Helpdesk Research Report

Mobile phone and social media interventions for youth development outcomes

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Question

Review of literature and identification of case studies for evidence on youth mobilisation and technology. What mobile phone interventions or social media have been used by young people effectively to improve development outcomes for: a) accountability and transparency such as through the collection, monitoring and use of data b) improving delivery of essential services for young people (such as education or SRHR) c) promoting positive lifestyle choices and behavioural change, and d) supporting humanitarian service delivery in crisis situations

Contents

1. Overview

This rapid review identifies recent literature and lessons learned from interventions that leverage mobile phone technology and social media to improve youth development outcomes. In order to put the lessons learned into context, each section provides a brief overview of the situation in the reviewed countries and a snapshot of mobile phone or social media interventions that have been initiated. The review draws on reports and evaluations published by international institutions, evaluations of projects, reports by think tanks and research centres, and papers from academic journals.

Information and communication technologies (ICT)[1] have had a profound impact on the political, economic and social sectors of many countries. Mobile communication has become essential to the functioning of economies, linking markets and consumers and facilitating the sharing of information. As mobile networks continue to expand, opportunities are presented for the dissemination of information that contributes to equitable and sustainable economic growth in both developing and developed markets.

Further to economic contribution, mobile phones and access to the internet can have social and political impact. Mobile phones can, for example, provide means of communicating with and providing basic services to disadvantaged populations.

The increasing ability of communities to access information via mobiles can be used to address political or social concerns, with youth playing a leading role. Young people are often 'first adopters' of new technologies particularly broadcast technologies such as mobile phones. Mobile phones create channels of cooperation, dialogue and information exchange between young people and their communities.

The upsurge in ICT usage has had a direct impact on increasing civic engagement among youth, providing new avenues through which they are informed, shape opinions, organise, collaborate and take action. The ubiquity of mobile phones has created tremendous opportunities for making information available instantly and at low cost. It can be used to seek, receive, create and impart information and ideas, at any time and for any purpose, including demanding information and transparency from governments and ensuring they deliver on their mandates.

A number of barriers and challenges remain that must be tackled to ensure that mobile phones and social media can fulfil their potential as catalytic tools for improving development outcomes for young people. These include:
- Access, equity and the socio-political factors which dictate availability and affordability of ICTs
- Gender and the specific challenges for girls in accessing and utilising ICT
- The role of intermediaries, assessing who controls access to and use of ICTs, and their implication
- Local demand and appropriate design i.e. the importance of contextualised, user-centred approaches to design of mobile phone or social media interventions

Despite widespread support for the utilisation of mobile phone technology and promising early findings from various projects, there has been little comprehensive research or rigorous evaluation of the causal influence of mobile phones and social media on youth development outcomes. Similarly, few evaluations of youth programmes in developing countries unambiguously identify the causality from policy to programme to effect with many (youth) programmes falling into the promising but unproven. There is a need for more dedicated research in this area alongside the provision of mentoring and training for those keen to exploit the potential of ICTs, particularly mobile phones. Further to this, more exploration is required on how best to mitigate issues regarding access and the potential role advances in data collection can play in facilitating responsive, adaptive and participatory policy making and programming.

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[1] According to the United Nations Economic Commission for Africa, ICTs cover internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services, and other related information and communication activities.

2. Mobile phones and youth

Information and communication technologies (ICT) have had a profound impact on the political, economic and social sectors of many countries (UN, 2010; IEG, 2011; IEAG, 2014). Mobile communication has become essential to the functioning of economies, linking markets and consumers and facilitating the sharing of information. As mobile networks expand, opportunities are presented for the dissemination of information leading to equitable and sustainable economic growth in developing and developed markets.

Waverman *et al* (2005) estimate that 10 more mobile phones per 100 people increases GDP per capita growth by up to 0.6%. Similarly, a 2012 Deloitte Report argued that in middle/low income countries, a 10% increase in mobile phone penetration is linked to GDP growth of 1.2% (Deloitte, 2012).

Further to the economic contribution, GSMA (2015) asserts that mobile phones and access to the internet can have social and political impact. Mobile phones can, for example, provide communications and basic services to disadvantaged populations. McKinsey (2013) suggests that if mobile enabled internet access achieves an impact on the same scale as mobile telephony has in Africa, it could have transformational effects on sectors such as retail, agriculture, education and healthcare. The Arab States Mobile Observatory (2013: 28) comments that mobile services impact positively on the living standards of people across communities in a practical manner, increasing social capital and cohesion through several mechanisms:
- Giving a space of expression for a variety of community voices
- Promotion of active citizenship
- Extension of communications
- Assisting in conflict relief
- Promotion of digital inclusion

The increasing ubiquity of mobile phones, referred to as the mobile miracle (ITU, 2013), is enabling communities to access and share information cheaply, quickly and in greater amounts than ever before. Mobile subscriptions in low and middle income countries rose by more than 1,500% between 2000 and 2010, from 4 to 72 per 100 inhabitants. Of the six billion plus mobile subscriptions, global penetration is 87% worldwide and 79% in the developing world (Ben-Attar and Campbell, 2013: 6).

The increasing ability of communities to access information via mobiles can be used to address political or social concerns, with youth playing a leading role. Halewood and Kenny (2008) comment that young people are often 'first adopters' of new technologies particularly broadcast technologies such as mobile phones. Mobile phone usage presents opportunities and challenges in addressing the social development and inclusion of youth. They create channels of cooperation, dialogue and information exchange between young people and their communities (UN, 2010). McKinsey (2013), discussing the expansion of mobile phone coverage in Africa, note the role of a rising middle class and a large youth population that is embracing technology, and expanding coverage in rural areas.

Youth, understood to be those aged 10-24, number over 1.2 billion globally, with an estimated 87% of this figure living in developing countries (UNDESA, 2015). With 60% of the urban population in the developing world expected to be under the age of 18 by 2030 it is clear that addressing youth concerns must be accorded attention (Way Report, 2015).

Recent social movements such as the Arab Spring, Spain's 15M and Mexico's YoSoy 132 movement have demonstrated the role mobile technology and social media can play in drawing attention to popular concerns and coordinating action, particularly amongst young people (Aragon, 2015). Concomitantly,

there is increasing emphasis on exploiting the ubiquity of ICT to draw attention to and address global youth priorities, for example by improving governance, accountability and transparency, service delivery or facilitating poverty eradication, etc.

Figure 1: unique subscribers and penetration rates – Sub-Saharan Africa

Source: GSMA (2014: 28)

The upsurge in ICT usage has had a direct impact on increasing civic engagement among youth, providing new avenues through which they are informed, shape opinions, organise, collaborate and take action. The ubiquity of mobile phones has created tremendous opportunities for making information available instantly and at a low cost. It can be used to seek, receive, create and impart information and ideas at any time and for any purpose, including demanding information and transparency from governments and ensuring they deliver on their mandates (SIDA, 2009)

Discussion has now moved beyond how to improve ICT access to how usage of ICT can be leveraged to enhance dialogue and understanding amongst youth and between the generations. Particular attention has focused on the role mobile technology can play in facilitating improved youth development outcomes in a number of linked areas:
- Governance, accountability and transparency
- Delivery of essential services
- Promoting positive social norms and behavioural change
- Humanitarian response in crisis situations

Challenges, barriers and opportunities

While access to technology and associated electronic content has changed the lives of many young people in developed countries, this is not always the case in developing nations (UN, 2012). A number of barriers and challenges remain that must be tackled to ensure that mobile phones and social media can fulfil their potential as catalytic tools for improving development outcomes for young people. Kleine *et al* (2014) identify a number of challenges, barriers and opportunities.
- Access, equity and the socio-political factors which dictate availability and affordability of ICTs
- Gender and the specific challenges for girls in accessing and utilising ICT
- The role of intermediaries, assessing who controls access to and use of ICTs, and their implication
- Local demand and appropriate design i.e. the importance of contextualised, user-centred approaches to design

Kleine *et al* (2014) explain that from an equity perspective innovative use of ICT needs to focus on reaching more marginalised groups first and emphasises the ongoing need for evidence building and learning through evaluation.

Access to mobile technology

Access to ICTs such as computers, mobile phones and the internet, especially broadband, remains a challenge for some youth, particularly young rural females (Stewart *et al*, 2015). The ITU estimates there are around 7 billion mobile subscriptions globally, they are unable to disaggregate between those with multiple subscriptions or individuals who share phones (ITU, 2015). While mobile phone coverage is extensive, it is not yet universal, the World Bank (2012) estimates that there are 1.4 billion people without a mobile phone subscription. Those most likely not to have access are poorer, least-educated and female, as well as those living in remote areas.

GSMA (2015) identifies the unconnected population in developing countries as predominantly rural, with characteristics such as low incomes and high levels of illiteracy. Blumenstock and Eagle (2012), comparing the population of Rwandan mobile phone owners to the general population, suggest that phones are disproportionately owned and used by the wealthier strata of society. They found that phone owners tend to be wealthier, better educated, and predominantly male (Blumenstock and Eagle, 2012: 1). Similar findings have been recorded by Blackman and Srivastava (2011) who suggest that 10% of the global population and 40% of people in least developed countries are not covered by a mobile network, thereby entrenching divisions between populations in urban centres and poorer populations in the periphery.

In addition, the cost of ICT access (mobile phones and internet in particular) is a higher proportion of monthly wages in low income countries. The cost of mobile services excludes certain groups, particularly the very poorest segments of society. UNDP (2012: 8) estimated that the price basket for mobile services can amount to 15.75 percent of monthly average per capita income in countries with low human development (compared with 4.86 percent in medium human development contexts).

Figure 2: mobile phone access and human development 2010
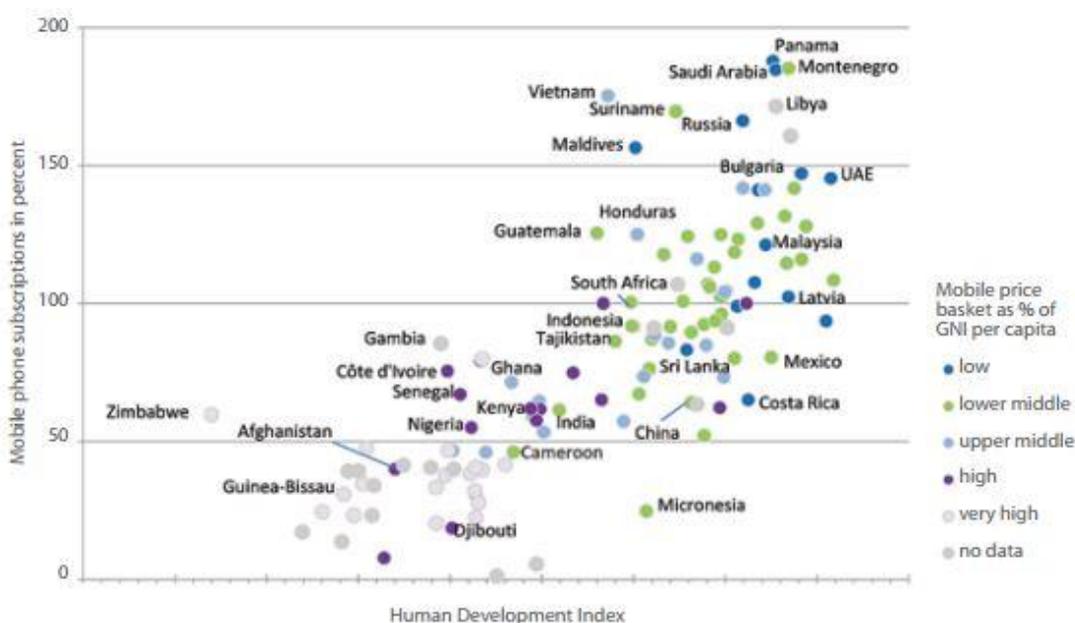
Source: UNDP (2012: 39)

A significant proportion of unconnected populations live in rural, and in some cases, geographically remote areas. These areas have additional infrastructure challenges such as a lack of electricity and low road density, which provide additional obstacles to extending network coverage. As studies on gender and ICTs in Africa highlighted women's access is mediated by education, disposable income, time, safety and security of location, technophobia and inadequate content for women and girls (GIS, 2013).

Despite these concerns mobile phone subscriptions in the developing world are outpacing those in the developed world and costs are coming down (GSMA, 2013).

Political will

Mobile phones alone are incapable of raising people out of poverty or encouraging democratic governance. UNDP (2012) refers to mobile phones as catalytic tools for enhancing and broadening development programming when deployed strategically. Similarly, GIS (2013) comments that ICTs alone cannot change inequitable systems and values and may replicate and potentially exacerbate existing inequalities, including those related to gender, class, race, disability, age and other forms of identity.

GIS (2007) comments that the experience of citizen involvement in public policy advocacy around the world has shown that the status quo tends to prevail unless political will to implement change is strengthened by active citizen participation. In instances where political will exists, this may be undermined by a lack of awareness of the advantages of ICTs, coupled with a low level of skills.

In processes of participation, deliberation, priority setting and monitoring, ICT, particularly mobile phones and social media, is a powerful enabler of youth engagement in governance decisions. For example, ICT can be utilised to measure and quantify the results of youth-focused urban initiatives, thereby helping to demonstrate impact and compensate for resource constraints.

Ben-Attar and Campbell (2012: 28) note that ICT can be a tool for addressing youth issue but require the complementary development of youth-oriented policies and programmes that view the young as assets in development as well as youth oriented budgets. They conclude that mobilising political will is imperative to meaningfully engaging with the young and leveraging the potential of mobile technology. Ben-Attar and Campbell (2012) suggest that improving outcomes for youth in governance processes and services is dependent on improved sensitisation and capacity building at local government level.

ICT has potential to serve as a youth mainstreaming device that helps to coordinate youth services across ministries and levels of government. This requires capacity building among local government officials, ICT skill-building and youth sensitisation.

Social media has been used as a tool to support development outcomes (access to markets, financial services and employment; accountability and transparency; service delivery; and protection of human rights) and to push for social change and transformation. However, Haider *et al* (2011) caution that new media should not be seen as socially neutral tools. Despite the growth of information and communication technologies in the developing world, in particular mobile phones, some technologies may not be accessible to marginalised groups, which can reinforce societal inequalities.

As Haider *et al* (2011) highlight, there are divergent perspectives on the role ICTs can play. Many donors argue that ICTs can positively impact on government transparency, responsiveness, and accountability and empower citizens by increasing flows of information between governments and citizens. Others caution that ICTs are not a panacea – they rely on the political will of organisations to be transparent.

ICTs can only bring about improvements in government-citizen communication if citizens have the capacity to access and use them.

Adaptation and optimisation

Hanna (2009) notes that many ICT development projects are undermined by a failure to understand the socio-institutional context. She suggests that adaptation and optimisation is required, stressing that best practices are unlikely to be universal as the impact of ICT is influenced by contextual factors (Hanna, 2009). Haider *et al* (2011) highlight that it is the creative ways in which people have adapted technologies rather than the technologies themselves that are a force for social change

Broadband limitations in many developing countries have led to the innovation of "narrowband" mobile communications applications such as text messaging and scaled-down social networking.

Figure 3: narrowband social networking technologies

Narrowband Social Networking Technologies

Narrowband Technology	Description	Usage
Facebook Zero	Stripped-down version of Facebook designed for mobile technologies. Works mostly with text, photos/videos/heavy data available through a secondary option. Optimized for speed through mobile operators (not only internet providers). Offers free texting and usage (no data charges).	Rolled out in 2010 with 50 mobile operators in 45 countries (mostly developing).
Renren mobile platform	Open platform version of China's leading social network designed for mobile phones, optimizes user experiences where connection capacity and speed are limited.	Renren also called "Chinese Facebook", popular among young people, launched open platform as early as December 2009
MXit Mobile Technology	Africa's largest mobile text messaging service and social network. Developed in South Africa, offering more affordable means of social networking and sending messages than SMS, utilizing instant messenger system available on almost any phone.	750 million text messages sent per day, 40 million registered users in Africa, majority of users ages 18-25.
Opera Mini	Web browser designed for mobile phones. Compresses web pages, speeding up transfer by two or three times and dramatically reducing the amount of data transferred, reducing data charges.	World's most popular mobile browser with 168 million unique users and 117 billion monthly page views.
Gmail SMS	Allows Gmail users to send and receive emails in the form of SMS from their mobiles Developed to adopt to SMS-heavy user habits in developing countries allowing owners of even the most basic handsets to use email without the need for 3G or any data connection.	Currently launched in 3 African countries – Ghana, Nigeria, Kenya.

Source: Ben-Attar and Campbell (2012: 12)

Examples of innovative mobile solutions to socio-economic challenges can be drawn from Kenya and the role the money transfer system M-PESA has played in improving financial inclusion. Here, the lack of financial infrastructure was considered a significant impediment to financial inclusion with M-Pesa providing a mobile phone based alternative. The service was commercially launched in 2007 and 68% of

adults report using 'mobile money'. Similarly, in Sudan more than half of adults use mobile money (AfDB, 2013: 48).

ICT impact on youth outcomes

Rapid advances in ICT, particularly mobile technology and the expansion of usage is considered to have the potential to impact on youth development outcomes. Individuals are exploiting new technology for both commercial and social benefit, tapping into vast markets (both rural and urban) particularly in developing countries and harnessing the potential of ICTs for transformational impact. Whilst the potential benefits of exploiting mobile technology are universal, it is the expansion of mobile coverage in developing countries that offers the most potential. Access to telecommunications can improve the social and economic conditions of people by improving access to education, health and financial services and by enabling the development of economic activity (GSMA, 2012). Alongside these tangible benefits one can also place the more intangible benefits listed below:

- Promotion of social cohesion
- Extension of communications to users with low education, literacy and income
- Transfer of wealth to poorer regions
- Stimulating locally driven content
- Assisting in disaster relief

UNDP (2012) comments that mobile technology is strengthening the demand side of governance by providing people with critical tools to engage with public institutions and demand more and better services. Further, UNDP (2012) notes that this fosters greater transparency and social accountability and enhances service delivery and reform within important institutions thereby generating new possibilities for open government. Mobile phones open channels for connecting the poor to services, new ways for citizens to have their voices heard, and opportunities for civic engagement in governance processes.

Ben-Attar and Campbell (2012) comment that the young face challenges that are specific to their stage in the life cycle. They place a premium on education and employment, for example and can benefit from ICT services to enhance their opportunities in these areas. Examples might include mobile services for job placement, job readiness, entrepreneurship and e-learning.

The use of ICTs by the young is considered to have wide-ranging effects on youth transitions. Hanna (2009) comments that ICTs, particularly mobile phones, offer unprecedented opportunities for accessing and disseminating information, leveraging opportunities and providing support for young people.

Mobile phones and social media offer one means of potentially improving outcomes for youth by enabling them to obtain and access information in a faster and more transparent manner. This, in turn, enables governments to better understand the status, needs and potential of youth.

Conversely, youth groups are more aware of the limitations and possibilities of local governments in providing services. User-generated content among youth is a key ingredient of this process. The sharing of information is empowering youth to civic action.

Mobile phones and social media provide new opportunities for accessing education and job opportunities. The channels through which youth can access information are expanding and enhancing their agency. For example, the private and anonymous nature of the internet offers youth the possibility to discretely access information about reproductive health and sexuality that they may be otherwise too embarrassed to ask or unable to talk about for cultural reasons.

Kalathil and Boas (2003) comment that the spread of ICTs in societies where access to information has been limited is making ICT an even more critical tool. At the same time, closed regimes can still effectively limit or shut down communications if they choose to do so. This was for instance witnessed during the uprising in Egypt where the regime sought to limit access to services like Twitter and Facebook.

ICTs, particularly mobile phones and social media, allow for the effective scaling-up of youth participation efforts and their increased inclusion. Young leaders can reach unprecedented numbers of youth with their projects and programmes, including the previously unengaged and disadvantaged, giving a voice to people who feel they have previously been unheard. GSMA (2015) notes that a diverse range of players, including mobile operators, entrepreneurs, corporates, governments, investors and NGOs and CSOs have driven an expansion of mobile-enabled products and services across the developing world, aimed at addressing a number of social, political and economic challenges. Mobile technology has and will increasingly play a significant role in the following areas:

- **mHealth**: utilising mobile technology to offer remote consultation, monitoring, and access to patient records. Mobile health has the potential to bridge the healthcare access deficit.
- **mFinance**: enabling the use of mobile phones to deposit, withdraw, and transfer money easily.
- **mEducation:** leveraging mobile devices to provide access to education including access to resources, tools and materials.
- **mAutomotive**: utilising mobile technology to monitor and manage logistics.
- **mAgriculture**: providing agricultural information to mobiles on topics such as pests and diseases, weather, farming practices, climate, machinery etc.
- **mGovernment:** using ICTs to improve the activities of public sector organisations, facilitating government interaction with businesses, its employees and citizens – mGovernment makes information easily and readily available to public officials and citizens.
- **mEmployment**: using mobile technology as a job search tool, providing skills training and job matching.
- **Smart Cities**: smart commute interventions such as mobile-based payments, live transit scheduling, and commute-time updates to encourage use of public transport.

However, despite wide spread support for the utilisation of mobile phone technology and promising findings from various projects, there has been little comprehensive research or rigorous evaluation of the causal influence of mobile phones and social media on youth development outcomes (Haider, 2011). Similarly, the World Development Report (2007) comments that few evaluations of youth programmes in developing countries unambiguously identify the causality from policy to programme to effect with many (youth) programmes falling into the promising but unproven. Emdon *et al* (2014) comment on the need for more dedicated research in this area alongside the provision of mentoring and training for those keen to exploit the potential of ICT, particularly mobile phones. Kleine (2014) comment that further exploration is required on how best to mitigate issues regarding access and the potential role advances in data collection can play in facilitating responsive, adaptive and participatory policy making and programming.

There is little discussion about the effects of power and politics on ICT intervention decisions and the roles of stakeholders with vested interests (Unwin, 2009).

The evidence there is suggests that mobile phone and social media interventions are most successful when part of a wider range of initiatives. The influence of the wider enabling environment (i.e. the extent of political buy-in, the presence of influential civil society organisations and the development of youth focused government policies and initiatives) needs to be considered. Further to this, interventions are seen to be more successful when they combine two or more ICT tools that have also proven to enhance

two-way interaction between citizens and government. Such combinations gain a wider reach of citizen information disbursement, facilitating wider audience reach and higher response rates (iHub, 2014).

3. Kenya

Kenya is considered a leader in terms of ICT adoption in Africa. The national ICT policy of 2006 articulated a vision of "a prosperous ICT-driven Kenyan society". The policy's stated mission is "to improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable ICT services" (MoIC, 2006).

Figure 4: mobile phone penetration, cost and youth population – Kenya

	Total	Percentage
Population 2009*	38,610,097	100%
Youth population (age 10-24) 2009**	12,979,501	34%
Mobile penetration rate 2014***		80.50%
Households owning a mobile phone 2009*		63.20%
Mobile basket (% of GNI per capita) 2010****		16%

Source: *Government of Kenya (2010); ** IEA (2010); *** CAK (2014); **** World Bank (2012)

Kenya has been referred to as the Silicon Savanah. According to Stewart *et al* (2015: 33) three main factors have contributed to Kenya's emergence as a centre of technological innovation:

- A supportive government that has invested heavily in technology with the development of an open data policy.
- Mobile phone penetration and the success of M-PESA. The Kenyan government has fostered a regulatory environment that has encouraged and promoted the development of technology-based innovations. Most notable of these is the mobile money platform M-PESA which has laid the groundwork for mobile applications to be used in other sectors.
- Technology innovation hubs such as the co-working space iHub founded in 2010 which has been credited with the creation of a number of initiatives – Ushahidi, Ma3Route and mFarm.

The introduction of the money transfer service M-PESA is considered to be a particular success. It has become an instrument for promoting the financial inclusion of those without bank facilities (estimated at 52% by the RIA Kenya ICT Survey of 2007). Use of social media, such as blogs, twitter and facebook, is widespread in Kenya. The RIA 2012 ICT survey shows that 81.4% of respondents are signed up to at least one social media platform (RIA, 2012).

The economic impact of mobile telephony has been huge. Deloitte and the Global Mobile Tax Review show that, in 2011, the industry contributed about $3.6 billion to the country's gross domestic product. It has also made a significant contribution to employment (GSMA, 2011).

The former President Kibaki launched the Kenya Open Data Initiative in 2011, making government data freely available to the public through a single online portal. The goal of the initiative was to make core government development, demographic, statistical, and expenditure data available in digital format for use by researchers, policymakers, ICT developers and the general public. It is believed that Kenya is the first low-income developing country to have an open government data portal, the first in sub-Saharan Africa and second on the continent after Morocco.

Accountability and transparency: *Sauti Mtaani*

Nature of the intervention

The 2010 Constitution of Kenya explicitly calls for the inclusion of all population groups in decision-making and governance processes. It introduced a devolved system to decentralise the government and promote citizen participation. The devolved system of governance established 47 county assemblies, and each member of the county assembly (MCAs) represents a ward, which is the lowest electoral unit within Kenya's electoral system. Young people have, however, traditionally been excluded lacking knowledge, information, skills and platforms for engagement.

Sauti Mtaani, a Swahili phrase that loosely translates as the "voice in the hood", is a web-based platform developed by the Community Education and Empowerment Centre (CEEC) with the support of the Heinrich Böll Stiftung. With a website (http://sautimtaani.co.ke) and a short code (21393), the platform aims to facilitate civic engagement between youth and the MCAs, their local elected representatives.

Young people are able to send free text messages to their respective MCAs. Text messaging is free to ensure the inclusion of those participating wards in low-income areas of Nairobi. In turn, the MCA receives an alert on his or her phone and responds to the messages from any web-enabled device. This response is received on the sender's phone and simultaneously posted on the *Sauti Mtaani* website.

Maina (2015) comments that the MCAs are thus able to communicate with the youth even when they are away from their wards. To enhance interactions and to encourage healthy competition between the wards, the platform is complemented by a Facebook page and group. *Sauti Mtaani* seeks to facilitate youth participation in the field of ICT principally through a platform that combines the use of SMS and facebook.

Impact on youth outcomes

The platform for bridging the gap between young people and the MCAs has been welcomed by both young people and political representatives. iHub (2014) research notes that MCAs have welcomed the ease with which they can reach a large segment of their constituency, conversely the youth are pleased that many of the issues they raise are being addressed.

However, the implementation of *Sauti Mtaani* has faced a number of challenges. A 2014 study by iHub (2014) identifies a number of demotivating factors in the use of ICTs to improve governance, including:
- limited penetration,
- lack of a strategic approach,
- high costs,
- poor ICT skills,
- ignorance of citizens' rights,
- fear of retaliation,
- tools not suited to users,
- mistrust of leaders,
- lack of action once an issue is raised.

CEEC, which is not an organisation that specialises in ICT, had to go through a steep learning curve and encountered a number of challenges. To start with, getting the design of the platform right was not easy. The MCAs and youth groups were supportive of the concept in principle, but the first platform that was

set up proved to be cumbersome, difficult to use and costly. Thanks to feedback from the different stakeholders, a more user-friendly and cost-effective platform was designed (iHub, 2014).

Sauti Mtaani as a new concept has faced challenges. For the youth, these include apathy, lack of understanding of MCAs' mandate, mistrust of politicians, a belief that the MCAs will not respond to issues raised, and ignorance of their own rights and responsibilities. Some youth fear that the platform, being a purely ICT tool, will put a physical distance between them and the MCAs. Calls have been made for complementary online and offline engagement (Maina, 2015).

For the MCAs, challenges include fears that the platform will be used to incite youth against them, reluctance to be held accountable, and poor understanding of governance issues. Maina (2015) contends that the platform can only work if both youth groups and the MCAs buy into it. Strategies to mitigate the challenges include training the two key groups in leadership and governance, involving them in the design and improvement of the platform, familiarising them with its use, and popularising it in the wards (Maina, 2015).

Improving delivery of essential services: *Map Kibera*

Nature of the intervention

Map Kibera is a partnership between local youth, NGOs and several United Nations agencies including UNICEF. The project is based in the Kibera slum in Nairobi, Kenya, home to 250,000 residents. It engages young people, particularly young women and girls, in the participatory digital mapping of risks and vulnerabilities in their community, Africa's largest slum.

The *Map Kibera* project is based on the premise that basic geo-spatial knowledge is needed to support informed discussion and decision making about how life conditions and service delivery can be improved in the slum (Hagen, 2011). *Map Kibera* sought to achieve two broad objectives:
- Create an accurate geo-spatial representation of Kibera and its conditions
- Build capacity of the local community, particularly young people, to share information about local news, stories and events

The project seeks to identify safe and unsafe physical spaces, as well as raising awareness and offering advocacy opportunities around HIV and AIDS and other issues (Hagen, 2010). *Map Kibera* involves five steps:
- Stakeholder meetings: implementers consider issues of gender-based violence, HIV and AIDS or related topics to identify the most appropriate map data to collect.
- Map data collection: young mappers from the community use global positioning system devices and open source software to create a map of safe and dangerous areas which is then uploaded to OpenStreetMap.
- Community consultations: using printed maps, tracing paper and coloured pens, the mappers conduct discussions with girls and young women about safety and vulnerability, leading to better situational awareness for both girls and planners.
- Narrative media: young people from the community use videos, photos and audio to create short narratives about the issues they face, which are then interwoven into the map narrative.
- Advocacy: quantitative and qualitative data are used for advocacy with local governments, community leaders and other decision-makers to obtain better services and protection for young people.

The *Map Kibera* project recruited young volunteer community mappers residing in Kibera to map "points of interest" in the slum using simple GPS devices and uploading the data to OSM. The mappers collected information about the location of clinics, toilets, water points, places of worship etc. The project also introduced the Voice of Kibera website—www.voiceofkibera.org—an online news and information-sharing platform for the Kibera community. This mobile enabled service allowed Kibera's residents to submit and read news reports by phone and provided an SMS alert system that highlighted issues. As part of the second stage, *Map Kibera* extended its coverage of the conditions of the residents of the community and collected more contextualised information in the areas of health, security, education, water and sanitation (Hagen, 2011).

Impact on youth outcomes

Restless Development (2012) comments that the project has helped empower young people by equipping them with a variety of skills and experiences. It has also helped raise awareness of the issues facing the residents of Kibera, bringing those issues to the attention of the council, particularly those related to service delivery.

The impact of the *Map Kibera* project primarily relates to its success in gathering and presenting information that empowers residents (Gigler and Bailur, 2014). It has served practical purposes including the mapping of the previously unmapped slum, the labelling and monitoring of polling stations for the 2013 Kenyan election, recording and publicising the location of health facilities, schools, and other services as well as raising NGOs' awareness of local needs. The project has also contributed to the engagement and training of young people to use technology to advocate for change. Evidence of the wider impact of this project on youth development outcomes is, however, difficult to establish.

Gigler and Bailur (2014) conclude that there is no formal evidence of changes or improvements in service provision or other development policies in the slum. They suggest that the interplay of various factors may explain the mixed performance of *Map Kibera*. They highlight that the favourable information infrastructure in Kibera and strong CSO presence contributed to early successes, particularly in relation to training and mapping. However, the Kenyan Government has not acknowledged or endorsed the maps and do not use them suggesting a lack of government buy-in.

Promoting positive social norms and behavioural change: Mobile for Reproductive Health (m4RH)

Nature of the intervention

In 2009, with funding from the U.S. Agency for International Development (USAID), PROGRESS developed and piloted the Mobile for Reproductive Health (m4RH) project, which generated a set of text messages on family planning methods that users access via their mobile phones.
The m4RH approach to reaching contraceptive users was deployed in Kenya and Tanzania as part of a research study aimed at determining the feasibility of providing family planning information via text messaging, the reach of this communication channel and the potential impact on family planning use.

The m4RH project is conceptualised as an automated, text-based system that is compatible with any and every mobile phone to maximise reach and access to family planning information (PROGRESS, 2009). Since this was a new project and mobile phones are a novel method of delivering family planning information, research to obtain feedback on the project was carried out in countries where the m4RH project was piloted.

Impact on youth outcomes

The International Youth Working Group (IYWG, 2013) comments that text messaging is increasingly being used to improve young people's access to sexual and reproductive health information and services. However, as with mobile health in general, few SMS interventions that address sexual and reproductive health have been evaluated, especially among youth in developing countries (IYWG, 2013).

PROGRESS conducted a study testing the feasibility of text messaging to improve family planning. They found that text messaging was very common among mobile phone users with users frequently participating in promotions that were advertised by text message (PROGRESS, 2009). PROGRESS commented, that in Kenya, respondents said they often discussed family planning with their partners and that text messages received would prompt discussion. The text messaging service was perceived as being private, convenient and cost effective, and therefore was embraced by potential users.

This research suggests that providing family planning information via text message is a promising method of reaching women and men with health information. Given these positive results, the m4RH service was piloted in Kenya and Tanzania to gauge whether the m4RH text messaging project was a feasible and effective way to deliver family planning information (PROGRESS, 2009)

Findings from the 2010 pilot recorded that 4,817 unique users made a total of 12,954 queries to the m4RH system (FHI360, 2013). During in-depth telephone interviews with 22 Kenyan m4RH users, users reported they were very satisfied with the programme, saying the messages were easy to understand and informative. Adolescents and young adults up to 29 years old were the most frequent users of m4RH. About 39% of users who reported their gender were men. Combined analysis of the Kenya and Tanzania data found that providing contraceptive information via text message-based mobile phone system was an effective strategy for reaching the general public, including young people and men, and for influencing their contraceptive behaviour (FHI360, 2013). However, the evaluation noted that more research is needed to evaluate how to effectively link m4RH users to family planning services.

Vahdat *et al* (2013) comment that in line with previous successes in promoting reproductive health behaviours using mass media and mobile phones, m4RH appears to be a feasible option for reaching young people with information about contraception. Mobile phones provide an additional means for communicating reproductive health information and should be used to complement traditional media channels, while a programme like m4RH is a relatively cost-effective approach to encouraging behaviour change.

The evaluation concluded that it is feasible to:
- directly collect data from mhealth users via SMS
- m4RH is a cost effective method of increasing knowledge of family planning
- m4RH did not lead to behaviour change for the sample of survey respondents

4. Uganda

Uganda is estimated to have the world's second-youngest population, with the World Bank noting that, in 2009, more than half of Ugandans were under the age of 18 (World Bank, 2009). Uganda is also experiencing rapid advances in terms of mobile phone coverage, recorded at 51.9% in 2013, an increase of over 10% since 2010 (UCC, 2014). Uganda's National Information and Communication Technology Policy, published in 2003, highlights "gender mainstreaming" of ICT as a key objective.

Figure 5: mobile phone penetration, cost and youth population – Uganda

	Total	Percentage
Uganda population 2014*	34,856,813	100%
Uganda youth (age 15-24) population 2014*	7,851,002	22.5%
Mobile penetration rate 2013**		51.9%
Households owning a mobile phone 2010***		52%
Mobile basket (% of GNI per capita) 2010***		29.3%

Source: *CIA (2014); ** UCC (2014); ***World Bank (2012)

The Ugandan Communication Commission (2015) estimates that for the period 2014-2015, the total communications sector contribution to tax revenue grew by 40.9% up from UGX 434.75bn to UGX 484.42bn.

Improving delivery of essential services: Uganda uReport

Nature of the intervention

uReport is a mobile phone text based service designed to give young people a chance to voice their opinions on issues that they consider important for their communities, encourage citizen-led development and create positive change.

In Uganda, UNICEF and the uReport service have created a platform for strengthening communication and dialogue around core development issues through SMS and social media. Young "social monitors" are sent regular polls, are able to gather data on community services and issues and receive useful facts for action and advocacy. Feedback is provided via SMS and social media (UNICEF, 2015). uReport has over 280,000 Ugandans signed up and participating as of May 2015.

After registering via a free short-code, uReporters receive weekly polls asking for their opinions on issues such as health concerns, employment opportunities, available services in their communities, etc. Answers are analysed and displayed on a public dashboard; answers consist of a mix of qualitative and quantitative data, which are then mapped according to district and collated at a national level. Results are shared with all uReporters and issues arising are explored further with additional questions and responses, thus building a cohesive dialogue that is communicated to policymakers and publicised in the media to influence social change (Cummins and Huddleston, 2013).

The goal of uReport is to exploit the ubiquity and connectivity of mobile phones to ask young people what they think about specific issues affecting their community and to encourage them to participate in community-led development projects (Cummins, 2012).

UNICEF and other agencies have also begun to use uReport as an extension of their monitoring and evaluation systems (Blaschke *et al*, 2012) as well as during humanitarian responses such as the Ebola crisis. uReport is considered a simple, inexpensive, and effective way to get real-time feedback on projects in the field and to ensure that aid programmes are being targeted correctly. As users provide demographic information at the time of registration, UNICEF is able to disaggregate the data and decide where to concentrate their resources and programmes.

Impact on youth outcomes

uReport has demonstrated itself to be a multifaceted tool that is able to raise awareness on specific issues, support community-led development and information sharing with parliamentarians, as well as supporting policy advocacy. Cummins and Huddleston (2013) note that results of uReport polls are featured in weekly television and radio programmes as well as in newspaper reports. In addition, parliamentarians receive uReport updates that they can use in their legislative work. Cummins and Huddleston (2013) note that every member of the Ugandan parliament is part of the uReport programme, and over 100 parliamentarians have expressed interest in using uReport to improve their engagement with citizens.

uReport is considered a relative success in terms of drawing attention to youth concerns and encouraging action by those in power (Cummins and Huddleston, 2013). The Ugandan Parliament has created its own version of uReport, uSpeak, to conduct constituent outreach. This collaborative approach also supports increased data-sharing and transparency, especially at a national level.

UNICEF's Uganda Conflict Analysis (2012) indicated that disenfranchised and marginalised youth constituted a critical conflict driver in Uganda, informing the organisation's focus on adolescent interventions in its Peace Building Education and Advocacy programme. uReport was identified as one example of how engaging with young people can generate crucial peace capital by giving them a collective voice with which to engage with government. Currently, UNICEF Uganda is exploring ways in which uReporters can be 'connected' at district level to quickly mobilise advocacy networks and interventions around critical issues (Llamazares and Mulloy, 2014).

Llamazares and Mulloy (2014) comment that while efforts are made to recruit a wide range of young people, access issues persist with the recruitment of certain groups such as rural women remaining a challenge. Mobile access and network coverage are increasing modestly and the recurring costs raise concerns about long-term sustainability. Similarly, ensuring that minority opinions on sensitive topics are heard is challenging and critical to uReport's mission. While uReport is accessible in four of the main languages in Uganda, this leaves a number of dialects unrepresented. Literacy also remains a major barrier for use.

Promoting positive social norms and behavioural change: Women of Uganda Network (WOUGNET)

Nature of the intervention

The Women of Uganda Network (WOUGNET) is an NGO launched in 2000 by several women's organisations in Uganda to develop the use of ICTs among women as tools to share information and address issues collectively. WOUGNET has emerged as a strong advocate of the use of ICT to promote women's rights in Uganda, particularly among the young. WOUGNET has sought to establish its online presence over a period of time, combining this with training for NGOs on how to leverage the power of technology to encourage access to and sharing of information (WOUGNET, 2006). WOUGNET has established and moderates one of the most active mailing lists in Uganda. The mailing list provides a platform for civil society and NGOs to share ideas, opportunities, and other relevant information with subscribers. WOUGNET also uses Facebook and Twitter to share information and mobilise people for activities.

WOUGNET's work focuses on three main areas:
- information sharing and networking
- technical support and gender
- ICT policy advocacy

Through its website, online discussion groups and workshops, WOUGNET seeks to help women who are already involved in sustainable development efforts as well as small business use of technology to further their own goals.

WOUGNET has also used SMS for advocacy to participate in the global campaigns in support of the annual 16 Days of Activism against Gender Based Violence that runs from November to December. On each of the 16 days SMS messages are dispatched on topical issues with some of the responses also sent out to subscribers. In order to increase the scope of the outreach efforts as well as to integrate mobile and internet applications, all SMS messages posted or received during these campaigns are posted to a blog on the WOUGNET website. The campaigns have drawn participants from over 20 countries in Africa, Asia, Europe, North and South America, thereby integrating the Ugandan perspective with international activism on violence against women.

Impact on youth outcomes

WOUGNET has organised several SMS campaigns to raise awareness about causes such as the 16 Days of Activism against Violence Against Women. Based on this experience, WOUGNET has also promoted the use of mobile phones (SMS) for advocacy purposes, for example, disseminating information on gender-based violence (GBV).

Discussing the challenges associated with WOUGNET's work, particularly with rural communities, Okello, (2012) comments:
- While ICT projects are possible with rural communities, no one technology can be used in isolation. Innovative use of available and affordable technologies has to be made.
- At the infrastructure level, pro-poor gender-sensitive ICT policies have to be in place to support ready access to affordable high-speed ICT infrastructure.
- Partnerships and collaborations are of paramount importance. For example, within the agriculture sector, WOUGNET has partnered with national and local agricultural research institutions, universities and agricultural-focused organisations.
- ICT projects at community level require time. Since ICT projects do not always provide tangible inputs or outputs, it can take a while for them to demonstrate impact. The process of transfer from information to a final product is a process and the community needs time to understand and become engaged so such projects cannot be hurried or rushed.
- There is a clear relationship between the level of literacy and response to ICT-based innovations if social change is to be achieved. In general, applications that are voice based or image-based will fare better but may be more costly or more demanding of high-speed ICT infrastructure.
- ICT projects require social and technological skills as well as the commitment of stakeholders.
- ICT projects can create an inclusive public sphere. For example, the young, aged and disabled can participate in such projects as they allow for anonymous participation.

GIS (2007) comments that a lack of vision and institutional capacity among civil society, the government and private sector in Uganda has inhibited the impact of WOUGNET's social media and mobile phone campaigns. WOUGNET found that although the political will existed in Uganda, there was a lack of

awareness of the advantages of ICTs, coupled with a low level of skill. This lack of skill, awareness and capacity, has hampered the utilisation of mobile phone and social media campaigns.

Further to this, WOUGNET (2006) comments that access to ICTs by women is constrained by inadequate technological infrastructure in rural areas, social and cultural bias, low levels of education and skill, and the lack of disposable income to purchase technology and e-services. The media's limited understanding of gender issues and a lack of gender disaggregated data on ICTs also act as inhibitors (WOUGNET, 2006).

The Association for Progressive Communication (APC, 2009) concludes that SMS can and has strategically been used by WOUGNET to promote women's rights. Using SMS is relatively affordable and enables many people to speak out on issues of concern to them.

5. Nigeria

Nigeria is Africa's most populous country with a population of 181,562,056, comprising more than 250 ethnic groups. The country also has the highest mobile penetration rate in Africa with 78 subscriptions per 100 inhabitants and the ninth highest globally. The National ICT Policy seeks to leverage technology, particularly mobile phones, to "address some socio-economic and development challenges while facilitating the transformation of Nigeria into a knowledge based economy" (Government of Nigeria, 2009).

Figure 6: mobile phone penetration, cost and youth population – Nigeria

	Total	Percentage
Nigeria population 2014*	181,562,056	100%
Uganda youth (age 15-24) population 2014*	35,188,462	19.38%
Mobile penetration rate 2013*		78%
Households owning a mobile phone 2010**		60%
Mobile basket (% of GNI per capita) 2010**		13.4%

Source: *CIA (2014); **World Bank (2012)

Promoting positive social norms and behavioural change: the Learning about Living project

Nature of the intervention

The Learning about Living (LaL) project was coordinated by OneWorld UK (OWUK) and initially piloted in Lagos and Cross River States, and the Federal Capital Territory, Abuja, from 2007-2009. The project involved the development and implementation of an e-learning system based on the Nigerian Family Life and HIV/AIDS Education (FLHE) curriculum. An associated mobile component comprising a question and answer service and a competition was used to further engage young people.

The stated mission of LaL was "to leverage cross-media ICT innovatively to promote sexuality education, gender empowerment and life skills among young people in Nigeria" (Oneworld, 2009). The overarching goal of the project was to contribute to the reduction in prevalence of sexual reproductive health (SRH) issues, HIV/AIDS and gender violence among young people in Nigeria by improving access to accurate and

appropriate information through ICT. Specifically, the project was designed to assist the teaching of SRH issues in schools and community centres through a digital version of the national FLHE curriculum.

Supported by mobile phone services which allow young people to anonymously text or call trained counsellors, LaL aims to extend the reach and impact of SRH education in Nigeria by:

- Utilising ICT to equip young people with the relevant skills to enable them make informed decisions about their sexual health, prevent HIV/AIDS and gender based violence, and associated mortality and morbidity, especially maternal mortality
- To improve discussion and information on reproductive health education and reduce socio-cultural tendencies that lead to a reluctance to discuss these issues amongst young people
- To increase gender equality by reducing the prevalence of and offering positive alternatives to gender constructs that assume male superiority and the acceptability of violence against women in Nigerian society

Impact on youth outcomes

By the end of the pilot phase in January 2009, One World (2009) reported that the project had met and exceeded its core goals, with almost 9,000 young people reached by the partners in the different locations on the eLearning programme. This statement was echoed by an independent evaluation conducted in October 2008 that found that LaL had made significant progress in achieving its goals. It concluded that schools were effectively using FLHE, that LaL had built accurate knowledge and skills in sexual and reproductive health and ICT and life skills of young people were being improved (Lawal, 2008). The evaluation recommended a scale-up of the project through expansion to other parts of the country.

A 2011 independent evaluation stated that significant achievements have been made in all major project components (NCCE, 2011). The evaluation team was satisfied that the project had made significant progress in achieving all the targets specified in the project log frame:

- schools are effectively using e-version of the FLHE;
- mobile phone extension is available and accessible to young people;
- there is an appreciable increase in the number of young people with accurate knowledge and improved skills in SRH, ICT and life skills.

The mobile phone component of the project was considered to have expanded steadily and to be providing accurate information on SRH/HIV/AIDS and gender issues to young people across the country. This component was available on four major mobile telecom networks. The number of queries submitted to the platform increased annually from about 9,000 in 2007, to 60,440 in 2008, 94,646 in 2009, 98,354 in 2010 and 145,504 in 2011 culminating in a total of 398,944 queries. The number of repeat users also increased from about 1,600 in 2007 to about 50,688 in 2011 which suggests an increase in client usage (NCCE, 2011).

NCCE (2011) commented that partnerships and capacity building with civil society and government institutions helped in the expansion of the project. At the national level, the National Agency for the Control of AIDS (NACA), Federal Ministry of Education through the Global Fund, and NCCE, have rolled out the platform in schools. At the state level, project partners and the Ministries of Education (MoE) have supported project activities through incorporation of the e-learning platform in all FLHE training, support for trained teachers by providing an enabling environment for implementation as well as providing resource materials for trained teachers. The project has thus established linkages that can be used in support of sexuality education. The project was also seen to have had a positive impact on the implementing CSOs, who have indicated enhanced programming capacities and improved relationships

with other CSOs and government structures. Partner organisations reported improved staff capacity as well as better programme delivery cutting across both LaL projects and other organisational activities (NCCE, 2011).

The evaluation concluded that LaL had performed well in achieving its core mandate of using ICT to provide young people with accurate information about sexual and reproductive health/HIV/AIDS and gender empowerment. The project has also demonstrated that mobile phone and social media interventions could work given the right support environment.

6. West Africa

Humanitarian response in crisis situations: Ebola mobile response

Nature of the intervention

Access to reliable data is considered imperative in humanitarian crisis situations, enabling agencies to track the spread of disease or disaster, helping workers in the field to track awareness and perceptions of interventions, and assess long-term impact after aid workers have left (Stewart *et al*, 2015).

The Ebola crisis is considered to mark the coming of age for the use of mobile technologies in the humanitarian sector (Bauer *et al*, 2015). The GSMA, through its Mobile for Development mHealth and Disaster Response programmes, developed the Ebola Mobile Response blueprint which involved three phases:
- Phase 1: provide a mobile based information product with credible, validated and endorsed local content, approved by WHO, that links to country specific response protocols
- Phase 2: provide anonymised data from mobile operator call data records (CDR) for disease tracking and response
- Phase 3: provide health worker mobile based services customised for each country's needs

The GSMA sought to assist ministries of health and other government agencies to activate the required support of mobile network operators in five countries, by providing their network platforms for a coordinated and effective response to the Ebola outbreak. These countries were Guinea, Liberia, Nigeria, Senegal and Sierra Leone. This intervention was also extended to other West African countries along with other high risk countries. This work is being facilitated by the GSMA with international support from the World Bank and the World Health Organisation (GSMA, 2014).

With regards to assessing food security during the crisis, Sweeney (2015) comment that movement restrictions and quarantines, in addition to fear of contracting the disease, had made implementation of traditional face-to-face food security assessments in Ebola-affected communities extremely difficult. The rapid spread of Ebola and concerns as to how the outbreak could negatively influence market access and food availability created a need for regular updates on food security.

GeoPoll worked with organisations including the World Food Programme and Keystone Accountability to collect data through remote mobile phone surveys that could be used to help target aid distribution and inform workers in the field of citizen perceptions. GeoPoll issued surveys through SMS or voice messages, allowing organisations to quickly gather information nationally or from key areas, which could then be viewed and analysed in real time (Sweeney, 2015).

In Liberia, USAID and UNICEF sought to provide training to young adults to play a leadership role in gathering and disseminating information. USAID-funded training events sought to teach social mobilisers how to use social media tools like WhatsApp and SMS-based uReport to stay connected while operating in their communities, educating people about how to protect themselves from the disease.

mHero is an open-source mobile phone-based communication systems for contacting, informing, surveying, and polling facility-based and community health workers on information, such as training materials, Ebola lab test results, and equipment/supplies etc. The system builds on and interacts with existing government/partner systems, including DHIS 2.0, RapidPro, Data Coordination Platform (DCP), and iHRIS (USAID, 2014).

Impact on youth outcomes

Youth-turned-social mobilisers in West Africa played a leadership role in the Ebola response, using social media tools on their mobile phones to stay connected and spread awareness about Ebola prevention in communities. The system was able to tell a story and support discussions on operational responses based on changing data trends. However, it was unable to zoom in on specific zones, making it difficult to observe differences between areas. As such, collected data was of limited use when determining how to target assistance other than geographically (Bauer *et al*, 2015).

There was no alternative to remote mobile data collection in the Ebola affected countries due to restrictions on staff movement that limited routine assessment activities. The crisis provided an opportunity to set up a remote data collection system which was put in place quickly and delivered data cost-efficiently. This experience shows that the tool could provide some added value in other settings where physical access to survey respondents is irregular or otherwise restricted, for instance in conflict zones. WFP's work with call centre-based phone surveys in central Somalia and the eastern Democratic Republic of Congo (DRC) points to the potential of such approaches.

Due to its streamlined nature, remote mobile data collection on its own is unlikely to satisfy the multiple (and growing) information needs of humanitarian managers. Mixed-mode systems that exploit the strengths of face-to-face and mobile data collection and allow for the triangulation of information, would be ideal.

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