Connecting and Enabling the Next Billion: Education, Gender and Innovation

IFLA Submission to the Call for 3rd Phase Examples

Libraries have connected people to the information society for much longer than the concept of an information society itself has existed. They have offered free, or nearly free information services to their communities, regardless of the status or wealth of their users, understanding that information access is empowerment, and so development.

They have welcomed the potential of the Internet and ICTs to deliver this goal, but at the same time have recognised that just having the possibility to connect is not always enough. Meaningful access to information cannot be taken for granted.

Libraries, therefore, have provided expert, dedicated and targeted support to their users – safe and welcoming spaces, expert advice on how to get the best out of technology and the Internet, and more formal training courses. As set out in the Development and Access to Information Report 2017, the right social and cultural rules, legal frameworks, and most importantly, skills, are needed.

In the fields of education, gender equality and industry, innovation and infrastructure, this is particularly relevant. Libraries are already closely involved in childhood literacy programmes, and in Europe along, 24 million adults join in training courses at libraries every year. They have a special status, allowing them to draw in vulnerable groups who may not feel welcome in Internet cafes, or who may not have the money or the right to own their own device. And they are working hard to support the data flows and access to information that drives innovation and entrepreneurship.

In the context of EIFL's (Electronic Information for Libraries) Public Library Innovation Programme[1], librarians in Kenya, Ghana and Uganda have received computer training to empower them to offer innovative, ICT-based services to their communities. IREX's Beyond Access[2] has also done extensive work to enable libraries to use digital to empower their users. The rest of this document provides case studies of how access to ICTs, coupled with the unique support libraries can offer, is making a difference[3].

Libraries, ICT and Education (SDG4)

Libraries have a long-standing commitment to education and individual growth. They offer literacy and reading support to the young, give access to the latest scientific research as a basis for innovation, and offer adults a second chance through courses and private study. They can bring this practical experience to bear, and, when combined with the potential of digital tools, develop exciting and effective new means of engaging populations and achieving results.

Libraries can complement the work of schools, especially in situations where education is underfunded: The Kibera Library, in a project started in 2012, has used tablet computers pre-loaded with educational content, linked to the school curriculum, to help schoolchildren from under-resourced schools in Kibera, the biggest slum in eastern Africa, to improve their school results.

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[1] http://www.eifl.net/programmes/public-library-innovation-programme
[2] https://www.irex.org/project/beyond-access
[3] This submission draws extensively on text and examples cited in IFLA, TASCHA (2017) *Development and Access to Information*, da2i.ifla.org. Unless stated otherwise, examples are drawn from this source.

Librarians teamed up with the educational agency, eLimu, which creates digital educational material in fun formats, including animations, film and puzzles. Working with eLimu, the library taught 120 children and 48 teachers to use the tablets. To assess the children's progress, librarians organized games and quizzes. More than half of the children interviewed in a library survey said the programme had helped improve their English, mathematics and science[4].

Similarly, in Kenya, a small grant from EIFL allowed librarians, working with schools and local authorities, to develop an online maths tool while successfully engaged children who might otherwise have dropped out of school[5].

Libraries can provide job-related education for vulnerable groups: In New Zealand, library staff at Hutt City Libraries have teamed up with volunteers to teach ICT skills to young people from disadvantaged communities. They learn how to use Photoshop, complete basic electronics projects, mashed up circuitry, make and edit films, take part in robotics competitions, completed graphic design jobs for community clients, and create start-up businesses. The unique ability of libraries, as trusted institutions, to reach out to people in vulnerable communities helps make this possible[6].

Libraries can be pioneers in adopting new technology and sharing it with users: In Sweden, Vaggeryd's joint public and upper secondary school library became the site of the first makerspace in Sweden in 2013. It offers workshops on robotics, lessons in CAD drawing, and the library is home to an upholstery machine that has enabled asylum-seeking unaccompanied minors to learn upholstery and carry out furniture repair as a social enterprise[7].

Libraries can even support the development and uptake of educational technologies: Beyond Access notes that 'In Ethiopia, 32% of children are out of school and 76% of youth have not completed primary education. The lack of materials and books, particularly those in mother tongue, is one of the main challenges facing Ethiopia's education sector'[8]. From March 2016 to June 2017, a project was implemented to create opportunities for Ethiopian children to practice basic skills such as reading and writing. Beyond Access supported the development of educational technologies such as e-books, reading apps, and games, to increase the number of tools available to educators and caregivers. Beyond access also emphasized the role of libraries as important pillars for national-scale early grade reading efforts.

Libraries have an impact beyond their walls: Volta Regional Library, Ghana: the library began using a mobile operation in 2012 to improve educational opportunities for students attending schools with limited resources. The program provides hands-on computer classes, addressing a subject area in which rural schools have had high failure rates in national exams. An evaluation showed that this intervention contributed to an increase of almost 50 percent in the pass rate (rising to 65 percent from 45 percent) in information and communication technology (ICT) exams among third-grade students when compared to previous years. Based on these positive results, in 2014 additional funding supported the expansion of the program to three additional regions in Ghana. The project reached more than 3,800 students at 25 schools by the end of 2016[9].

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[4] http://www.eifl.net/blogs/video-library-uses-tablet-computers-support-education-kibera
[5] http://www.eifl.net/news/kenya-library-helps-children-conquer-fear-maths
[6] ALIA, Australian Public Library Alliance (2017), *How public libraries contribute to the STEM Agenda,* https://www.alia.org.au/sites/default/files/How%20public%20libraries%20contribute%20to%20the%20STEM%20agenda%202017.pdf (accessed on 31 July 2017)
[7] http://slq.nu/?article=volume-47-no-4-2014-11
[8] http://beyondaccess.net/projects/mobilizing-communities-to-promote-early-grade-reading-in-ethiopia/
[9] http://www.eifl.net/eifl-in-action/hands-computer-classes-struggling-students

Libraries, ICT and Gender Equality (SDG5)

Evidence suggests that libraries also achieve more favourable shares of female Internet users than other public access venues[10]. The key element in libraries' success appears to be their active outreach to girls and women and the assistance they render. Cybercafés that only offer access to technology have the fewest women users.

Libraries have many advantages over other information venues in providing access and promoting use among girls and women. They maintain a wealth of information resources – books, periodicals, journals, and audio-visual materials (CDs, DVDs, etc.), as well as increasing availability of multiple forms of access to ICT. Internet access in libraries is generally free, and people can access books, documents, periodicals, and databases in-library or remotely through websites.

Libraries often offer mobile services, bringing their materials to communities rather than requiring travel to a central location, and delivering information via specialized libraries. Libraries are perceived as safe, reliable, and affordable, often with trained female staff that can help in places where it is not always appropriate for females to interact with males. Librarians serve as invaluable infomediaries to guide those with little experience in accessing information and/or using ICTs. They also frequently offer training in use of multiple varieties of information services, as well as other information activities, while other venues and media tend to specialize in one type of information and means of access.

Empowering women through ICT access and training: "Braka Miladinovci" Public Library, Macedonia: The Braka Miladinovci library is in the town of Radovis in eastern Macedonia. It serves about 38,000 patrons. The area has high unemployment rates, especially among women (38%).
Librarians launched a survey among library female users aged 18-40, discovering a lack both of computer skills and of economic resources to undertake any relevant training. With support from the EIFL Public Library Innovation Programme (EIFL-PLIP) to cover equipment and operational costs for a year, librarians bought and installed 13 laptop computers, wireless internet routers and a printer in the library's training centre. They partnered with two non-governmental organizations, Citizens' Creative Centre (KREA), which builds young people's ICT capacity, and Women's Action, an association for improving the status of women.

With their new partners, they developed a training curriculum that integrates motivation, confidence-building, ICT and job-seeking skills. In just one year, the service trained 82 unemployed people, mainly women. Trainees learnt basic computer skills, how to write a CV, job interview preparation and how to look for a job online. Almost half (39) of the library's trainees found jobs. The mayor of a nearby municipality, Konce, is now investing in the construction of a library with the support of the entire community[11].

Correcting the Balance: The PerpuSeru Programme in Indonesia: PerpuSeru is a public library program operates in Indonesia, where, in 2015, only 22 percent of the population had accessed the internet. The program launched in 2011 in a pilot phase by installing computers and internet and providing training to library staff in a small number of public libraries, but has since expanded to reach hundreds of thousands of Indonesians with a goal of reaching 1,000 public libraries by 2025. It is estimated that by reaching that goal, public libraries will provide access to information to 20 million Indonesians who had previously lacked it. Women make up nearly two-thirds of the users at public

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[10] For example, in Chile, it was found that 47 percent of public library users were female, compared to only 28 percent for internet cafes. The figures are even more positive in Indonesia (see PerpuSeru example below).
[11] http://www.eifl.net/programme/public-library-innovation-programme/public-libraries-empowering-women-and-girls

libraries in the PerpuSeru program, while constituting a minority of internet users nationally, indicating the particular role of libraries in reaching out to disadvantaged populations.

Helping Women Boost Productivity: Ugandan National Library Digital Skills Training Programme: This program is offered in local languages and designed for female farmers. In addition to building women's digital skills, the program helps them find agricultural information, such as weather forecasts and crop prices, and sell their products online. Such library programs are a start. However, stronger commitments from the public and private sectors may still be required for women to truly reap equal benefits from equal participation in the digital revolution[12].

Access and Empowerment: Chile's Infocentros: BiblioRedes is a network of some 400 library-based Infocentros. The Infocentros approach to capabilities and the development of freedom has had important implications for women's empowerment. Infocentros offer free public non-commercial access to the internet. They aim to provide a safe, secure, and non-judgmental space for information gathering. Special efforts are made to ensure gender balance among participants, encouraging men as well as women to use their services, since most of the users were women at first.

While overall internet use is equally divided between men and women, 65 percent of those enrolled in the free information technology classes were women, who also preferential access to all BiblioRedes services (alongside young adults and poorer people). Users have the freedom to use the technology to do whatever they perceived as valuable, but in addition, the service actively sought to extend the capabilities of less advantaged people, the majority of whom were women. Female users can talk and help each other as well as get help from the (most often) female directors of the centres, in a way that they couldn't from and with men. The centre becomes a meeting place for women where they use their social resources for information empowerment, in a country still marked by machoism.

Chile's Infocentros won the 2006 Stockholm Challenge Award for creating a network that delivered free digital literacy classes to 220,000, served 6 million internet users, and brought about the development of municipal websites with local content in 3,000 localities.

Libraries, ICT and Industry, Innovation and Infrastructure (SDG9)

The role of libraries in delivering broad and affordable connectivity is well supported by existing evidence, not least Stanford's Deliberative Polling exercise[13], the report of the Global Commission on Internet Governance[14], and the contribution of the Dynamic Coalition on Public Access in Libraries to the previous call for evidence[15]. Evidence from Latvia, for example, also indicates that there is solid return on investments in ICT in libraries[16]. But libraries, through giving access and support in using digital technologies, are also allowing more rapid progress on innovation, which serves to benefit society as a whole, including by promoting wider public access to its results. While these examples may not directly relate to supporting new Internet users, they are strongly relevant for the overall health of the Internet, and in particular to realising its potential to benefit all.

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[12] http://beyondaccess.net/wp-content/uploads/2013/07/Beyond-Access_GirlsandICT-Issue-Brief.pdf

[13] Fishin, J, Senges, M, Donagoe, E, Diamond, L, Siu, A, (2016), *Piloting the Use of Deliberative Polling for Multistakeholder Internet Governance: Considered Judgements on Access for the Next Billion*, http://cddrl.fsi.stanford.edu/sites/default/files/igf-dp-report-executive-summary.pdf (accessed on 31 July 2017)

[14] https://www.ourinternet.org/report

[15] https://www.ifla.org/publications/node/10693

[16] Tresais Teva Dels (2012)*, Economic Value and Impact of Public Libraries in Latvia*, http://www.kis.gov.lv/download/Economic%20value%20and%20impact%20of%20public%20libraries%20in%20Latvia.pdf (consulted 31 July)

Structuring and Connecting the Information Society: SCOAP³ Networking Repositories: the Internet has transformed our ability to collaborate, which in turn promotes higher impact research. However, information is not always structured or presented in a way which facilitates this cooperation, or the application of newer analytical tools, such as text and data mining. Libraries have been at the heart of efforts to overcome this challenge, both through building and structuring repositories, but also by linking them up. The example of SCOAP³, established at the CERN Library[17], offers a positive example of how libraries can be at the heart of realising the potential of the internet to support and promote effective sharing of information. Through its work, it has converted key journals to Open Access, further supporting access to information.

Guaranteeing the Future of the Historical Record: Libraries and Digital Preservation: As Vint Cerf has warned, the rapidly evolving nature of both the software and hardware we use, as well as increasing reliance on cloud-based services, risks leading to a Digital Dark Age, unless we adapt our practices and develop means of preserving born-digital content. This has major implications for research and innovation, which traditionally is based on analysing and improving on what has done before. Without sound preservation policies, it will become difficult or impossible to verify the accuracy of trials or experiments, or even source relevant evidence in the first place. The work of libraries, through efforts such as the Digital Preservation Coalition[18], the International Internet Preservation Coalition[19], and CLOCKSS[20]/LOCKSS[21], offers a response.

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[17] https://scoap3.org/
[18] http://www.dpconline.org/
[19] http://netpreserve.org/
[20] https://www.clockss.org/clockss/Home
[21] https://www.lockss.org/