

Mobile Reporting: New Perspectives for Alternative Journalism

Olivier Nyirubugara
Amsterdam, May 2011

1. Introduction

The last fifteen years have witnessed an unprecedented emergence of neologisms corresponding to, and reflecting new concepts related to new media technologies. *Collective Intelligence* appeared in 1997 to refer to the fact that the combination of the knowledge of many people is more powerful than the one of a few select people (Lévy, 1997: 29). Close to it is the *wisdom of the crowd*, which means that the judgment and appreciation of the masses tells much about the value of the appreciated media object of content, and *crowdsourcing*, whereby the public is invited 'to perform tasks, usually for little or no money, that were once the sole province of employees' (Howe, 2009: 8). All these new media phenomena are made possible by Web 2.0. technologies, characterized mainly by interactivity and user-generated content, among others. From the journalistic point of view, these technologies have opened new horizons both for professional journalists and citizens aspiring to become news brokers. With the right tools and technologies in the hands of users, the latter can turn use their skills and talents to create contents of all sorts, including news stories, reports, pictures, and videos.

In what follows, I would like to focus on the latter aspect, by using experiences from VoicesofAfrica, a mobile reporting project run by Voices of Africa Media Foundation to train young African men and women to produce audiovisual news reports using mobile phones. In my position as senior trainer and coach, I have had the privilege to be involved not only in the project conception, but also in the curriculum design and in on-the-field trainings as well as in online coaching. I want first to discuss the two main concepts that make up mobile reporting, namely the mobile phone technology and community reporting, before exploring the potential impacts of this alternative form of journalism in the light of concrete experiences.

2. The Power of the Mobile Phone

In September 2010, BBC's star presenter Zeinab Badawi made a series of reports in Niger, West Africa, where unprecedented drought was causing large-scale famine in the country. She made some reports in the capital Niamey, others in provincial towns, and

yet other quite from remote villages. In one report titled 'Niger facing catastrophic hunger crisis',¹ she begins by stating that she was in a 'small village in Zinda', showing a man climbing into his empty grain store, and a woman with two children – one in her back – staring straight at the camera as they walked. As the three were almost out of sight, another child, around 4 or five, appear behind them equally staring at the camera. Unlike those before him, he stopped, still staring at the camera. Then Badawi is shown wearing a white hat walking on the main village square in the middle of a crowd of 5-6-years olds, all looking at her as she proceeded with her story. Since these scenes repeated themselves throughout the report, though under various forms, I will stop here and reflect a bit on them. Two questions are worth asking here: Why are the villagers constantly staring at the camera? Why is Badawi surrounded with a crowd of children who keep their eyes on her? I will handle the first question right away, while I will keep the second for the next section.

Thus: Why are the villagers – either kids or adults - constantly staring at the camera? Simply because, being in a 'small village in Zinda', they ignored all about the 'Big Camera'. They were wondering why that 'thing' was pointed at them and following them. This attitude in itself puts the villagers a new situation, different from the one they were in before being followed by the unknown object. In this respect, Roland Barthes' observation on the familiarity existing between the subject being photographed and photographic technology is illustrative. Barthes (1980:24-27) remarked that whenever he knew that the camera objective was aimed at him – like the villagers in Zinda - , whenever he felt that he was being photographed – which, again, was the case for the Zinda villagers -, he would fabricate another body for himself, he would metamorphose. Jacques Derrida, too, made a similar confession with regard to unfamiliar recording devices and how they affect the communication between the recording person and the recorded one: 'When the process of recording begins, I am inhibited, paralyzed, arrested, I don't "get anywhere" [*je "fais du sur-place]* and I don't think, I don't speak in the way I do when I'm not in this situation' (Derrida and Stiegler, [1993] 2002: 71). It is with Barthes and Derrida in the mind that I analyze the attitude of the Zinda villagers. The recording technology was inhibiting – as the constant, curious, look at it testifies - and whatever the villagers told the journalist was most likely affected by that technology.

¹ BBC News Africa, 'Niger facing catastrophic hunger crisis' (15 September 2010) <http://www.bbc.co.uk/news/world-africa-11312019> (Accessed 21 March 2011).

From the reflection made above, it would be assumed that a familiar recording technology would yield a different result. No one would care or constantly wonder the sort of object is following him or her all the way long. Let us imagine that that object is in any villagers' pocket, or that at least each of them knows its primary function and has used it. That technology would not force the people being filmed or photographed into a new situation. They would not have to metamorphose, which any journalist is looking for. Let us call that technology the mobile phone. All studies and research on the mobile phone show that it has become the most familiar, the most popular, and arguably the most useful technology in Africa. Banking, previously reserved for senior civil servants, is now open to the unemployed and the poor, thanks to the mobile phone (see Brown *et al.*, 2003; Morawczynski and Miscione, 2008; Camner and Sjöblom, 2009); informal traders and farmers are reported to make more profits thanks to better business coordination made possible by the phone (see Molony, 2008; Elegbeleye, 2005); rural information projects reach a wider public through SMS systems; *etc.* Statistics in many African countries show that over 90 percent of the population has access to the phone, with countries like Gabon getting closer to a 100 percent mobile phone access rate (Etzo and Collender, 2010: 2; see also James and Versteeg, 2007:120). However, access should not be confounded with ownership, whose rates are still very low. Sharing and public mobile phones make access rates much higher than ownership ones. In this respect, only 4.35 percent of Tanzanians owned phones in 2004, while 97 percent had access to the mobile phone that same year, thanks, among others, to practices like sharing (Dutt *et al.*, 2006: 12; see also Scott *et al.*, 2004:1; Donner, 2006: 18; James and Versteeg, 2007:118-119).

With those routine uses and all-saying statistics, it is clear that the phone is now part of everyday life, including in the remotest villages, where it has replaced the drum as a communication tool (Hahn and Kibora, 2008: 102, citing Sylvestre Ouédraogo). In this respect, then, 'the mobile phone in the village does not create a new logic of social order, but the patterns of its usage are made up according to the social norms of the rural society' (*Ibid.*). It follows that a journalist showing up with a mobile phone would not be introducing anything new or strange in the village. This is, in short, the first principle of VoicesofAfrica mobile reporting project: use the most routine technology to make reports on everyday issues in the most spontaneous way. The novelty that mobile reporting has brought, is that the attitude of both the interviewee and the reporter – this one will be explained later – will

remain natural, which is hard in mainstream journalism, with its conventional recording tools.

3. The Do-It-All Phone

The roots of the mobile phone are in the invention of the mechanical telegraph in the eighteenth century. The telegraph was the communication technology that ‘permitted for the first time the effective separation of communication from transportation’ and thereby ‘altered the spatial and temporal boundaries of human interaction’ (Carey, [1989] 2009: 156-157; see also Goggin, 2006:19). The subsequent history of distance voice communication saw the invention of the telephone in the late nineteenth century (Goggin, 2006:20), the early developments of mobile phones by Motorola between the 1930s and 1960s (*Ibid.*: 8) and the commercialization of the first mobile phones in the late 1970s (*Ibid.*: 29). From that time, the history of the mobile phone was told in terms of Gs, or Generations: 1G phones, the first ones, were not only of huge size, but also voice-only devices (*Ibid.*:31). 2G phones, which dominated the 1980s and 1990s, made the phone smaller, and used digitally coded, and compressed sound, which was transmitted via radio waves. Besides, they added the address book, the time functionalities, games, sophisticated menus and interfaces, and voice messages, among others (*Ibid.*: 31-32). 3G devices appeared in the late 1990s and were dominant by the halfway the first decade of the 20th century. These devices ‘finally made “picture” phones a commercial reality’ and introduced interactive video communications (*Ibid.*: 33). As I write this, 4G phones are making their way onto the market, with particular stress on connectivity.²

This brief history shows that 3G phones marked a new era, by including multimedia in the phone. Pictures, video, and text had become part of the basic functions of the mobile phone. I want to build on that and explore the ways in which those multimedia artifacts are created and edited into a news reports. I will illustrate my point using my experience with VoicesofAfrica. I will argue and demonstrate that mobile phones in the hands of journalists have become Do-It-All tools. Before going further, I

² In late June 2010, mobile phone manufacture Samsung launched its G4 phone, the *Epic 4G* with integrated Google’s Android 2.1 operating system to browse the Internet and a network connectivity 10 times speedier than existing 3G phones (Ganapati, 2010). That same year, Nokia launched its 4G Nokia, N8, in Kenya, with increased facility to access Web TV, social networking media, and ‘the ability to make HD-quality videos and edit them with an intuitive built-in editing suite’ (ITNews Africa, 16 November 2010).

should say that most of technical comments relate to the Nokia mobile phones the training project has been using. So far, the trainees have worked with Nokia N73, Nokia N79, both now out of production, and currently Nokia E52. The project did not initially choose to work with Nokia, as the first phones were offered in 2007 by a Dutch company that supported the project. However, given what those phones have been able to achieve, it could be maintained that these devices are of superior quality. New media and communication scholar Gerard Goggin (2006:8), who published extensively on Internet, mobiles, telecommunications, and new media, describes Nokia as 'a leader in designing cell phones to make them attractive and customizable' and as built on the technical avant-garde reputation of the Nordic countries.

3.1. Recording

Traditionally, recordings for professional uses have been done using special devices, designed for recording: professional video cameras are designed to make high-quality videos, photo cameras to make optimal pictures, and sound recorder to make perfect sound recordings. 3G and now 4G mobile phones seem to end this fragmentation, as the various tasks previously done by separate devices are done, though not yet with the same results, by the mobile phone. Sociologist Rich Ling (2004:22) rightly points that 'the mobile telephone pops up in new settings and, in some ways, recasts those settings'. One way the mobile phone is recasting journalism is the convergence of all recording tasks: the phone as video camera, the phone as photo camera, and the phone as sound recorder. As new media and popular culture scholar Henry Jenkins ([2006] 2008: 16; see also Ling, 2004:3) remarks, 'Our cell phones are not simply telecommunications devices', as they have taken up other tasks initially completed with other media:

...they also allow us to play games, download information from the Internet, and take and send photographs or text messages. Increasingly they allow us to watch previews of new films, download installments of serialized novels, or attend concerts from remote locations.

In the framework of mobile reporting trainings, the mobile phone has proven to be an efficient image and sound recording tool. Beside the audiovisual and photo functionalities, which are often cited to the detriment of others, the sound recording functionality is very helpful for reporters. There are two options to record sound: simultaneously with the video, and as a stand-alone mp3 file that can be used on radio or as a voiceover for a video clip. This functionality is very helpful because it enables the

reporter to kill at least three birds with one stone. In the era when most journalists both in developing and developed countries increasingly work on a freelance basis and for multiple outlets, the same audio file can be used for a radio report (or as a podcast), a Web TV report, and for a written paper or magazine either on-or offline.

However, phone manufacturers seem to have neglected the sound-recording functionality, compared to what they offer for videos and pictures. For image functionalities, they offer the users a number of options, including putting the flash on or off, zooming in and out, color and light settings, and the possibility to switch on the external lamp when its dark, among others. For the sound, all the user is offered is a button to start and stop recording. The built-in microphone is not equipped with a noise filter, which is disturbing for the viewers or listeners and irritating for the reporter. Skeptics have based their criticisms on the shortcomings of the mobile phone in terms of quality. There is no doubt that the quality of the mobile phone camera and sound recorder is inferior to those of devices specifically designed for recording tasks. However, with the three Nokia models I have worked with, one could see clear improvement. While Nokia N73's images were blurry with image setting at 'High-quality' with a 1.2 megapixel resolution; its successor N79 could produce from 'Low' to 'TV-quality' images, with a 7.6 megapixel resolution. As for E52, it, too, offers image quality ranging from 'Low' to 'TV-quality', though with a 3 megapixel resolution. What is essential to note in this case, is that mobile files are not meant for traditional TV, but for Web TV.

3.2. Editing

When video and sound recordings are done, and pictures taken, the next step is turning them into a report that conveys news and information. The same phone serves as an editing studio, or an editing suite. Of the 5 or 10 clips totaling several minutes, and the few audio files including his or her own comments, the reporter has to make a report of about 2 minutes of length. This length is somehow arbitrarily determined but has a reason: a 2-minute file is generally not too heavy – between 16 and 20 MB - to upload from Africa. For that reason, we advise to set the image quality setting at 'High' rather than 'TV-Quality'. When connectivity improves, which seems to be the case, one could imagine short mobile documentaries, entirely shot and edited with mobile phones. For now thus, I want to focus on short news reports, which necessitates some basic editing.

Experience has shown that it is always preferable to start the editing work with the voiceover. The reporter has already a clear idea of the story's focus, of the approach, and of the arguments the various sources have put forward. As I mentioned above, the phone's sound functionalities have been largely neglected. This is true for the editing of sound files as well. For most phones, it is possible to cut, merge, and mute video files, but it is impossible to do the same for the audio files. For this reason, reporters are advised to make finished audio inputs separately and note down on a sheet of paper their respective durations. Any mistakes or hesitation in the recording means that the recording has to start from scratch. The recording process goes as follows: the lead is recorded first together with the introduction of the first source, then comes a comment and a transition to the next interviewee, and so on. At the end, the reporter wraps up and closes the report. At the end, there are at least 3 audio files that have to be part of the final report.

The editing proper begins with the identification of usable clips or extracts. These clips are of two sorts: on the one hand, some clips are meant to be used in their audiovisual form – interviews, gunfire, traffic *etc.* - ; on the other hand, other clips are meant to serve as background images illustrating the reporter's voiceover story. Generally the reporter begins with isolating the first category, which contains quotes and other on-the-field sound-based information. He and she does so by cutting them out of the original clips and creating new stand-alone video files. The same process follows for background images. At this level, the reporter needs the paper on which he or she wrote the duration of the audio files, because the clips *must* have *exactly* the same length. For a 15-second lead for instance, 3 clips of 5 seconds each, can be identified and isolated.

The next step consists in *merging* clips with corresponding audio files. In other words, the lead receives corresponding clips, between-quotes comments receive images, and so on. At this stage, the media gallery contains already tens of files, containing originals and isolated clips, but also merged clips. It should be noted that first-level mergers do not erase the files that compose it, but rather result in a new file. The first-level merger starts with the muting of the background clip and ends with the importing of a new sound file to replace the original. If the video and the audio files are of different durations, there will be unpleasant discrepancies that take time to remove. The last step, as one might guess, is the second-level merger consisting in putting together all the

pieces of the puzzle. The result is a *mobile report*. It appears here that one single person is required to do everything, with one tool, and in a very short time span, which pushes to agree with media scholar Mark Deuze (2007: 155), that, new technologies in the news industry increase demand for and pressure on journalists, who have to retool and diversify their skillset to produce more work in the same amount of time under ongoing deadline pressures for one or more media.

4- Community about Itself

Let me first answer the second question I posed above about Zeinab Badawi's reports in Niger. The question was: why did a crowd of children surround and keep their eyes on her Badawi? Following the same reasoning used to answer the first question, I would say that Badawi was unknown to the community, which turned her into a tourist from far away and worth constantly contemplating. She is fairly dark-skinned like the villagers, but, as she admitted in the report while speaking to a female villager, she did not speak Hausa, like the villagers. Thus, she was a stranger, with a strange language, and, as noted above, with strange recording tools. As she reported live from the main village square, a crowd of children surrounding her watched her and seemed to enjoy the 'strange' language she was speaking. The questions that arise here are the following: expressed under those unnatural circumstances, will the inhibited villagers' views be genuine? Will the journalist's interpretations reflect what the villagers meant without knowing the local culture and language?

To answer them, I would refer to one report by Dutch journalist Erik Mouthaan in Haiti in the aftermath of the January 2010 tragic earthquake. In that report made in January 2011, as Haiti was celebrating the first anniversary of the earthquake, Mouthaan reported from a camp of the displaced near Port-au-Prince.³ After stating that the houseless Haitians were furious for their government's slow reconstruction efforts, the journalist visited Jean Porcelin's open-air workshop and shows him carrying and then working on pieces of iron that would be used to repair buses or other transport vehicles. The journalist asks in French why the bus is not painted in white, to hear the following – equally in French - from Porcelin:

³ RTL Nieuws, 'Erik Mouthaan terug naar Haïti' (1 January 2011) http://www.rtl.nl/%28/actueel/rtlnieuws/%29/components/actueel/rtlnieuws/2011/01_januari/12/verrijkingsonderdelen/erik_mouthaan_terug_naar_hait.xml (Accessed 22 March 2011)

No no no, here it's like that, it's our culture. Many colors...if this vehicle is not really beautiful, one would refuse to board it or to travel with.⁴

Further in the report, Mouthaan goes deep into the camp and interviewed Rousseline Xavier, a food item seller whose selling shelves and bed are side by side in a plastic sheeting hut. She says in French:

We don't have a decent life here. We can't find eh eh [mouth grimace accompanied by hand movement, meaning that words are not coming easily] we can't find anything here, that's what I want to say.⁵

Two remarks spring from these two interviews by a Western reporter: in the first place, some basic local assumptions are strange to him. Porcelin's answer as to why he would not paint the bus entirely in white, was that, multiple colors meant beauty in the Haitian culture. An assumption that could be made from a community reporting perspective would be that a community reporter, who shares the same culture, would go more into the significance of color combinations and the messages they carry in times of mourning as compared with joyful times. In the second place, Rousseline cannot fully express her ideas. When she says 'We can't find eh eh', the viewer expects a list of basic items and services she and other displaced can't have access to. But the hesitations [eh, eh], followed by a mouth grimace and a revealing hand gesture and an abrupt 'We can't find anything here', push to think that there is something unusual in her interaction with the journalist. There was certainly a big camera in the small hut, a cameraman and a journalist, both strangers, and a translator, as Mouthaan explains in other reports in Haiti.⁶ All these factors create a inhibiting environment which is not favorable for a spontaneous and natural communication process.

With the above-mentioned examples in the background, I want to argue that community reporting, that is reporting by community members on their own community result in more spontaneous, real-life, and detail-giving reporting. There are many psychological reasons to back this argument. The most important one is that in

⁴ Original text: 'pourquoi pas en blanc? Non, non, non, ici c' est comme ça, c' est notre culture. Beaucoup de couleurs... si cette camionnette n' est pas vraiment jolie, on peut dire il ne faut pas la monter ou voyager avec.'

⁵ Original text: 'Nous ne vivons pas très bien ici. Nous ne trouvons de eh eh... On ne trouve rien ici, je veux dire.'

⁶ In this report for instance:

<http://www.rtl.nl/components/actueel/rtlnieuws/miMedia/2010/week13/Thu22.hoe-rtlnieuws-in-haiti-werkt1.xml> (Accessed 24 March 2011)

most communities, especially in Africa, in-house feelings, issues, projects, and the like, are seldom shared with strangers. The latter are warmly welcomed and respected, but penetrating the community's life remains problematic. To that, one should add the fact that the stranger speaks a different language, ignores the culture and corresponding assumptions taken for granted by the community. Moreover, as noted in the previous section, that stranger carries unfamiliar technology. In contrast, community reporters are neighbours, friends, relatives, acquaintances, who speak the local language or dialect and grew up in the same culture. In most cases, they share the same issues as the people they are interviewing, and thus ask questions not as outsiders interviewing insiders, but as insiders interviewing insiders.

Let me illustrate this with a few concrete examples. On 10 July 2009, Joseph Aram, a *VoicesofAfrica* mobile reporter in Arusha, northern Tanzania, filed a video report with the title 'Tanzania: Peasants upset as pigs destroy crops.'⁷ In the report, Aram shows a maize plantation devastated by wild pigs, coming from the nearby Arusha National Park. He also shows wooden makeshift huts built to shelter vigilantes at night when it rains, and peasants on patrolling the plantations holding machetes. Aram himself comes from a family of farmers and was thus affected by the pigs' invasion. Three things are worth highlighting here: first, the issue reported about is a community issue; second, the reporter is himself affected; third, the farmers remain natural in their doings – no apparent posing – as Aram is the son of the community, with the most familiar new technology – the mobile phone – in his hand. His role as community reporter was to put the issue on the table for decision makers to take action. On the community level, efforts were made to kill famine-causing pigs. The missing part is the effort by other parties, especially those in Dar es Salaam, which would be beyond the community reporting coverage.

Other examples come from Adhe Dida, a mobile reporter from Isiolo, Kenya. From his reports one realises immediately that he comes from a community of cattle herders. In one report in May 2010, he reported about a river that was vital for both farming and

⁷ Joseph Aram, 'Tanzania: Peasants upset as pigs destroy crops', *VoicesofAfrica.com* (10 July 2009)

http://voicesofafrica.africanews.com/site/Tanzania_Peasants_upset_as_pigs_destroy_crops/list_messages/25918 (Accessed 24 March 2011)

cattle-rearing communities, and how both communities have diversified their activities based on that river.⁸

Mobile community reporting becomes exciting when one observes the trends that emerge from one country or one region over a period of a few months. In Kenya, for instance, reports made between November and late December 2007, a period corresponding to the electoral campaign that ended with political chaos and mass massacred, show that that catastrophe had been announced by ordinary people in remote villages, far from mainstream media. Another role the mobile phone in the hands of community reporters plays is showing locally accepted abuses to the world, with a chance that these abuses will stop after action or outrage from whoever will watch the reports, including local government authorities. One such abuse is hard labour for children in a number of places on the African continent.

5- Conclusion

To conclude, I would say that new media technologies, namely the Web and the mobile phone have given rise to new forms of journalism. One of them is mobile community reporting which, beside other forms like blogging or discussion forums, have earned the name of alternative journalism. These forms of journalism are not meant to eclipse mainstream journalism but rather to create the Long Tail (Anderson, 2006) of the news sector, whereby big news and small news are published on the Web side by side for the users to evaluate. In this respect, VoicesofAfrica mobile reporting project hopes to bring its contribution from the Africa perspectives, where technological developments seems to be faster than in other parts of the world.

6- References

- Anderson, Chris (2006) *The Long Tail: Why the Future of Business Is Selling Less of More* (New York: Hyperion).
- Barthes, Roland (1980) *La chambre claire: Note sur la photographie* (Paris: Gallimard Seuil).
- Brian, Adero (2010) 'Nokia N8 now available in Kenya', *ITNews Africa*, 16 November. <<http://www.itnewsafrika.com/?p=9560>> (Accessed 22 March 2011).

⁸ Kenya: Village life turns around a stream
<http://voicesofafrica.africanews.com/site/Kenya_Village_life_turns_around_a_stream/list_mes_sages/32321> (Accessed 27 March 2011).

- Brown, Irwin et al. (2003) 'Cell phone banking: predictors of adoption in South Africa - an exploratory study', *International Journal of Information Management*, 23, pp. 381-394.
- Camner, Gunnar & Sjöblom, Emil (2009) *Can the success of M-PESA be repeated? A review of the implementations in Kenya and Tanzania*.
<<http://www.mobileactive.org/research/can-success-m-pesa-be-repeated-review-implementations-kenya-and-tanzania>> (Accessed 23 March 2011).
- Carey, James ([1989] 2009) *Communication as Culture: Essays on Media and Society* (New York: Routledge). Revised Edition.
- Derrida, Jacques and Stiegler, Bernard (2002) *Echographies of Television*. (Cambridge: Polity). Filmed Interviews.
- Deuze, Mark (2007) *Media Work* (Cambridge: Polity Press).
- Donner, Jonathan (2006) 'The Social and Economic Implications of Mobile Telephony in Rwanda: An Ownership/Access Typology', *Knowledge, Technology, & Policy*, Summer, 19, 2, pp. 17-28.
- Elegbeleye, O.S. (2005) 'Prevalent Use of Global System of Mobile Phone (GSM) for Communication in Nigeria: A Breakthrough in Interactional Enhancement or a Drawback?', *Nordic Journal of African Studies*, 14, 2, pp.193-207
- Etzo, Sebastiana & Collender, Guy (2010) 'The Mobile Phone "Revolution" in Africa: Rhetoric or Reality', *African Affairs*, (13 August), pp. 1-10.
- Ganapati, Priya (2010) 'Samsung Launches 4G Phone on Sprint', *Wired*, 26 June <<http://www.wired.com/gadgetlab/tag/epic/>> (Accessed 22 March 2011).
- Goggin, Gerard (2006) *Cell Phone Culture: Mobile Technology in Everyday Life* (London: Routledge).
- Hahn, Hans Peter & Kibora, Ludovic (2008) 'The domestication of the mobile phone: oral society and new ICT in Burkina Faso', *The Journal of Modern African Studies*, 46, pp. 87-109.
- Howe, Jeff (2009) *Crowdsourcing: How the Power of the Crowd is Driving the Future of Business* (London: Random House Business Books).
- James, Jeffrey & Versteeg, Mila (2007) 'Mobile phones in Africa: how much do we really know?', *Social Indicators Research*, 84, pp. 117-126.
- Jenkins, Henry ([2006] 2008) *Convergence Culture: Where Old Media and New Media Collide* (New York: New York University Press).
- Ling, Rich (2004) *The Mobile Connection: The cell phone's impact on society* (Amsterdam: Morgan Kaufmann).
- Molony, Thomas (2008) 'Running out of credit : the limitations of mobile telephony in a Tanzanian agricultural marketing system', *Journal of Modern African Studies*, 46, 4,

pp. 637–658.

Morawczynski , Olga & Miscione, Gianluca (2008) ‘ Exploring Trust in Mobile Banking Transactions: The Case of M-Pesa in Kenya’, *Social Dimensions Of Information And Communication Technology Policy*, Vol. 282 (International Federation for Information Processing), pp. 287-298.

Pushan Dutt et al (2006) *Tanzania: Impact of Mobile Telephony in Tanzania* (April).

Scott, Nigel *et al.* (2004) *The Impact of Mobile Phones in Africa* (19 November). Prepared for the Commission for Africa