GSMA

Digital Inclusion in Humanitarian Settings: Lessons from the GSMA Mobile for Humanitarian Innovation Programme

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GSMA

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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GSMA Mobile for Humanitarian Innovation

The GSMA Mobile for Humanitarian Innovation programme works to accelerate the delivery and impact of digital humanitarian assistance. This is achieved by building a learning and research agenda to inform the future of digital humanitarian response, catalysing partnerships and innovation for new digital humanitarian services, advocating for enabling policy environments, monitoring and evaluating performance, disseminating insights and profiling achievements. The programme is funded by the UK Foreign, Commonwealth & Development Office, and is supported by the GSMA and its members.

Learn more at www.gsma.com/m4h or contact us at m4h@gsma.com

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This initiative has been funded by UK Aid from the UK Government and is supported by the GSMA and its members.

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Contents

01

Introduction

Digital inclusion and exclusion are critical considerations in the humanitarian sector to ensure the benefits of digital technology are available to as many people affected by crisis as possible.

For more than 10 years, the GSMA Mobile for Humanitarian Innovation programme (M4H) and its predecessor, the Disaster Response programme, have been researching, supporting and promoting digital inclusion in humanitarian settings. M4H activities seek to promote digitally inclusive humanitarian programming by:

- Funding and supporting projects that explore new models of digitally inclusive humanitarian action.
- Researching the impact of the digital divide in the humanitarian sector and effective tools to promote digitally inclusive humanitarian action.
- Advocating for the reduction of regulatory barriers to digital inclusion.

Learning is a central element of the M4H programme. This paper captures the key lessons of our projects and research on digital inclusion in humanitarian settings.

02

Why is inclusion important?

The principles of humanitarian action include impartiality and humanity, which means humanitarian actors have an obligation to alleviate suffering, with special attention to the most vulnerable, and ensure that humanitarian services are accessible to everyone who needs them. In humanitarian settings, vulnerabilities and risks are heightened due to conflict, displacement or the upheaval of social norms. Research shows that humanitarian contexts also create new or more complex vulnerabilities. For example, instances of disability often increase in humanitarian settings due to conflict and poor access to health services. Women and girls have also been found to face additional risks in contexts of displacement as social norms break down, exposing them to a greater risk of violence and expectations to perform household tasks.

Whenever services are delivered through digital channels in humanitarian contexts, technology has the potential to mirror and exacerbate existing inequalities. Vulnerabilities are context-specific, and who is marginalised depends on the local history and socio-economic circumstances. However, research shows that marginalised groups are less likely to have access to digital technologies and make full use of them. Therefore, when delivering services through digital channels, these groups are most at risk of being excluded. This is often referred to as the 'digital divide', or the gap between those who have access to technology and the internet and those who do not.

Despite these risks, digital technology presents an opportunity. If designed locally with marginalised groups and their specific life needs in mind, technology can not only become accessible and enable people to access services, but also play a greater role in facilitating economic, social and political inclusion and equitable access to services. For example, a mobile phone can unlock access to a mobile money account and other financial services, provide a channel to participate in democratic processes online and enhance social connection and community engagement. When used effectively, digital technology has the power to bring significantly more users into social and economic life and promote greater overall well-being.

Given the potential risks and benefits of digital technology, humanitarian organisations using digital tools have, at minimum, an obligation to not exacerbate existing inequalities. Ideally, humanitarian organisations and technology providers would work together to ensure digital technology provides a pathway to greater inclusion.

03

Defining digital inclusion

Digital inclusion in humanitarian contexts may mean one of two things: the digital inclusion of people in humanitarian settings and inclusive digital humanitarian programming. These are related but distinct, as explained in the following definitions.

Digital inclusion (status):
The extent to which a person is able to access, own and use digital technology safely and with dignity.

Digitally excluded groups are often those who have been historically marginalised since low access to literacy, education or resources are barriers to accessing and using technology. Those most likely to be digitally excluded have low levels of education, low incomes, live in rural areas and are more likely to be women, older persons and/or persons with disabilities. Digital exclusion not only restricts access to technology itself but, more importantly, can limit one's ability to access life-changing and, in some cases, life-saving information and services provided by humanitarian actors and other service providers.

Digitally inclusive humanitarian action (action):
Humanitarian action delivered through digital channels not only avoids exacerbating existing inequalities, but also addresses contextual barriers to digital inclusion and improve one's ability to make full use of digital services and participate in digital spaces.

Digitally inclusive humanitarian action considers existing levels of, and barriers to, digital inclusion and provides service users with opportunities to be included in a digitally connected society (Table 1). Ideally, digitally inclusive humanitarian action gives people affected by crisis more agency over programming and enables them to exercise their rights.

Table 1: Digitally inclusive humanitarian action

Ideal	Action that increases digital inclusion and agency, both over humanitarian programming and more broadly in a digitally connected world. Digital technologies are leveraged to create a more responsive and accountable system.
Good	Action that increases digital inclusion and addresses the specific barriers that are creating a digital divide in a given context.
Minimum	Action that "does no harm", ensuring impartial and equitable access to digital services.

04

Understanding digital inclusion gaps

Identifying and measuring digital inclusion gaps

To design and target inclusive digital programming effectively, it is important to understand the landscape of mobile access and ownership.

To quantify digital exclusion and better understand who is at risk of being left out of digital humanitarian programming, the GSMA measures access and usage gaps. For example, people over 55 are less likely to be connected and reap the benefits of digital technology in humanitarian contexts. Most GSMA research on digital exclusion has focused on gender and disability gaps. However, identity is not one-dimensional and intersecting identities – age, gender, disability – can compound digital exclusion. Which groups are excluded from accessing and using digital technology effectively will also vary tremendously depending on the context and its history of marginalisation. It is therefore vitally important to have a deep understanding of the local context and digital access and usage gaps through research.

Mobile gender gap

Gender is one dimension by which the GSMA has measured gaps in mobile phone ownership and use (Figure 1).

Figure 1: The gender gap in mobile ownership and mobile internet use

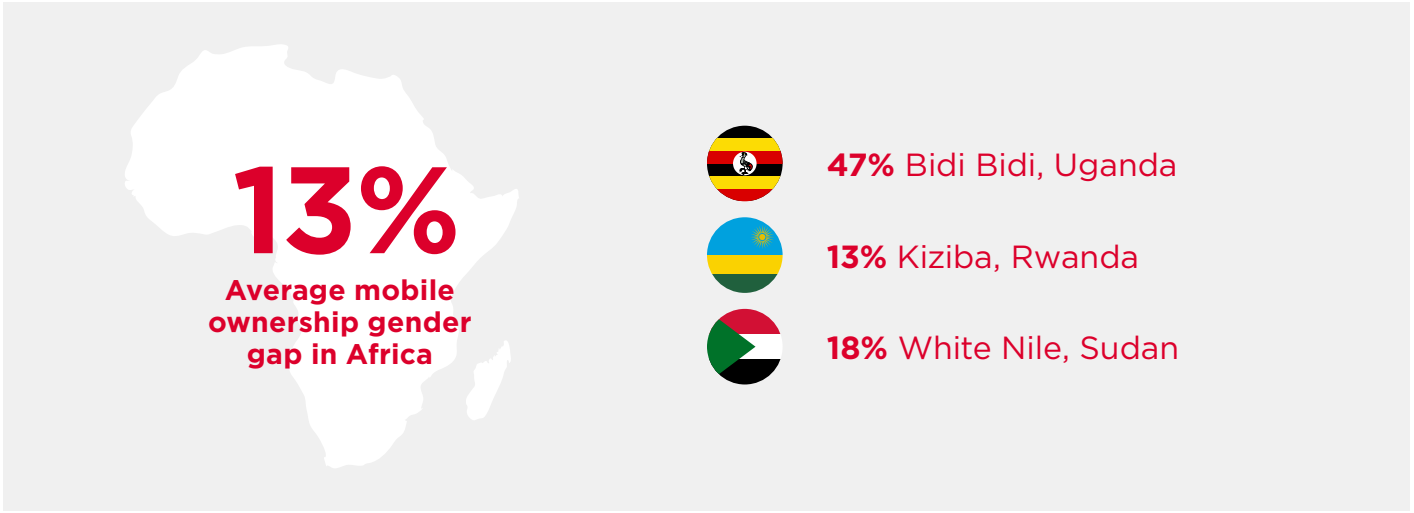
The gender gap in mobile phone ownership and mobile internet use is calculated using the following formula:

$$\text{Gender gap in ownership/use (\%)} = \frac{\text{Male owners/users } \textit{(\% of male population)} - \text{Female owners/users } \textit{(\% of female population)}}{\text{Male owners/users } \textit{(\% of male population)}}$$

As mobile technology has spread around the world, access and usage have remained unequal. Even when controlling for income, rurality, literacy and disability, gender remains an important factor in mobile phone ownership and use. Women are still less likely to be digitally included. Evidence suggests that other factors, such as social norms and discrimination, affect women's mobile phone ownership and use.

This is especially true in humanitarian settings. For example, while women in low- and middle-income countries (LMICs) are 7% less likely to own a mobile phone than men, M4H research indicates that this number is much higher in humanitarian settings. The Digital Lives of Refugees, a report based on 2019 research, showed a 47% gender gap in mobile ownership in the Bidi Bidi refugee settlement in Uganda and a 13% gap in Kiziba refugee camp in Rwanda (Figure 2). There was also a 13% mobile gender gap across Africa, on average. More recent research in White Nile, Sudan, confirmed these trends. Using the Connectivity Needs and Usage Assessment Toolkit (CoNUA), the M4H team found that among South Sudanese refugees, women were 18% less likely to own a mobile phone (and 70% likely to own a smartphone) and 3.6 times more likely to rely on borrowing a phone. More research is needed to understand the local gender dynamics at play.

Figure 2: The mobile ownership gender gap is higher for refugees in contexts GSMA has studied



These gaps increase with more advanced use cases. For example, in LMICs, the mobile internet usage gap is 15%, on average. In Bidi Bidi, the mobile internet usage gender gap was 89%, in Kiziba 54% and in White Nile 66% – far above the average for LMICs.

Mobile disability gap

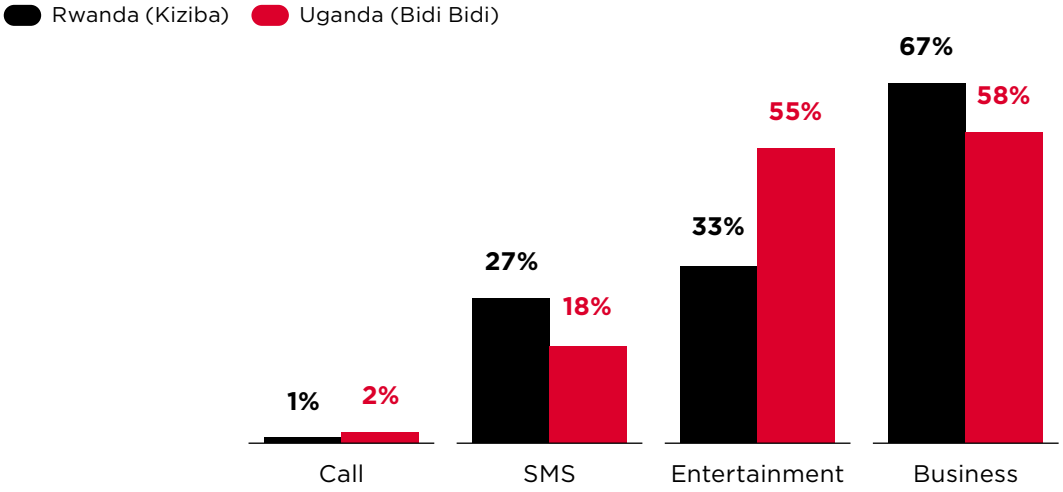
Disability is another dimension by which the GSMA measures digital exclusion. The M4H programme has used the Washington Group Short Set of questions to determine disability and better understand how disability within humanitarian settings affects mobile phone access and use.

UNHCR estimates that 12 million people with disabilities are forcibly displaced. Humanitarian contexts provide a hostile environment for people with disabilities, presenting unique challenges that may put them particularly at risk. Viewed through the lens of the social model of disability, these environments amplify barriers. For example:

- **When a crisis occurs, people with disabilities are heavily impacted.** A study by Humanity & Inclusion (HI) found that 54% of respondents with disabilities reported a direct physical impact following a crisis.
- Emergency situations like conflicts or natural disasters can also **increase the number of people who experience disability** due to new injuries, a lack of quality medical care or the collapse of essential services.
- Crisis situations also put people with disabilities at **greater risk of abuse and exploitation**. In the same HI study, 27% of respondents reported experiencing physical, psychological or sexual abuse.

In this context, mobile technology can either create a new barrier to accessing services or become an asset to people with disabilities as an assistive technology (Figure 3). Globally and within humanitarian contexts, people with disabilities are less likely to own and use mobile phones. According to research conducted in 2019, in Kiziba camp in Rwanda, refugees with disabilities were 15% less likely to have ever used a mobile phone than those without a disability, while in Bidi Bidi, Uganda, they were 7% less likely and 28% less likely in White Nile, Sudan. Again, these gaps increase as use cases become more complex.

Figure 3: Disability usage gaps in Kiziba and Bidi Bidi refugee camps



Box 1

The potential of assistive technologies for people with disabilities

For people with disabilities, mobile technology can be a gateway to greater inclusion. Mobile phones can be a cost-effective way for people with disabilities to access multiple assistive technologies in one device. “Assistive technology” is an umbrella term covering the systems and services related to the delivery of assistive products and services. These types of assistive products can maintain or improve an individual’s functioning and independence, thereby promoting their well-being.

05

Barriers and solutions to digital inclusion

Barriers

It is important to understand the barriers people face to digital inclusion in order to address them effectively. Given the intersectional nature of identity, a programme that targets specific barriers – rather than specific identities – can be more effective at addressing digital divides.

Barriers often intersect and overlap, compounding digital exclusion for marginalised groups. For example, a refugee with a visual impairment might find it especially difficult to find work, reducing their ability to pay for handsets, bundles and charging. They might also have low digital literacy and not know how to use a screen reader on a mobile phone. At the same time, they could face social stigma and unwillingness from friends or family to facilitate access to a phone. Barriers are almost always multi-faceted and require a variety of interventions to fully enable inclusion.

There are several key barriers to mobile ownership and use in humanitarian contexts:

Affordability

The cost of handsets and bundles can be prohibitive, especially in humanitarian and displacement settings where there are often fewer livelihood opportunities. While this affects everyone, it may be an even greater barrier for marginalised groups like women and people with disabilities. In The Digital Lives of Refugees research, the cost of a handset was found to be the most common barrier in all three research locations, followed by cost of airtime.

Literacy and digital skills

Difficulty reading and writing and low levels of digital literacy are another major barrier to mobile phone ownership and use.

Charging and electricity

Settlements where displaced people reside are often off-grid with limited access to charging points. When people have to pay to access charging points, this creates additional barriers.

Connectivity or network coverage

Many people in humanitarian contexts are in last-mile settings where network coverage is weaker.

Know-your-customer (KYC) and regulatory requirements

In many countries, official forms of identity documents are required to access SIM cards legally. However, many displaced people are not able to access these documents or the documents they have are not accepted by local governments. Regulatory changes can also restrict access to mobile services. For example, in Tanzania and Uganda, the introduction of taxes has limited the use of mobile services.

Social or access-related barriers

These may include a range of social factors, including family approval or social norms that restrict access to, or usage of, mobile technology.

Language

The lack of available services in local languages can create a barrier to mobile ownership and use.

Safety and security

Exposure to negative content or risks associated with the surveillance of online activity can lead users to avoid mobile technology.

Solutions

Like barriers, solutions should be examined through an intersectional lens. There is no checklist of features a solution must include to be inclusive. Rather, solutions must be found by understanding the local context and identifying and quantifying the intersecting challenges that users face. We have identified two approaches that can lead to inclusive humanitarian action:

01
Deep contextual research:

This can help to understand users' lived experiences, the barriers they face to digital inclusion and highlight possible solutions. Below are several examples of places where we have seen research contribute to greater digital inclusion.

User journey research in northern Burundi examined mobile money-enabled cash and voucher assistance (CVA) programming to understand the barriers and potential benefits of this delivery channel. For example, while mobile money offers certain efficiency benefits for humanitarian organisations, for users it is a potential entry point to financial and digital inclusion. However, barriers like cost of handsets and low digital literacy inhibited the ability of users to reap all the potential benefits.

Innovation Fund grantee Mercy Corps in Haiti leveraged human-centred design (HCD) methodologies to conduct deep research of user behaviours around mobile technology before launching a platform that used interactive voice response (IVR) to provide information on extreme weather preparedness. By understanding user preferences for message formats and best times of day to contact them, the programme was able to reach 16,672 people, 99% of whom said the messages were useful and 84% took a recommended action.

The Sesame Workshop (Ahlan Simsim) project was another example of an intervention that was successful in large part because research about target end users informed its design. The depth of formative research was an evident strength of the project, with few early assumptions (e.g. about digital access and literacy as barriers) holding true.

The M4H programme has created several tools to conduct this type of research, which are available to the humanitarian sector:

To address the need for a more evidence-based approach that puts recipients of assistance at the centre, the GSMA partnered with REACH and the Emergency Telecommunications Cluster (ETC), and convened a Technical Committee of experts from several humanitarian agencies to pool knowledge in the use of mobile technology and conduct assessments in humanitarian settings. The Connectivity, Needs and Usage Assessment Toolkit (CoNUA) was developed by the M4H programme to help users understand mobile phone access, usage, preferences and digital skills among populations of concern in a robust and standardised manner.

The M4H programme has compiled a brief introduction to human-centred design in humanitarian settings and how it can be used to assess user needs and promote digital inclusion, specifically how mobile tools can be adapted for use by people with disabilities.

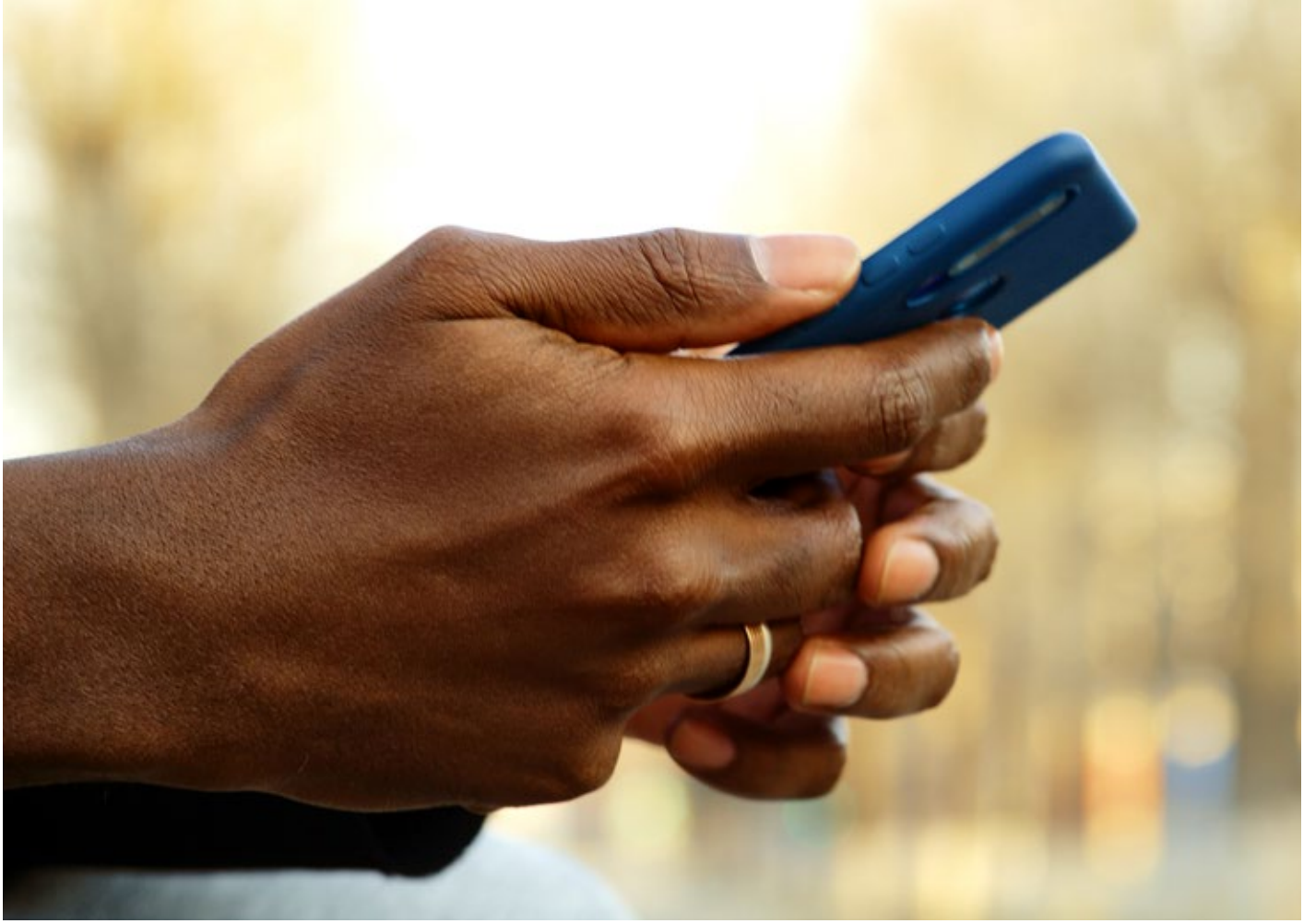
02
Being led by local partners is key because their deep understanding of the local context can help to better address barriers.

Innovation Fund grantee IRC, working on the CuéntaNos platform, expanded their services to be more inclusive by working with more local partners. In Guatemala, El Salvador and Honduras, the CuéntaNos platform provides information on gender-based violence (GBV) service providers to survivors in addition to psychosocial support and information. In Honduras, partner Glasswing International actively engaged community actors and groups, enabling more than 200 service providers to be added to the platform. CuéntaNos then acted as a directory, connecting people to trusted local partners. Additionally, during the pandemic, services were translated into three Mayan languages to improve accessibility.

Grantee Naya Jeevan, as a Pakistan-based organisation, was able to better tailor their services to the local, relatively conservative culture. Their programme, which provided telehealth, televeterinary and mental health services, was able to better address local stigma related to mental health because they understood the barrier being from the culture themselves. Since many of the Sindhi words used to refer to mental health have negative connotations, it was important that field staff were trained by local experts who understood both trauma and the nuances of the language.

Grantee **Rumie** created microlearning content to be delivered via a mobile app. They partnered with a local women's organisation in Afghanistan, and later in Pakistan, to ensure content was locally appropriate and relevant.

The **KUHI Consortium**, a strategic partner of the M4H programme, brought together local actors, allowing the group to better target their activities, for example, to the talent gap in Rwanda. As a result, their programming focussed on building profitable digital skills that users could leverage to find employment. Working with local partners also helped to ensure programming was sustainable and that digitally inclusive humanitarian action would continue long term.



Solutions to address specific barriers:

Digital skills and literacy

Training can provide a practical way to increase digital inclusion and is often an important part of digital humanitarian programming. Digital skills have been identified as key to creating a safer, healthier and more efficient world and reducing global digital divides. The M4H programme has undertaken several projects aimed at increasing digital skills and literacy, including a project that addressed access to needs-based protection information for IDP women in Myanmar. After starting programming, the project lead realised that the digital literacy levels of the target population were too low to effectively access the information they provided via an app. To address this, they provided tailored training for those who needed it. Likewise, strategic partners World Vision and Exxus have provided training in mobile technology and coding in Rwanda's Gihembe and Nyabiheke refugee camps. These types of training can play a positive role in helping people access services and information safely and independently. However, training must be tailored to local needs to ensure it addresses relevant barriers and interests effectively. For example, by using toolkits like the GSMA Mobile Internet Skills Training Toolkit (MISTT).

Affordability

Models that work to strengthen livelihood opportunities and create creative handset financing models have the potential to create more sustainable access to hardware and services rather than distributing tools that users may not want, know how to use or be able to replace or repair in the event of damage. For example, M4H partners have worked together to digitise savings groups across Rwanda, strengthening the financial resilience of both host community and refugee populations. Likewise, Grameen Foundation has worked with Nilecom in Uganda to help women and young people become mobile money agents through training and start-up capital. This not only creates additional income streams for the agents, but also strengthens the digital ecosystem in the area. Creative financing models can also help to make handsets more affordable.

Regulatory barriers and KYC

By creating coalitions, such as with humanitarian organisations, MNOs can help to bring about regulatory change. Options like tiered KYC requirements can create more flexible solutions, allowing people to access services legally in their own name. For example, in Uganda, the M4H programme worked with UNHCR to address restrictive KYC requirements that left many refugees without legal access to SIM cards. As a result, the Uganda Communications Commission issued a more enabling directive to the industry, allowing refugees to use attestation letters issued by the office of the Prime Minister to meet KYC requirements. This type of regulatory change can have a major impact on the number of people who are able to access digital services.

Charging and electricity

In many displacement settings, people rely on paid charging kiosks to charge their mobile devices. In addition to the livelihoods programming already mentioned, the M4H programme has also addressed this barrier by supporting renewable energy projects. Innovation Fund grantee Altech, for example, provides pay-as-you-go (PAYG) solar home systems for refugees in the Democratic Republic of Congo (DRC). Likewise, grantee Earthspark provides clean, mobile-enabled, community-sized smart grids to provide better access to electricity for communities in Haiti.

Connectivity

Limited coverage is a challenge that often requires engaging with MNOs to construct new infrastructure. This is a long process and may require alternative financing models, as last-mile tower construction is not always profitable for operators. In the short term, digital humanitarian service providers may want to consider building in offline capabilities to mitigate connectivity challenges. Grantee Alight, for example, set up an offline system to help customers access their mobile money accounts.

06

Conclusion

The digital divide is a clear challenge to effective humanitarian action. Research is shedding light on the extent and nature of digital exclusion, barriers to inclusion and possible solutions. In most cases, there is more than one barrier to inclusion, requiring a more holistic, ecosystem-level approach. Actors need to work together to ensure barriers are addressed at the user, infrastructure and ecosystem level, as well as at the regulatory level. The GSMA Mobile for Humanitarian Innovation programme will continue to address the issue of digital inclusion through research, funding and partnerships.

GSMA Head Office
1 Angel Lane
London, U.K.
EC4R 3AB
United Kingdom
Tel: +44 (0)20 7356 0600