

M4D - Mobile Communication for Development

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Abstract

The rise of mobile communication has been remarkable. This is especially the case in developing countries. This trend serves as the background to the emerging academic field of Mobile Communication for Development (M4D) to which we devote this paper. While access is still an important obstacle, there is no doubt that the proliferation of mobile telephony in developing countries has opened up a range of possibilities and new avenues for individuals, governments, aid agencies and NGOs. However being an emerging academic field there is need for greater conceptual and methodological rigour in the conduct of research as well as theoretical and methodological development. This paper will give a background of the field, an overview of research being carried out and challenges ahead. The aim of presenting this paper is to explore the possibility of establishing M4D as a research priority for Southern African - Nordic cooperation.

Introduction

Information and Communication Technologies (ICT hereafter) holds a key to the growth and development across the world. While the evolution of ICT is notable, the rise and uptake of mobile communication has been accelerating at a remarkable pace since the turn of the millennium, especially in developing regions (see Castells et al., 2006). The Centre for HumanIT at Karlstad University, Sweden, has been a driving force in establishing Mobile Communication for Development (M4D hereafter) as an academic discipline by organizing the first three international conferences on M4D. Gudrun Wicander was behind the initial development of these conference series during her PhD work on mobile supported e-government systems in Tanzania (see Wicander, 2011) under the supervision of John Sören Pettersson, professor in Information Systems at Karlstad University. Together with the Centre for HumanIT, to which they belonged, they organized the first conference on M4D in Karlstad

2008. Since then the conference has been held biannually, 2010 in Kampala, Uganda, in co-operation with Makerere University and 2012 in New Delhi, India, in co-operation with SERD (Society for Education and Research Development). Drawing from these conferences and early works in the field, this paper aims at giving an overview of M4D.

We will begin this paper with an account of the rise of mobile communication in the so-called developing world, which is the background to the emerging field of M4D, before further discussing what is understood from the three characters in the acronym M4D. What is mobile communication (M)? What is development (D)? And how can mobile communication further such development (4)? We will end the paper by briefly attending to some challenges in the field as well as future possibilities for Southern African - Nordic cooperation.

The Rise of Mobile Communication in Developing Regions

At the end of 2010, the number of mobile cellular telephone subscription reached 80 per 100 inhabitants of the world population (ITU, 2011). While the developed world has levelled out at a subscription rate of 114 per 100 inhabitants, the developing world has increased from less than 5 subscriptions in 2000 to more than 70 per 100 inhabitants in 2010 (ibid.). And since the developing world in some accounts measures up to 70 percent of the world population (see Wicander, 2009: 14) this means that about 75 percent of the total number of mobile subscriptions worldwide are concentrated to developing regions (as compared to less than 30 percent at the beginning of the millennium, see ITU, 2011). In relation to landline telephony (which is actually diminishing world wide) and internet usage, the mobile phone is the communication device par excellence in developing regions.

This rise of communication on mobile phones is largely the background to the emerging academic field of M4D. The proliferation of mobile phone subscriptions has opened up a range of possibilities and new avenues for NGO's, aid and government agencies, and has empowered people in their everyday lives. Examples from M4D conferences range from using the mobile phone for banking, telemedicine,

to empowerment and equality drives in societies, to report and monitor epidemics, for education, to reinforce literacy, as well as to monitor elections, fight corruption and mobilize support for social and political change (see Pettersson, 2008; Svensson & Wicander, 2010; Kumar & Svensson, 2012). But before giving an overview on how mobile communication has been used to further development, i.e. the “4” in the M4D acronym, we need to attend to the “M” and the “D”. What do we mean with mobile communication and what do we mean with development?

What is Mobile Communication?

In Wicander's (2009) overview of M4D she focuses on the mobile phone, which is the device mostly referred to in the field (see Pettersson, 2008; Wicander, 2009; Svensson & Wicander, 2010; Kumar & Svensson, 2012). The mobile phone is synonymous with the cell phone, cordless line telephone handset, cellular phone, and wireless telephone (Wicander, 2009: 15). Telephony is largely understood here as the transporting of a voice from one place to be heard in another without the transporting the body (Donner, 2008). And in contrast to a mass medium like the radio, where voices and sounds are broadcasted from one node to many others, telephony has the possibility of being interpersonal since connected nodes (connected through typing in the unique number to the device you wish to connect with) can talk and transmit voice and sound back and forth. The mobile phone in turn is a portable device which makes this interpersonal sound and voice communication possible wherever there is wireless network to connect the device to (Wicander, 2009: 16). Mobile telephony is thus defined in opposition to landline and fixed telephony. In other words, we are talking about voice- and sound-based communication with at least one of the communicating nodes using a portable device, connected to a wireless network which in turn makes it possible to connect to another device in the network (portable or fixed).

Most people with a mobile phone today, in the developed as well as the developing world, use the mobile phone for more things than just telephony (i.e. voice and sound-based interpersonal communication). Mobile phones are used for text messaging, taking pictures as well as storing and transmitting information, to mention

a few other non voice- and sound-based communicative possibilities with a simple mobile phone. Hence the mobile phone is a device that lends itself to so much more than just mobile telephony. Thus it makes more sense to speak of communication through mobile phones. However, this term could also include online communication from portable devices with internet access such as laptops, tablets and smart phones. To include such communication complicates the field of M4D at the moment, since mobile broadband subscriptions only reaches 5 out of 100 inhabitants in developing regions (ITU, 2011, see also Banks, 2010)¹. Hence, for the time being, we have to leave laptops, tablets and smart phones with internet capabilities aside when discussing M4D (even though smart phones are increasing at a fast rate in developing countries like India, see Garai, 2012). In sum, the portable communication device mostly used in developing regions is the mobile phone, and it is used for other functions than just telephony, such as text-messaging, photographing, audio- and video-playing (see Heeks & Jagun, 2007).

What does this rise in communication on mobile phones mean for its users, society and culture at large? The social constructivists approach to gender and technology studies argue that gender relations gain meaning and are realised through the use of technology (see Faulkner, 2001; Lie, 2003; Mellström, 2009; Wajcman, 2010). In other words gender and technology are shaped by the mutual relationship between them. In some respects the mobile phone reinforces existing social and gender systems but the same technology also enables a reinterpretation of expressions of gender (see Wamala 2012). This could be understood from a communication ecology perspective were communication processes are understood as contextual, i.e. situated in time and place involving an interdependent network of human and non-human actors (see Horst & Miller, 2006: 12ff). Within Media & Communication Studies changes in communication patterns have therefore often been connected to societal changes at large (see Horkheimer, 1947; Thompson, 2001/1995). It can be argued, for instance, that the advent of the printing press was tied to the rise of mass society and mass culture. Recently, many scholars made a similar argument, claiming that with

¹ Interestingly the number of mobile broadband subscriptions, while being low, is still higher than for fixed broadband subscription. Hence when the developing world will be connected, it will most likely be through mobile phones.

the rise of mobile (and digital) communication we are leaving mass society behind (see Benkler, 2006; Bruns, 2008; Shirky, 2009). Changes towards mobile and interpersonal communication are happening in tandem with us entering into what some sociologists label as late modernity (Giddens, 1991) and network society (van Dijk, 2006; Castells, 2010). The unifying cultural frameworks of modernity (such as family, church, local communities, unions, political parties et cetera) are dispersed and people become increasingly individualized, a process in which communities, personal relationships, social forms and commitments are less bound by history, place and tradition (Dahlgren, 2006). Here it needs to be clarified that accounts of late modern and network societies are primarily based in studies of the West, and might not apply to developing regions yet. However in Wicander's (2009) overview on M4D literature, adjectives such as portable, personal, simultaneous, autonomous, pervasive and nomadic are used to conceptualize the mobile phone, adjectives suggesting late modern perspectives of mobile telephony.

Media sociologist McLuhan (1968) famously argued that the medium is the message. So what is the message of the mobile phone and what kind of society is its rise intertwined with? The connected society is *the* label used to describe a society in which mobile phones are the prime mode of communication, connecting friends, family, colleagues and like-minded people (Castells et al., 2006; van Dijk, 2006). Thus a message mobile phones are carrying with them is that we should stay continuously connected (as echoed in the well-known Nokia slogan). Here the terms *perpetual contact* (introduced by Katz & Aakhus, 2002) or *connected presence* (introduced by Ling & Donner, 2009) captures well the larger implications of the rise in communication on mobile phones.

What is Development?

The notion *developing countries* does not refer to a homogenous group of countries, and there is no agreed-upon definition of what constitutes a developing region. There are different assessments of development, following different classifications and income categories (for an overview see Wicander, 2009: 14). Also the term development in itself is contested since it arguably springs from a modernist and

polarized world view (Traxler, 2008). Taking a social, cultural and economic dominance from the West for granted, the term implies that non-western regions need to be developed. The West is the 'developed standard' and the economic, democratic and social systems should be exported to the rest of the world. But as we shall see in this paper, when it comes to innovative usage of the mobile phone, the West has a lot to learn from developing regions (not the least when it comes to mobile banking). Recent economic turmoil in Europe and the US, coupled with problems with an ageing population, have also questioned the self-appointed economic world leadership of the West. And in the cultural field it is claimed that Bollywood cinema for example has long out-performed its Hollywood counterpart, both in terms of size, turnover and cultural impact (Skynews, <http://news.sky.com/home/showbiz-news/article/15650686>, retrieved 29 April 2012). We might then rethink what the terms developed and developing refer to. On the one hand, we have regions that have reached their peak when it comes to development and that are now starting to stagnate, whereas on the other side we have regions that are still developing in interesting and innovative ways. Our argument is that we can learn from each other and should avoid categorisations.

We find relevance in using the term development with relation to mobile communication especially if we bend towards Sen's (1999) capability approach theory. Development is discussed here as a kind of freedom which lends towards the capacity of individuals to not only assess, but to have the ability to transform, their situations (ibid.). M4D can benefit from this approach, as a critical theory to apply in assessing development related mobile communication, not the least because the capability approach takes context into account, such as the individual and social landscape within which processes of change are associated. In this way the kind of technological determinism often underlying M4D research could be prevented. To what level can thus development be related to access to and use of a mobile phone? From Sen's capability approach theory, it all depends on the way the technology furthers possibilities for individuals and groups to transform the specific situations they find themselves in. In the broad and complex field of development, this approach allow us to assess technology from its uses and the contexts in which it is used.

How can Mobile Communication be used for Development Purposes?

When it comes to communication on mobile phones there are those who claim that the impact that mobile phones have is as revolutionary as roads, railways and ports, increasing social cohesion and releasing the entrepreneurial spirit that stimulates trade and creates jobs (see Duncombe, 2010). This indicates a more technological deterministic view on M4D. On the other hand there are those who claim that technology in itself does not lead to social change; people decide how a particular technology will be used (Hafkin & Huyer, 2006: 3) and, depending on the political and socio-economic environment in which they live, adapt it accordingly (Banks, 2010). The truth is, as always, somewhere in the middle of these two poles, even though research in the field of M4D until now has had a tendency to lean towards a more technological deterministic view. The key is to approach the mobile phone, or any technology for that matter, as neither good nor bad in itself (Street, 1997; Wamala, 2012). The mobile phone can be used for development purposes, as we will attend to next, but it can also be used for by less benevolent actors, most notably for surveillance (Andrejevic, 2007). But this does not mean that the mobile phone is neutral and solely determined by context. As discussed previously, the co-production of gender and technology suggests that the mobile phone in its very design encourages specific patterns of behaviour from the part of the user. As also pointed out previously, communication on mobile phones pushes for a connected society which favours perpetual contact and a kind of connected presence. This being said, it is important to remember that mobile phones are used in different ways in developing countries compared to countries where electricity, computer hardware and internet connectivity are stable, reliable, cheap and abundant (Traxler, 2006; Wamala, 2010). Thus cultural conditions influence usage patterns of, and attitudes to, mobile phones at the same time as we can attribute some universal properties to mobile phone use (Donner, 2008; see also Horst & Miller 2010).

The proliferation of communication on mobile phones has opened up new avenues for individuals and groups to transform the situations in which they find themselves, improving social, human and economic conditions. Examples range from using the mobile phone for telemedicine (reaching expert consultation in remote and rural

areas), to reporting and monitoring malaria outbreaks (through software adapted to mobile phone interfaces), in agriculture (to receive information about input dealers, market prices and fertilizers, for mobile money (to innovate new ways to meet transactions needs of ordinary people) to learn English and reinforce literacy as well as to monitor elections, fight corruption and mobilize support for social and political change. We will attend to these uses next starting with mHealth.

mHealth

Communication on mobile phones play a significant role in health related areas. The mobile phone could be the device of choice for communication where users receive health care information (Istepanian et al., 2009) concerning all kinds of issues from childcare and hygiene to HIV and Tuberculosis (see Wicander, 2009: 46). Mobile use has been studied in a range of health-related projects including 1) improving dissemination of public health information such as AIDS awareness, disease outbreak and prevention messages (see Razzaq & Sayed, 2008; Hoefman & Bonny, 2010; Garai, 2012; Khanna et al., 2012) 2) facilitating remote consultation, diagnosis, and treatment (see Kuntiya & Mavunduse, 2008; Razzaq & Sayed, 2008; Kuntiya, 2010) 3) disseminating health information to doctors and nurses (Atnafu et al., 2010 4) managing patients (Atnafu et al., 2010 5) monitoring public health (Atnafu et al., 2010) and 6) increasing the efficiency of administrative systems (see Kinkade & Verclas 2008; Atnafu et al., 2010) 7) information on drug use (Chaudhury et al., 2012).

Studies have also shown that communication on mobile phones provides data to health workers so they can treat patients better and also for patients so they can make informed choices about their health, as well as using the mobile phone to collect data in order to improve patient and public health management (see Wicander, 2009: 46). A call on the mobile phone can be used to make a doctors appointment, call for help, get a diagnosis and medical advice, send prescriptions for medication, check in medicines are in stock, for intake reminders et cetera (ibid.). For a number of recent case studies in mHealth, such as using mobile phones for breast cancer patients, tuberculosis patients for male circumcision (for reverting female to male HIV

infections) and for reproductive health see papers from the 2012 M4D conference (Kumar & Svensson 2012: 7-118).

mMoney

In the Philippines people have been able to conduct their basic banking tasks via mobile networks since 2006 (Mendes et al., 2007). One notable early successful m-banking initiative is Globe Telecom in the Philippines (Donner, 2007). Communication via text messages (SMS) for banking purposes started with the passing of top-off credits among subscribers in exchange for services (see Lallana, 2004) and with the development of mobile currencies, m-payments/m-currency/m-money such as G-Cash from Globe Telecom and Smart Money from Smart Communications (Mendes et al., 2007). Examples of services are *Text a Payment* (users making loan payments using mobiles; once the m-money is in the mobile account, the user can SMS the loan payment and the transaction is protected by a PIN) and *Text a Deposit* (users making deposits into accounts with a rural bank using mobiles phones, deposit instructions are encrypted and password protected, see Mendes et al, 2007).

Africa, which lacks financial institutions in rural areas more than in the Philippines, has an even greater need for financial services (Wicander, 2009: 54). Among the several m-banking services (see Wicander, 2009: 54ff for an overview) the most well known is in Kenya popular M-PESA (Donner, 2007). M-PESA was launched by Commercial Bank of Africa, Safaricom and Vodafone in 2007 as the first m-banking service in East Africa, with over 100,000 users during the first 3 months (Wicander, 2009: 55). M-PESA allows users to deposit, withdraw money and transfer money to another M-PESA customer, to buy Safaricom pre-paid airtime and to manage their M-PESA accounts such as checking the balance, call for support, change their PIN code et cetera (ibid.). Registration is free for Safaricom subscribers, and agents are Safaricom dealers or other retailers with a substantial distribution network such as petrol stations (ibid.). Their key tasks are to register M-PESA customers, to assist with deposit of cash into M-PESA accounts, to process cash withdrawals for

registered M-PESA customers and to process cash withdrawals for those who are not registered customers (ibid.).

Mobile are not only used for banking purposes. In the M4D literature there are examples of how mobile phones are used also to boost business in music (Impio et al., 2008), education, health et cetera (see papers from the latest M4D conference, Kumar & Svensson, 2012: 273-374).

mLivelihood

Communication on mobile phones are also used to improve the farming sector (see Wamala, 2010). The mobile phone can be used for inventory management and market search. Fishermen have used the mobile phone to access information about price volumes, how much fish to catch and to which market to take it (Abraham, 2006; UNCTAD, 2008). Commercial trading platforms have been established, allowing users to request price data and trading information via SMS (ibid.). Such information obtained in real time allows users to improve their negotiating position and increase their earnings. Thanks to market efficiency fishermen's profit rose by eight percent and customer prices fell by four percent (UNCTAD, 2008). Hence, enhanced flow of information can help local markets to work more efficiently.

Mobile phones have been used for weather information for famers (UNCTAD, 2008; Wamala, 2010). Timing of the annual onset of monsoon rains is crucial for farming communities as it dictates when to sow crops and when to take products to the market (Wamala 2010). Market inefficiencies due to lack of information results in a waste of up to 12\$ billion of fruit and vegetable production (UNCTAD, 2008). Local-language information on weather and market prices can be provided through text-messages to mobile phones. Farmers can regularly receive and send vital information, and translate information into local languages using local databases of mobile phone numbers (UNCTAD, 2008). Especially accessing information about market conditions are used by farmers in developing regions, hence reducing travels (ibid.). Some operators provide trading facilities on mobiles phones, allowing sales directly from the farm (ibid.). By checking prices farmers can avoid paying excessive

commissions to intermediaries, and the improved position makes them able to negotiate with full knowledge of market and price conditions.

A study from Bangladesh showed that more than half of the farmers used mobile phones in receiving agricultural information (Kashem, 2010). A study from Tanzania showed communication on mobile phones affected the entire cyclic of farming, from preparation, farming, harvesting and marketing, resulting in increased opportunities and reduced risks (Matotay & Furuholt, 2010) making farmers positive towards using mobile phones (as Shankaraiah & Swamy, 2012 study in India shows). Mobile phones have also been used to empower female farming cooperatives (Vincent & Cull, 2010) because through the technology women negotiate market prices collectively thereby removing unashamedly fraudulent middlemen (Wamala, 2010). The same technology enables women to share information regarding their farming practices, and having direct access to information that does not go through their husbands continues to provide women with some level of autonomy (ibid.). The mobile phone can also attract youth to agriculture serving as intermediaries between farmers and farming research centres (Manolo & Van de Fliert, 2012).

mGovernance and mParticipation

The so-called Arab Spring has ushered in an era of enhanced citizen participation in governance issues. Social media tools and text messaging features on the mobile phone continue to assist towards physically amassing citizens in political demonstrations. Besides crowding gathering, the mobile phone assists in making governments accountable to citizens as the technology insists on a bi-directional exchange. This could be labelled as *sousveillance* (see Bakir, 2010), i. e. using the mobile as a tool for bottom-up monitoring of the state by the citizens, such as human rights reporting (see Wagenaar & Rieback, 2010; Thinyane & Coulson, 2012), election monitoring (Hellström & Karefeldt, 2012) and fighting corruption (Hellström, 2010; Talukdar, 2012). Thus access to mobile phones have improved people's situation in several areas providing political news, organizing political resistance and even deposing a president (see Rheingold, 2002).

Concerning mGovernance, India has been leading in developing government services through mobile phones such as sending and making information available to citizens (see Karan & Khoo, 2008). SMS have been used for fair distribution of food, for government officials to send reports from the field and to monitor health care delivery (Garai, 2012). Especially the state of Kerala has been implementing text-messaging in practically everything, from sending electricity bills to information on bus timetables.

By staying connected and being reachable, examples on how mobile phones empower households and individuals can be found from other parts of the world as well (see UNCTAD, 2008; Wicander, 2009: 44). In Senegal mobile phones are used as tools for social mobilization (Debar et al., 2010) and in Tanzania to give voice to marginalized populations (Fuglesang, 2010). There are also numerous studies of how communication on mobile phones can also be used to empower women (see for example Dravid & Klimes, 2012 and Pundir & Kanwar, 2012).

mLearning

The first cell phone novel was written and published in Japan by a young writer known as Yoshi. Yoshi pushed out chapters of his novel through Multimedia Messaging Services (MMS) targeting mostly high school students who formed majority of his readers. The trend has since been popularised in other countries like the U.S.A and it is thought that it has changed the literally landscape as well as the shape and form of what writing and reading will look like in the future. With regards to education this is seen as a way of encouraging and attracting students to read more, and express themselves more through mobile writing (see www.textnovel.com/keitai, retrieved 12 May 2012).

In certain townships in South Africa twice as many school kids have mobile phones compared to computers making it a good tool for education applications (Gunzo & Dalvit, 2012). Because of its portability, simplicity and affordability the mobile phone is used in education (Donner 2008). Communication on mobile phones could provide affordable access to education in remote areas, nomadic and displaced communities. Mobile phones could enhance and supplement in-class learning by

recording lectures and podcast lectures, synching with a television or using the mobile as a calculator (Wicander, 2009: 47). The mobile phone also has the potential to amplify and enable local modes of content and knowledge transmission (ibid.), as well as it can support educational administration (Traxler, 2006).

In regions where most of the teachers have mobiles phones, communication on them could be used to contact and stay in touch with parents and students regarding test schedules, exams, enrolment criteria, fees, admission dates, holidays, cancellation of classes, to distribute information about seminar and meetings et cetera (see Wicander, 2009: 47). Other examples of mLearning are how to use the mobile phone for edutainment such as quizzes to educate on HIV and Tuberculosis (see Khanna et al., 2012).

Literacy remains a big problem in the world with one fifth, or one billion, not being able to read or write. Even in this area the mobile phone could be used (see Debar et al., 2010 for a study in Senegal). But it remains important to design mobile phones and applications for non-literate communities (White, 2010). Studies have for example showed that farmers in Kenya prefer voice over text not the least due to issues of literacy (see Crandall, 2012). And here voice-based applications and re-narration innovations are of importance (see Dinesh & Uskudarli, 2012).

Challenges and Future Possibilities

These examples show, the possibilities and usages of communication on mobile phones for development purposes. However, from an academic perspective, Duncombe (2010) has called for a greater conceptual and methodological rigour in the conduct of research as well as theoretical and methodological development of the field. The field is young and still suffers from techno-determinism. As Richard Heeks outlined in his keynote address already in 2008, “we are too ready to the merry-go-round of novelty”, implying that we are so fascinated by new technology, amazed

with what can be done with it, that we forget to scrutinize it critically and oversee contextual factors for adoption and use.

There is a need for critical perspectives as well as contributions from more sociological oriented researchers. Poveda & Svensson (2012), drawing on theories from Media and Sociology contribute with a critical perspective on the increase of mobile communication in developing countries. Their argument is that mobile telephony not only brings with it new and increasing opportunities for development, but also gives commercial companies a cheap and direct access to communities which previously had been either left out or considered beyond reach. Also Lyytinen (2010) has underlined that the role of the private sector in ICT for development as well as M4D remains understudied.

Drawing on gender and technology studies, Wamala (2010) illustrates the social inequalities pervading mobile phone access and use in Uganda. Using gender as a point of analysis, access in all its variance continues to favour men/boys. Women's social economic control is still in the hands of men and use of a mobile phone requires financial injections that many women do not have access to. In response to this, communication practices are constantly being re-negotiated many of which are packed with gender hierarchies that make visible the sociological orders in society (see Wamala 2012). In rural areas where infrastructural challenges require innovative access strategies such as climbing hills, at times even trees, to acquire the elusive signal, these practices are contained within the male norm as acceptable behaviour for this group, but unacceptable for women. As such women may own mobile phones but their access is limited to mobile handset possession.

Even within these constraints the mobile phone continues to empower many women across Africa. Take mGovernance as a case in point, through this technology, women who have previously been barred from taking part in governance processes can now contribute to various debates from the comfort of their homes. Where in the past women have been unable to travel to public meetings, or take part in public rallies they are now speaking through the mobile phone actively engaging in political processes (Wamala 2011).

Communication on mobile phones is transforming our societies in a much profounder way than just opening up opportunities for development. It transforms our understandings of identity, discourse, community, technology, knowledge, space and time just to mention a few (Traxler, 2008: 95). Therefore we return to the more sociological questions on what the rise in communication on mobile phones mean for its users, society and culture at large, questions that we need to address to fully understand the impact of mobile phones and possible areas of use. A study in Tanzania for example showed that mobile phones are not primarily used for economic and business purposes but for maintaining relationships (Mpogole et al., 2008). Hence, the mobile phone is not just a tool for development but a ubiquitous technology in which our everyday life and relations are negotiated and made relevant.

The field of M4D has to keep up with perpetual technological developments. The last few years have marshalled in smart phones, which have created numerous opportunities. For example majority of Uganda's 4.5 million Internet users access their Internet services through mobile phones (CIPESA, 2012). This has increased Internet penetration in Uganda and precipitated an increase in the use of social media tools for most of the areas we have covered in this paper. Development efforts (including techies, NGOs, government and academics) are turning to the mobile phone as a powerful tool for development and local mobile applications that address everyday services and information needs are fast becoming ubiquitous. Smart phones are however limited to the urban elite, and the average rural Ugandan has access to a basic mobile phone that does not support half the features the smart phone promises. East Africans recognise this discrepancy and there is growing reference to an mDivide (smart phones/basic phones) that should be addressed.

The Nordic region has harnessed ICT and mobile applications across many domains and the same is true for Southern African countries. There have been plenty of mobile applications ranging from agriculture and micro-finance to the health and governance, to serve these communities. We have presented here an overview and examples of how to use communication on mobile phones for development purposes from many different countries. And we hope that we have made it clear that both developed and

developing regions can learn from each other. This is the reason for presenting M4 as a future research priority for Nordic and Southern African universities.

In conclusion, with the proliferation on mobile phones in developing regions, we know that research on M4D is important. But we also know that a rapid growth in number of subscriptions does not imply development per se (see Mpogole et al.; Mtenzi et al., 2008). Hence we are still struggling on how to do M4D research right, in a field that is still biased towards techno-determinism, lacking critical perspectives and not sufficiently taking contextual barriers into account. We hope to be able to address such issues in a SANORD context.

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