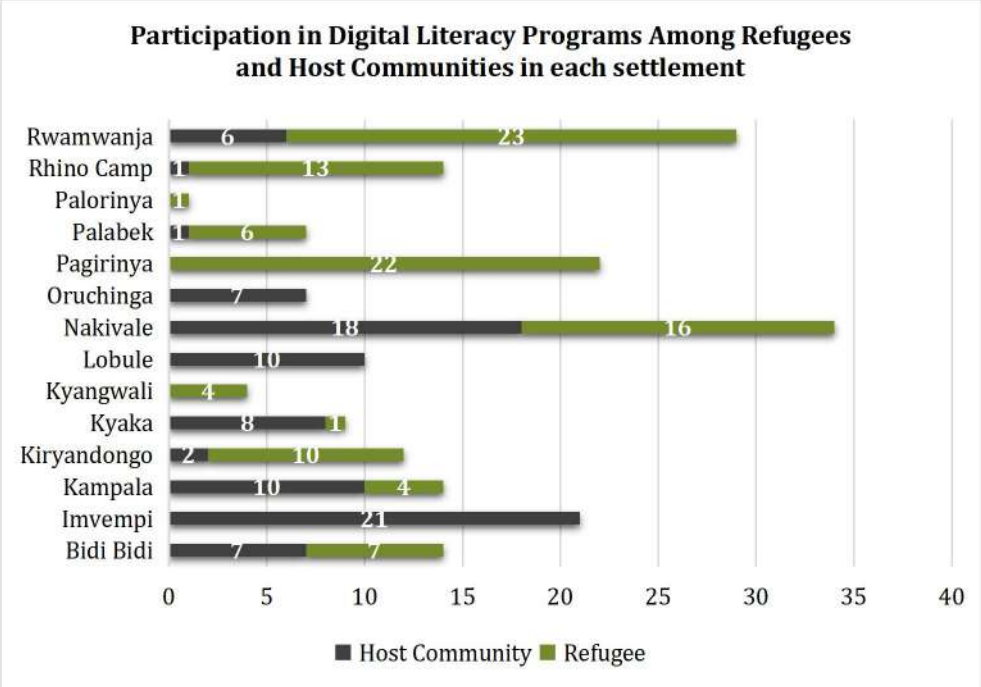


Figure 111: Participation in Digital Literacy Programs Among Refugees and Host Communities n=198

Summary of Digital Literacy and Training Programs by Organization, Content, and Target Group in Various Refugee Settlements and Host Communities

The majority of organizations target youths, providing them with digital literacy and vocational training. Key to note is that the majority of the organizations like Windle International, FCA BTVET,

and GIZ aim to train both refugees and nationals. In addition to digital literacy, some organizations also provide training in vocational skills such as carpentry and financial literacy. The table below provides detailed analysis of the different organizations in each settlement.

Table 51: Digital Literacy and Training Programs in Refugee Settlements and Host Communities

Refugee Settlement/Host Community	Organization(s)	Training Content	Target Group
Palabek	Ayuda Youth Empowerment, Worudet, AVSI, Lutheran World Federation, Finnish Refugee Council	Financial literacy, Mobile banking services	Youth, Women
Rwamwanja	FinChurch Aid, Tomorrow Vijana, FCA, LWF, Rwamwanja Secondary School	Computer literacy, Digital competence skills, BTVET programs	Youth, Students
Nakivale	War Child Holland, GIZ, NSAMIZI, UNHCR, Windle International Uganda, Opportunity WiFi, Unleashed Group, MTN, Airtel, Hello World Internet	E-learning, Basic computer skills, English for adults, Wi-Fi and digital services	Refugees, Adults, Youth
Oruchinga	War Child Canada, Rwamurunga SS,	Basic computer skills	Refugees, Youth, Adults
Kyaka	YUFAT, Finn Church Aid, Right to Play	Basic computer skills, Data collection	Youth, Students
Bidi Bidi	FAO Uganda, NRC, DRDIP, Mercy Corp, Similar Ground, Ariwa Secondary, Windle Trust	Basic computer training, Online marketing, ICT Skilling for youth and PWDs	Youth, Women, PWDs
Kampala	KCCA, Opportunity Bank, Free State Factory, Microsoft, Community Group Discussions, Police Training Schools, Digital Hub Program	Basic computer skills for unemployed youth, financial literacy for women, Community engagement, Digital skills for police officers	Unemployed Youth, women, Community members, Police officers
Kiryandongo	A&A Computer Solutions, Whitaker Organization, AFI, Windle International	Computer skills for females, IT and Cyber Security	Women, Youth
Lobule	UCC, Windle International Uganda, Hummingbird, DRDIP	ICT for farmers, Computer literacy	Farmers, Youth, Women
Rhino Camp	GIZ, Creativity and Innovation Center, War Child Japan, Green House Initiatives	Basic digital literacy, Technology innovation for youth, ICT infrastructure	Youth, Innovators
Imvempi	GIZ, Windle International Uganda, War Child Canada, Hope	Digital competence, Computer literacy, ICT	Youth, Students

	Foundation, UNICEF	management	
Pagirinya	YEF, JRS, Care, LWF	MS Word, Excel, PowerPoint, Carpentry, Vocational training for youth	Youth, Vocational trainees
Kyangwali	Education Local Expertise Centre Uganda (ELECU), Workshop	Computer illiteracy, Digital marketing	Youth, Women

These results were further backed by the key informant representatives, including district officials and leaders within host and refugee communities, provided valuable insights into the state of digital literacy training programs. Approximately 63.3% of respondents reported a lack of available programs in their communities. However, several non-governmental organizations (NGOs) were identified as key providers of such training, with Finn Church Aid and Windle International frequently mentioned, alongside Don Bosco, AVSI, and Hello World, which offer basic computer skills and digital marketing training. Additionally, local schools and community centers were noted for their involvement in providing digital training, particularly in refugee areas. While existing programs primarily target youth, informants emphasized the importance of incorporating women, persons with disabilities (PWDs), and smallholder farmers to create a more inclusive approach to digital literacy training.

Some respondents from the ICT centres /Digital hubs further indicated that;

"We provide training in digital literacy to youth and women, focusing on basic computer skills and business training." (**Modern computer center, Kiryandogo)**

"The Electronic VSLA is being trained by RUFI to savings groups, focusing on digital savings within the refugee settlement." **(Youth entrepreneurship lead, Obongi)**

"In Imvepi, we conduct mobile digital learning for those far from the centers and static centers for nearby individuals."**(Programs Manager).**

"In Pagriniya, we have digital literacy training for women, where young mothers come together to learn basic skills." **(Youth Foundation Executive Director)**

"Finn Church Aid is one of the few NGOs providing basic digital literacy training." **(NGO Officer)**

Inclusivity of the existing Digital Literacy Programs

The study further explored to understand if the existing programs are inclusive of persons with disabilities, Youths, Women, and SMEs. Overall, youth are reported as the most included group in programs across both refugee and host communities. Specifically, 92.5% of respondents from refugee communities and 86.8% from host communities indicated that youth are included in these programs. Women were also frequently mentioned as being included, with 81.3% of refugee respondents and 83.5% of host community respondents affirming their inclusion. However, SMEs were reported to be less included, particularly in refugee communities, where only 46.7% of respondents acknowledged their inclusion compared to 64.8% in host communities. Persons with disabilities were highlighted as the least included group in both communities, with

only 61.7% of refugee respondents and 67.0% of host respondents noting their inclusion in local programs.

		PWDs	Youths	Women	SMEs
Host Community (n=91)	Yes	67.0%	86.8%	83.5%	64.8%
	No	33.0%	13.2%	16.5%	35.2%
Refugee community (n=107)	Yes	61.7%	92.5%	81.3%	46.7%
	No	37.4%	6.5%	18.7%	51.4%

Figure 107: Inclusion of Persons with Disabilities, Youth, Women, and SMEs in Programs across Refugee and Host Communities

However, **from Focus Group Discussions** that were mainly for PWDs, Youths and Women. Among the 23 FGDs conducted with PWDs, 82.6% (19) reported not having access to digital literacy programs, while 17.4% (4) indicated they had participated in such programs. In the case of women, 61.9% (13) reported not having access to digital literacy programs, compared to 38.1% (8) who indicated they had participated. For youth, the trend was reversed, with 53.8% (14) reporting access to digital literacy programs, while 46.2% (12) had not participated in such programs.

Table 51: Participation in digital literacy programs/trainings by Women, Youths and PWDs, FGD findings

Have you ever had digital literacy programs or training in your community			
	No	**Yes**	**If yes, Organisations providing the training**
PWDs	82.6%	17.4%	Save the Children, Windle, Let's Help International, Norwegian Refugee Council (NRC), Mercy Corps, Jazed Organization, UNHCR, Schools (e.g., Ofua Secondary School)
Women	61.9%	38.1%	War Child Canada, Uganda Communications Commission (UCC), Schools and youth centers (not specified), C-10 Community Networking Center
Youths	46.2%	53.8%	AVSI, Finnish Refugee Council (FRC), UNICEF, UNHCR, ILO, UCC, Tomorrow Vijana, Hello World, Whole Wide Organization NGOs (e.g., Kagoma Youth Center, Ms Packages, Go Usetech Computer Training), Windle International, Private training centers, Jabala Institution, Brac Uganda, Hummingbird, Akitamungu Youth Center (Ocea) Girls and Women Center (Eden 2), Hope Foundation

3.5.3 Physical Accessibility and Digital Literacy

This section examines how physical accessibility impacts digital literacy for Persons with Disabilities (PWDs) in refugee and host communities. By assessing the awareness, access, and usage of mobility aids like wheelchairs, walking canes, and hearing devices, aim is to identify barriers to digital inclusion and inform targeted interventions for PWDs.

a) Awareness, Access, and Usage of Assistive Devices Among host community in RHDs

The data indicates widespread challenges in awareness, access, and usage of assistive devices across the host communities. Despite varying aid types, the trends are consistent, with most respondents reporting either very low or low engagement with these devices. Communication aids seem to be relatively better known and used compared to other devices, though significant gaps persist across all categories. The figure below provides more details on the same;

Mobility Aids: Wheelchairs and Walking Canes: Awareness of mobility aids, such as wheelchairs and walking canes, is notably low among respondents, with 67.1% expressing either very low (29.3%, 350 respondents) or low (37.8%, 452 respondents) awareness. Only 9.4% reported high awareness, indicating a significant gap in knowledge about these essential aids. Access is rated even lower, with 71.8% indicating very low (30%, 358 respondents) or low (41.8%, 499 respondents) access to mobility aids, and only 7.8% reporting high access levels. Usage follows a similar pattern, as 68.7% of respondents report very low (29.5%, 353) or low (39.2%, 468) usage, with only 9.5% indicating moderate or higher usage. These findings suggest that limited awareness and access are contributing factors to the low usage of mobility aids.

Hearing Aids and Devices: Awareness of hearing aids is similarly limited, with 72% of respondents indicating very low (32%, 382) or low (40%, 478) awareness. A mere 5.6% reported high or very high awareness, highlighting a critical gap in knowledge about hearing aids. Access to these devices is an even more pressing issue, as 74.4% reported very low (33.5%, 400) or low (40.9%, 489) access. Only 5.2% reported having high or very high access, underscoring the scarcity of these resources. Usage rates reflect this lack of access, with 72.5% indicating very low (32.3%, 386) or low (40.2%, 480) usage, and only 6.3% reporting moderate or higher usage. The data reveals a strong need for improved access and awareness initiatives for hearing aids.

Visual Aids: Awareness of visual aids is among the lowest, with 71.8% of respondents reporting very low (32.7%, 391) or low (39.1%, 467) awareness. High or very high awareness is limited to just 7.2%, showing a substantial lack of knowledge about visual aids. Access to these aids mirrors awareness levels, with 75.3% reporting very low (33%, 394) or low (42.3%, 505) access. Usage patterns are similarly low, with 73.7% of respondents indicating very low (31.7%, 379) or low (42%, 502) usage, and only 5.8% reporting high or very high usage. This indicates that both access and usage of visual aids are limited, likely due to low awareness and availability.

Communication Aids: Communication aids exhibit slightly higher awareness compared to other assistive devices, with 62% reporting very low (27.3%, 326) or low (34.7%, 415) awareness. A higher 10.8% of respondents report high or very high awareness, suggesting marginally better knowledge of these aids. Access is also relatively improved, with 62.7% reporting very low (26.4%, 315) or low (36.3%, 434) access, and 9.6% indicating high or very high access. Usage patterns reflect these trends, with 62.1% reporting very low (25%, 299) or low (37.1%, 443) usage, while 10.8% indicate high or very high usage. The data suggests that, while communication aids have better awareness and access levels, significant gaps remain, especially among those in need of these devices.

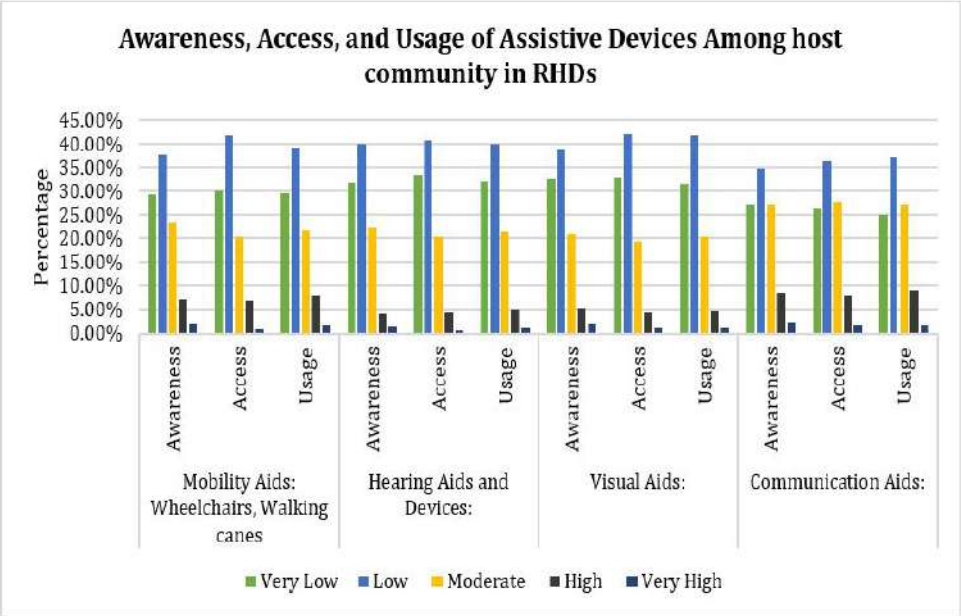


Figure 113: Figure 108: Awareness, Access, and Usage of Assistive Devices Among host community (n=1195) in RHDs

b) Awareness, Access, and Usage of Assistive Devices Among Refugee respondents in RHDs

Refugee respondents show consistent challenges across all categories of aids, with low levels of awareness, access, and usage. Mobility and hearing aids, in particular, demonstrate the most critical gaps, as the majority of respondents report very low or low engagement. While communication aids show relatively better access and usage rates, the overall patterns suggest that substantial improvements are needed in making these aids more available and usable within the refugee community. The figure below provides results from the analysis.

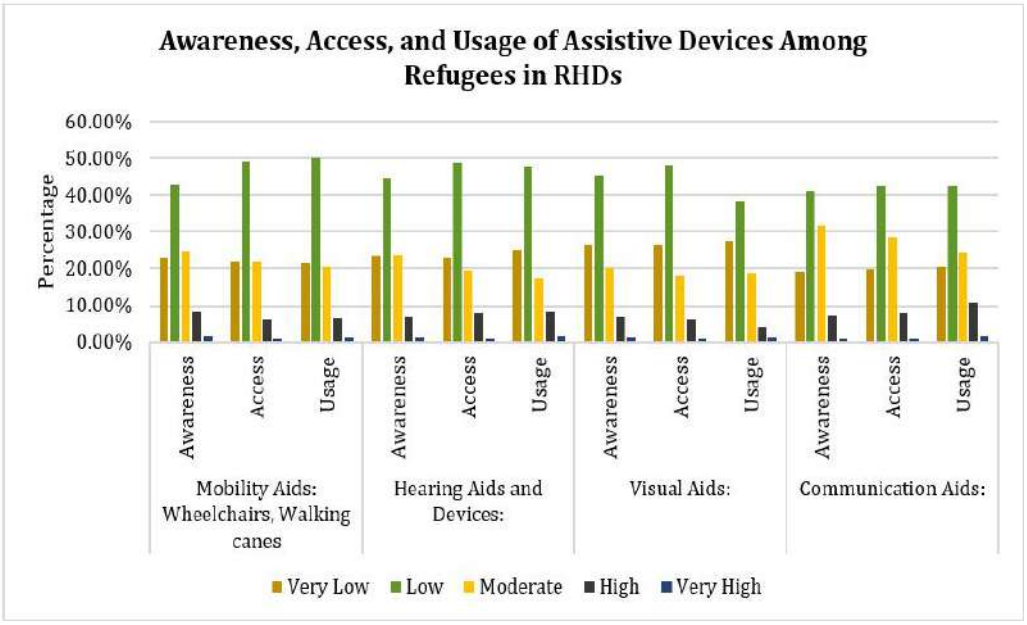


Figure 109: Awareness, Access, and Usage of Assistive Devices Among Refugees (n=1299) in RHDs

Mobility Aids: Wheelchairs and Walking Canes

Awareness of mobility aids remains low, with nearly two-thirds (65.7%) of respondents reporting

very low (22.9%, 297) or low (42.8%, 556) awareness, and only 9.6% indicating high or very high awareness. Access to these aids is even more restricted, as 70.9% of respondents report very low (21.9%, 284) or low (49.0%, 637) access, while just 7.2% have high access. Usage rates align with these patterns, with 71.5% of respondents indicating very low (21.4%, 278) or low (50.1%, 651) usage, and only 7.8% reporting moderate or higher usage. These figures point to significant gaps in both awareness and access to mobility aids, affecting usage rates.

Hearing Aids and Devices

Awareness of hearing aids is also limited, with 68.2% of respondents reporting very low (23.5%, 305) or low (44.7%, 581) awareness, and only 7.9% indicating high or very high awareness. Access remains constrained, as 71.5% report very low (22.8%, 296) or low (48.7%, 633) access, with just 8.9% experiencing high access. Usage reflects these challenges, with 72.8% of respondents indicating very low (25.1%, 326) or low (47.7%, 620) usage, and only 9.7% reporting moderate or higher usage. This data suggests substantial limitations in the availability and adoption of hearing aids.

Visual Aids

Awareness of visual aids is among the lowest, with 72.1% of respondents reporting very low (26.5%, 344) or low (45.6%, 592) awareness, and only 8.0% indicating high or very high awareness. Access is similarly restricted, as 74.6% report very low (26.6%, 345) or low (48.0%, 624) access, with a mere 7.2% reporting high access. Usage is equally low, with 66.1% reporting very low (27.5%, 357) or low (38.6%, 502) usage, and only 5.4% indicating high or very high usage. The figures indicate that both access and usage of visual aids are extremely limited, likely due to low awareness and resource availability.

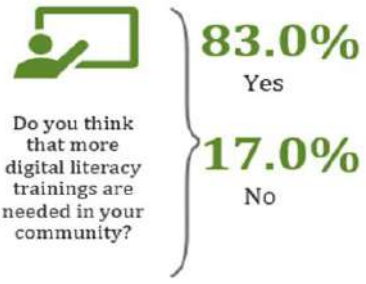
Communication Aids

Communication aids have slightly better awareness levels, with 60.2% of respondents indicating very low (19.2%, 249) or low (41.0%, 533) awareness, and 8.0% reporting high or very high awareness. Access to communication aids is somewhat improved, with 62.5% reporting very low (19.9%, 259) or low (42.6%, 553) access, and 8.9% experiencing high access. Usage rates are the most encouraging in this category, with 63.1% reporting very low (20.6%, 267) or low (42.5%, 552) usage, and a notable 12.3% reporting high or very high usage.

These findings suggest that communication aids have slightly better uptake than other aid types, although significant gaps in awareness and access remain.

3.5.4 Digital Literacy Needs

Respondents in the survey were asked if they think that more digital literacy trainings are needed in their community and majority **83.0%** (2069) agreed that more trainings are needed.



Below are the most urgent needs for digital literacy training in Refugee Hosting Districts (RHDs), based on feedback from various stakeholders, including ICT Center representatives, youths,

women, Persons with Disabilities (PWDs), local government officials, development partners, and other key actors.

Table 52: Respondents Urgent Digital Literacy Training Needs in Refugee Hosting Districts (RHDs)

Category	Identified training needs	Proposed Solutions
ICT Center Representatives	i. Access to digital gadgets and infrastructure ii. Basic and advanced digital skills iii. Trained digital literacy educators iv. Internet access and connectivity	i. Provide more computers and mobile devices ii. Train educators, especially for specialized skills like video editing and marketing iii. Improve mentorship programs iv. Increase internet connectivity
Youths	Creative and technical skills (e.g., videography, film editing, graphic design)	Offer targeted training in content creation and technical design
Women	Practical business-oriented digital skills (e.g., e-marketing, typing, online business management)	i. Focus on economic empowerment through digital training ii. Provide skills that support women-owned businesses
PWDs	i. Basic computer skills ii. Technical problem-solving skills iii. Accessibility	i. Train PWDs on specialized software and hardware for accessibility. ii. Increase access to assistive devices
OPM	i. ICT and mobile device skills ii. E-Services iii. Power and connectivity	i. Mass trainings on digital literacy ii. Improve power and internet infrastructure
LG Officials	i. Basic digital literacy ii. Digital marketing for MSMEs iii. Cyber security awareness	i. Organize sensitization and training ii. Collaborate with ISPs to improve access
Development Partners/NGOs	i. Digital skilling for entrepreneurship ii. Digitalization of education and healthcare	i. Launch large-scale training programs for entrepreneurship and education sectors ii. Equip centers with resources
MDAs (UCC, MoICT, etc.)	i. Basic digital literacy ii. E-government services iii. Accessibility for PWDs	i. Capacity-building programs for e-government and cyber security ii. Mainstream policies for digital inclusion
Cultural & Religious Leaders	iv. Resources for digital training v. Access to devices	i. Mobilize funding for digital programs ii. Provide affordable digital devices

Across the different stakeholder categories, several key trends emerge:

1. **Infrastructure and Access**: The need for more digital gadgets (computers and mobile devices) and improved internet connectivity is a recurrent theme across all stakeholders. Both the ICT Center representatives and the Office of the Prime Minister emphasize the importance of reliable infrastructure to support digital literacy efforts.
2. **Basic and Advanced Digital Literacy**: Youths, women, PWDs, and ICT Center representatives express significant interest in acquiring both basic and advanced digital skills. Practical skills such as e-marketing and online business management are especially important for women, while youths show a strong interest in creative and technical skills such as videography, photography, and graphics design.
3. **Digital Educators and Capacity Building**: There is a clear demand for trained digital literacy educators, particularly in under-served regions like Rwamwanja Skills Training Centre and The Youth Empowerment Foundation. Development partners and MDAs also highlight the importance of capacity-building programs, particularly targeting e-government services and cybersecurity.
4. **Power and Connectivity**: Both the Office of the Prime Minister and Local Government Officials stress the need for stable power supply and better internet connectivity, particularly in regions like Adjumani, Kiryandongo, and Lamwo.
5. **Specialized Needs for PWDs**: There is a strong focus on accessibility for PWDs, with a growing interest in digital skills that can help them problem-solve and engage with digital tools for both personal and professional purposes.

3.5.5 Barriers and Opportunities

This section explores the barriers faced by women, youth, PWDs, and MSMEs in accessing digital literacy training in Refugee Hosting Districts (RHDs). Furthermore, existing opportunities that exist for developing sustainable digital literacy initiatives tailored to the needs of these groups are identified.

Table 53: Barriers to Digital Literacy by Category of Focus Group Respondents

Category	Barriers	Description	Stakeholder insights
PWD	Accessibility & Infrastructure	The lack of infrastructure, such as reliable internet and power supply, poses a critical barrier. In Isingiro, stakeholders highlighted “accessibility, power, and access to gadgets” as key challenges. The distance to training centers also prevents participation; for instance, in Kampala, “Long distances to the centres” were identified as a hindrance.	"Accessibility, power, and access to gadgets are the biggest challenges in Isingiro." (Stakeholder, Isingiro) "Long distances to the centres are a big issue." (Respondent, Kampala)

	Social Stigmatization	Stigmatization and discrimination prevent PWDs from participating in digital training. This was especially noted in Kyegegwa, where cultural barriers limit inclusion, particularly for women.	"Women, it's cultural; their husbands might not be happy with them using social media." (Respondent, Kyegegwa)
	Financial Constraints	The cost of gadgets, data, and transportation was highlighted by officials in Adjumani as major barriers. PWDs often lack financial resources, which limits their ability to participate in training programs	"The cost of gadgets, data, and transportation is too high for most people, especially PWDs." (Local Government Official, Adjumani)
Women	Financial Constraints	Women, especially in rural and underserved areas, face financial barriers similar to PWDs. Local officials in Yumbe highlighted the significant cost of gadgets and data, which hinders women from accessing digital literacy programs.	"The cost of gadgets and data is a big challenge for our community." (Local Government Official, Yumbe District)
	Social and Cultural Factors	Cultural attitudes often restrict women's participation in digital literacy programs. In Kyegegwa, it was noted that some women face disapproval from their husbands for using digital tools, particularly social media.	"Women, it's cultural; their husbands might not be happy with them using social media." (Respondent, Kyegegwa)
Youth	Accessibility & Infrastructure	Youth face similar challenges to PWDs, such as the lack of infrastructure and reliable internet. Respondents in Isingiro pointed to "accessibility, power, and access to gadgets" as barriers. Additionally, long distances to training centers were noted as an issue, particularly in Kampala.	"Long distances to the centres are a big issue." (Respondent, Kampala)
	Financial Constraints	The cost of accessing training, gadgets, and data remains a barrier for youth. Similar to other groups, financial limitations were commonly mentioned across the districts.	"The cost of gadgets and data is a big challenge for our youth." (Local Official, Isingiro)

	Limited Knowledge & Illiteracy	Illiteracy and lack of basic knowledge limit access to digital training. Local officials in Kamwenge mentioned that "Illiteracy, most women are not educated," and this poses a barrier to digital literacy. Basic literacy programs are needed before youth, especially women, can engage in digital training.	"Illiteracy, most women are not educated, and this stops them from engaging in digital training." (Local Official, Kamwenge)
MSMEs	Financial Constraints	MSMEs also struggle with the high cost of gadgets, internet access, and data. These financial barriers prevent small-scale entrepreneurs from accessing and benefiting from digital literacy programs.	"The cost of gadgets and data is a big challenge for our MSMEs." (Local Government Official, Adjumani)
	Access to Technology	MSMEs often lack access to essential technology, such as computers and smartphones, which impedes their participation in digital literacy programs.	"Most small businesses don't have access to the technology they need to engage in digital programs." (Local Business Owner, Yumbe District)
	Limited Awareness	Many MSMEs are unaware of available digital literacy training opportunities. Increasing awareness and outreach is crucial to improving participation among small businesses.	"Many small businesses don't even know that digital literacy programs exist." (MSME Representative, Kamwenge)

3.5.6 Existing Opportunities for developing sustainable digital literacy initiatives

It was important to seek opinions from the key informant on the existing opportunities for developing sustainable digital literacy initiatives in RHDs and some of the responses and recommendations fro action included;

i. **Collaboration with NGOs, Community-Based Organizations, and Local Governments:** Partnerships between local NGOs, community-based organizations (CBOs), and local government institutions represent a significant opportunity for sustainable digital literacy programs. These collaborations can help create inclusive, tailored training initiatives that address the specific needs of women, youth, PWDs, and MSMEs.

Local Government Officials from Yumbe suggested that "Working with established community groups can enhance trust and promote participation."

By partnering with trusted local entities, digital literacy programs can gain legitimacy and increase outreach.

ii. **Establishment of Digital Training Centers with Accessibility Features:** Establishing digital training centers that prioritize accessibility for PWDs and other marginalized groups is key to breaking down infrastructure barriers. These centers should be equipped with up-to-

date technology, internet connectivity, and other resources such as assistive technologies for PWDs.

Recommendation: Special consideration should be given to setting up centers in easily accessible locations, especially in areas like Isingiro where respondents identified "long distances to the centres" as a barrier. Developing mobile training units could be another approach to address geographical barriers.

iii. **Leveraging Mobile Technology for Remote Learning:** Mobile phones present a huge opportunity for delivering digital literacy training remotely, especially for people in hard-to-reach areas. Many people, particularly youth, already have access to mobile phones, and developing mobile-first digital literacy programs would make learning more accessible.

Potential: Respondents from Nakivale and Oruchinga settlements highlighted the prevalence of mobile phone usage, suggesting, "Programs designed for mobile phones would be more practical for the refugees."

iv. **Incentives for Organizations to Offer Training:** Providing incentives to organizations (e.g., local NGOs, community groups, tech companies) that offer digital literacy training can encourage more players to engage in this space. These incentives could include funding, technical support, or recognition programs for those who contribute to increasing digital literacy.

In Adjumani, local stakeholders suggested that "Incentives for organizations could help organize more frequent and accessible training programs, especially for marginalized groups."

v. **Partnerships with Technology Providers:** Forming partnerships with tech companies can provide access to devices, internet connectivity, and modern technologies for digital literacy programs. These partnerships would alleviate financial barriers, especially for women, PWDs, and MSMEs who often cannot afford the necessary equipment.

PWDs and MSMEs frequently cited the high cost of gadgets and data as a barrier, such as in Yumbe where a local official noted, "The cost of gadgets and data is a big challenge." Partnering with tech companies could lower these costs through donations or subsidized devices.

vi. **Inclusion of Assistive Technology for PWDs:** Integrating assistive technologies in digital training centers would address the specific needs of PWDs, ensuring they are not left behind in the digital literacy movement. This includes providing hearing aids, screen readers, and other tools that facilitate learning for PWDs.

Opportunities: Including PWDs in digital literacy programs can be facilitated by these tools. In Kamwenge, respondents mentioned the importance of "inclusive training tools" that cater to people with disabilities.

vii. **Financial and Logistical Support for Participants:** Offering financial assistance or logistical support, such as stipends for transportation or provision of gadgets and internet data, could help address some of the barriers that women, youth, and PWDs face.

Recommendation: Given that the cost of participating in training is a major issue, as mentioned in several districts, offering such support would boost program attendance. One possibility is forming partnerships with development partners to fund these logistical needs.

viii. **Incorporation of Basic Literacy Programs:** To address the barrier of illiteracy, particularly among women and youth, incorporating basic literacy training as a prerequisite to digital literacy could be a game changer. This will ensure that the foundations of learning are established before advancing into digital skills training.

Approach: In Kamwenge, where local officials emphasized that "Illiteracy, especially among women, is a major hurdle," combining basic and digital literacy programs could improve engagement and outcomes.

ix. **Scaling Awareness Campaigns for Digital Literacy:** Awareness campaigns aimed at increasing the visibility and understanding of the importance of digital literacy can create more demand for these programs. MSMEs and other vulnerable groups could be better informed about available opportunities through local radio, community meetings, and social media.

Case for Action: Local stakeholders from Kamwenge observed that "Many people don't even know these programs exist." A broad awareness campaign could significantly increase participation.

x. **Public-Private Partnerships for Infrastructure Development:** Infrastructure issues such as power supply and reliable internet remain major barriers. Public-private partnerships could address these gaps by investing in electricity and internet infrastructure, particularly in underserved areas.

Potential: Stakeholders in Isingiro and Kampala repeatedly raised the need for improved infrastructure, stating, "Power and access to gadgets" are major concerns. These partnerships could help address such challenges by bringing resources and infrastructure to rural areas

3.5.7 Best practices from other jurisdictions and lessons for Uganda on Digital Literacy Demand

Inclusive digital literacy programs and accessible technologies are essential for supporting refugees and persons with disabilities (PWDs) in engaging fully with digital services. Germany's initiatives, such as "Staying Connected" and Project Reconnect, provide accessible devices and digital skills training for refugees and PWDs, helping them integrate effectively while accessing essential services. Sweden enforces digital inclusivity through its Discrimination Act, ensuring 90% of public websites meet accessibility standards, and offers digital literacy programs for PWDs to equip them with assistive technologies like screen readers. Jordan focuses on digital literacy programs in refugee camps, offering tailored training for PWDs to improve employability and social integration. Rwanda's Digital Ambassadors Program delivers ICT training directly in refugee camps, emphasizing practical digital skills like internet use, mobile applications, and digital payments, along with specialized programs for PWDs. For Uganda, adopting similar community-based digital literacy initiatives, accessibility standards, and assistive technologies could significantly enhance digital inclusion for refugees and PWDs, empowering them to participate fully in digital services and economic opportunities.

Country	Current status	Best Practices
Germany	Digital Inclusion Projects: Programs like "Staying Connected" ensure that refugees, especially those with disabilities, can access digital education and	• Enhancing digital inclusion by implementing targeted digital literacy initiatives to

	communication tools. These initiatives provide accessible devices, digital skills training, and internet connectivity to enable refugees to integrate more effectively into the community[49]. BMZ Digital Projects: The German Federal Ministry for Economic Cooperation and Development (BMZ) collaborates on digital projects that aim to improve digital literacy for refugees and ensure that PWDs can access critical services through digital means through vocational training in digital fields and access to information on legal rights and social services[50]. Public-Private Partnerships: Initiatives like Project Reconnect, funded by Google.org, provide Chromebooks to refugees, including those with disabilities, to support digital learning and integration efforts. These devices come equipped with accessibility features, helping ensure that PWDs can engage with digital content on equal footing.[51]	address existing gaps in knowledge and skills among refugees and marginalized groups. ● Prioritizing inclusive digital education and training for the PWDs in refugee and host communities in Uganda. ● Evaluating the demand and effectiveness of PWD programs which helps ensure that PWDs receive the necessary tools and support to fully engage with digital services.
Sweden	Sweden has ensured digital inclusion for PWDs through the Discrimination Act, which mandates that all digital services be accessible to PWD. In 2021, 90% of public websites were compliant with accessibility standards. Additionally, specialized digital literacy programs are offered, equipping PWDs with skills to use technologies like screen readers and voice-controlled devices[52].	● Implement digital literacy programs tailored for PWDs ● Creating awareness campaigns to promote assistive technologies like screen readers and voice-controlled devices. ● Implementing inclusive design in digital services to ensure accessibility for PWDs.
Jordan	Jordan has rolled out digital literacy programs targeting refugees, including vulnerable groups such as PWDs. Through initiatives such as the Humanitarian Education Accelerator[53], refugees are trained in digital literacy, with specific programs designed for PWDs to improve their employability and social participation. These training sessions are delivered in refugee camps and host communities, focusing on practical digital skills.	● Offering community-based inclusive digital literacy programs that focus on training PWDs in both refugee and host communities ● Tailoring digital literacy efforts to refugees' needs, in order to bridge digital skill gaps.
Rwanda	Rwanda's "Digital Ambassadors[54]" program offers ICT	● Establishing community-based digital literacy

[49] https://www.bertelsmann-stiftung.de/en/home
[50] https://www.bmz.de/en
[51] Germany's Digital Literacy and Inclusion Report, 2024
[52] Sweden's Discrimination Act enforces inclusivity in digital platforms, and specialized digital literacy programs focus on accessible technologies for PWD.
[53] https://heaccelerator.medium.com/
[54] Rwanda Development Board (RDB) ICT for Development report (2023) on the Digital Ambassadors program

	training targeting marginalized groups, including refugees and PWDs. These ambassadors are deployed in refugee camps to teach digital literacy, focusing on basic skills like internet use, digital payments, and mobile applications[55]. The government has also launched ICT training tailored specifically for PWDs to improve their social and economic participation.	programs, focusing on training PWDs and other vulnerable groups in refugee and host communities.

3.5.8 Emerging issues and Recommendations

This table below summarizes the key issues and recommendations for advancing digital literacy across diverse groups within Refugee-Hosting Districts (RHDs), highlighting opportunities for inclusive and accessible digital skills development.

Dimension	Emerging Issues	Recommendations
Digital Literacy Demand in RHDs	- Limited digital literacy in both refugee and host communities, with Uganda's digital literacy rate at 33%. There is a large skills gap in areas such as online services, email communication, and basic computer skills, with usage particularly low among refugees, women, and persons with disabilities (PWDs). - Gender disparities, as women demonstrate lower proficiency in all digital literacy areas compared to men, with the widest gap in online service usage. - Disparities by category of respondent (host vs. refugee), with refugees consistently lagging behind in all skill areas, especially online services and email. - Lack of inclusive programs for PWDs, with limited accessibility in existing initiatives, impacting digital skills development among vulnerable groups.	• Develop gender-sensitive and inclusive training programs focusing on women, PWDs, and refugee communities to bridge existing digital skill gaps. • Create digital literacy programs aimed at women, particularly in rural and refugee communities, to improve digital inclusion and economic empowerment. • Partner with NGOs to incorporate assistive technologies, such as screen readers, for PWDs in digital literacy training centers.
Assessment of Existing Digital Literacy Skills	- The majority of respondents have only basic or no proficiency in key skills areas like internet navigation (37.7% lacking skills), email communication tools (46.6% lacking skills), and the use of online services (57.6% lacking skills). - Skills by age group show low engagement among older adults, while youths in some settlements report improved, though inconsistent, digital literacy levels.	• Establish hubs that provide internet access, training, and mentoring programs in RHDs. • Develop age-specific digital literacy programs to address unique learning needs among youths, adults, and seniors in both communities.

[55] https://www.risa.gov.rw/projects/digital-ambassadors-program

Digital Literacy Needs by Gender	- Gender-based gaps persist, with a higher percentage of women reporting no skills across digital literacy areas. For example, 47.9% of women have no basic computer skills, and 65.0% lack online service skills, compared to 30.5% and 50.5% of men, respectively. - Limited digital literacy hinders women's access to online job opportunities, business skills, and communication tools, impacting their economic participation.	• Develop digital training programs focused on practical business skills (e.g., online marketing) to empower women in host and refugee communities. • Provide mobile-based and community outreach learning options, addressing accessibility issues and cultural norms that limit women's participation in digital literacy programs.
Digital Literacy Skills by PWD Status	- Digital literacy skills are significantly lower among PWDs, with a large portion (66.1%) lacking skills in using online services. Only 2.6% of PWDs report advanced skills in this area. - Lack of accessible training programs and assistive devices restricts PWD participation, leaving digital literacy gaps unaddressed.	• Equip training centers with assistive technologies for PWDs, such as screen readers and adaptive keyboards. • Develop and fund targeted digital literacy initiatives that cater specifically to PWDs, focusing on inclusive digital skills development.
Barriers to Digital Literacy by Age Group	- Digital literacy levels vary widely by age, with younger respondents (under 25) generally more skilled than older groups. Older adults, particularly those 61 and above, report high levels of non-usage in digital areas like internet navigation (73.9% with no skills). - Lack of foundational digital skills in older adults limits access to digital services like e-government, which could benefit them significantly.	• Provide targeted digital literacy programs tailored to different age groups, emphasizing foundational skills for older adults and advanced skills for youths • Implement intergenerational training programs, where younger participants mentor older adults, facilitating peer-to-peer digital skill development.
Barriers to Digital Literacy by Category (PWDs, Women, Youths, MSMEs)	-Accessibility challenges, social stigmatization, and financial constraints limit PWD participation in digital training. -Financial and cultural barriers impact women's access to digital literacy programs. High costs of gadgets and data are significant obstacles for both PWDs and women. - MSMEs lack access to essential technology, limiting their ability to benefit from digital literacy programs.	• Provide financial aid for device purchase and internet access to low-income participants, especially women and PWDs. • Increase outreach to MSMEs about digital literacy training opportunities to boost their participation and digital skill development.
Existing Digital Literacy	- Participation in digital literacy programs remains low, with only 7.94% of respondents engaging in digital training, indicating a need	• Increase the number and reach of digital literacy programs in underserved

Initiatives and Participation	for more accessible and inclusive programs. - Participation disparities exist, with refugees in some regions having greater access to training than host communities. - Some settlements, such as Rwamwanja and Imvempi, have concentrated digital literacy efforts, leaving others underserved.	settlements. • Focus on delivering digital training in all settlements, ensuring both refugee and host communities have equal access.
Existing Opportunities for Sustainable Digital Literacy Initiatives	- Collaboration with NGOs, local governments, and community-based organizations offers an opportunity for sustainable program implementation. - Mobile technology presents an opportunity to deliver remote learning for digital literacy in hard-to-reach areas. - Establishing digital training centers with accessibility features would address infrastructure challenges and support PWD participation.	• Form partnerships with tech providers and NGOs to establish accessible digital training centers equipped with up-to-date technology and internet access. • Leverage mobile phones to deliver digital literacy training remotely, especially for youth and rural participants. • Encourage more NGOs and community groups to offer digital training by providing financial and technical support.

3.6 Feasibility of Establishing Digital Service Centers

Establishing Digital Service Centers in Refugee Settlements and Host Communities is essential to fostering digital inclusion, promoting local economic development, and enhancing access to critical services. This section evaluates the feasibility of setting up digital service centers, focusing on environmental conditions, potential impacts, and best practices for sustainable implementation.

3.6.1 Environmental status of the 13 refugee settlements

An environment scanning was conducted for all the settlement as stipulated under the National Environment Act. The settlements are in conformity with the National Policy and Legal Framework that ensures that the settlements be developed in line with the law and sustainable in the long term. are

1) **Rwamwanja Settlement**

Rwamwanja Settlement is situated in Nkoma and Bwizi Sub counties and borders with Katonga Game Reserve within Kamwenge district in South Western Uganda. It was established in 1964, is home of refugees from different countries mainly; Rwanda, and Democratic Republic of Congo, and is managed by the UNHCR and the Office of the Prime Minister (OPM).

It is within hilly terrain with many small but seasonal wetlands. It is mostly an agricultural community with minimal industrial activities. The soils are deep organic hydromorphic soils with

an average slope of less that 5%. On the steeper slopes (30% or more) the soil type is Leptosol according to the FAO classification. The small streams in Rwamwanja lead into the Katonga River which eventually drains into Lake Victoria. Katonga River is surrounded by an extensive wetland filled with papyrus. There are different vegetation types within Rwamwanja Settlement, and they include; Savanna woodland, Shrub savanna, Riverine forest, Wetland areas.

Each refugee household in the camp is given a small portion of land for housing and encouraged to do agricultural activities on small scale so as to generate livelihood, and also get some food for consumption. This is in support from UNHCR and its partners which distribute seeds, pesticides, Agriculture equipment, environment management, water and sanitation, education, etc. it is important to note that the aid provided to the camps also benefits the nationals. A few livestock were identified within the settlement. Informal trade and commerce with adjacent host communities further supplement livelihoods.

The study revealed that most people use torches, solar, and electricity for lighting. The main source of fuel used for cooking is fire wood, and charcoal. The main source of water are boreholes, shallow wells, tap water, and rain water harvesting is done in some homes, health centers, and schools.

The use of fire wood is a threat to the Riverine forest which is encroached upon due to increased demand for fire wood. The torches are a threat too as they accumulate wastes in the environment due to the batteries that keep being replaced. The batteries are hazardous to man and his surroundings.

2) Nakivale Settlement

Nakivale settlement is located near the border of Tanzania in Southern Uganda, Isisngiro District. It was established in 1958 and is home of refugees from different countries like Somalia, Rwanda, Democratic Republic of Congo, Burundi, Eritrea, Ethiopia, etc., and is managed by the UNHCR and the Office of the Prime Minister (OPM).

Refugees in Nakivale settlement are apportioned free land where they build houses and the remaining portion is left for farming. On arrival, each refugee family is given a tarpaulin to setup their shelter, and after settling in, they later build houses using muddy bricks. In short, the have temporary houses. WFP, UNHCR plus its partners sustain their families by providing them with food on a monthly basis. The land apportioned to them is where they derive livelihood by practicing agriculture. The GoU, through OPM and United High Commissioner for Refugees developed policies for the use of land in order to promote sustainability and be self-reliant. The main crops grown are vegetables and cereals, vegetables mainly include cabbage, spinach, egg plants, etc., while cereals include maize and beans. The other means of livelihood includes livestock keeping, business ownership, vocational skilling lie tailoring, making energy saving stoves, and briquets made from household waste, etc.

The vegetation is characterized by savanna grass land and savanna wood land, plus tree plantations were detected. Refugees in Nakivale settlement receive both underground water obtained through boreholes and shallow wells, and surface water is pumped from lake Nakivale.

Tap water is also available, and rain water harvesting is done in some homes, health centers, and schools.

It was revealed that most refugees depend on Agriculture as a source of livelihood, and as a result, the land is exhausted due to a lot of pressure exerted on it. The trees and vegetation are also cut to clear land for cultivation leaving the soil to be exposed to agents of soil erosion, poor solid waste management, Infertility of the land due to over cropping, food insecurity tied to inadequate food given as aid, inadequate space due to increased number of households, land conflict is inevitable due to unclear boundaries with the nationals causing insufficient means for self-reliance, environmental degradation due to increased demand for fire wood, inadequate agricultural support makes them unproductive, wetland reclamation, a lot of theft has been reported due to lack of self-reliance especially among the youths,

Waste to energy activity is aimed to promote environmental conservation by managing wastes, avoiding deforestation, plant more tree, use energy saving stoves, sensitization of farmers on nature based solutions to improve soil fertility, proper Solid Waste Management like Reuse, Refuse, Recycle, decompose, enforcement of by- laws in the management of environment in settlement camps should be strengthened, reduce population in households by practicing family planning or reduce on aid provided each time a member is added to the family.

It is for this reason that the United Nations Development Programme (UNDP) is collaborating with the United Nations High Commissioner for Refugees (UNHCR) to strengthen livelihoods in the settlement. The study revealed that most people use torches, solar, and electricity for lighting. The main source of fuel used for cooking is fire wood, and charcoal.

3) Kyangwali Settlement

Kyangwali Refugee Settlement is located in Western Uganda, Kikuube District, formally part of Hoima District. It was established in the 1960s and is home of refugees from different countries like Congo, South Sudan, Rwanda, and Burundi.

The land in Kyangwali Settlement is owned by the government of Uganda, under the leadership of the OPM, and the host communities respectively. The land allocated to refugees is used to build temporally houses made of mud and branches and to do sustainable agriculture so as to get food and sell the remaining to improve their livelihood, and be self-reliant. The refugees are given equal measurement of plots regardless of their family size.

This is in support from UNHCR and its partners which distribute seeds, pesticides, Agriculture equipment, environment management, water and sanitation, education, etc. it is important to note that the aid provided to the camps also benefits the nationals. A few livestock were identified within the settlement.

Over dependence on natural resources for fuel, food, shelter, timber, income, puts a lot of pressure on the biodiversity thereby leading to environmental degradation in the settlement. A number of partners have come up to help in environment management, and energy saving technologies.

The main source of energy is fire wood, charcoal, and briquettes. Electricity, solar and torches are used for lighting. Most of the households in and outside the settlement collect water from public taps, boreholes, and protected springs.

4) Kiryandongo Settlemet

Kiryandongo settlement is found in Bweyale in Kirandongo District in North Western Uganda. It was established in 1954 and currently hosting refugees from Southern Sudan, Congo, Rwanda, Kenya, and Burundi.

The settlement has low vegetation cover due to limited rainfall, sufficient land, and soils which support agriculture. The vegetation is savannah, shrub, and woodland which is dry and humid. People mostly rely on shallow wells, public taps, and boreholes to access water. The main challenge is that the wells are not reliable because they dry out during the dry season making water scarce.

Most people in the settlement are farmers and crops mainly grown include; cassava, sweet potatoes, beans, ground nuts, maize, vegetables, etc. and are supplemented by fishing and livestock farming.

The land in Kiryandongo Settlement is owned by the government of Uganda, under the leadership of the OPM, and the host communities respectively. The land allocated to refugees is used to build temporally houses made of mud and branches and to do sustainable agriculture so as to get food and sell the remaining to improve their livelihood, and be self-reliant. The refugees are given equal measurement of plots regardless of their family size. The study revealed that most people use torches, solar, and electricity for lighting. The main source of fuel used for cooking is fire wood, and charcoal.

5) Kyaka II Settlement

Kyaka II is divided into three sub counties of Mpara, Kyegegwa and Kabweza in Kaka County, and is characterized by nine zones, including, Bukere, Sweswe, Buliti, Kakoni, Mukondo, Bwiriza, Kaborogota, Ntababiniga, Bakobora. It was started in 2003 and mainly receives refugees from Democratic Republic of Congo.

The land in Kyaka II Settlement is owned by the government of Uganda, under the leadership of the OPM, and the host communities respectively. The land allocated to refugees is used to build temporally houses made of mud and branches and to do sustainable agriculture so as to get food and sell the remaining to improve their livelihood, and be self-reliant. The refugees are given equal measurement of plots regardless of their family size.

The study revealed that most people use torches, solar, and electricity for lighting. The main source of fuel used for cooking is fire wood, and charcoal.

Increased population in the settlement puts a lot of pressure on the environment and natural resources like forests and wetlands causing environment degradation. Their source of water is mainly shallow open wells, public taps, and boreholes. Rainy water is harvested and utilized

during the rainy season. The UNHCR works together with the government through OPM, and other UN agencies, NGOs, in giving services to the people in the settlement.

6) Orushinga Settlement

The Oruchinga Refugee Settlement is located in southwestern Uganda in Isingiro district bordering Tanzania to the south. It was started in 1959 and hosts refugees from Rwanda, Democratic Republic of Congo, and Burundi.

Degradation of the soil is massive due to water erosion and sand mining. The sand is extracted from the wetland and is used as construction material. Other building materials include thatching materials, unburnt bricks, etc. sand mining not only erodes the top most fertile soil which aids crop growing, but also pollutes rivers and affects aquatic life like fish.

Sand mining pits have destroyed the landscape and they collect stagnant water which cats as breeding grounds for mosquitoes, and cause accidents. Land monitoring is paramount as it will be required for future planning and control measures are necessary to help improve the land scape and conserve the environment.

Subsistence agriculture is mainly practiced in the settlement and the main crops grown are beans, maize, beans, etc.

The land in Orushinga Settlement is owned by the government of Uganda, under the leadership of the OPM, and the host communities respectively. The land allocated to refugees is used to build temporally houses made of mud and branches and to do sustainable agriculture so as to get food and sell the remaining to improve their livelihood, and be self-reliant. The refugees are given equal measurement of plots regardless of their family size. The study revealed that most people use torches, solar, and electricity for lighting. The main source of fuel used for cooking is fire wood, and charcoal.

7) Pagirinya Settlement

Pagirinya Settlement is located in Adjumani district, with in the West Nile sub-region of Northwestern Uganda, bordering South Sudan and the Democratic Republic of Congo. Specifically, it lies within the sub-counties of Adjumani.

The settlement is managed by United Nations High Commissioner for Refugees (UNHCR) in collaboration with the Office of the Prime Minister of Uganda (OPM). Other humanitarian partners, including non-governmental organizations (NGO) and community-based organizations, provide support services to those in the settlement. The Settlement hosts refugees from South Sudan, and has expanded to accommodate the growing refugee population.

Pagirinya settlement is characterized by flat to gently sloping terrain and a tropical savanna climate with two rainy seasons. The vegetation comprises grasslands, wooded savannas, and scattered forests. Refugee households are provided with plots for constructing homes. Access to clean water is ensured through boreholes, wells, and water distribution systems. Sanitation

facilities, including latrines and bathing facilities, are also available. Food distribution and agricultural support programs ensure food security.

Agriculture is a significant livelihood activity, with refugees engaging in small-scale farming and receiving support from UNHCR and partners. Some households also keep livestock, contributing to food security and income generation. Informal trade and commerce with adjacent host communities further supplement livelihoods.

However, environmental concerns persist, including deforestation and land degradation due to fuel wood collection and agricultural expansion. Water pollution from inadequate waste management and soil erosion during rainy seasons also pose challenges.

8) Rhino Camp Settlement

Rhino Camp Settlement is located in the Madi-Okollo and Terego districts of North-Western Uganda. Established in 1980, the settlement has since expanded to accommodate the influx of refugees from South Sudan. The settlement is divided into seven zones: Ofua, Omugo, Ocea, Odobu, Siripi, Tika, and Eden. Each zone has its own unique terrain, with the upper part of Rhino featuring rocky terrain and the lower part consisting of sandy soils.

The settlement is managed by the United Nations High Commissioner for Refugees (UNHCR) and the Office of the Prime Minister (OPM). Humanitarian partners, including the Danish Refugee Council and CARE International, work closely with UNHCR and OPM to address the needs of refugees.

Refugees in Rhino Camp engage in agriculture, growing crops such as tobacco and food crops, and rear animals like goats. However, they face challenges including infertile land, limited access to water, and environmental degradation. To address these issues, initiatives such as tree planting, energy-saving stoves, and briquette production have been implemented.

Refugees face difficulties accessing clean water, with few water sources and poor-quality groundwater. Efforts are being made to improve water provision, including the construction of piped water networks and water trucking.

Overall, Rhino Camp Refugee Settlement presents a complex picture of challenges and opportunities, requiring continued support from humanitarian partners to ensure the well-being and self-reliance of its residents.

9) Palabek Settlement

Palabek settlement is situated in Lamwo District, Northern Uganda, approximately 40 kilometers South-West of the district capital, Lamwo Town. The settlement lies within the Palabek sub-county, near the River Unya, and shares borders with South Sudan.

Established in 2017, Palabek Settlement hosts refugees from South Sudan, fleeing conflict and persecution. The settlement has expanded to accommodate the refugee growing population. Palabek settlement is managed by the United Nations High Commissioner for Refugees (UNHCR)

in collaboration with the office of the Prime Minister (OPM) of Uganda. Other humanitarian partners, including non-government organizations (NGOs) and community-based organizations, provide support services.

The settlement is characterized by flat to gently sloping terrain, with some areas prone to flooding during rainy seasons. Vegetation consists of grasslands, wooded savannas, and scattered forests.

Refugees are provided with plots for constructing homes. Access to clean water is ensured through boreholes, wells and water distribution systems. Sanitation facilities, including latrines and bathing facilities, are also provided by partner organizations. Food distribution and agricultural support programs ensure food security.

Agriculture is a significant livelihood activity, with refugees engaging in small-scale farming and receiving support from UNHCR and partners. Some households also keep livestock, contributing to food security and income generation. Informal trade and commerce with adjacent host communities further supplement livelihoods.

Deforestation and land degradation due to fuel wood collection and agricultural expansion pose environmental concerns. Water pollution from inadequate waste management and soil erosion during rainy seasons also require attention.

10)Palorinya Settlement

Palorinya Refugee Settlement is located in Obongi District in the West Nile region of Uganda, specifically established in December 2016 to host South Sudanese refugees fleeing civil war. Palorinya Settlement is situated in a remote area, with limited access to basic services and infrastructure.

The settlement is managed by the Office of the Prime Minister (OPM) in collaboration with the United Nations High Commissioner for Refugees (UNHCR) and other humanitarian partners. These partners provide essential services such as shelter, protection, water, sanitation, and hygiene (WASH), livelihoods, and core relief items to refugees.

Refugees in Palorinya engage in agriculture and livestock keeping to sustain themselves. However, they face challenges such as limited access to livelihoods, income-generating activities, and vocational training. The settlement also struggles with environmental degradation due to over-reliance on natural resources for fuel, food, and shelter.

Refugees and the host community face challenges accessing clean water, with congestion at water points and limited facilities. Humanitarian partners have installed water tanks and provided WASH services to alleviate these challenges.

Overall, Palorinya Refugee Settlement presents a complex picture of challenges and opportunities, requiring continued support from humanitarian partners to ensure the well-being and self-reliance of its residents.

11)Lobule Settlement

Lobule Refugee Settlement is located in Koboko District, West Nile region of Uganda. Established in 2014, the settlement hosts over 55,000 refugees, primarily from South Sudan.

Lobule Settlement has a flat terrain and limited vegetation cover. The settlement is divided into four zones: Lobule I, II, III, and IV. The settlement is managed by the Office of the Prime Minister (OPM) in collaboration with the United Nations High Commissioner for Refugees (UNHCR) and humanitarian partners. Partners provide essential services, including shelter, protection, water, sanitation, and hygiene (WASH), livelihoods, and core relief items.

Refugees in Lobule engage in agriculture, growing crops like maize, beans, and cassava. Livestock farming and fishing supplement their income. However, challenges persist, including: limited access to markets, insufficient agricultural inputs, water scarcity, and environmental degradation.

Refugees access water from boreholes, wells, and water tanks. However, challenges persist: limited water access, poor sanitation facilities, and high risk of water-borne diseases. Refugees primarily use firewood and charcoal for cooking, contributing to deforestation. Initiatives promote sustainable energy, including: solar-powered lighting, energy-saving stoves, and tree planting.

12)Imvepi Settlement

Imvepi Refugee Settlement is located in Terego District, West Nile region of Uganda, specifically in Odupi sub-county. Established in February 2017, it hosts refugees primarily from South Sudan.

Imvepi settlement is situated in a rural area with a hilly topography and deep valleys, creating interconnected drainage systems. The settlement is managed by the Office of the Prime Minister (OPM) in collaboration with the United Nations High Commissioner for Refugees (UNHCR) and other humanitarian partners. These partners provide essential services, including shelter, protection, water, sanitation, and hygiene (WASH), livelihoods, and core relief items.

Refugees in Imvepi engage in agriculture, with the majority cultivating crops and livestock. However, challenges persist, including: environmental degradation due to increased population that puts pressure on natural resources, causing deforestation and wetland degradation, limited access to markets, hindering economic self-reliance, water scarcity and limited access to clean water that affects both refugees and the host community.

Refugees primarily use firewood and charcoal for cooking, contributing to environmental degradation. Initiatives promote sustainable energy, including: solar-powered lighting that encourages the use of renewable energy sources, energy-saving stoves that reduce fuel consumption and environmental impact.

13)Bidibidi Settlement

Bidibidi Settlement is located in Yumbe District's West Nile sub-region in Uganda. Established in August 2016, it's one of the world's largest refugee settlements, hosting refugees fleeing conflict in South Sudan and the Democratic Republic of Congo.

The settlement is situated on communal land, primarily consisting of rocky, under-utilized "hunting grounds" deemed unsuitable for agriculture by the host Aringa community. The settlement is managed by the Office of the Prime Minister (OPM) in collaboration with the United Nations High Commissioner for Refugees (UNHCR) and other humanitarian partners. These partners provide essential services, including health care, protection, environment conservation, and education for refugees.

Refugees in Bidibidi engage in subsistence agriculture, with the majority cultivating crops like cassava, beans, millet, maize, potatoes, and sweet potatoes. However, challenges persist, including: Limited access to clean water therefore refugees face long distances, extended wait times, and high congestion at the few available water points, inadequate educational facilities resulting into overcrowding, shortages of essential resources, and poor teacher-to-student ratios hinder quality education, environmental degradation including deforestation and land degradation due to agricultural activities and fuel wood collection.

Refugees primarily use firewood and charcoal for cooking, contributing to environmental degradation. Initiatives promote sustainable energy, including: solar-powered lighting encouraging the use of renewable energy sources, energy-saving stoves reducing fuel consumption and environmental impact.

3.6.2 Environmental Impact Of Digital Access Enablers In Settlements And Host Communities.

Worldwide, technological advancements have caused numerous environmental changes as digital devices and application continue to grow. The rate at which Electrical and Electric Equipment (EEE) is growing is high and this has been made inevitable due to improvement in peoples standards of living, and economic growth. Currently, 5.4 billion people (67%) of the world's population are digital literate, and the International Telecommunication Union (ITU) estimated that the number of digital technology users will have increased by 17% between 2020 and 2023, (ITU 2023). Increased number of users means increased demand of digital services, and increased accumulation of E-waste.

Guidelines for E-waste management in Uganda define E-Waste as a form of Electrical and Electronic Equipment which are old or End-of-life Electronic Appliance that are of no use. E-waste comprises of materials as; glass, plastic, toxic metals, and if not properly disposed of pose a danger to the environment, and the health of the people. The increased use of digital technology will lead to accumulatio of E-waste, irresponsible disposal, and will hinder the achievement of the SDGs, UNDP III Vision 2040, and the African Union Agenda 2063; "*The Africa We Want*". Africa needs to adopt sustainable waste management practices to conserve the environment and reduce pollution. This will enable the realization of the African Union Agenda 2063 goal 7, which aspires for Environmental Sustainability and Climate Resilient Economies in Africa.

Aligning SDGs, AU Agenda 2063, and UNDP III Vision 2040 with digital access enablers will turn global challenges and threats into business opportunities and at the same time make the world a better place.

A number of SDGs are in line with the adoption of Digital Access Enablers; i.e. Goal 1 (No Poverty), Goal 3 (Good health and Well-being), Goal 6 (Clean water and Sanitation), Goal 11 (Sustainable Cities and Communities), Goal 12 (Responsible Consumption and Production) all of which require stakeholders better understanding and management of E- waste. Goal 7 (affordable and clean energy), Embracing the sustainable adoption of creative digital

technologies in digital transformation, organizations can promote the SDGs especially in the field of education, business, health, environment, and Agriculture. Digital technology is moving at a high speed and requires a lot of energy yet it emits Green House Gases (European Parliament. 25 September 2022).

Goal 9 (Industry, Innovation, and Infrastructure) aims at building resilient infrastructure, promoting innovation, and adopting sustainable industrialization which aims at embracing digital technology meant to improve economic growth, productivity, and sustainable industrial operations.

Inappropriate disposal will cause long term consequence in the form of loss of resources and adverse impact on health and environment. effects.

3.6.3 Recommendations For Sustainability and Environmental Mitigation Strategies In Refugee Settlements and Host Communities

These are some recommendations to consider;

i. National Information Technology Authority (NIITA) should make the guidelines of E-waste management known to the people in the settlements and those in the host communities. This will equip them with the knowledge to understand the concept of reuse, repair, recycle, disposal, which will ensure that E-waste is properly managed and therefore cause no harm to humans, and the environment at large, and eventually SDGs could be attained.
ii. NITA should put pop-up messages on digital devises to remind people to be mindful of the environment by managing E-waste appropriately.
iii. Each settlement needs to have an ICT focal person responsible for E-waste (E-waste ambassador) to appoint a settlement environment conservation team to help circulate information regarding E-waste in and outside the settlements.
iv. ICT users should reduce on energy consumption by switching off electric gadgets if not in used.
v. Collaboration between National Information Technology Authority (NITA) and the energy sector is required to help reduce emissions and support sustainable energy access
vi. Ensure compliance of E-waste management guidelines coupled with financial incentives to help reduce emissions
vii. The government and its partners should have regulatory measures for digital equipment like mobile phones, tablets, laptops, etc., under the eco-design directive such that devices are designed for energy efficiency, repairability, durability, reuse, recycling, etc.,
viii. The people should be able to repair and modify their digital equipment more easily if a repair shop is availed in and outside the settlements.
ix. Need to introduce a common charger for mobile devices and laptop to reduce having several of them in a home or a company.
x. Introduce and embrace the take - back scheme to return or sell again the old mobile phones, chargers, laptops, and tablets.
xi. Development of economic instruments by Government such as land, financial subsidies etc., so as to ensure an efficient collection and recycling system and attract would be investors in the field as stipulated in the E-waste management guidelines of Uganda.
xii. Encourage Collaboration and Standardization. Stakeholders including manufacturers, and recyclers, should collaborate to develop standardized disposal practices for digital gadgets. Standardization will enhance the efficiency of E-waste management systems and promote higher recycling rates.
xiii. National Environment Management Authority (NEMA) should issue and enforce E-waste handling licenses in the country for entities dealing with collection, transportation, recycling, and disposal of digital devices as stipulated in the E-waste management guidelines of Uganda.

xiv. National Information Technology Authority should enforce standards and regulation on E-waste management and provide technical support and advise on assessment of E-waste disposal to the public and private sector.

3.6.4 Key Findings on Services Needed at the planned digital service centers in Refugee Settlements and Host Communities

Across various stakeholders, including implementing partners, ICT centers, and CSOs, several essential services were identified for the digital service centers in refugee settlements and host communities. These services span digital literacy training, technical support, and inclusive access, as highlighted below:

i. **Digital Literacy and Computer Training:** All stakeholders emphasized the need for **basic computer and internet training**, which includes skills such as word processing, use of Excel, and general **ICT services**. These training programs aim to provide essential skills for employment and digital inclusion.
ii. **Internet Connectivity:** Many stakeholders stressed the importance of **free internet connectivity** for e-learning, e-business, and communication services such as social media and mobile money. This service was particularly emphasized by ICT centers and CSOs, as it enables access to **health information, legal assistance,** and **digital marketing** for businesses in both host and refugee communities.
iii. **Printing, Typing, and Secretarial Support:** ICT centers and partners frequently mentioned the need for **printing, photocopying, and typing services**, which are essential for educational and administrative tasks.
iv. **Advanced Digital Skills and E-Services:** Stakeholders noted a growing demand for **e-marketing, data science, social media management,** and **ICT for business** training, enabling beneficiaries to leverage digital tools for entrepreneurship and employment. **E-services** such as health, legal, and educational information access were also critical needs identified by ICT centers and CSOs.
v. **Inclusive Assistive Technologies:** CSOs and ICT centers highlighted the importance of ensuring that ICT centers are equipped with **assistive technologies** to meet the needs of **Persons with Disabilities (PWDs)**. These services would include specialized devices and training to make digital resources accessible to all.
vi. **Technical Training in Device Repair:** There was a clear need for **technical training** in phone and computer repair, as well as more advanced skills such as **programming** and **data analysis**, enabling individuals to work remotely and participate in the global digital economy.

3.6.5 Potential Impact on Local Digital Ecosystem

30 out 83 implementing partners confirmed the existence of ICT centers in refugee settlements or host communities, majority (24) indicated that these centers primarily support youth, highlighting a strong focus on empowering these youth. Additionally, ICT centers that support women were recorded from 9 respondents, indicating a moderate level of inclusion. Lastly, only 7 respondents mentioned that these centers provide support to People with Disabilities (PWDs), suggesting that PWDs are the least served group in the available ICT centers.

We went forward to determine the locations of the existing ICT centers as suggested by some implementing partners. This information is summarized in the table below.

Table 54: Existing centers in the settlements

District	ICT centers	Location
Kamwenge	Rwamwanja Primary School, Rwamwanja Vocational	These are both in the refugee community
Lamwo	Youth centers constructed by AVSI IN ZONE 4	Zone 4 block 2
Isingiro- Nakivale	Nakivale youth center CTA	Base camp
Isingiro	Youth centers supported by elite	In Nakivale base camp
	Nakivale community Technology access center	Base camp
	ICT Lab in a secondary school	It's opposite base camp offices
Kyegegwa	Lets help international innovation center	Bukere within the camp
	A vocational school in Sweswe,	Sweswe
KYegegwa	Let's help international	Kyaka II settlement-refugee settlement
Yumbe	International rescue committee (IRC) youth center	Zone 1 village 10
Kikube district	Education Loca Expertise Center in Uganda	Kagoma
Kiryandongo	The youth center by windle	Within the base camp
	One is in Panyadoli, in not sure of the name	Panyadoli
	Kiryandongo youth center	Within the town council
	Windle trust and WPDI	Magamaga
	Youth center	Around the town council offices

It is from the above information that implementing partners see the centers as essential for developing digital skills, enhancing employability, and creating opportunities for education and innovation. Women were moderately included, with 9 centers serving them, pointing out that more ICT centers can help bridge the gender gap by providing access to digital literacy and economic resources to the majority of the women. However, People with Disabilities (PWDs) were the least served, with only 7 centers offering support, emphasizing more centers targeting persons with disabilities and the need for greater inclusivity in future digital initiatives.

The anticipated benefits of establishing more digital service centers in RHDs was noted as essential for developing digital skills, enhancing employability, and creating opportunities for education and innovation by majority of the key informants .

3.6.6 Critical Success Factors

Majority of the implementing partners suggested that establishing digital service centers in refugee-hosting districts (RHDs) requires prioritizing accessibility for all, including underserved groups like People with Disabilities (PWDs) and women. Respondents highlighted several critical factors for the successful establishment of digital service centers in RHDs:

i. **Accessibility**: Ensuring that centers are within reach for the most vulnerable populations, particularly PWDs, by providing accessible infrastructure and assistive technologies.

"Let's not be concentrated in the town; let's take it closer to the people." **(Assistant commander)**

ii. **Network connectivity and electricity** were also noted critical among the respondents, as multiple respondents highlighted the need for reliable power and stable internet.
iii. **Security** was also mentioned as essential, as many mentioned concerns about both the physical safety of the centers and the users. To ensure inclusivity and sustainability, respondents stressed community engagement and local leadership involvement, stating that potential beneficiaries should guide the planning and design of the centers.
iv. Finally, considerations such as **land availability** and population density were raised, with respondents advising that land should be owned by the government and that centers be placed where most people are.

CSOs had almost similar suggestions both in terms of physical location and digital inclusivity suggesting that digital service centers should be centrally located to ensure easy access, especially for women and Persons with Disabilities (PWDs). They also suggested factors like inclusive digital solutions, such as assistive technology, engaging stakeholders and promoting local ownership of the centers and ensuring reliable power and internet connectivity.

3.6.7 Sustainable Operational model

For long-term sustainability of digital service centers in refugee-hosting districts, Key informants highlighted several key strategies. These are as listed below.

a) Strategies

i. Public-private partnerships (PPP): This was a popular suggestion, with many advocating for collaborations between NGOs, private organizations, and local governments to pool resources.
ii. Involving the local community and leaders: This was seen as crucial for ensuring ownership and responsibility, with one respondent emphasizing the need for a management group, stating that "there should be like an MoU with the community to have joint ownership."
iii. Charging modest fees for certain services was seen as necessary to maintain the centers, as "some services will be charged to avoid the shock of pulling out."

iv. Security was also a major concern, with many respondents stressing the need for tight security and involvement of district leaders from inception.
v. Finally, government support was seen as critical, both in terms of funding and oversight, with some suggesting that the centers be placed under the supervision of district IT officers and integrated into government structures for sustainability.

However, Key informants further emphasized community involvement in both planning and operations indicating that they should;

i. Be consulted from the beginning to create a sense of ownership, particularly by engaging local leaders, youth, and elders in decision-making processes.
ii. Be sensitized about the benefits of digital services, i.e., community-led training programs to equip members with digital skills.
iii. Some proposed the formation of village committees to oversee the management and security of the centers, ensuring the community takes an active role. One respondent recommended using community labor in setting up the centers, so residents see the infrastructure as their own.

b) Optimal governance and management structure

Among the optimal governance and management structures as suggested by the implementing partners included**;**

i. Oversight at the town council level.
ii. An organogram model featuring a management committee led by a Center Manager.
iii. Collaboration with competent implementing partners, like FCA, and local government authorities.
iv. Involvement of local leaders.
v. Clear maintenance and security protocols.
vi. Diverse monitoring and evaluation framework.

c) Anticipated Challenges in Establishing and Operating Digital Service Centers.

The main challenges suggested by different key informants in setting up and running digital service centers in refugee and host communities included sustainability, security, and funding concerns, as highlighted by several key informants.

i. Sustainability was frequently mentioned with respondents suggesting that it should be well thought through.

Sustainability and management, if the center is managed by the refugees, they are not permanent residents in the camps, which might affect the long-term sustainability plan.

ii. Security concerns were also prominent, with multiple respondents citing risks of theft and vandalism from the youth, poor network and other challenges that included repair and maintenance.

iii. Financial challenges followed, with some respondents highlighting limited funding for sustainability as a pressing concern, while others emphasized continuous funding to maintain the centers. Poor infrastructure, especially power and network issues, were also

noted, with responses like “The challenge of network connectivity in most areas” and “Stability of power source, security of these devices” being cited.

iv. Community engagement was another challenge raised, with concerns that the centers may not be well-utilized if the services are highly charged and also looking at usability not looking at establishing a white elephant as suggested by one of the respondents.

3.6.8 Site selection for the digital service access centres

The site selection for the Digital service access centres was based on various factors as detailed below;

a) **Location;** sites were selected with consideration of the highlighted locations by the client. A site was selected for every refugee settlement and for every refugee hosting community. The located sites had to fall within the geographical definitions for the settlements and host communities’ zones.

b) **Availability of land;** the consultant had to physically visit the different possible sites to actualise the availability of the land onto which these developments are to be setup. The consultant also ensured that the available land **is free of any ownership encumbrances** that would hinder the establishment of the development. To achieve this, the consultant ensured that all sites are selected on government owned land.

Furthermore, the consultant ensured that the selected land area is sufficient for the proposed development.

c) **Physical planning considerations;** the selected sites were picked after thorough understanding of the physical planning considerations in the selected locations.

d) **Accessibility;** the consultant selected sites that have existing access roads that are well defined, known and used by the community. The access roads had to be motorable and easy to upgrade.

e) **Hydrological and geological considerations;** the consultant carefully selected sites in areas that have no geological challenges like very big rock outcrops. Furthermore, areas with high water tables were not selected.

f) **Topography;** the consultants selected sites that have manageable topographic elevations to minimise challenges with excessive cutting or filling prior and during construction.

g) **Environmental and social impact study;** the consultants also considered the environmental and social setup of the selected sites so as to ensure that the proposed developments harmoniously co-exist within the sites and the surrounding.

h) **Services;** the consultant selected sites that within reach of key services like power, water and ICT services. Sites that were selected out of range will have to rely on alternative sources of energy like solar.

i) **Proximity to other infrastructural developments;** the consultants selected sites that are in close proximity to infrastructural developments like roads, school, Local government offices, towns, health centres. This was done to ensure the proposed developments tap into the already existing infrastructural growth.

j) **Security;** sites were selected in areas that are fairly secure. It’s worth noting that Security will have to be improved across all sites by adding fencing, security personnel and CCTV.

N0.	LOCATION	ACTUAL LOCATION OF SELECTED SITE	DISTRICT
1	Bidi bidi settlements.	Zone 3 near Kalulu subcounty offices.	Yumbe district
2	Bidi bidi host community	Balakala Sub-County land	
3	Imvepi settlement	Yikuru Secondary School	Terego district
4	Imvepi host community	Odupi Sub-County offices on subcounty land.	
5	Kiryandongo settlement	Kiryandongo settlement	Kiryandongo district
6	Kiryandongo host community	Kichwabugingo, Kyagoma 1 village	
7	Kyaka II settlement	Sweswe Zone	Kyegegwa district
8	Kyaka II host community	Nkanja, Kakoni B village	
9	Kyangwali settlement	Bulinda Zone	Kikuube district
10	Kyangwali host community	Kyangwali Village	
11	Lobule settlement	Located within the Perimeter of the settlement Base Camp	Koboko district
12	Lobule host community	Lobule sub county premises	
13	Nakivale settlement	Rubondo, Nyakagando zone	Isingiro district
14	Nakivale host settlement	Juru, Kankingic C village	
15	Oruchinga settlement	Nshangezi village	Isingiro district
16	Oruchinga host community	Mabona, Mahwa village	
17	Pagirinya settlement	Zone A, Pagirinya Sub-County	Adjumani district
18	Pagirinya host community	Adjumani District Local Government	
19	Palabek settlement	Zone 4 in Awich	Lamwo district
20	Palabek host community	Palabek-Ogili Sub-County at Akanyo Primary School.	
21	Parolinya settlement	Zone 2 in Itula Sub-County	Obongi district
22	Parolinya host community	Itula subcounty in Ndiri-ndiri village	
23	Rhino camp settlement	Eden 2 in Libo sub-county	Madi okollo and Terego districts.
24	Rhino camp host community	within Terego District Headquaters	
25	Rwamwanja settlement	Kaihora A zone,	Kamwenge district
26	Rwamwanja host community	Nkoma, Katalyeba Town Council	

3.6.9 Best practices from other jurisdictions and lessons for Uganda on Establishment of Digital service Centres

The digital service centre in countries bench marked like Germany, Sweden, Jordan, and Rwanda differ because they offer different services such as e-learning, e-health, and access to government platforms. These centers are tailored to meet the needs of refugees and host communities by optimizing space, infrastructure, and the services offered. By examining the characteristics of these centers, Uganda can adopt best practices in areas like space optimization, sustainable infrastructure, integrated service delivery, and operational models to create inclusive and efficient digital service hubs in its Refugee Hosting Districts (RHDs). The following analysis presents key features of existing digital service centers across these countries, highlighting best practices that Uganda can implement to enhance its own digital service delivery systems.

Table 55: Characteristics of existing digital service centers in benchmarked countries and lessons for Uganda

Dimension	Description	Best Practices - Germany	Best Practices - Sweden	Best Practices - Jordan	Best Practices - Rwanda	Lessons for Uganda
Space Mapping	Centers in Germany and Sweden have optimized space with 2-4 users per computer, ensuring room for users with disabilities. Rwanda and Jordan use more shared spaces due to limited resources.	Modular designs with adequate space for PWDs, aiming for 2:1 or 3:1 user-to-computer ratios.	Adaptive layouts that accommodate multiple user needs, especially PWDs, ensuring accessibility for all.	Shared, flexible space to maximize resources and promote accessibility, particularly for PWDs.	Uses modular, shared spaces to address limited resources and ensure equitable access to digital tools for all users.	Adopt modular designs for flexible use in refugee settings, ensuring sufficient space for PWDs. Aim for a user-to-computer ratio of 2:1 or 3:1 for accessibility and efficiency.
Infrastructure	Germany and Sweden emphasize high-speed connectivity and solar-powered systems in refugee camps. Jordan and Rwanda expand digital infrastructure via PPPs.	High-speed connectivity with solar-powered systems, ensuring continuous access and reducing operational costs.	Renewable energy integration in digital centers, focusing on high-speed internet in refugee areas.	Expands digital infrastructure through partnerships, with a focus on affordability and sustainable connectivity in refugee areas.	Leverages PPPs to expand connectivity in remote areas, providing affordable digital access to refugees.	Prioritize solar energy for sustainability in refugee camps, invest in high-speed connectivity, and build strong partnerships with local communities and private sector for infrastructure maintenance.

Service Portfolio	All countries offer e-learning, e-health, and e-government services. Jordan also uses biometric registration for secure access, while Germany excels in digital integration with platforms like "Integreat".	Integrates services through digital platforms like "Integreat," combining education, healthcare, and public services.	Extensive e-government services with high accessibility standards for all, including education, healthcare, and other public services.	Uses biometric registration for secure access, enabling refugees to securely access e-learning, healthcare, and employment services.	Offers an integrated service portfolio with a focus on healthcare, education, and digital financial services.	Develop an integrated platform that bundles education, healthcare, and government services for refugees. Ensure PWD access through assistive technologies, and consider biometric registration for secure, personalized access to services.
Business Operational Model	Germany and Sweden emphasize sustainable models through PPPs and community-based hubs. Jordan and Rwanda rely on mobile units to reach underserved areas.	Sustainable community-based hubs supported by PPPs, ensuring long-term operational support.	Community-focused digital hubs funded through private and public partnerships, enabling inclusive access to digital services.	Mobile units to reach underserved and remote communities, allowing flexible access to digital services.	Mobile digital hubs serve rural and underserved communities, improving access for refugees in remote locations.	Establish sustainable community hubs and mobile units to ensure reach and long-term service delivery. Leverage international and local partnerships to maintain operational efficiency and expand reach to underserved areas.
Inclusive Digital Centre Service Design and Delivery	PWDs in Germany and Sweden benefit from specialized tools (e.g., screen readers, adaptive devices), while Rwanda and Jordan provide tailored digital literacy training for PWDs in refugee camps to improve employability and social participation.	Digital tools and assistive technology for PWDs, including screen readers and adaptive devices, and accessible infrastructure (e.g., ramps, adjustable desks).	Inclusive digital platforms and physical infrastructure adapted for PWDs, such as ramps, adjustable desks, and assistive technologies like voice-controlled systems.	Tailored digital literacy programs in refugee camps to improve social and economic participation for PWDs, supporting employability and independence.	Targeted digital literacy and skill-building programs for PWDs, enhancing employability and social inclusion in refugee camps.	Implement specialized digital literacy programs in refugee camps tailored to PWD needs, focusing on employment and social inclusion. Build inclusive digital infrastructure in refugee settlements, including ramps, adaptive furniture, and assistive technologies for PWDs to use services independently.

From the table above, Uganda can benefit significantly by implementing modular space designs with adaptable layouts in digital centers to ensure accessibility for PWDs, prioritizing high-speed connectivity through solar-powered systems in refugee camps, and adopting a service portfolio that integrates education, healthcare, and e-government services. Establishing sustainable community hubs and mobile digital units will improve access to underserved areas, while specialized digital literacy programs and inclusive digital infrastructure will promote employability and social inclusion for PWDs in refugee settings.

4.0 CONCLUSIONS

The conclusions of this study highlight critical insights into the current state and challenges of digital access and literacy in Refugee-Hosting Districts (RHDs), emphasizing the need for inclusive, targeted approaches to enhance digital infrastructure, awareness, and skills. Each study area from policy frameworks to digital literacy demand reveals specific gaps and opportunities that, if addressed, can significantly improve digital service access for refugees and host communities alike. Key findings underscore limited policy awareness, infrastructure deficits, low digital literacy, and barriers related to device management and environmental sustainability. The following conclusions encapsulate these insights, providing a foundation for informed recommendations to bridge the digital divide in RHDs and promote sustainable digital inclusion.

Generally Uganda has an enabling **policy, legal and regulatory environment** for the development of digital services however, the environment lacks explicit provisions targeting refugees given their unique social and economic status. There is low awareness of the policies governing digital service delivery among the communities as evidenced by the findings of respondents who indicated to be were aware of policies governing digital services furthermore, there is low stakeholder involvement in policy development as only 19% were involved in policy development, primarily among key informants, indicating limited community engagement. Both refugee and host communities reported low satisfaction with regulatory efforts in the digital sector, particularly due to connectivity issues and affordability barriers.

In terms of **State of Digital Infrastructure and Connectivity;** Access to electricity is very low at only 17.5% and majority of the respondents indicated to use solar power which is available at community level. In terms of the fibre network, the distribution is limited to a few areas like the district or major LG offices. Furthermore, majority of the areas in the settlements are within the coverage of 3G networks by the different NOs however the quality of service is generally poor.

Access and usage of Communication Devices is relative in the various settlements however; the Basic phones (Button Phones) are the most used by the respondents followed by Radio and smartphone, Television laptop and desktop computer in that order of importance. It is worth noting the devices access and ownership among Persons with Disabilities (PWDs) was slightly high compared to known statistics where majority of the Persons with Disabilities (PWDs) that participated had access to a basic phone(button phone). It is worth noting that, there is a consistent gender gap in digital device ownership and access, with males generally having more access to the different digital devices compared to females.

Digital Literacy Demand: There is a strong demand for digital literacy among the respondents given the low digital skills possessed by the respondents and the huge gender disparity gap. Furthermore, PWDs face significant digital literacy gaps, Lack of inclusive programs for PWDs, with limited accessibility in existing initiatives, impacting digital skills development among vulnerable groups. Some of the key skills demanded by the respondents in order of importance are; basic digital literacy skills, cyber security, e-government services among others.

Feasibility of Establishing Digital Service Centers: The study revealed that the proposed establishment of Digital service Uganda centres are feasible and timely. There is high demand for

the services envisioned to be provided by the digital Uganda service centres given by education curriculum changes, e-government agenda and the rapid penetration of digital services especially financial services. Furthermore, all the RHDs have identified and earmarked land for the establishment of the 24 digital service centres. The identified locations are covered by the 3G network and majority are within reach of the electricity grid and the rest can easily be powered by solar. The digital service centres are to be strategically situated around large population centres in RHDs to reduce barriers of access. Atleast 3 business operation models for the digital centres are feasible and these include; government citizen model, the private public partnership model and the commercial model.

5.0 RECOMMENDATIONS

The following recommendations were derived based on the study's objectives, which aimed to assess key areas influencing digital access and inclusion in Refugee-Hosting Districts (RHDs). By focusing on digital policy awareness, infrastructure, access to services, device management, digital literacy, and the feasibility of establishing digital service centers, these recommendations address the identified challenges and outline actionable steps to improve digital access and sustainability in RHDs.

Objective	Issue	Recommendations	Actor
Policy, Legal, and Regulatory Environment	**Low awareness of digital policies**	iii. Conduct targeted awareness campaigns through accessible platforms like radio, social media, and community meetings. iv. Visual communication methods and local influencers could help raise awareness, targeting various stakeholders.	Uganda Communications Commission (UCC), Local Governments
	Limited stakeholder involvement in policy development	iii. Extensive stakeholder consultations should be conducted during policy development iv. Set up inclusive channels for policy feedback, including mobile surveys and public forums.	Ministry of ICT and National Guidance, NITA-U, UCC, Local Governments
State of Digital Infrastructure and Connectivity.	**Limited digital infrastructure**	vii. Extend the power grid to all key population centres and government facilities. viii. subsidize solar products so as to increase their accessibility ix. Invest in expanding broadband internet in under-served areas where majority of the settlements reside. x. Introduce subsidized data plans or free community Wi-Fi hotspots in the settlements. xi. Encourage Public-private partnerships with development partners and other funding bodies. xii. Explore mobile network enhancements with telecom providers for better coverage and stability.	Ministry of Energy, Telecom Providers, Development Partners

Access and usage of communication devices	**Low access and usage of communication devices** **Lack of recycling and e-waste facilities**	vi. Implement a gender responsive and inclusive device access program to increase access to digital devices among the target population vii. Partner with NGOs and private organizations to offer discounted or loaned devices viii. Establish accessible e-waste collection and recycling centers in RHDs ix. Implement awareness campaigns on proper disposal methods and environmental impacts x. Create incentives for communities to recycle or trade in used devices.	National Environmental Management Authority (NEMA), Local Governments, NGOs
	Limited access for PWDs	iv. Establish inclusive digital literacy centers equipped with assistive technologies like screen readers and adaptive keyboards. v. Develop programs tailored to PWD needs, such as mobile-based or one-on-one training sessions, considering that majority lack digital skills. vi. Collaborate with PWD organizations to raise awareness and facilitate participation.	Ministry of Education, NGOs, Local PWD Organizations
Access to Digital Services	**Lack of specialised digital services for refugees which explains the low access access an usage** **Limited awareness of the existing digital services**	vii. Promote the development and deployment of contextually relevant digital services for refugees. viii. Telecom providers can work with community leaders to identify high-need areas and establish affordable data packages tailored for educational and informational purposes. ix. Partner with refugee community leaders, NGOs, and local organizations to disseminate information about digital services in culturally and linguistically appropriate formats. x. Conduct awareness drives in refugee camps, shelters, and community centers. xi. Provide access through mobile devices, as smartphones are often the most common technology owned by refugees. xii. Involve refugees in the development or improvement of digital services to ensure the solutions are relevant and accessible to their specific needs.	UCC, Telecom Providers, NGOs Ministry of ICT and National Guidance, NITA-U, UCC, Local Governments
Digital Literacy Demand	**Digital literacy and skills gaps among the stakeholders**	v. Develop targeted digital literacy programs that emphasize practical skills such as basic computer skills, internet navigation, online communication (email and social media), and e-services (e-government, e-learning, e-	Ministry of Education, NGOs, Development Partners, Community

		commerce).	Centers
	Low digital literacy, especially among vulnerable groups	vi. Focus on essential skills for economic participation, such as online business management and digital marketing for women and youth. vii. Offer inclusive training programs that also address the unique needs of women, PWDs, and youths with interactive learning methods. viii. Partner with NGOs and private organizations to offer discounted or loaned devices, addressing the high cost of access reported in refugee settlements.	
Feasibility of establishing Digital service centres	**Feasibility and operational model of digital centers**	vi. Utlise the use of both electricity and solar power in the centres ensuring they are environmentally sustainable. vii. Adopt a suitable business model from the three indentified models that are feasible I.e; government citizen model, the private public partnership model and the commercial model. viii. Partner with already existing institutions, vocational institutions and digtal hubs to offer the services ix. Offer transferable digital transferable skills to the refugees in the RHDs x. Ensure the delivery of inclusive basic digital literacy trainings to the people in both the refugee settlement and the communities	NITA -U, UCC,Development partners, Local Governments, Private Sector Partners
	Environmental impact of digital centers	iv. Integrate green energy sources, like solar power, to reduce carbon footprint and minimize waste in digital service centers. v. Ensure regular maintenance and efficient energy use, particularly as 74% of respondents in RHDs express support for environmentally sustainable centers. vi. Include e-waste recycling programs within the centers to address potential electronic waste issues.	UCC, Ministry of Environment, Private Sector Partners

6.0 APPENDICES

Appendix 1: Data collection tools

a. Annex II: Data collection Tools

DRAFT TOOLS FOR KEY INFORMANT INTERVIEWS (KII): Project Implementing Partners, Development Partners, RHDs (Local Government Officials), MDAs at Central Government

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence-based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

Therefore, Eight Tech Consults was identified and engaged to undertake this assignment with the main objective of establishing the current status of digital ecosystem in RHDs in terms of; ***Enabling Regulatory Environment, Digital Infrastructure and Connectivity, Access and Usage of Digital Services, Digital Literacy Demand with special focus on PWD***, ***Access to Communication Devices and the feasibility of establishing 24 sustainable digital service Uganda centers*** in 13 RHD including Kampala.

A. **Introduction:**
   1. Name: ……
   2. District Name: ……
   3. Location:
      - Refugee Settlement
      - Host Community
      - District Offices
   4. If District/Host community Name the settlement: ……..
   5. Position: ……..
   6. Contact/Email……
   7. Stakeholder Category:
      - NITA-U
      - OPM
      - UNHCR
      - Local Government Official
      - Other Specify

B. Enabling Regulatory Environment

1. Are you aware of any policy or regulatory instrument at national or local government level governing delivery of digital services in RHDs
2. If yes in 1 above, What are the key regulatory policies currently governing digital access and services in RHDs?
3. How conducive are policies and regulations developed by central and local government in delivery of digital services in RHDs? *(Hint: This environment encourages growth, innovation, and stability by ensuring that policies are supportive, fair, and designed to meet the needs of the stakeholders involved.)*
4. What challenges exist within the regulatory environment that may hinder digital access and infrastructure development in RHDs?
5. Are there any significant policy gaps or areas in need of reform to improve access of digital services in RHDs?
6. How involved are stakeholders (NGOs, private sector, etc.) in development and implementation digital regulatory policies in these areas?

7. Do you recommend any project documents/reports that can guide this study? please mention them ……

C. Digital Infrastructure and Connectivity

1. How would you describe the current state of digital infrastructure (e.g., internet, electricity) in RHDs and give reasons for each of your response

	Rate from 1 to 5 on each stated			
	Reliability	Availability	Accessibility	Quality
Electricity				
Internet/Bandwidth				
Fiber Optic cable network				
Mobile Network				
Internet Service Providers				
Cloud Service Providers				

2. From your response above are there any existing initiatives that have been conducted to improve digital infrastructure in RHDs and settlements: ……
3. What are the key challenges in establishing and maintaining digital infrastructure in your area?
4. Who are the main service providers of digital infrastructure and connectivity in your area?
5. What are the key areas where digital infrastructure needs improvement or upgrade?
6. What are the sources of energy in RHDs?

D. Access and Usage of Digital Services

1. Based on your experience, do refugees own Smartphone, computers and tablets
2. What types of digital services are currently available to refugees and host communities in RHDs? (e.g; e-gov't services, e-learning, e-banking, social media, streaming…)
3. How are digital services being used by different community members (e.g., social media, for education, healthcare, business)?
4. What are the key barriers preventing people from accessing and using digital services in these communities?
5. How do these challenges differ between refugee communities and host communities?
6. Are there specific digital services that are in demand but currently unavailable in RHDs?
7. What strategies would you recommend to expand access to digital services in these areas?
8. How accessible are digital services to different demographic groups within RHDs, particularly women, youth, SMEs and PWDs?

E. Digital Literacy Skills Demand

1. How would you assess the level of digital literacy among refugees and host communities in RHDs and why?
2. What digital literacy training programs are currently available, who provides them, target group, training focus areas?
3. How are the digital literacy programs currently delivered to various categories including Persons with Disabilities (PWDs), Youths, Women, & MSMEs?
4. What barriers exist for women, youth, PWDs, and MSMEs in accessing digital literacy training in RHDs?
5. What are the most urgent needs for digital literacy training in RHDs, and how should they be addressed?

F. Sustainable Digital Service Uganda Centres

1. What are the current connectivity (in regards to accessing internet/digital services) requirements for PWDs in RHDs?
2. Are there existing ICT centers specifically in refugee settlements or host district with the intention of providing support to (If yes mention them and their location)
    i. Refugees
    ii. PWDs,
    iii. Youths,
    iv. Elderly
    v. Women or MSMEs
3. What factors should be considered when establishing digital service centers in RHDs?
4. What strategies and Business Model can ensure the long-term sustainability of these digital service centers? *(Hint, consideration of government full support, public private partnerships, service provider-oriented model)*
5. How can communities be involved in the planning and operation of digital service centers?
6. What should be the optimal governance and management structure for a sustainable digital service centre? (hint: staffing levels, organogram, key staff needed)
7. What services can be provided at the ICT center that most need in the refugee settlements and Host communities? …….
8. What sources of energy are available and sustainable for powering digital service centres in RHDs?
9. What are the main challenges you foresee in setting up and running these centers? (Social, economic and Environmental challenges)
10. In your Opinion, What are the ideal space and development requirements for setting up each of the digital service centre?
11. To NITA-U, OPM & UNHCR: What is your desire on the look and feel of the ICT centres (e.g. the service that can be offered in the centre, desired features, the look and feel) ……..

G. Waste Management and Investment Opportunities:

1. From your experience, what are the existing practices for managing electronic device end-of-life in refugee and host communities?
2. Are there any local initiatives in settlements and host districts focused on e-waste management?
3. What strategies would you recommend to improve e-waste management and attract investment in digital infrastructure?

Thank you for your participation

DRAFT TOOLS FOR KEY INFORMANT INTERVIEWS (KIIS): Digital Hubs/Innovation Centres & MSMEs

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence-based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

Therefore, Eight Tech Consults was identified and engaged to undertake this assignment with the main objective of establishing the current status of digital ecosystem in RHDs in terms of; ***Enabling Regulatory Environment, Digital Infrastructure and Connectivity, Access and Usage of Digital Services, Digital Literacy Demand with special focus on PWD***, ***Access to Communication Devices and the feasibility of establishing 24 sustainable digital service Uganda centers*** in 13 RHD including Kampala.

A. **Introduction:**
   1. Name: ……
   2. Position: ……..
   3. Contact/Email……..
   4. District: ……
   5. Name of the centre or Business ……..
   6. Name of settlement: ……..
   7. Category:
      - Refugee Settlement
      - Host Community

B. Enabling Regulatory Environment

1. Are you aware of any policy or regulatory instrument at national or local government level governing delivery of digital services in RHDs
2. If yes in 1 above, what are the key regulatory policies currently governing digital access and services in RHDs?
3. How conducive are policies and regulations developed by central and local government in delivery of digital services in RHDs? *(Hint: This environment encourages growth, innovation, and stability by ensuring that policies are supportive, fair, and designed to meet the needs of the stakeholders involved.)*
4. What challenges exist within the regulatory environment that may hinder digital access and infrastructure development in RHDs?

C. Digital Infrastructure and Connectivity

1. How would you describe the current state of digital infrastructure (e.g., internet, electricity) in RHDs and give reasons for each of your response

	Rate from 1 to 5 on each stated			
	Reliability	Availability	Accessibility	Quality
Electricity				
Internet/Bandwidth				
Fiber Optic cable network				
Mobile Network				
Internet Service Providers				
Cloud Service Providers				

2. What are the sources of energy in RHDs?
3. From your response above are there any existing initiatives that have been conducted to improve digital infrastructure in RHDs and settlements: ……
4. What are the key challenges in establishing and maintaining digital infrastructure in your area?
5. Who are the main service providers of digital infrastructure and connectivity in your area?
6. What are the key areas where digital infrastructure needs improvement or upgrade?

D. Access and Usage of Digital Services

1. Based on your experience, do refugees own Smartphone, computers and tablets
2. What types of digital services are currently available to refugees and host communities in RHDs? (e.g; e-gov't services, e-learning, e-banking, social media, streaming…)

3. How are digital services being used by different community members (e.g., social media, for education, healthcare, business)?
4. What are the key barriers preventing people from accessing and using digital services in these communities?
5. How do these challenges differ between refugee communities and host communities?
6. Are there specific digital services that are in demand but currently unavailable in RHDs?
7. What strategies would you recommend to expand access to digital services in these areas?
8. How accessible are digital services to different demographic groups within RHDs, particularly women, youth, SMEs and PWDs?

E. Digital Literacy Demand

9. How would you assess the level of digital literacy among refugees and host communities in RHDs and why?
10. What digital literacy training programs are currently available, who provides them, target group, training focus areas?
11. How are the digital literacy programs currently delivered to various categories including Persons with Disabilities (PWDs), Youths, Women, & MSMEs?
12. What barriers exist for women, youth, PWDs, and MSMEs in accessing digital literacy training in RHDs?
13. What are the most urgent needs for digital literacy training in RHDs, and how should they be addressed?

F. Sustainable Digital Service Uganda Centres

1. Are there existing ICT centers specifically in refugee settlements or host district with the intention of providing support to
    i. Refugees
    ii. PWDs,
    iii. Youths,
    iv. Elderly
    v. Women or MSMEs

2. What are the most needed ICT services in this community?.....

G. Waste Management and Investment Opportunities:

4. From your experience, what are the existing practices for managing electronic device end-of-life in refugee and host communities?
5. Are there any local initiatives in settlements and host districts focused on e-waste management?

Thank you for your participation

DRAFT TOOLS FOR KEY INFORMANT INTERVIEWS (KIIS): Private Sector

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence-based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

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A. **Introduction:**
   1. Name: ……
   2. Position: ……
   3. Contact/Email……
   4. Organisation: ……
   5. District ……

B. Enabling Regulatory Environment
   1. Are you aware of any national and international policies and regulations that support digital transformation in the Refugee Host Districts including the settlements? If yes, provide more details …….
   2. In your opinion have these policies been successfully implemented? if yes, provide examples on how they have been successfully implemented, if No give reasons ……
   3. Do you recommend any project documents that can guide this study? please mention them ……

C. Digital Infrastructure and Connectivity
   1. What is the current status of digital infrastructure and connectivity in Refugee Host District and Refugee settlements in terms of Reliability, availability, accessibility & Quality
      i. Electricity……
      ii. Internet/Bandwidth ……
      iii. Fiber optic cable network: ……
      iv. Mobile Network……
      v. Internet Service Providers ……
      vi. Cloud service Providers ……
   2. Do you have any existing projects in RHDs that are towards supporting the digital eco-systems ……
   3. What are your suggestions in regards to improving the digital eco-system in RHDs

D. Sustainable Digital Service Uganda Centres

Are there existing ICT centers specifically in refugee settlements or host district with the intention of providing support to; Refugees , PWDs, Youths, Elderly Women or MSMEs

What services can be provided at the ICT center that most need in the refugee settlements and Host communities? ……

Thank you for your participation

DRAFT TOOLS FOR KEY INFORMANT INTERVIEWS (KIIS): CSOs

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence-based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

Therefore, Eight Tech Consults was identified and engaged to undertake this assignment with the main objective of establishing the current status of digital ecosystem in RHDs in terms of; ***Enabling Regulatory Environment, Digital Infrastructure and Connectivity, Access and Usage of Digital Services, Digital Literacy Demand with special focus on PWD***, ***Access to Communication Devices and the feasibility of establishing 24 sustainable digital service Uganda centers*** in 13 RHD including Kampala.

A. **Introduction:**
   1. Name: ……
   2. Position: ……..
   3. Contact/Email…….
   4. Name of the organisation: ……

B. Enabling Regulatory Environment
   1. Are you aware of any National and International policies and regulations that support digital transformation in the Refugee Host Districts including the settlements? If yes, provide more details ……
   2. In your opinion have these policies been successfully implemented? if yes, provide examples on how they have been successfully implemented, if No give reasons

C. Digital Literacy Demand
   1. How are Persons with Disabilities currently accessing digital services?
   2. What are the current connectivity requirements for PWDs in RHDs?
   3. What are the desired PWD requirements for addressing inclusive access of digital service centre?
   4. Are there existing digital service providers specific to PWDs ?
   5. If yes, how effective and inclusive are the existing digital service providers in RHDs? In terms of Accessibility compliance, user satisfaction, adoption and usage rates, technical support and issue resolution, affordability and access
   6. What are the desired characteristics of effective training content for PWDs in RHDs?
   7. What is the level of awareness, access and usage of assistive digital technologies in your area?

D. Sustainable Digital Service Uganda Centres
   1. What are the desired Persons with Disabilities requirements for addressing inclusive access of digital service centre services?
   2. What are the desired characteristics of effective training content for Persons with Disabilities?
   3. What is the level of awareness, access and usage of assistive digital technologies?

Thank you for your participation

FOCUS GROUP DISCUSSION GUIDE FOR REFUGEES AND HOST COMMUNITIES – Women, FGD, Youths

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

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Introduction:

1. Name of the settlement/Host Community:
2. Category
    - Women
    - PWDs
    - Youths
3. Introduction for each person in the focus group discussion (Name, Role, Number of years in that position or in the settlement)

A. Enabling Regulatory Environment

1. Are you aware of any policy or regulatory instrument at national or local government level governing delivery of digital services in RHDs
2. If yes in 1 above, What are the key regulatory policies currently governing digital access and services in RHDs?
3. What challenges exist within the regulatory environment that may hinder digital access and infrastructure development in RHDs?

B. **Current Access and Usage:**

1. How would you describe the current state of digital infrastructure (e.g., internet, electricity) in RHDs and give reasons for each of your response

	Rate from 1 to 5 on each stated			
	Reliability	Availability	Accessibility	Quality
Electricity				
Internet/Bandwidth				
Fiber Optic cable network				
Mobile Network				
Internet Service Providers				
Cloud Service Providers				

2. From your response above are there any existing initiatives that have been conducted to improve digital infrastructure in RHDs and settlements: ……
3. What are the key challenges in establishing and maintaining digital infrastructure in your area?
4. Who are the main service providers of digital infrastructure and connectivity in your area?
5. What are the key areas where digital infrastructure needs improvement or upgrade?

6. What are the sources of energy in RHDs?

C. **Access and Usage of Digital Services**
    1. Does your community have access to digital devices (such as smartphones, computers)
    2. What types of digital services are currently available to refugees and host communities in RHDs? (e.g; e-gov't services, e-learning, e-banking, social media, streaming…)
    3. What challenges do you face in accessing digital services?
    4. Are there any specific barriers that affect women, youth, and PWDs in accessing these services?
    5. What digital services do you need the most in your community?

D. **Digital Skills and Literacy:**
    1. How would you assess the level of digital literacy among refugees and host communities in RHDs and why?
    2. Have you ever had digital literacy programs or training in your community?
    3. If yes, who were the providers of the training, what was the training about (e.g training topics), How were the trainings delivered?
    4. In your opinion, what kind of digital skills training would benefit you the most?
    5. What specific needs or requirements should be prioritized in the development of ICT centers to best serve you?

E. **Sustainability:**
    1. Incase, of digital services centers built in your community built, how can they be sustained in your community and the vulnerable groups?
    2. What role can the community play in maintaining these centers?
    3. In conclusion what are your recommendations for improving digital service delivery in your community?

Thank you for your participation

BENCH MARKING REVIEW GUIDE

1. Select one country with successful digital service delivery models for refugees (German/Sweden subject to availability of information).
2. Who are the key service providers of digital services in these countries and what services do they offer in RHDs.
3. Understand the market for digital devices in these countries, including how devices are sourced, distributed, and managed in RHDs
4. Identify the factors that contributed to the success of digital service delivery in these contexts (e.g., strong partnerships, innovative technology, community engagement).
5. Based on the analysis, recommend best-fit models for implementing digital connections and services in Refugee Hosting Districts (RHDs) in Uganda, considering local conditions and scalability.
6. **What** are the key characteristics of the Legal and regulatory environment in terms of enabling digital service delivery in refugee settlements?

SURVEY QUESTIONNAIRE FOR BENEFICIARIES (Refugee settlements and Host Communities)

The National Information Technology Authority Uganda (NITA-U) with support from the World Bank under the Uganda Digital Acceleration Project (UDAP) are conducting a comprehensive digital ecosystem readiness assessment in 13 Refugee Host Districts (RHD) including Kampala with a main purpose of developing evidence based recommendations/proposals for the establishment of effective and sustainable digital services delivery channels and 24 digital Uganda service centers in RHDs.

Therefore, Eight Tech Consults was identified and engaged to undertake this assignment with the main objective of establishing the current status of digital ecosystem in RHDs in terms of; ***Enabling Regulatory Environment, Digital Infrastructure and Connectivity, Access and Usage Of Digital Services, Digital Literacy Demand with special focus on PWD, Access to Communication Devices and the feasibility of establishing 24 sustainable digital service Uganda centers*** in 13 RHD including Kampala.

A. **Demographics:**

1. District: ……
2. Name of Refugee settlement/Host Community: ……..
3. Age:
   - 18Yrs and Below
   - 19 to 25
   - 26 to 30
   - nd above
   - 31 to 35yrs
   - 36 to 40
   - 40yrs a
4. Gender:
   - Male
   - Female
5. Person with Disability
   - Yes
   - No
6. If yes, Select category (Multi select)
   - Physical Disability
   - Visually impaired
   - Person with hearing impairment
   - Person with speech impairment
   - Albinism
   - Little persons
   - cerebral palsy
   - Other Specify……
7. Occupation:
   - Formal
   - Informal

   Specify the occupation: ……..
8. Educational level:
   - Nursery
   - Lower Primary (P.1 to P.4)
   - Upper primary (P.5 to P.7)
   - Lower secondary (S.1 to S.4)
   - Upper Secondary (S.5 to S.6)
   - Certificate
   - Diploma
   - Bachelors Degree
   - Masters
   - Other (Specify)

9. Do you own any of the following devices(select all you own)
    - Smart Phone
    - Basic Mobile phone
    - Laptop
    - Tv
    - Radio
10. At home /where you stay who is in charge of the digital devices like phone, tv and radio? (select all you own)
    - Mother
    - Father
    - Children
    - Guardian
    - Others specify

B. Enabling Environment

1. Are you aware of any policies and regulations governing digital services in your community.
    - Yes
    - No
2. If Yes, Mention them
3. How were you made aware of these policies
    - Training workshops
    - Fellow individuals
    - From the Community meetings
    - Others (Specify)
4. To what extent do you feel that current policies and regulations of central and local governments support or hinder your access to digital services? (To a less extent, To a great extent, 1 to 5)
5. How satisfied are you with the government's role in regulating digital services in your area? (Very satisfied/Satisfied/Neutral/Dissatisfied/Very dissatisfied)
6. What changes would you like to see in the regulatory environment to improve access to digital services?

C. **Access to Digital infrastructure:**

1. Which sources of energy do you use? (Select all that apply)
    - Solar Power
    - Generator
    - National Grid
    - Solar
    - Other (Please specify)

2. Do you have access to the internet?
    - Yes
    - No

3. If yes, how do you access the internet?
    - Personal device,
    - Community access point,
    - Mifi,
    - Routers
    - Other (Specify)

4. Do you have reliable access to digital infrastructure in your area? (we shall apply a traffic light approach at the stage of analysis)

	Rate from (Excellent/Good/Fair/Poor/NA)			
	Reliability	Availability	Accessibility	Quality
Electricity				
Internet/Bandwidth				
Fiber Optic cable network				
Mobile Network				
Internet Service Providers				
Cloud Service Providers				

5. What are the challenges you face in accessing and using the available digital infrastructure?
6. What improvements would you like to see in digital infrastructure and connectivity in your area?

A. **Access to Digital Services:**

1. Which of these digital services do you use: and how often do you use digital services?

	Daily	Weekly	Monthly	Rarely	I don't use
Online news,					
Emails,					
Social Media					
Video conferencing like zoom,					
e-gov't services,					
online markets such as Jumia,					
Online Banking					
entertainment services such as Netflix					
Other (specify)					

2. Are there existing digital service providers specifically catering to the needs of PWDs in RHDs?
   - Yes
   - No

3. If yes, how effective and inclusive are these existing digital service providers in RHDs?

Accessibility Compliance: (Very Poor - Excellent), User Satisfaction: (Very Poor - Excellent), Adoption and Usage Rates: (Very Poor - Excellent), Technical Support and Issue Resolution: (Very Poor - Excellent), Affordability and Access: (Very Poor - Excellent)

4. What are the digital services that you need in your area? Select those applicable

	Extent of need				
Description	**1**	**2**	**3**	**4**	**5**
internet,					
e-learning,					
mobile banking					
social media,					
streaming services					
Email communication,					

5. How would you rate the accessibility of digital services for different demographic groups within RHDs, specifically for women, youth, SMEs and Persons with Disabilities (PWDs)?

	Very difficult	Difficult	Neutral	Easy	Very Easy
Women					
Youth					
PWDs					
SMEs					

1. Do you own or have access to the following digital devices?

	Own (Yes/No)	Access (Yes/No)
Basic Phone (Button Phone)		
Smart Phone		
Radio		
TV		
Desktop		
Laptop		

6. Are you aware of any community ICT Center? (Yes/No)
   If yes, Mention them and the services offered there ……..
7. What challenges do you face in accessing digital services?

	To what extent do you face the barrier				
	1	2	3	4	5
Cost					
Connectivity					
Literacy					
awareness					
Lack of Device					

8. What services would you like to see offered at a digital service center?

B. **Digital Skills and Literacy:**

1. How would you rate your own digital literacy skills?

	Advanced	Intermediate	Basic	None
Basic computer skills				
Internet navigation				
Email and communication tools				
Social media usage				
Use of online services (e-gov't service, e-learning, e-business etc)				

2. Have you participated in any digital literacy programs?
   - Yes
   - No
3. If yes, mention them the organization that was providing them, the target group and the content taught.
4. Are these programs in your area inclusive of;

	Yes	No
PWDs		
Youths		
Women		
MSMEs		

5. Do you think that more digital literacy trainings are needed in your community? (Yes/No)

6. What is the level of awareness, access, and usage of assistive digital technologies in your area?

		Very Low	Low	Moderate	High	Very High
Mobility Aids: Wheelchairs, Walking canes	Awareness					
	Access					
	Usage					
Hearing Aids and Devices:	Awareness					
	Access					
	Usage					
Visual Aids:	Awareness					
	Access					
	Usage					
Communication Aids:	Awareness					
	Access					
	Usage					

C. E-Waste Management:

1. How do you dispose of electronic devices that are no longer in use? (Select all that apply)
   - Recycling Centers
   - Donation to Others
   - Throw Away
   - Repurpose/Reuse
   - Other (Please specify)

2. What challenges do you face in accessing repair or repurposing services? (Select all that apply)

	Not challenging	Slightly challenging	Moderately challenging	Challenging	Very Challenging
Cost of Repair					
Lack of Service Providers					
Lack of Spare Parts					
Distance to Service Centers					
Lack of Awareness of Services					
No Challenges					

3. Are there any local initiatives focused on device repairs and e-waste management?

Thank you for your participation

Appendix 2: Data stratification per settlement

Below is a table showing the stratification of the sample among the 13 RHDs and Kampala.

	Total refugee population per settlement[56]	Scientific sample size distribution per settlement	Agreed Position	Host Population[57]	Scientific sample size distribution per district	Agreed Position
Adjumani	223,493	140	140	240,000	33	40
Bidibidi	199,665	125	125	775,000	107	107
Nakivale	191,021	120	120	658,100	91	91
Rhino	161,456	101	101	428,300	59	59
Kampala	149,302	94	94	1,766,500	244	244
Kyangwali	138,610	87	87	414,400	57	57
Palorinya	133,353	84	84	52,300	7	25
Kyaka	130,500	82	82	551,900	76	76
Kiryandongo	111,764	70	70	734,700	102	102
Rwamwanja	97,532	61	61	569,800	79	79
Palabek	83,102	52	52	148,100	20	30
Imvepi	68,335	43	43	428,300	59	59
Orichinga	8,009	5	25	658,100	91	91
Lobule	6,123	4	25	287,500	40	45
Sample size		**1,067**	**1,108**		**1067**	**1106**

[56] https://data.unhcr.org/en/documents/details/109709

[57] https://data.unhcr.org/en/country/uga

Appendix 3: Stakeholder Matrix

i) Stakeholders Matrix and Sampling Technique used

Classification	Target Stakeholders	Sample Size	Tools to be used
Project implementing partners	**NITA-U;** Targeted stakeholders: ED, Legal, director e-govt services, Director technical services, director cyber security, at least 6 members of the PIT	10	KII
	OPM; Targeted stakeholders: Commissioner in charge of refugees, Asst commissioner ICT, Settlement commandants, coordinator field desk officers	16	KII
	UNHCR; Targeted Stakeholders: Overall coordinator, Community services	2	
Refugee Communities 1,108	Women (51%), Of the 558 targeted this shall include 5.8% PWDs, and 25% Youths	558	SQ
	Men (49%), Of the 543 targeted this shall include 5.8% PWDs, and 25% Youths	536	
	MSMEs	14	
	Sub Total for Refugee communities	1,108	
Refugee Host communities 1106	Women (51%), Of the 557 targeted this shall include 16% PWDs, and 70% Youths	557	SQ
	Men (49%) Of the 535 targeted this shall include 16% PWDs, and 70% Youths	535	
	MSMEs	14	
	Sub Total for Refugee Host Communities	1106	
Vulnerable Groups	Women – 1 per settlement	14	FGD (6 to 12pp)
	PWDs - 1 per settlement	14	
	Youths - 1 per settlement	14	
RHDs Key Informants	CDOs, DPO, CAOs, RDCs, District IT Officers, Religious & Cultural Leaders (Any 5 Per settlement)	65	KII
Intergovernmental agencies or Development Partners	Windle International, World Vision, Fin church Aid, DELIP (At least 1 organization per settlement)	14	KII
Digital Hubs / Innovation Centres	One in each settlement NOTE: Subject on presence in a settlement, or Host community	14	KII
MDAs at Central Government	**UCC**, Targeted stakeholders: ED, Director UCUSAF, Head Strategy, Head Engineering	4	KII
	MoICT&NG (Targeted Stakeholders: PS, Commissioner in charge of IT services) MoGLSD, MOES, MoLG	2	
CSOs	UAIA, Action Aid, NUDIPU, NUWODU, other CSOs advocating for digital ICT governance.	6	KII ONLINE
Total targeted responses from All stakeholders		**2,393**	