

# **Title: Gearing up public librarians for the mission of digital inclusion for all: EIFL Case Studies from Uganda and Ghana**

## **Abstract**

Public libraries are a vital local resource for individuals and communities that lack access and skills to use information and communication technologies (ICTs) effectively. This paper draws on the experience of the EIFL Public Library Innovation Programme (EIFL-PLIP) in building the capacity of public library networks in Africa to support the achievement of universal access to and use of ICTs in communities.

The paper concludes with a four-step model for successful digital inclusion initiatives through local libraries, based on a case study of two EIFL-PLIP projects that helped specific community groups acquire digital skills and discover further learning or work opportunities. The first project targets women and unemployed youth in Uganda, while the second focuses on students aged 12-18 in Ghana. The model includes factors such as partnerships to strengthen the digital role and infrastructure of public libraries, strategies for understanding and addressing the needs of target groups, and involving local stakeholders. It also examines training of trainers' programmes that equip library staff with digital skills to facilitate community training, as well as strategies for engaging individuals and communities in digital literacy training.

**Keywords:** Africa, digital inclusion, Ghana, public libraries, Uganda

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## **Methodology**

This paper is based on a case study of digital inclusion initiatives through public library networks in Ghana and Uganda. Case study research, a qualitative methodology, involves in-depth, detailed examination of a specific subject within its real-world context. In addition, we employed a literature review method to gather and analyse existing research on digital inclusion, which enriched our understanding and contextualization of the findings. This combination of methodologies was chosen because it allows for a deep understanding of the cases and provides practical insights that can inform further research or the design and implementation of digital inclusion initiatives through library networks.

The two projects analysed in this case study were selected based on several criteria: (1) Time of implementation: both are recent projects initiated in post-COVID-19 conditions; (2) Scope: both are nationwide initiatives involving central library authorities and extensive library networks spread across the country; (3) Focus: Both projects concentrate on digital inclusion through digital literacy and online learning programmes;

(4) Key actor / in depth-knowledge: EIFL staff have developed in-depth knowledge through involvement in project coordination and management.

The case study draws on multiple data sources, including interviews with stakeholders and beneficiaries, surveys, and project reports. The primary outcome of this study is a model that identifies the key components necessary for designing and implementing impactful digital inclusion initiatives.

## **Introduction**

Over the last few decades, digital inclusion for all has been one of outstanding issues in the global internet governance and digital policy agendas. Numerous global initiatives by the United Nations (UN), UNESCO, International Telecommunication Union (ITU), World Bank, World Economic Forum (WEF), Alliance for Affordable Internet (A4AI), Organization for Economic Co-operation and Development (OECD), in collaboration with national governments, and many others, have been dedicated to guaranteeing that everyone has digital access and skills, and uses information and communication technologies (ICT) to fully participate in the digital world.

However, digital inclusion is a moving target and achieving it is an ongoing task. At present the ITU (2023) definition of digital inclusion encompasses several key aspects. Firstly, it focuses on ensuring that everyone has physical access to technology and reliable internet connections, including people living in remote and rural areas, and the necessary devices, such as smartphones, computers, or tablets. Secondly, affordability is a critical component, as the costs of devices, connectivity, and services should not be prohibitive for lower-income populations. Thirdly, digital inclusion requires digital and information skills - therefore all people, regardless of their age, gender, abilities, mobility, cultural or socio-economic backgrounds, need access to digital skills training. Finally, supportive national policies and strategies and strategic partnerships are needed to ensure equitable distribution of digital resources and opportunities.

As a result of ongoing multi-level and multi-faceted efforts, the world's offline population continues to decline slowly, but steadily. For example, from 2022 to 2023, the number of people offline decreased from 2.7 to 2.6 billion (Broadband Commission for Sustainable Development, 2023). Similar progress has been captured in other studies – for example, the ITU's 'Measuring Digital Development: Facts and Figures 2023' report notes that approximately 67 percent of the world's population now uses the internet, representing a growth of 4.7 percent since 2022. At the same time, the report emphasises that internet use remains tightly linked to the level of a country's socio-economic development. In 2023, 93 percent of people in high-income countries used the internet, nearing universal use, while in low-income countries, only 27 percent of the population used the internet. This 66 percent gap reflects the digital divide between high-income and low-income countries and regions. Among all the regions, Africa has the lowest level of internet usage at just 37 percent of the population on average (International Telecommunication Union, 2023). However, internet use in Africa differs

considerably from country to country. For example, in Ghana and Namibia, over 60 percent of the population uses the internet (69.8 percent in Ghana and 62.2 percent in Namibia), while in Zambia and Uganda, it is less than half that (31 percent in Zambia and 27 percent in Uganda) (Statista, 2024).

According to the ITU, to achieve meaningful and affordable connectivity across the African region requires addressing the following fundamental impediments:

#### *Access and Affordability*

While mobile phone usage has surged in Africa, internet access remains limited and uneven, with significant disparities between urban and rural areas. On average, just 14 percent of people in Africa have internet connections at home, compared with 57.4 percent globally. Mobile internet use is twice as high as home use (33 percent), but it is still far from the global average (International Telecommunication Union, 2021).

According to GSMA, relatively low mobile internet use across sub-Saharan Africa is mainly due to the high cost of smartphones and mobile data, as well as limited digital skills among rural and less literate populations (GSMA, 2024).

#### *Digital Skills and Gender Gap*

Data on digital skills in the African region is quite sparse. According to the Digital Skills Gap Index, African countries score between 1.8 and 5, well below the global average of 6. Of the world's 20 countries with the weakest digital skills, 12 are in Africa, and only 11 percent of Africa's tertiary education graduates have formal digital training (Wiley, 2021). Lack of digital skills has profound and wide-ranging consequences, especially for youth, affecting their education and competitiveness in the job market. There is still a significant gender gap in the use of digital technology in Africa: on average, 20 percent of women and 37 percent of men used the internet in Africa in 2019, compared to 48.3 and 55.2 percent globally (International Telecommunication Union, 2021).

The digital divide places Africa at a significant disadvantage in the global economy, limiting the potential of Africans, especially youth, to benefit from digital opportunities and fully participate in the digital age. Potentially important sources of national funding to reduce the digital divide are Universal Service and Access Funds (USAFs), typically financed through mandatory contributions by mobile network operators and other telecommunications providers, which exist in the majority of African countries. However, a World Wide Web Foundation study (2018) found that only around 60 percent of these funds are active, and just four African countries, Uganda among them, utilise them fully, i.e. carry a zero annual balance. The study concludes that USAFs remain an incredible and untapped resource for funding programmes and projects to close the digital divide and specifically, the gender digital divide.

#### **Role of public libraries in contributing to digital inclusion for all**

In the Global North, public libraries are playing an important role in digital inclusion. Individual libraries began pioneering digital skills training programmes in 2000, and

within a decade, digital skills training was being widely offered throughout national public library networks. For example, in 2014, the American Library Association (ALA) conducted a national Digital Inclusion Survey, which showed that digital inclusion (access to technologies, digital skills training and digital content) had become the national effort of the entire US public library system. At that time, 90 percent of public libraries in the US were offering various digital skills programmes and digital resources to support education, employment, civic engagement, and health purposes, thereby building digitally inclusive communities (American Library Association, 2014). In Canada, Toronto Public Library engaged with partners to develop resources to support public libraries across Ontario province in the provision of technology services. Training offered by libraries across Ontario range from basic computer skills and email to internet safety, programming, and coding. User surveys showed that training and individual support provided by library staff is leading to customers feeling more comfortable with the continued use of new technology, as well as contributing to an increase in overall digital comfort (Nordicity, 2018). Such initiatives are also common in European countries, where libraries have similarly contributed to digital inclusion efforts. For example, a cross-European survey in 2013 measured users' perceptions of the benefits of ICT in public libraries and demonstrated that around 2.3 million adults across the European Union attended computer and internet skills training in public libraries, including many over the age of 65 and people from rural areas (Quick et al., 2013). A joint study by EIFL and IFLA showed that similar outcomes on digital literacy were also achieved in African countries where national library networks have been equipped with ICT by governments, for example, in Namibia, Uganda and Ghana (EIFL, IFLA, 2022).

Digital literacy training in public libraries in African countries is not yet widespread, primarily due to a lack of ICT infrastructure in libraries. In 2011, EIFL's 'Perceptions of Public Libraries in Africa' study showed that stakeholders believed in the potential of public libraries to contribute to affordable and inclusive access to computers and internet in communities, but this role has yet to be implemented (EIFL, 2011). A decade later, a study by the University of Washington and the African Library and Information Associations and Institutions (AfLIA) revealed similar trends. Perceptions of public libraries in Africa remain low and limited, primarily due to outdated facilities, untrained staff, a lack of technology or technical expertise, and other resource challenges (Technology & Social Change Group (TASCHA), 2020). In many countries in Africa, digital inclusion through libraries has yet to become a national initiative embraced by the public library community, recognized at the policy level, and supported by governments.

### **EIFL's approach to empowering public and community libraries in Africa**

EIFL (Electronic Information for Libraries) is an international non-profit organisation committed to providing access to knowledge through libraries in developing and transition economy countries. The EIFL Public Library Innovation Programme (EIFL-PLIP) was launched in 2009 with a grant from Bill & Melinda Gates Foundation. The programme aims to foster service innovation in public libraries to address the most

pressing community needs by leveraging technology and internet access. EIFL-PLIP's initial strategy involved providing small grants for pilot projects to enable public libraries to use technology to provide communities with relevant and up-to-date information and services in areas such as health, education, agriculture, and employment. Through these projects, EIFL-PLIP and its partners produced 50 case studies of sustainable public library services in 27 countries, among them case studies based on 28 projects in eight African countries. These case studies were used to raise awareness about the potential of ICT-enabled public libraries to contribute to local and national development, and in advocacy efforts with governments to improve ICT infrastructure in libraries.

Using these case studies, national public library authorities in some African countries have successfully advocated with governments (mainly via government agencies in charge of Universal Service and Access Funds), the private sector (mainly telecommunication companies) and other donors and development partners to equip libraries with public access computers and the internet. For example, in 2010, in the Kenya National Library Service's (KNLS) country-wide network of over 60 public and community libraries, very few libraries had internet connections or computers. Through collaborative advocacy efforts by the KNLS and EIFL, a partnership was formed with the Communications Authority of Kenya (CAK). Between 2011 and 2013, this partnership led to the establishment of e-resource centres in 10 KNLS libraries, each equipped with 10 computers, hardware, software, and internet connectivity. The project's success prompted expansion from 2015 to 2018, extending the ICT and connectivity to 46 more KNLS libraries. As a result, the entire public library network in Kenya has been equipped with standard ICT and connectivity infrastructure that enabled provision of affordable and inclusive access to computers and internet across the country.

Since 2014, EIFL-PLIP has witnessed an increasing number of public libraries in the countries where we work in Africa (Ghana, Kenya, Namibia, Uganda and Zambia) being equipped with computers and the internet by governments and other donors. Although essential for success, librarians' digital skills and understanding of how to use digital technologies to address community needs was often a missing component in national development initiatives aiming to provide public access to computers and the internet in libraries. Consequently, EIFL-PLIP has focused on building the capacity of public librarians to introduce and manage technology-based services, to develop partnerships with other digital inclusion players, and engage with communities in new and different ways to expand digital inclusion.

Between 2014 and 2017 EIFL-PLIP capacity building programmes built digital, project management, community needs assessment, impact evaluation, and advocacy skills of librarians from libraries already equipped with computers and the internet in Ghana, Kenya and Uganda. The main outcome of the training was that the majority of libraries started to offer digital skills training in their communities and introduced new ICT-based services in areas such as health, education, agriculture, and employment.

In 2018, EIFL launched Training of Trainers (ToT) programmes in Kenya, Namibia, Uganda, and Zambia, to ensure long term sustainability of digital skills of librarians and provision of digital services. The ToT programmes built cohorts of public library trainers in each country, drawn from local branch and regional libraries, providing national authorities with a body of trainers to draw on when training was needed as the number of equipped with ICT and connectivity public libraries increased.

All in all, from 2014 - 2020, over 2,200 librarians from public libraries that have computers and the internet in Ghana, Kenya, Namibia, Uganda and Zambia have undergone EIFL-PLIP and cascade training. Trained librarians have been training their communities, for example, between 2014 and 2018, 62 public libraries in Kenya equipped over 170,000 library users with basic digital skills, while over 580,000 students and community members accessed and used the ICT facilities in the e-resource centres (Muchai, 2018). EIFL-PLIP is in regular contact with librarians who have undergone training, and they report that training, mentoring and helping people to use library computers and the internet has become part of their day-to-day work.

### **Case studies of empowering public libraries in Uganda and Ghana to contribute to digital inclusion**

The two most recent digital inclusion initiatives that EIFL is involved in include public library networks in Uganda and Ghana, led by national library authorities:

- The 'Digital Skills @ Your Local Library – Uganda' project<sup>1</sup> (completed in 2023) engaged 27 public and community libraries, training 50 librarians and library volunteer digital skills trainers from across the country to provide digital skills training primarily for women and youth, and to connect them to online learning opportunities.
- The 'Digital Learning @ Ghana Public Libraries' project<sup>2</sup> (launched in 2023; ongoing) engaged 15 public libraries and is in the process of training 30 regional librarians and library ICT coordinators to become digital skills trainers and digital learning facilitators for school students.

Through these two projects we have been able to deepen our understanding of essential components of digital inclusion through public libraries, and develop the model discussed below.

### ***Creating conditions for digital inclusion through public library networks***

#### ***Uganda***

The public library network in Uganda consists of about 45 libraries spread across the country. These libraries are managed by their respective local governments and funded through their budgets. There are also over 100 community libraries, established and

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<sup>1</sup> <https://www.eifl.net/eifl-in-action/digital-skills-and-inclusion-through-libraries-uganda>

<sup>2</sup> <https://www.eifl.net/eifl-in-action/digital-learning-ghana-public-libraries>

managed by individuals, non-governmental organisations (NGOs), or Community-Based Organizations (CBOs).

The National Library of Uganda (NLU) has a mandate and dedicated staff to develop public and community libraries throughout the country. This includes the responsibility to promote the establishment and support of public libraries through advocacy, information resources like books and other media, and assessment and advisory services. NLU also serves as the link between public libraries and the central government, overseeing the small funds provided by the central government to some of the public libraries.

EIFL and NLU have worked together since 2010. From 2010 - 2014 EIFL provided grants for six pilot projects in libraries to develop ICT-based services and programmes to provide digital skills and information. As a result, a pool of examples demonstrating how ICT-enabled libraries support local development was created.

From 2014 to 2016, EIFL-PLIP worked with local and international partners to implement a major capacity-building initiative involving 22 public and community libraries that had been equipped with ICT through support from different donors and were already providing public access to computers and the internet. After completing training, the number of librarians running basic digital skills training for the public in their libraries increased by almost half. Through the annual EIFL Initiative for Young African Library Innovators (2017-2023), we offered young public librarians the opportunity to travel abroad for leadership development, learning, knowledge sharing and networking.

Uganda was also included in the EIFL-commissioned public library perception study (EIFL, 2011). EIFL and NLU used the findings of the perception study and the successful ICT-based service examples (the six case studies) to advocate with stakeholders about the role of libraries in digital inclusion and development. A major stakeholder was the Uganda Communications Commission, the government agency responsible for implementing the national ICT strategy and administering the Uganda Communications Universal Service and Access Fund (UCUSAF). It took several years for EIFL-PLIP, NLU and UCC to build a trusting relationship, and a shared understanding about the need for and value of public access computers and internet infrastructure in local libraries. The hard and consistent work paid off, resulting in an agreement in 2018 between UCC and NLU on a national project, "Establishment of ICT Public Access Facilities within Public Libraries". By 2023, the UCC had equipped 27 libraries, and the rollout in public and community libraries continues with other stakeholders and donors (like Airtel Uganda, MTN Foundation Uganda), joining this cooperation. EIFL-PLIP has complemented the partnership between UCC and NLU with the ToT programme for librarians.

This long-standing and consistent cooperation between government, private, and non-profit organisations built the foundation for broader digital inclusion initiatives centred around Ugandan libraries. In 2020, EIFL and the NLU, responded to a call for proposals issued by the Wehubit Programme implemented by the Belgian development agency

Enabel for digital inclusion of women and youth. The proposal, "Digital Skills and Inclusion through Libraries in Uganda" ("Digital Skills @ Your Local Library - Uganda" for short), was successful. At the end of the year, we launched the project in partnership with the NLU, Maendeleo Foundation, an NGO based in Uganda, and Peer to Peer University, an NGO based in the US (EIFL, 2021).

## **Ghana**

The public library network in Ghana is centralised and currently comprises over 100 regional and district libraries spread throughout the country. The Ghana Library Authority (GhLA) is the government body responsible for establishing, equipping, managing, and maintaining public libraries in Ghana, and also provides training and professional support to school and college libraries nationwide. Ghana's public libraries actively engage in projects and partnerships aimed at continuously developing services, with a particular emphasis on formal and informal education and information provision to citizens.

The process of equipping public libraries in Ghana with public access ICT began in 2010 through a collaboration between GhLA and the Ghana Investment Fund for Electronic Communications (GIFEC), a government agency that provides financial resources for the establishment of universal access to telephony, internet, multimedia broadband, and broadcasting services. The "Library Connectivity Project", funded by GIFEC, aimed to extend ICT and library services to rural, deprived, unserved, and underserved communities (Ayoung et al., 2020). By 2020, GIFEC had equipped 30 public libraries with computer laboratories and internet connections. Between 2020 and 2023, GhLA engaged in other significant partnerships with Vodafone (now Telecel), MTN Foundation, ABSA Bank Ghana and others to advance ICT infrastructure in libraries and digital inclusion programmes.

EIFL's long-standing collaboration with GhLA started in 2010, when EIFL commissioned the public library perception study (EIFL, 2011) and began partnering with GhLA in advocacy and other activities. As in Uganda, EIFL-PLIP interventions started with financial support for projects to pilot innovative ICT-based services. One of three projects funded was in Ho, Volta Region, where Volta Regional Library' equipped their mobile library van with computers, solar panels and mobile internet connectivity. The vans travelled to five under-resourced junior high schools to provide hands-on ICT classes. Later, Nokia Executives, through the online fundraising platform GlobalGiving, provided EIFL with a grant to expand the "Hands-on computer classes for struggling students" project to include three additional regions: Ashanti, Upper East, and Western (Tamakloe, 2014). The success of this project in helping schoolchildren to pass ICT exams drew further support from GIFEC. In 2020 GIFEC donated 100 laptops, enabling all 10 regional library vans to travel to schools and conduct mobile ICT classes, providing children with desperately needed practical ICT skills (EIFL, 2020). GhLA won the 2021 United Nations Public Service Award for this service, in the category,



“Fostering Innovation to Deliver Inclusive and Equitable Services for Digital Transformation”<sup>3</sup>.

The GhLA and EIFL-PLIP collaboration also included capacity building of public librarians. EIFL-PLIP and GhLA together implemented a five-module Capacity Building Programme for front desk level staff of 29 public libraries that were providing public access to computers and the internet (2014-2016). The training built librarians’ capacity and confidence to use ICT in their daily library work and to integrate technology in library services to benefit communities. After the training, libraries introduced basic digital skills courses for children and adults, and research services using the internet to find information requested by community members. We also offered young public librarians from Ghana the opportunity to travel abroad for leadership development, learning, knowledge sharing and networking through the EIFL Initiative for Young African Library Innovators.

Our recent broader digital inclusion initiative in Ghana builds on the long-standing cooperation between government, private, and non-profit organisations. In 2022, EIFL-PLIP and GhLA responded to the Internet Society Foundation’s Strengthening Communities/Improving Lives and Livelihoods (SCILLS) grant program’s call for proposals by submitting a project, “Digital Learning @ Ghana Public Libraries”. This two-year project received funding and was launched in September 2023 (EIFL, 2024).

### ***Designing and implementing the digital inclusion projects in Ghana and Uganda***

The two-and-a-half-year project “Digital Skills @ Your Local Library - Uganda” was completed in June 2023, and most of the insights presented in this case study are based on the experience and lessons learned from this project. The “Digital Learning @ Ghana Public Libraries” project is ongoing. Training of library staff involved in the implementation of the project has recently been completed, and public librarians have begun reaching out to schools and training students.

*Understanding community needs.* The implementation of the projects in Uganda and Ghana started with community needs assessment, designed in consultation with librarians and tailored to local conditions. The community needs assessment studies in Uganda and Ghana assessed digital skills and learning needs and built relationships with key stakeholders (like local government officials), ensuring their support. The combination of quantitative and qualitative data collection methods (using template questionnaires and scenarios) provided information that could be used to address perceptions and expectations of beneficiaries and stakeholders.

*In Uganda,* the needs assessment of women and youth conducted by the NLU and Maendeleo Foundation comprised the following key steps:

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<sup>3</sup> <https://www.un.org/fr/node/161921>

- Organising site visits to all 27 public and community libraries identified to participate in the project.
- Discussing the assessment process with the partners and developing a questionnaire and a protocol to guide community meetings with women and youth.
- Facilitating 22 meetings with women and youth and conducting interviews with librarians.
- Analysing data, and sharing a summary of findings with stakeholders, including librarians, project funders, and current and potential partners (e.g., UCC and telecommunications companies).

The community needs assessment in Uganda ensured that local authorities overseeing libraries, librarians, and potential beneficiaries were engaged from the project's early stages. The findings guided the development of digital literacy training programmes for library staff and project beneficiaries. These included basic computer skills, MS Office, internet use, digital marketing, online safety, and advanced topics like web design. There was also significant interest among women and youth in vocational skills such as tailoring, crafts, hairdressing, baking, and farming. The needs assessment also highlighted that the majority of project beneficiaries could access computers and internet only in libraries (Lipeikaite et al., 2022).

*In Ghana*, the project targets students aged 12 to 18. The needs assessment process prioritised engaging stakeholders in the education sector. The needs assessment was carried out by the staff members of the 15 participating libraries, who interviewed regional and municipal education officers, school headmasters, ICT teachers and students. In all, they conducted almost 200 interviews. The GhLA headquarters team conducted interviews with the head librarians of the 15 participating libraries and coordinated and supported the needs assessment process.

The needs assessment highlighted a significant need for digital skills development among students. Although many had basic skills such as email and web browsing, most ICT topics in schools were introduced only theoretically, without hands-on practice or a deeper understanding of effective and safe internet use for educational purposes. The study helped verify the learning topics preliminarily included in the project, such as practical ICT skills, online safety, effective internet searching, mobile phone use, coding, and digital reading. It also highlighted the importance of libraries in developing practical digital skills of students as due to poor ICT infrastructure in schools many teach ICT subjects with little or no hands-on practice.

*Training of Trainers (ToT) for librarians.* To meet the needs and expectations expressed by stakeholders and project beneficiaries, library staff had to undergo extensive ToT programmes. In both Uganda and Ghana, the ToT consisted of two five-day in-person workshops, each comprising two main components: 1) developing training and facilitation skills to help librarians become better trainers of digital literacy programs, and 2) enhancing subject knowledge in digital and other topics to be included in the training

programmes for beneficiaries. As shown in Table 1 below, a similar approach was applied to training and facilitation skills across both countries. However, the subject training areas differed, reflecting needs and priorities of the target groups identified through the needs assessment.

Similar ToT content in both countries	Different ToT content in each country
<p>Training and Facilitation Skills:</p> <ul style="list-style-type: none"> <li>• Understanding different roles (trainer, facilitator, coach)</li> <li>• Building facilitation skills and strategies</li> <li>• Managing difficult behaviours and situations during training</li> <li>• Understanding learning principles and styles of various audiences</li> <li>• Adapting training to reflect different learning principles and styles</li> <li>• One-on-one coaching sessions for participants</li> </ul>	<p>Subject training in Uganda:</p> <ul style="list-style-type: none"> <li>• Online searching</li> <li>• Relevant e-resources</li> <li>• Online learning courses</li> <li>• Digital marketing</li> <li>• Google tools</li> <li>• Online safety</li> <li>• Mobile literacy</li> <li>• Basic ICT troubleshooting</li> </ul> <p>Subject training in Ghana:</p> <ul style="list-style-type: none"> <li>• Practical ICT skills</li> <li>• Mobile literacy</li> <li>• Internet searching</li> <li>• Online safety</li> <li>• Digital reading</li> <li>• Coding</li> </ul>

*Table 1. The content of the ToT programmes in Uganda and Ghana*

Additionally, in both countries, library staff were introduced to a new approach to organising training programmes, based on group learning within the library. In this approach, groups of learners use open educational resources (e.g., online courses or tutorials), with the librarian serving as a facilitator. The librarians used the learning circles methodology developed by P2PU (Peer 2 Peer University)<sup>4</sup>, to facilitate group learning of selected online course.

The ToT for librarians was intentionally designed to be highly practical and engaging, to demonstrate how to create fun, informal, and impactful learning experiences that would be easy to replicate in the library setting and adapt to the needs of different target groups. As a result of the ToT, we have observed a significant shift in librarians' perspectives on how training in communities should be organised and conducted.

*Digital skills training for communities.* After completing the ToT, library staff in Uganda and Ghana returned to their home libraries to organise digital skills training programmes. There were two broad categories of training: short, basic digital skills training during **outreach sessions** and more in-depth **digital skills training** (basic and advanced, with more opportunities for practice) **in libraries**.

The aim of **outreach** was twofold: (i) to provide knowledge and skills on specific practical topics (e.g. online safety) through short training sessions conducted away from

<sup>4</sup> <https://p2pu.org>

the library at locations where project beneficiaries typically gather (in Uganda, these were community meeting spaces like markets, church halls, vocational education centres and in Ghana, schools); (ii) to promote the more extensive digital literacy training being offered in libraries.

*In Uganda*, libraries promoted outreach by engaging with local governments, partner organisations, and community institutions. Outreach sessions of up to 90 minutes long received enthusiastic responses, with attendees often requesting additional training topics and more hands-on practice. When suitable spaces or facilities were lacking, librarians invited participants to continue training at the library. These outreach events covered a broad spectrum of digital and mobile literacy topics, including internet research, mobile information literacy, online safety, digital marketing, online communication, job seeking, e-government services, computer basics, and Google tools. Many sessions focused on mobile phone usage, leveraging portable Wi-Fi connections for practical internet skills training.

*In Ghana*, outreach programmes were organised in partnership with schools. Librarians engaged with Ghana Education Service and school authorities and when relevant permissions were secured, they conducted classes for students on selected subjects such as introduction to web searching and browsing, online safety, coding, and digital reading.

*In Uganda*, **digital skills training in libraries** included an introduction to computers, main MS Office programs, internet searching, and Google tools. Originally planned to span one month, the programme often extended to three months as librarians adjusted to the diverse skill levels of attendees. Many trainees lacked basic skills, requiring extra time to learn tasks like using a mouse or keyboard. Some groups included participants with disabilities or limited literacy and English language skills, necessitating training in local languages. Given that women were the primary target group, specific measures addressed gender-related factors:

- Women and girls often feel shy and less confident using computers, particularly when paired with men or boys who may dominate. In mixed groups, librarians ensured that women and girls had their own computers and sat together.
- In women-only groups, girls with more confidence were paired with older women, to encourage and support them.
- Librarians invited women to bring their children, if necessary, including babies, to training sessions.
- Training schedules were adjusted to suit women's preferences, such as afternoon and weekend sessions with shorter durations.

After learning basic digital skills, librarians organised learning circles for women and youth, using selected content from the P2PU learning platform. As they became more adept at facilitating learning circles, they worked with project partners (Maendeleo Foundation and P2PU) to develop short courses on topics that were in high demand, for

example, Vaseline and Liquid Soap production, Jewellery Making, Introduction to Baking & Cooking, Pottery, Entrepreneurship, and Paper Bag Making<sup>5</sup>.

*In Ghana*, at the time of writing this paper, training in libraries had not begun. Librarians and project partners have adapted the digital skills training content and methods to suit 12-18-year-old school students. Online educational content created in Ghana for school children is limited, so librarians are localising and adapting open educational resources from other countries. Because learners are young, they are also including gamification approaches.

*Impact assessment approach. In Uganda*, the digital inclusion project ended in 2023 and to assess the results and impact of the project, we conducted a post-training survey to capture improvement in learners' knowledge and skills; we collected stories from learners about the benefits of the training and conducted an impact survey during the final stages of the project.

Over 90% of respondents to the post-training survey said they had acquired basic ICT skills. We collected 80 stories from beneficiaries and published selected stories in two online booklets. Among benefits reported in the stories included starting new or expanding existing businesses, learning to make and sell crafts to generate income, and improved ICT skills leading to employment in or promotion to jobs requiring computer skills, like data entry.

The post training survey sought to establish if, how and why women and youth were using computers and the internet after the training. There were also questions about where women and youth were accessing ICT, and about the role of their local library. Over 330 people responded to the survey. The key findings:

- The main beneficiaries of library digital skills training were youth from 15 to 25 years old.
- Over half of the trainees (54%) were girls and women.
- After the training, most respondents continued to frequently use the internet in the library and over 70% had no alternative access.
- The internet in the library was mainly used for learning and study, communication and searching for job or health information.
- The overwhelming majority (94%) said that the library training had significantly improved their digital skills. Most said that after the training they could do basic ICT tasks; however, over half still relied on librarians for help when using computers.
- Positive outcomes arising from library digital training were improved academic results or obtained new vocational skills, improved communication using online means, followed by positive health outcomes and closer connection with government authorities (EIFL, 2023).

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<sup>5</sup> See examples at: <https://uganda.p2pu.org/courses>

*In Ghana*, the project is still in its first year, so evaluation will come later. However, the monitoring and evaluation plan includes similar activities, such as post-training surveys of students, collection of success stories, and engagement with stakeholders for the project's sustainability.

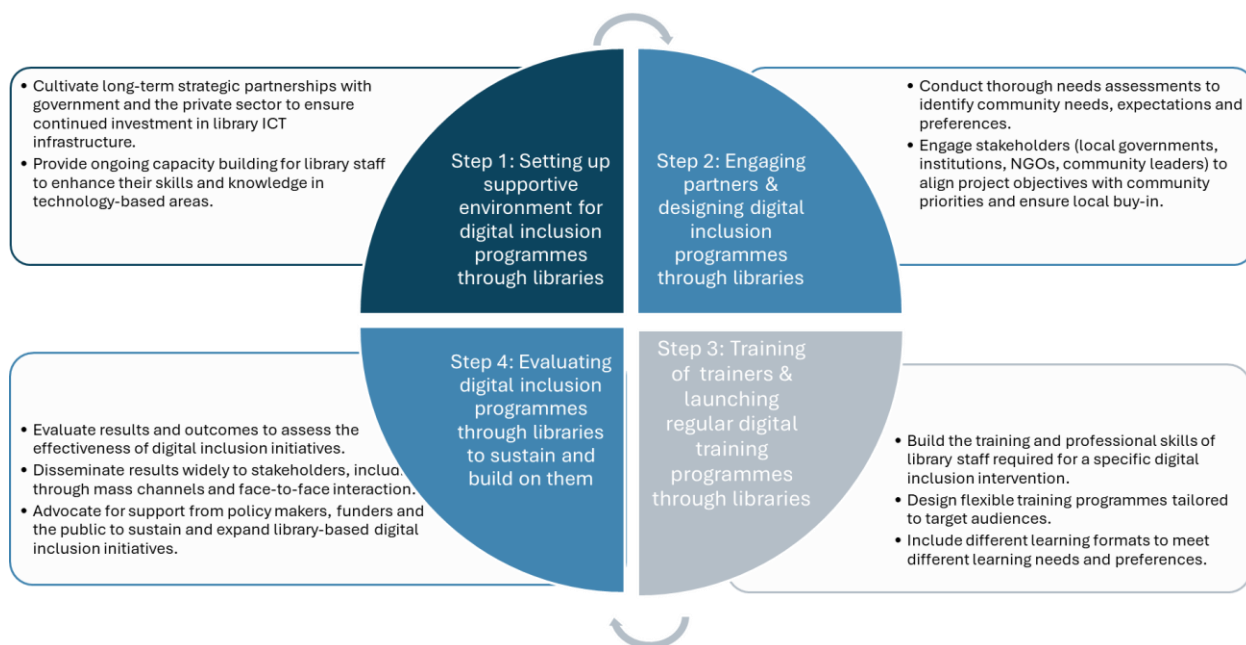
*Advocacy and sustainability strategies. In Uganda*, the achievements and impact results were widely disseminated in project-related events attended by national stakeholders. As libraries in Uganda fall under and are funded by local governments, we also needed a strategy to ensure that local government officials were informed about the library's progress and impact of the project. The NLU project team visited all local governments in charge of libraries engaged in the project and met with officials to present results and discuss sustainability strategies. The team flagged that even when the libraries had equipment for public access and training, for long term continuity of training their budgets needed to accommodate internet data and ICT maintenance, which are often overlooked.

Dissemination of the project's success triggered new partnerships that have expanded libraries' capacity to contribute to digital inclusion. For example, the telecommunications company ATC Uganda renovated premises at eight libraries and installed ICT labs, each with 20 computers. ATC Uganda also engaged these libraries in coordinated basic digital skills training for communities, funded by them. ATC plans to support more libraries in 2024.

*In Ghana*, the project started at the end of 2023, and it is too early to draw conclusions about further partnerships, and related initiatives. However, the project partners are working on a strategy to bring on board like-minded stakeholders to strengthen project activities and help sustain the digital skills training and digital learning programmes beyond the duration of the project.

### **Conclusions: Digital inclusion model for public libraries in Africa**

Based on these case studies, and EIFL-PLIP work in other African countries (Kenya, Namibia, Zambia), we propose the following model to foster digital inclusion through public and community libraries (Diagram 1).



*Diagram 1. Digital inclusion model for public libraries in Africa*

**Setting up a supportive environment for digital inclusion programmes:** Prior to the implementation of national digital inclusion initiatives through library networks, essential prerequisites include building long-term strategic partnerships with government bodies and the private sector for establishing public access computers and internet connectivity infrastructure, as well as digital training capacity of library staff.

**Engaging partners & designing digital inclusion programmes:** In addition to identifying specific digital needs of the community, needs assessment can be used as a way of engaging local governments, NGOs, and community leaders to ensure alignment of project goals with other community priorities and enhance stakeholder support for digital inclusion programme implementation and sustainability.

**Training of Trainers & launching regular digital training programmes:** Building the capacity of library staff through ToT programmes equips them with the skills and knowledge to effectively deliver digital literacy training. It is essential to include both technical ICT skills and pedagogical/andragogical techniques, including the knowledge and skills to design digital training programmes tailored to meet the needs of different target groups.

Training programmes that librarians develop for their communities need to be flexible in terms of content, length, timing, learning methods and formats, for example, outreach sessions, workshops, online learning, peer-learning events. Flexible training programmes in libraries help cater to the needs and situational factors of very different groups, including women, youth, persons with disabilities, and marginalised communities. Because they are close to their communities, and share in their lives,

librarians are generally aware of people's daily schedules and habits. Training design benefits from this awareness.

**Evaluating digital inclusion programmes to sustain and build on them:** Monitoring and evaluation allows for continuous assessment of programmes' effectiveness and impact. This, first of all, involves measuring outcomes such as improved digital skills, community engagement, and socio-economic benefits for participants. Equally important to measuring outcomes, is sharing impact data, success stories, and lessons learned. Libraries need to consider various channels, including online platforms, workshops, and stakeholder meetings, to communicate success and promote the value of regular digital inclusion initiatives, ensuring they reach a broad audience beyond just the library community. Advocacy efforts with governments, policymakers, funders, and the public are critical to justify, sustain and build on library-based digital inclusion programmes. The next step is to formalise libraries' digital inclusion roles in the national library policy and regulations (alongside traditional functions, such as literacy development and nurturing cultural heritage), as well as to acknowledge and include their contribution to digital transformation in other policy areas, such as, for example, education and sustainable development.

By adopting this model, public libraries in Africa (and beyond) can effectively enhance their role as a network of hubs for digital inclusion for all, continuously and in a coordinated way empowering communities with essential digital skills and fostering socio-economic development.

## References

1. American Library Association. 2014. Digital Inclusion Survey. [Online]. <https://www.ala.org/tools/research/digitalinclusion> (Accessed: 7 November 2024).
2. Ayong, D.A., Bugre, C. & Baada, F. 2020. An evaluation of the library connectivity project through the lens of the digital inclusion model. *Information and Learning Sciences*. [Online]. [https://www.researchgate.net/publication/344634139\\_An\\_evaluation\\_of\\_the\\_library\\_connectivity\\_project\\_through\\_the\\_lens\\_of\\_the\\_digital\\_inclusion\\_model\\_Lens\\_of\\_the\\_digital\\_inclusion\\_model#fullTextFileContent](https://www.researchgate.net/publication/344634139_An_evaluation_of_the_library_connectivity_project_through_the_lens_of_the_digital_inclusion_model_Lens_of_the_digital_inclusion_model#fullTextFileContent) (Accessed: 7 November 2024).
3. Broadband Commission for Sustainable Development. 2023. The State of Broadband 2023. International Telecommunication Union (ITU) and United Nations Educational, Scientific and Cultural Organization (UNESCO). [Online]. <https://www.broadbandcommission.org/publication/state-of-broadband-2023> (Accessed: 7 November 2024).
4. EIFL. 2011. Perceptions of public libraries in Africa. [Online]. <https://www.eifl.net/resources/perceptions-public-libraries-africa-0> (Accessed: 7 November 2024).
5. EIFL. 2017. How EIFL's partnership with the Kenya National Library Service helped transform public libraries. [Online]. <https://www.eifl.info/resources/how-eifls->



- [partnership-kenya-national-library-service-helped-transform-public-libraries](#) (Accessed: 7 November 2024).
6. EIFL. 2020. How an EIFL-supported mobile library project in Ghana helped thousands of children to pass crucial ICT exams. [Online]. <https://www.eifl.net/resources/how-eifl-supported-mobile-library-project-ghana-helped-thousands-children-pass-crucial-ict> (Accessed: 7 November 2024).
  7. EIFL. 2021. Digital skills and inclusion through libraries Uganda. [Online]. <https://www.eifl.net/eifl-in-action/digital-skills-and-inclusion-through-libraries-uganda> (Accessed: 7 November 2024).
  8. EIFL. 2022. Impacts of public access: DC-PAL study. [Online]. [https://www.eifl.net/system/files/resources/202211/impacts\\_of\\_public\\_access\\_-\\_dc\\_pal\\_study.pdf](https://www.eifl.net/system/files/resources/202211/impacts_of_public_access_-_dc_pal_study.pdf) (Accessed: 7 November 2024).
  9. EIFL. 2023. Digital skills @ your local library project: Results, impact, and lessons learnt. [Online]. <https://www.eifl.net/resources/digital-skills-your-local-library-project-results-impact-and-lessons-learnt> (Accessed: 7 November 2024).
  10. EIFL. 2024. Digital learning Ghana: Public libraries. [Online]. <https://www.eifl.net/eifl-in-action/digital-learning-ghana-public-libraries> (Accessed: 7 November 2024).
  11. EIFL & IFLA. 2021. The role of libraries in national broadband plans and policies. [Online]. <https://www.eifl.net/resources/role-libraries-national-broadband-plans-and-policies> (Accessed: 7 November 2024).
  12. EIFL & IFLA. 2022. The role of libraries in national broadband plans and policies. [Online]. <https://www.eifl.net/programme/public-library-innovation-programme/eifl-plip-grantees> (Accessed: 7 November 2024).
  13. GSMA. 2024. Mobile Connectivity Index 2024. [Online]. [https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma\\_resources/mobile-connectivity-index](https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/gsma_resources/mobile-connectivity-index) (Accessed: 7 November 2024).
  14. International Telecommunication Union. 2021. Digital trends in Africa 2021: Information and communication technology trends and developments in the Africa region, 2017-2020. [Online]. [https://www.itu.int/en/publications/ITU-D/pages/publications.aspx?parent=D-IND-DIG\\_TRENDS\\_AFR.01-2021&media=electronic](https://www.itu.int/en/publications/ITU-D/pages/publications.aspx?parent=D-IND-DIG_TRENDS_AFR.01-2021&media=electronic) (Accessed: 7 November 2024).
  15. International Telecommunication Union. 2023a. Digital inclusion of all. [Online]. <https://www.itu.int/en/mediacentre/backgrounders/Pages/digital-inclusion-of-all.aspx> (Accessed: 7 November 2024).
  16. International Telecommunication Union. 2023b. Measuring digital development: Facts and Figures 2023. [Online]. <https://www.itu.int/itu-d/reports/statistics/facts-figures-2023> (Accessed: 7 November 2024).
  17. Lipeikaite, U., Amanyabyoona, R., Kamukama, A. & Katungisa, A. 2022. Community engagement for meaningful and sustainable digital literacy training in Uganda. *Journal of Library Outreach & Engagement*, 1(1). [Online]. <https://iopn.library.illinois.edu/journals/jloe/article/view/875/800> (Accessed: 7 November 2024).

18. Muchai, J. 2018. Transforming Public Libraries in Kenya through Technology. [Online]. [https://www.scecsal.org/publications/papers2018/004\\_muchai\\_2018.pdf](https://www.scecsal.org/publications/papers2018/004_muchai_2018.pdf) (Accessed: 7 November 2024).
19. Nordicity. 2018. Toronto Public Library: Digital Inclusion Nordicity Full Report. [Online]. <https://www.torontopubliclibrary.ca/content/bridge/pdfs/nordicity-full-report.pdf> (Accessed: 7 November 2024).
20. Quick, S., Prior, G., Toombs, B., Taylor, L. & Currenti, R. 2013. Cross-European survey to measure users' perceptions of the benefits of ICT in public libraries. [Online]. <https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/22718/Final%20Report%20-%20Cross-European%20Library%20Impact.pdf> (Accessed: 7 November 2024).
21. Tamakloe, E. 2018. Revamping the public library: A case study of the Ghana Library Authority. [Online]. <https://library.ifla.org/id/eprint/867/1/144-tamakloe-en.pdf> (Accessed: 7 November 2024).
22. Technology & Social Change Group (TASCHA), University of Washington. 2020. Research on African libraries in development: Perceptions and possibilities. [Online]. <https://tascha.uw.edu/research-on-african-libraries-in-development-perceptions-and-possibilities> (Accessed: 7 November 2024).
23. Statista. 2024. Internet penetration in Africa by country. [Online]. <https://www.statista.com/statistics/1124283/internet-penetration-in-africa-by-country> (Accessed: 7 November 2024).
24. Wiley. 2021. Digital Skills Gap Index 2021. [Online]. <https://dsg.i.wiley.com> (Accessed: 7 November 2024).
25. World Wide Web Foundation. 2018. Using USAFs to Close the Gender Digital Divide in Africa. [Online]. <https://webfoundation.org/docs/2018/03/Using-USAFs-to-Close-the-Gender-Digital-Divide-in-Africa.pdf> (Accessed: 7 November 2024).