Using mixed methods for addressing researcher's safety in a conflict area: an innovative use of mixed methods research in Zimbabwe

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Abstract: Conducting robust research in a conflict or post-conflict area is complicated by concern for the researcher's safety and the difficulty of reaching remote areas. In this paper we open a new frontier in mixed methods (MM) research by demonstrating how it can be used to address safety concerns. We used qualitative and quantitative work carried out in and outside the conflict zone to overcome the challenges of conducting Information Communication Technology for Development (ICT4D) research in Zimbabwe. To minimise a researcher's vulnerability we used the exploratory findings from each phase to focus the design of subsequent confirmatory and explanatory phases on appropriate phenomena. A rare four-phase sequential mixed methods design consisting of novel capability maps, focus groups, survey and in-depth telephone interviews is discussed. Using these methods in sequential phases proved to be safer and more robust than using mono methods in Zimbabwe at the time. Their ability to foster the collection of relevant data while reducing the researchers' exposure to danger is given as a key success factor towards the innovative use of MM to address safety concerns and it is presented as one of the exciting opportunities that MM offers.

Introduction

Zimbabwe is a developing country experiencing political instability and deepening poverty. Researching in rural Zimbabwe is risky because of the danger of being mistaken for an undercover journalist or an opposition activist. SWRadioAfrica's *Wednesday forum* (2010) reports how researchers from Mass Public Opinion Institution were assaulted by vigilantes while researching in Zhombe. Latter sections will discuss the legal and extra legal constraints that necessitated our use of MM for researching in Zimbabwe.

While Ciborra and Navarra (2005) suggest that governmental and bureaucratic reforms are prerequisites to e-development, the need for ICT4D research to be conducted in unstable political climates exists. This is because developing countries (i.e. the primary domain of ICT4D research) are susceptible to imperialist proxy wars, dictatorial governments and civil unrest (Collier 2006). It is also because forward-looking developmental research projects need to be conducted ahead of stability in

order for the implementation of recovery plans to follow a philosophically harmonised path at the dawning of stability.

Before discussing our use of MM for ensuring researcher˙s safety we give a brief introduction to MM. A significant part of this paper is devoted to research paradigms in order to justify our use of MM under an interpretivist approach. This is because we found that the controversy surrounding research philosophy often blinds colleagues from assessing the strengths of MM.

MM research has been used in practical fields that demand both generality and particularity, like education and nursing. In development economics and demographic studies, methods have been mixed for epistemological and theoretical reasons rather than for practical ones (Green 2008). MM enjoys a high acceptance in fields related to education, medicine, health and nursing and social and behavioural sciences (Cameron 2009).

We believe that this paper opens a new frontier for MM by demonstrating how it can be used for enabling research in conflict areas. We have not come across this approach in any journal or conference of MM. The incumbent research exemplifies this by showing how MM was applied to ICT4D research in Zimbabwe.

MM refers to a research design that uses one or more qualitative and quantitative research methods (Creswell 2003). It has been presented as a third paradigm for social science research (Johnson, Onwuegbuzie & Turner 2007). MM is favoured for its ability to draw strengths from both qualitative and quantitative research methods and for avoiding the limitations of the warring interpretivists and empiricists camps (Vitale, Armenakis & Field 2008; Denscombe 2008). See Denscombe (2008) for a fuller exposition on the various strengths associated with MM.

The strengths, inconsistencies and contradictions also exposed by MM advocates like Descombe (2008) and Creswell (2009) have been presented as necessary teething problems for an emerging paradigm (Descombe 2008). There are several subgroups doing MM differently within the bigger MM research group. This has been presented as justification for viewing a paradigm as a community of scholars (Morgan 2007; Descombe 2008; Creswell 2009). While MM has been used for expedience as from the early 20th century (Creswell 1999), it is becoming what Radnitzky (1973) calls a research school situated in a specific intellectual milieu since 2004 (Creswell 2009).

The MM intellectual tradition has been consolidated by presenting pragmatism as the research paradigm that underpins it (Greene & Caracelli 2003; Tashakkori & Teddlie 2003; Johnson & Onwuegbuzie 2004; Johnson, Onwuegbuzie & Turner 2007; Descombe 2008). The acceptability of this position depends on the definition of a paradigm that one accepts. Morgan (2007) presents 4 definitions of a paradigm i.e. as 1) a world view, 2) an epistemological stance, 3) a model example or 4) a shared belief in a research model (Morgan 2007). He however posits that defining a paradigm as a shared belief is in line with Kuhn (1970). This is strongly endorsed by other MM scholars (Descombe 2008; Creswell 2009).

Despite its alleged disjointedness from research philosophy due to overemphasis on methods (Hesse-Biber 2009) rather than metaphysical concerns, MM is gaining ground. Of particular interest is the advent of MM journals like *The International Journal of Mixed Methods for Applied Business and Policy Research* and the publication of MM papers in prominent journals like *Qualitative Research*. The existence of MM-dedicated journals like *Journal of Mixed Methods Research* and MM-dedicated conferences like the International Mixed Methods Research Conference herald its unstoppable advent. Prominent publishers like Sage are publishing a growing number of text books on MM and a few universities are now offering research training in MM.

While this introduction is not a definitive picture of the controversy and inroads of MM, it presents the background against which we make a case for using it in addressing the danger of researching in conflict zones. The rest of the paper is organised as follows: the first section makes a case for using

MM in ICT4D research by emphasising its roots in both social and natural sciences. The second section presents the research design we used for investigating ICT4D in Zimbabwe. This is expounded where we present a sequential design under an interpretive philosophy. Following, we discuss how we used MM to address safety concerns; this is continued where we discuss how data was safely collected and analysed. The final section of this paper discusses contribution and limitations.

Using mixed methods in ICT4D Research

We did not find frequent use of MM in ICT4D research. While acknowledging MM‟s scarcity in IS research, scholars have articulated its relevance (Mingers 2001; 2003). Pardo and Gil-Garcia (2005) posit that the 85% failure identified by Heeks (2003) in e-government projects could be addressed by MM. ICT4D is a first cousin of e-government and it is situated in Information Systems (IS) which is in turn situated in social science. Since MM research has been mainly used in social science (Morgan 2007), IS should have greater affinity to MM because of its roots in both social and natural sciences which belong to opposite sides of the qualitative and quantitative divides.

While the possibility of a common research paradigm for social sciences has been debated both in IS (Klein 2004; Minger 2004; Monod 2004) and in the emerging MM intellectual milieu (Descombe 2008; Creswell 2009), we did not come across any IS methodology which accommodates its ancestry in natural and human sciences (Mingers 2004). Likewise we found no noticeable quest for a research method that combines qualitative and quantitative strengths. Klein (2004) and Monod (2004) disagree with Minger (2004)‟s proposal that critical realism could be the ideal approach for IS to combine its roots in social and natural sciences. Similarly some MM scholars present pragmatism as an ideal paradigm for MM (Descombe 2008) while others differ (Creswell 2009). While we accept the relevance of pragmatism to MM we contend that interpretivism of hermeneutic orientation is more appropriate to our sequential MM design.

Weber (2004) posits that the lack of cooperation between positivists and interpretivists is exacerbated by their use of inaccessible languages and that it disadvantages the advancement of knowledge in IS. In this regard we suggest that MM is the platform where researchers from the estranged camps can converge for a cross pollination of strengths and IS is a potential domain for cooperation to thrive given its ancestry in natural and social sciences. MM is therefore a potential window for such an approach to ICT4D research and (as we argue subsequently) especially in unstable political environments like Zimbabwe. This should not imply any nostalgia for unity or any other mode of reductionism (Ricoeur 1981); it is rather an acknowledgement of the strength of combining methods (not paradigms) to collect robust data even in unstable countries.

MM should be the focus of future thinking since research is becoming interdisciplinary (Hesse-Biber 2009). As IS ventures deeper into the complex realms of social sciences due to adoption of ICTs in new areas, research questions will get more complex. Researchers must be armed to face these complexities through multi-methods (Green 2007). Mono-method approaches may become less relevant to increasingly complex research questions like ICT4D which employ multidimensional tools like ICTs to tackle multifaceted issues like poverty reduction in politically unstable developing countries.

In this paper we mix research methods under the same paradigm to produce a design that addresses researchers‟ safety. In this endeavour we agree with Hesse-Biber (2009)‟s understanding that methods are transparadigmic tools meant for answering research questions. We used MM to investigate how the adoption of ICT may foster poverty reduction and development in Zimbabwe. This is done by answering the research question, „How can ICTs be used for fostering poverty reduction and development in Zimbabwe‟s Eastern Region?‟ We seek to: 1) develop a country-specific and pro-poor ICT adoption model for Zimbabwe; 2) to base this model on tried and tested technology adoption theories, like Goodhue and Thompson (1995)‟s Task-Technology Fit and a development framework i.e. Sen (1999)‟s capability approach and 3) to get the evidence from victims of underdevelopment who happen to live in conflict-ridden rural areas. We argue that MM is ideal for ICT4D research
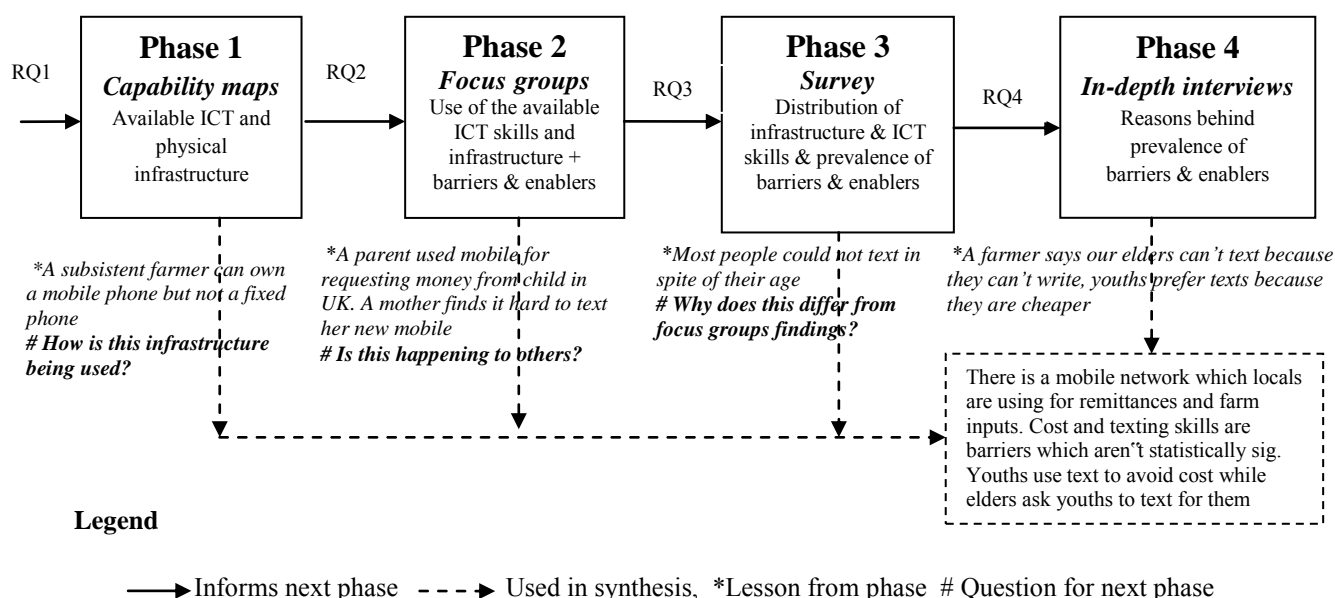
because it investigates the use of multifaceted (natural science) tools (ICTs) to address a multidimensional (social science) phenomenon i.e. poverty (McNamara 2003; Pardo & Gil-Garcia 2005). It also has the extra strength of being *practically relevant and applicable to policy issues* (Brannen 2005, p. 6) which are key to ICT4D research. Space limitations will not allow us to fully articulate the relevance of MM to other ICT4D domain specific issues behind this project. We therefore discuss the untapped strength of using MM for formulating research designs that address the researcher"s safety challenges mentioned earlier.

Research design for improving quality and addressing safety concerns

Creswell (2009) identifies four main ways of combining methods, 1) use of triangulation (Goffman 1989) in concurrent research designs; 2) sequential designs mainly used in explanatory or exploratory designs requiring two phases of data collection and 3) embedded designs where one method is embedded into another in a concurrent or sequential design. These rudimentary approaches are being superseded by 4) i.e. more complex designs of more creative mixture of methods (Creswell 2009).

According to Creswell (2009) even the era of traditional approaches to MM is fast drawing to an end as MM researchers adopt more creative approaches in response to complex research challenges. In this paper we present researching in conflict zones as one such challenge that required a rare four-phase design. MM is now being used in traditional designs like ethnographic, experimental health research, case studies and narrative researches. This ushers MM into wider use and acceptance as more creative use of MM are emerging. These include the combining of *quantitative and qualitative longitudinal data, discourse analysis with survey data, secondary datasets with qualitative follow-ups, and the combination of qualitative themes with survey data to produce new variables* (Cresswell 2009, p.104).

Figure 1   Four-phase sequential design model adopted from Farmer and Knapp (2008)

Legend

⟶ Informs next phase   - - - ▸ Used in synthesis, *Lesson from phase # Question for next phase

RQ1 What ICT infrastructure is there to address information needs and enhance the freedom to achieve wellbeing (capabilities and functionings)?

RQ2. How is the ICT infrastructure being used in poverty reduction and development?

RQ3. What are the main uses infrastructure, level of skills and what factors limit and enhance use of ICT in wellbeing expansion by subsistent farmer?

RQ4. Why do the freedom limiting factors exist and how can ICT reduce them and foster enablers?

This project adopted a design closely related to option 2 above. See Figure 1. Bazeley (2009) describes this as „*a flexible, iterative analyses involving multiple, sequenced phases where the conduct of each phase arises out of or draws on the analysis of the preceding phase*" (Bazeley 2009, P. 205). We adopted this approach to improve data quality and reduce researchers" time in a conflict zone.

Although our design was a four-phase sequential one, some interesting two- and three-phase investigations of isolated themes were necessitated by methodological limitations and the discovery of new themes. Peripheral phenomena had to be parked after each phase as more insightful issues emerged. For instance, interviews could not investigate as many questions as were inherited from the survey because the expected in-depth investigation would not have been achieved on as many issues. The investigation of similar issues (e.g. way of life) using both closed and open-ended questions of the mixed survey instrument arguably resembles concurrent research inquiries. This led to sequencing challenges, and the resolution of conflicting results discussed in future sections exemplifies yet another exciting adventure of doing MM research.

There are few examples of MM designs that mix more than two phases. Some of them are Creswell and Plano Clark (2007); Farmer and Knapp (2008). This project is a rare four-phase qual > QUAL; qual > QUAN; quan > QUAL MM design meant to address safety concerns. We annotate the second and third phases as QUAL; qual > QUAN; quan to symbolise that these phases are both more resourced than their predecessors and less resourced than subsequent phases. In this project we combined four phases (see Figure 1) for expedience under what Ricoeur (1981) calls a hermeneutical tradition. Each phase is treated as a hermeneutic circle i.e. its findings shape the focus of the next one and are subjected to further interrogation to confirm, revise, explain and extend prior knowledge (Radnizky 1973; Ricoeur 1981; Gadamer 1986). Space limitations do not allow a discussion on how focus groups and semi-structured interviews represent parent circles of nested hermeneutic circles. Klein and Myers (1999) describe the idea of a hermeneutic circle as achieving an understanding of a complex whole through a preconception of its parts and how they relate to each other. Our total understanding of information needs and capabilities of subsistent farmers in Zimbabwe"s eastern region is achieved by using each phase to confirm, revise and explain what was explored in preceding phases.

When researching in a conflict zone, robustness is hard to achieve. There is a temptation to focus on the easy and leave quickly. To avoid such rashness and shallowness, our MM approach was also designed to transcend from general to specific. This allowed us to collect broad conceptual data at the beginning with a view to focusing on pertinent issues as they emerge (Morse 2002). The issues under investigation get more focused both conceptually and geographically as we move along the sequential qual > QUAL; qual > QUAN; quan > QUAL design. Capability maps and focus groups investigate the entire country while survey and interviews focus on Zimbabwe"s eastern region. Conceptually we move from investigating capability-enhancing infrastructure using capability maps, to probing use of ICT using focus groups, then the distribution of issues using survey and finally we use interviews to investigate the issues behind information needs and the barriers identified earlier. In typical hermeneutic tradition we kept questioning earlier findings i.e. some exploratory research was done in each explanatory phase. This allowed us to produce the best possible detail to address our research problem under unfavourable conditions.

Sequencing of methods under hermeneutic interpretivism to address safety

The profoundest assault on our use of MM for safety is based on philosophical concerns e.g. whether interpretivists can use statistical data. In this section we discuss the philosophical plausibility of (our) combining of four research methods under an interpretivist approach of hermeneutic orientation in order to improve researchers" safety. While we acknowledge the acclaim of pragmatism to embedded and concurrent MM designs, we argue that interpretivism was best suited for this sequential design for research in a conflict zone.

We argue that our MM approach under an interpretivist paradigm is plausible. This is because investigating Sen‟s (ICT-enabled) capabilities in a conflict zone invokes ambiguities that require an interpretive approach. The analysis required principles of hermeneutics, multiple interpretation, suspicion, contextualisation and dialogical reasoning. Klein and Myers (1999) present these among their key principles of interpretivism of hermeneutic orientation. This must not imply that we adopted this world view for this particular project alone. We contend that while methods can be project specific, epistemology is not. An interpretivist will not suddenly see her research findings as objective truth because she is using survey. As interpretivists we always look at the world from a subjective point of view whether methods are mixed or not. This is why we did not switch to pragmatism although we accept its use by those who (in our view subjectively) see the world that way.

True to hermeneutic interpretivism, our sequential MM design uses each phase as a fore conception which awaits affirmation or revision during subsequent phases. For example after finding from capability maps that there is a high mobile penetration we asked (during focus groups) if people can afford mobiles. After focus group 1 said mobiles were expensive, we followed it up with aporia (suspicion) and Miss B of Leeds concurs with Mr N of London that „one person may have a phone and every one else is using that phone free‟. We then used survey to check its prevalence by asking „would you let neighbours use your mobile?‟ All respondents, i.e. subsistent farmers or not, were strongly in agreement (M = 4.41, SD = .84). Convinced that Zimbabweans are willing to share ICTs, we wondered to what extent this willingness to share went without conflicting with cost of ICT access identified in focus groups 1 and 3. Using interview, we asked Mr M of Mashonaland East if he would share his mobile with his friends. Then he said, „I will ask him to buy a recharge card and then he can use my phone because I cannot afford to use my balance just like that.‟ This roughly is how we used the principle of hermeneutics to probe each theme through different methods.

We maintained an interpretivist paradigm and writing style as we answered new research questions by transcending from qualitative to quantitative methods and vice versa. We contend that a quantitative research method like survey can be used by interpretivists (Denzin and Lincoln 2005) for investigating the prevalence of phenomenon and its causes and effects. This can be analysed through a hermeneutic pair of spectacles without invoking any metascientific or philosophical controversy.

To answer whether interpretivists can accept statistically created data, we argue that it is both ontologically and epistemologically simplistic and dishonest to assume that an interpretivist cannot make sense of quantitative data on her own bank statement without changing her world view. Phone bills and bank statements contain quantitative data which cannot be analysed qualitatively. If it does not imply epistemological suicide for an interpretivist to read a phone bill, we are justified in using the output of a quantitative research method as input of a qualitative inquiry without renouncing our interpretivist research paradigm. Hesse-Biber (2009) posits that both quantitative and qualitative methods are carried out within a range of methodologies.

Radnitzky (1973) warns that assessing one‟s own research tradition is as difficult as seeing one‟s own eye contact lenses. In spite of that, we are confident that our use of MM under one paradigm is acceptable under any of Morgan (2007)‟s three definitions of paradigms. It has the weakness of perpetuating the same monoparadigmic premise that feeds the cowardice of monomethod researchers. So even as we deplore the naivety of diehard monomethod researchers, we recognise that „the man of suspicion is himself not unscathed by the defects which he denounces‟ (Ricoeur 1981, p 224). It is therefore left for other scholars to analyse whether we suffer monoparadigmic cowardice as others suffer the monomethodical naivety that we question in this paper. We therefore conclude that the method we used for addressing safety concerns is philosophically justified.

Using mixed methods to address safety concerns

Researching in rural Zimbabwe is risky because of both legal and extra-legal constraints. Public Order and Security Act (POSA) 2002 forbids five or more people from discussing politics without police clearance. Likewise Access to Information and Privacy Protection Act (AIPA) 2002 prohibits

publishing without a press licence. While there is no law barring research in Zimbabwe, it remains risky to do so. These laws can either be applied selectively by the police force seeking to establish the purpose of research or violently misapplied by vigilantes targeting perceived political opponents (Raftopoulos & Phimister 2003). Extralegal constraints are enforced by militias and politically motivated vigilantes who restrict journalists and perceived political opponents from accessing rural areas. *Wednesday forum* (2010) reports how researchers from Mass Public Opinion Institution were assaulted by vigilantes while researching in Zhombe, Zimbabwe.

To address the above challenges, we used MM for avoiding lengthy investigations under unpredictable circumstances where violent disruptions could occur and for improving the quality of data. It enabled us to explore key themes from outside Zimbabwe and to confirm them in the shortest possible time on entering safer parts of Zimbabwe. We conducted two phases of exploratory research to gain as much information as possible before commencing any work in Zimbabwe. The main exploratory work used capability maps and focus groups in the UK. This informed iterative phases of survey and interview design and it eliminated the need to redo dangerous field work carried out in Zimbabwe. The survey allowed us to expeditiously establish the distribution of key phenomena and to identify volunteers for follow-up semistructured interviews without taking security risks.

We used telephone interviews for confirmatory and explanatory work among people in the heart of the conflict zone. After analysing 200 questionnaires we knew the right questions to ask during the interview phase. We also had names and telephone numbers of key survey participants who had volunteered for follow-up interviews. The initial interviewees referred us to other relevant interviewees in a snowballing approach recommended by Bloch (2005). Without the use of MM it could have been difficult to identify the telephone interviewees and very dangerous to reach them in remote rural areas. MM also allowed us to gain their trust since they had either participated in survey or been referred to us by trusted friends.

How MM phases address safety concerns and research objectives

In this section we discuss how each MM phase contributes to our research objectives, its practicalities, limitations and how it addresses safety concerns. Also discussed is how data from preceding phases influenced the design of subsequent stages.

Phase 1: Capability maps (qualitative method 1)

Capability maps address the question which reads: „What ICT infrastructure is available for addressing information needs and for enhancing the freedom to achieve wellbeing of subsistent farming communities in Zimbabwe?" This was the first iteration of exploratory phases meant to sharpen data quality and to reduce time spent in the conflict zone. By adopting capability maps in phase 1 of our MM design, we follow Galman (2009)"s pilot application of graphic novels.

Our endeavour to safely explore the existence of ICT and physical infrastructure through an emic view of rural Zimbabwe (at a distance) led to the use of capability maps. An emic perspective of a location reveals the way of life in a community (Galman 2009). The term „capability maps" refers to sketch maps that show the configuration of capability-enhancing infrastructure in a community. It is influenced by Sen (1999)"s „capabilities" which in this context refers to effective opportunities of an individual or community.

Qualitative researchers have used photographic data to produce an emic perspective of research domains (Galman 2009). Others used graphic methods in combination with textual analysis and literary criticism (Scholes 1985; Chalfen 1998). Bagnoli (2009) used art-based projective technique, self-portrait, relational map and self-timeline as ice-breakers for interviews. We used capability maps for investigating infrastructure in a conflict zone without taking the risk of entering it. Six maps were drawn by UK migrants from rural Zimbabwe and were meant to show the capability-enhancing infrastructure in chosen sections of Zimbabwe. Capability maps were drawn of Chirumhanzu and

Sengwa in mid region (Midlands and Masvingo provinces) and Chishawasa, Kwenda, Chakohwa and Devedzo in the eastern region (i.e. Mashonaland and Manicaland provinces).
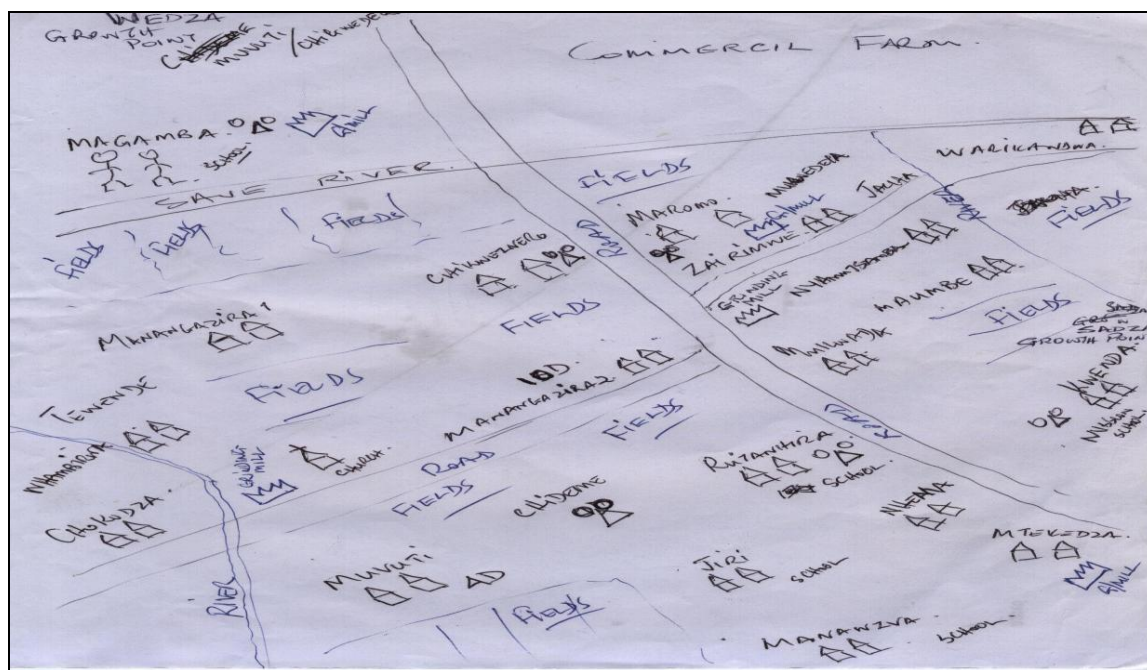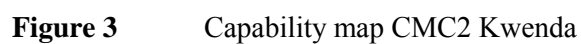
Selection criteria: We selected six participants who had spent less than five years away from their home areas. This was meant to ensure that they had fresh memories of their rural home areas. That is two participants from each region demarcated for this study. They also needed to have transdiasporic links with relatives at home. Bloch (2006) refers to migrants with transdiasporic links as those in constant contact with people in the migrant-sending country e.g. through social and/or economic remittances. These were assumed to be aware of the changes in infrastructure and way of life that took place after they left. These selection criteria were necessary because major changes in ICT penetration were expected to be occurring at a time when economic hardship is assumed to be forcing people to seek alternative ways of life.

To establish the role of ICTs in enhancing current and future opportunities in Zimbabwe (Sen 1999; Labelle 2005), we needed to assess the proximity of infrastructure and institutions to villages. Participants were asked to show infrastructure including roads, fixed telephone lines, electricity and the levels of ICT penetration. We also required institutions like schools, clinics, shops and churches. This was a first step toward establishing how ICT can foster the expansion of capabilities (Sen 1999).

Analysis: We analysed the empirical material in focus groups using content analysis and participant collaboration (Galman 2009). As Caviglioli and Harris (2000) put it, a map is not a territory; it is only a representation of it. The analysis process therefore extends beyond mere verbalisation of the visual images on capability maps to assessment of opportunity freedoms (Alkire 2007).

For example, in capability map Circle 2 (CMC2) Kwenda, we asked Mr J if the locals had access to the infrastructure he drew. He advised that they can be educated at three secondary and six primary schools in CMC5. Two growth points which are 20km apart provide access to banking, post offices, police, hospital, grinding mill and the Grain Marketing Board (GMB). He also advised that one can live on subsistent farming, market gardening and subsistent fishing in the Save river shown on CMC2 Figure 3. We interpreted these as the opportunity freedoms that locals have. Like Mr B‟s CMC5 of Sengwa game park, Mr J‟s map shows the white-owned commercial farm as a blank section across the Save river. It shows that the rich farm is *terra incognita* to him. This according to Gould and White (1974) suggests the presence of latent psychological barriers and that opportunities in these areas are inaccessible to locals (Alkire 2007). We address this in detail elsewhere.

Figure 2   Capability map CMC1 showing availability of mobile, telephone and electricity in Chishawasha

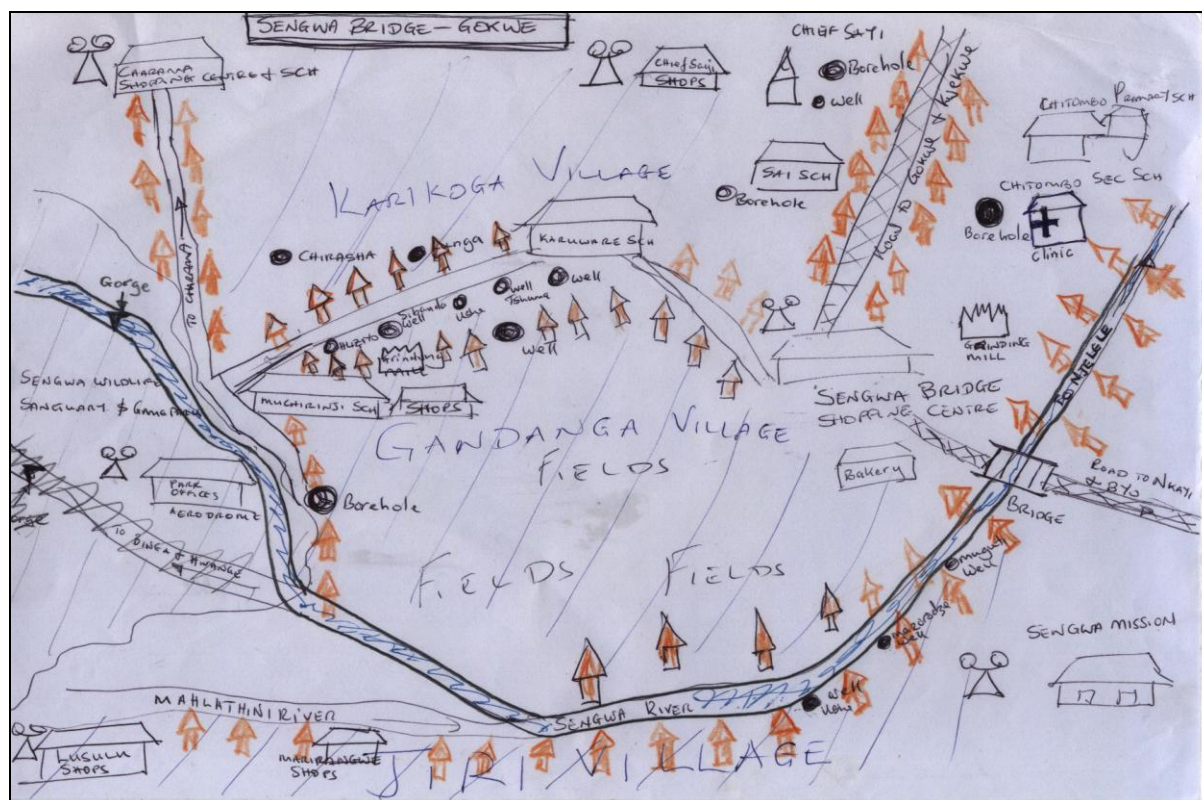**Figure 3**   Capability map CMC2 Kwenda

Figure 4   Capability map CMC3 showing availability of mobile, telephone and electricity in Chakohwa (Mangoda)
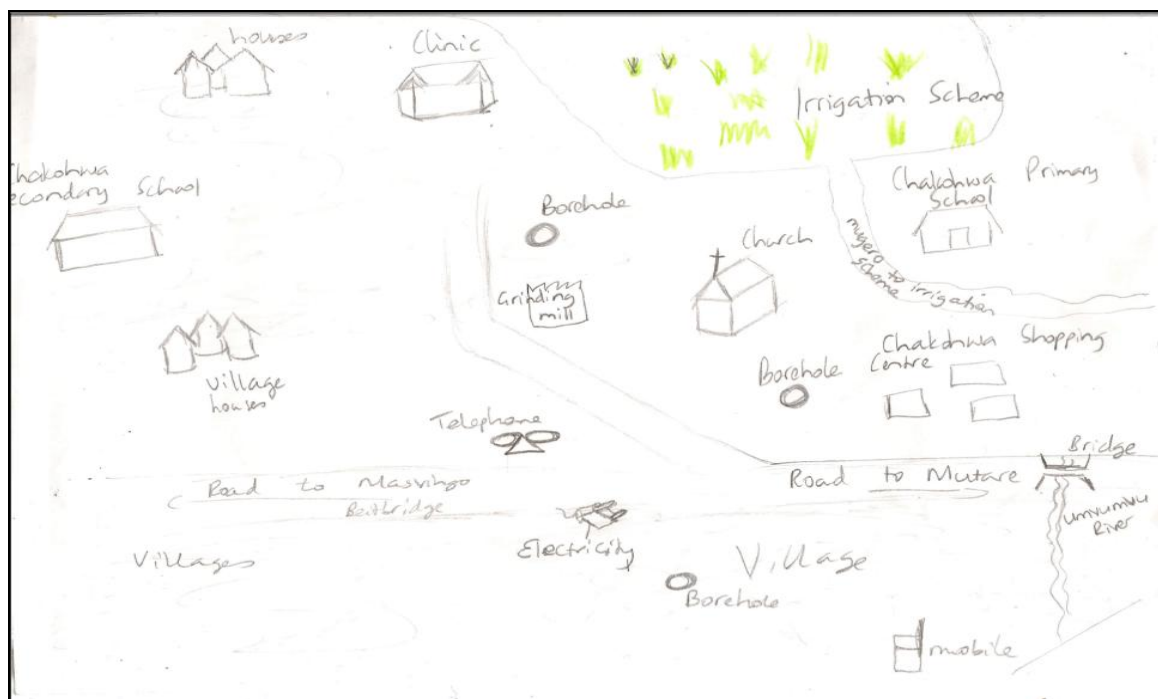
Figure 5   Capability map CMC5 Sengwa

Limitations: Capability maps had both methodological and contextual limitations. Methodologically they could only show infrastructure without showing the degree of its use. The participant's ability to represent their thoughts graphically could not be guaranteed. Main contextual limitations were to do with the accuracy of the memory of Zimbabwean migrants. Although the selected migrants had left Zimbabwe within the last five years, Zimbabwean infrastructure under went serious changes during their absence. This is due to both political and economic decline at a time when mobile penetration was growing worldwide. This limitation was reduced by selecting participants who maintained transdiasporic links with their communities of origin because they keep up to date with changes.

Results: Capability maps showed a high mobile penetration, low electricity and low fixed phone penetration. They showed physical infrastructure like borehole, grinding mills, clinics, game parks and roads. Institutions like hospitals, shops, irrigation schemes, schools, churches and shopping centres were also shown. The main ways of life were found to be subsistence farming, gardening and tourism.

Table 1   Results from capability maps, each map as a circle of hermeneutics

What infrastructure is available for enhancing capabilities of subsistent farming communities in rural Zimbabwe?		
Map	**Evidence provided**	**Cumulative Evidence**
CMC1	Chishawasha has a high mobile penetration, low telephone and electricity. Way of life is subsistent farming and infrastructure including roads, schools, hospital, shops and church	Chishawasha has a high mobile penetration, low telephone and electricity. Way of life is subsistent farming and infrastructure including roads, schools, hospital, shops and church
CMC2	Kwenda has a high mobile penetration, low telephone and electricity penetration. Way of life is subsistent farming and infrastructure including roads, schools, hospital, shops and church. Way of life is subsistent farming and market gardening	ICT infrastructure includes high mobile penetration , low electricity and fixed telephones. Physical infrastructure includes roads, hospitals, schools, shops and churches. Way of life is subsistent farming and market gardening
CMC3	Chakohwa has a high mobile penetration, low telephone and electricity penetration. Way of life is subsistent farming and market gardening. Infrastructure includes roads, schools, hospital, shops and church.	ICT infrastructure includes high mobile penetration and low electricity and fixed telephones. Physical infrastructure includes roads, irrigation scheme, grinding mill, borehole, hospital, clinic, schools, shops and churches. Way of life is subsistent farming and market gardening
CMC4	Chirumhanzu has a high mobile penetration, low telephone and electricity penetration. Way of life is subsistent farming and infrastructure including roads	ICT infrastructure includes high mobile penetration and low electricity and fixed telephones. Physical infrastructure includes roads, irrigation scheme, grinding mill, borehole, hospital, clinic, schools, shops and churches. Way of life is subsistent farming and market gardening
CMC5	Sengwa Bridge has no mobile network, low telephone and electricity penetration. Way of life is subsistent farming and tourism	ICT infrastructure includes high mobile penetration and low electricity and fixed telephones. Physical infrastructure includes roads, irrigation scheme, grinding mill, borehole, hospital, clinic, schools, shops, game park and churches. Way of life is subsistent farming and market gardening
CMC6	Devedzo has an erratic mobile network, low fixed telephone and electricity penetration. Way of life is small scale commercial farming and subsistent farming. Infrastructure GMB, clinic, schools, shops and fairly good roads.	ICT infrastructure includes high mobile penetration and low electricity and fixed telephones. Physical infrastructure includes roads, irrigation scheme, grinding mill, borehole, hospital, clinic, schools, shops, game park and GMB and churches. Way of

		life is subsistent farming and market gardening
Conclusion on theme: ICT infrastructure includes high mobile penetration and low electricity and fixed telephones. Physical infrastructure includes roads, irrigation scheme, grinding mill, borehole, hospital, clinic, schools, shops, game park, DMB and and churches. Way of life is subsistent farming and market gardening			

From capability maps to focus groups: After finding the available ICT and physical infrastructure, we now needed to establish how it was being used in expanding capabilities of subsistent farming communities. In Senian thinking we move from assessing opportunity freedoms using capability maps to investigating process freedoms (Alkire 2007) using focus groups. The sequencing of capability maps and focus groups (i.e. two qualitative methods) should be described as multimethod as opposed to mixed methods (Brannen 2005). This is described as qual > QUAL, where low caps denote a low-resourced phase, upper case mean highly-resourced phase, while the ">" arrow denotes direction of sequencing (Morse 2003). At this stage there is no controversy of MM because the paradigmic issues associated with combining QUAN and QUAL data and report-writing styles are out of the question. After finding that there was high mobile penetration and infrastructure like roads, schools and clinics, we used focus groups to investigate how subsistent farmers were using them before entering the conflict zone.

Phase 2: Focus groups (qualitative method 2)

Focus groups were the explanatory phase of our two-part exploratory research at a distance. This was a key aspect of our strategy to use early phases for improving design and reduce time spent in subsequent phases conducted in Zimbabwe. They answer the research question: „How is ICT infrastructure being used in poverty reduction and development in Zimbabwe?" Five focus groups were done in the UK among Zimbabweans who maintain cross-diasporic links with Zimbabwe through remittances. Remittances are increasingly becoming an ICT-enabled source of income due to increased migration and economic decline.

Five focus groups were carried out in three major cities where Zimbabwean communities are densely populated in the UK. These include London, Birmingham and Leeds (Pasura 2006). This is in line with Bloor et al. (2001)"s recommendation that the number of the focus groups must be in accordance with research design and the target population. Scholars recommend a minimum of three and a maximum of five focus groups since more than five hardly produce additional insights (Kruegar 1988; Morgan 1997). The first focus group was held in Portsmouth as a pilot focus group. This was done to ensure relevance of questions being asked and to apprentice the researcher in the art of focus group moderation. Since very minimal readjustments were necessary, data gathered in this session was accepted for use in the study.

Results: Before entering the conflict zone we found farmers were using innovative strategies for combating poor network coverage and low tele-density in rural Zimbabwe. These included visiting areas with network coverage to receive, reply texts. They also shared ICTs with neighbours in order to cope with low tel-density. Tele-density is defined as the number of telephone lines per hundred people in a community (UNDP 1999). The communal nature of life and the strength of Zimbabwean social networks enabled neighbours to share mobiles and fixed telephones. Word of mouth was also used in transmitting messages from abroad via ICTs. Poor network coverage necessitated the use of text messages in an asynchronous way in certain areas. Some users would only charge their mobiles and send texts when they visited wired areas. Mr T of Birmingham says:

„There is another problem as well with the electricity that even if it gets improved this technology, it"s helpless without electricity. Even my mother in the rural area just charges the phone once a month and gets all the messages for the month Lol!!"

We found that the ability to text was affected by the complexity of state of the art mobile phones. It was reported that most elderly people do not know how to send text messages. They relied on asking younger people who knew how to text, as Mr H of Leeds described how his mother copes:

„My mother is illiterate, but she knows how to answer a call, she does not know how to text but she can speak and if she wants to text there are my little sisters who are good at that."

Mr B of London describes how his mother found a futuristic mobile phone less user friendly than the previous one she had:

„... my mum I bought her a new phone, a Sageam … she gives one of my friends to text for her."

Limitations: While focus groups improved the body of evidence by helping to explore the areas that needed investigation, they had limitations worth discussing. The focus groups conducted in the UK do not adequately capture transdiasporic use of ICT because they represent only part of the view of the Zimbabwean diaspora. This is because while the UK hosts most of the Zimbabwean population in the west, it excludes from view lower classes of migrants mainly based in South Africa and other neighbouring countries. This should not suggest any intention to acquire statistical generalisable data using focus groups. Our intention was to understand the use of ICTs by subsistent farming communities through the eyes of remittance senders. Williams (2002) refers to statistical generalisation as a situation where the probability of the occurrence of a situation can be estimated from the relationship between a sample and population.

In spite of these limitations, focus groups helped the design of mixed survey instrument and addressed safety concerns by minimising the time spent in the unsafe rural areas by enabling us to focus subsequent research on key issues.

From focus groups to survey: Using focus groups we established that people lived on subsistent farming, buying and selling and animal husbandry. Having also established among other things that elderly people had problems texting, we now needed to establish the main way of life and whether many elderly people had trouble with texting. We used survey to do this in a safe, fast and economical way.

This „qual > QUAN" transition from focus groups to mixed survey opens the controversy of mixing methods. This is because the sequencing of different kinds of data and research methods invokes paradigm conflicts. Low-resourced focus groups in the UK preceding a highly resourced survey in Zimbabwe is symbolised as „qual > QUAN". A qual > QUAN research design is very common in social sciences (Brannen 2005).

Phase 3: Survey instrument (quantitative method 1)

We used a mixed survey instrument to answer the question: „What are the main uses of infrastructure, level of skills and barriers and enablers to ICT use for wellbeing expansion by subsistent farmers in Zimbabwe"s Eastern Region?" NB the domain narrows from wider country to the eastern region. Since this phase was conducted in Zimbabwe, survey was considered ideal for safely collecting voluminous data expeditiously and economically. It also contributed to data quality by introducing a quantitative distribution of phenomena to mainly qualitative evidence.

The survey was administered in relatively safe locations i.e. at three main bus stations in three key transit points in Zimbabwe"s eastern region. These are Mbare Musika station in Harare; Sakubva bus station in Mutare and Chinhoi bus station where commuters to rural areas often wait for hours. Meeting people at bus stations enabled us to find them free to participate since they did not have other chores to do other than wait for buses. It also addressed the challenge of accessing rural areas because of the depletion of infrastructure. Bus stations also acted as rallying points for people travelling to and

from different destinations along different bus routes to rural areas. Working from these relatively safe areas reduced the danger of entering the unsafe rural areas.

This was safer, quicker and more cost effective than travelling along each major route in the eastern region. We avoided the difficulty of stopping at each major stop, seeking permission from both official and unofficial leaders and then following people to their fields and homes. Most rural bus routes have only one bus service each day while others have one per week which means that visiting each major centre could have required a day and kept the researcher in unsafe places for 24 hours to one week without recourse to public transport if the situation deteriorated. This could also mean 24 hours under arrest before reaching a police station to verify whether the researcher is an undercover journalist or not. These access and safety concerns also led to the use of telephone interviews in the final phase.

We administered 200 questionnaires to commuters at three bus stations servicing rural areas. A mixed survey instrument consisting of closed and open-ended questions (Vitale, Armenakis & Field 2008) was designed to investigate prevalence of identified information needs, way of life, and the use of ICTs, ICT skills and infrastructure. The closed questions used constructed scales and a five-point likert scale where1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree and 5 = strongly agree.

Mixed survey instruments have often been considered as both quantitative and qualitative data collection instruments (Vitale, Armenakis & Field 2008; Arnon & Reichel 2009) but we consider ours as quantitative because of the prevalence of closed questions and its purpose for investigating the quantitative distribution of issues. The results were used to identify the main ways of life that needed further investigation using in-depth interviews.

Analysis: SPSS was used for data analysis. This included an independent t-test for comparing likert scales and categorical variables. We also used Pearson‟s chi-square for cross of categorical variables.

Results: The survey produced interesting results. These included finding that age, gender, level of education and use of English were not significant barriers to ICT skills among the sample of subsistent farmers in Zimbabwe‟s eastern region. For example; using a chi-square we found that there was no effect of age on the ability to text, $\chi^2(1) = 1.710$, p = 0.191n.s.

This is in conflict with digital divide studies (Darley 2003) and suggests that there is a bigger barrier that affects both the literate and the illiterate. It also differs with earlier findings from focus groups. Slonim-Nevo and Nevo (2009) discuss how to deal with conflicting results between methods in MM research.

Limitations of survey: While the survey managed to expose interesting insights for further investigation using semi-structured interviews, it suffered contextual limitations that must be acknowledged. Data collection constraints include the administration of the questionnaire through a research assistant, translation from English to Shona and the fact that data collection was done at bus stations in cities. And finally the demographic stratification limitations were due to the use of volunteers instead of a random or stratified sample.

While the survey was safe, efficient and quality enhancing, it captured the views of travellers who visit the main urban centres for social and business reasons. It is likely to have excluded the poorest members of the community who can hardly afford to travel. Since these are the main victims of the digital and economic divides that ICT4D studies need to investigate, failure to reach them is a major limitation to robustness. This limitation is offset by using the respondent as a window through which to gaze into their community and personal experience. A case in point is that after asking how a respondent makes a living we asked how others in one‟s neighbourhood survive. The following are questions 1 and 2 of our mixed survey:

„1. How do you make a living? …‟ (Scale +open ended other option)
„2. In my area one can make a living through…‟ (Scale +open ended other option)

We addressed the remaining challenges by selecting a multilingual research assistant, providing a training manual to guide her to improve sample composition and furnish regular feedback on field work challenges. Conducting the survey at the main bus stations through a research assistant proved to be the safest way of conducting research in Zimbabwe under the obtaining political climate.

Phase 4: Telephone interviews (qualitative method 3)

In this final phase we move from quan > QUAL. This is a rare design which is often used when the survey is less representative than expected. The challenges of research in conflict zones and the limitation discussed above further justify this approach. Such use of qualitative methods preceded by quantitative research was used by Thompson (2004). Telephone interviews were chosen for being safe to conduct. The strength of sequential MM to build each iteration on the analysis of preceding phases makes telephone interviews appropriate for our final explanatory phase.

This phase seeks to investigate why the identified „freedom limiting factors‟ exist and how ICTs could reduce them and also enhance capabilities. We selected the interviewees from the mobile phone users who took part in the survey. These were favoured because they were already attuned to the issues addressed in the survey. Other interviewees were identified by a process of snowballing. Bloch (2005) recommended snowballing for reaching hard-to-get segments of society. We also used survey respondents to identify non mobile phone users that we could reach through other people‟s mobiles. MM addressed safety by allowing the use of snowballing and telephone interviews. Telephone interviews could have been difficult without the trust gained in the preceding phase. This once again typifies our use of MM to avoid exposing the researcher to dangerous areas.

Ten (10) in-depth telephone interviews with subsistent farmers in Zimbabwe are being done. See table for the initial results. Four of them male and six females to match Zimbabwe‟s gender distribution of 49:51. The first five were chosen from people who responded to our survey and the other four were selected from less represented parts of the region. We are investigating the deeper reasons behind survey results e.g. why gender and age were not seen as barriers to ICT skills, conflicts between survey and focus groups results and how ICT can address overdependence on draught-prone agriculture.

In case HC1 (i.e. hermeneutic circle 1), Mr M of Mt Darwin confirmed that both age and level of education were barriers to text messaging skills:

„…especially elderly people; they are not so educated, they are not so able to use those phones. Those who are not educated they request to others who have the knowledge of using those phones.‟

We followed it up in case HC2, and Mr M of Mashonaland East admitted that there was a difference between young and old people‟s ability to text:

„…young people learn faster and some of the handsets are not user friendly so for older people to get used to the functions of the phones…‟

We approached HC3 with a fore conception that age will be a barrier to texting because of hand set complexity and slower learning skills. We were not sure if they were late adopters or permanently excluded. After confirming there was a difference in texting skills between young and old, Mr G of Marange confirmed the problem of handset complexity and introduced writing skills as a barrier affecting the less educated older people as follows:

„The difference is in education…..the difference is that text messages are about how you can write.‟

This response revised the preconception to an assumption that age was not identified because it is not the problem. The issue could be lack of writing skills which may be common among old people.

Contextualising the case of Zimbabwean elderly gives us a people who grew up under colonial rule. They had limited access to secondary school education and no access to higher education. The information era finds them in extreme poverty at a time when Zimbabwe as a nation began to descend into unprecedented economic decline. The study is being conducted at a time when Zimbabwe is struggling to recover. A few elderly people have handsets acquired from children who want to contact them from abroad or bought on the local market with proceeds from agriculture or buying and selling. Handset complexity was confirmed as a key barrier. Asked how they cope with these challenges he (HC1) confirmed that they seek help from younger people as identified in focus groups 2 and 5. This depth of findings would have been difficult to achieve without exposing researchers to risk.

Table 2   Impact of age on text messaging skills; each interview as a circle of hermeneutics (HC)

Why did the survey not identify age as a barrier to text messaging skills, is it because of other barriers?		
Circle	**Evidence provided**	**Cumulative Evidence**
HC1.	Age is a barrier because old people cannot cope with handset complexity	Age is a barrier because old people cannot cope with handset complexity. C1's perception of older people probably refers to illiterate rural ones. Economic decline may have sent many people back to the rural areas as depression makes it hard to retire in the city.
HC2.	Young people learn faster than old people and old people cannot use new phones	Digital immigrants who are advanced in age find it hard to learn to use complex handsets for text messaging. The stereo types may concern exposure to education, ICTs and western life. New phone could be 3G handsets. Exceptions probably apply
HC3	Older people are less educated so they cannot write and the new phones are difficult for them to use	Lack of education, writing skills and handset complexity limit elderly people from using text messaging. C3 confirms C1's stere types of being old as illiterate and my suspicion that new phones are the un-user friendly ones like the 3G ones. This is potentially correct in a Zimbabwean context
HC4	The difference is that young people prefer to text yet older people want to talk	Lack of education, writing skills and handset complexity limit elderly people from using text messaging. The difference is just a matter of preference, young people enjoy texting each other. C4 probably sees no difference in texting skills because he is comparing same level of education and exposure. He introduces a difference due to frequency of use in addition to education and exposure.
HC5	Young people are better because they are more educated and they find texting cheaper. Elders use texts less and some of them cannot write	Lack of education, writing skills and handset complexity limit elderly people from using text messaging. Difference just a matter of preference, young people enjoy texting each other. C4 probably sees no difference in texting skills because he is comparing same level of education and exposure. He introduces a difference due to frequency of use in addition to education and exposure. Young people are better because they are more educated and they find texting cheaper. Elders use texts less and some of them cannot write

Limitations: key methodological limitations include the inability to read gestures and body language during telephone interviews. This leads to an interpretation that relies mainly on the language and reveals less of the subjectivity of the one who commands the language (Ricoeur 1981). We acknowledge the fact that interpreting body language, word and voice dynamics could reveal a richer understanding than voice alone. Paul Ricoeur warns that „we either perceive what is common or we perceive what is peculiar‟; language is common and the speaker‟s subjectivity is peculiar (Ricoeur 1981, p.47). We, however, argue that the mixing of methods itself contains this limitation by improving the quality of preceding data. This is an inevitable trade-off between achieving the highest quality of data and ensuring researcher‟s safety.

Discussion

This project arguably opens a new frontier in the use of MM by demonstrating how we successfully addressed safety concerns and how our research objectives were met. In the following paragraphs we discuss our MM design in comparison with what we could have achieved using a mono method approach in a conflict zone. We also show how a combination of research done at a distance and in relatively safe parts of the conflict zone successfully addressed safety concerns. Considerable attention is given to data quality because it is the primary causality of researching in conflict areas. The relevance of our use of MM for fostering research in conflict zones should therefore be judged by our ability to use it for collecting rich data without entering risky areas and not just by our safe completion of field work in Zimbabwe. This should not in any way imply that there could be no other successful completion of similar projects without using MM.

In previous sections, we discussed how the required data was acquired in incremental stages employing capability maps, focus groups, survey and interviews. Using these methods, we managed to collect robust data safely. First we got an emic view of life including the configuration of key infrastructure in selected parts of rural Zimbabwe using capability maps. This was a safe MM exploratory method whose mixture with other methods could not be replaced by a mono methods approach. For example using the Sengwa capability map we studied an area of approximately 250 square kilometres without taking any risks. In the prevailing political climate, it would have taken much longer and proved to be dangerous to use an ethnographic study to reveal the stories behind the wells, schools and telephones that the capability map prompted at a distance. It is therefore not just the mixture but also the prudent choice of methods that fosters research in conflict zones. This tactical choice is also exemplified by our adoption of survey which allows an expeditious collection of voluminous data. The same applies to our eventual decision to use telephone instead of face-to-face interviews.

Second, we used focus groups (at a distance) to investigate the use of ICT and the availability of ICT infrastructure and skills in Zimbabwe. Legal constraints would not have allowed use of focus groups in Zimbabwe. Even if they were legal, in the absence of capability maps, focus groups (as a mono method) would have wasted a lot of time on exploratory issues before resolving to focus on how the mainly mobile ICTs were being used. Such an exercise would have risked researcher‟s safety by increasing time spent in harm‟s way. By the time we conducted focus groups we already knew that there was less need to ask about internet penetration because we already knew (from capability maps) that mobile and fixed telephones were the ICT in use. This prior knowledge reduced time spent in dangerous places and made it easier and quicker to deeply probe the themes identified using preceding methods.

Third, MM enabled us to increase the quality of data by allowing us to investigate both qualitative and quantitative perspectives of issues. This is exemplified by how we also established the quantitative distribution of infrastructure, (ICT skills, and barriers and enablers to ICT use) using survey after establishing their qualitative significance using focus groups and capability maps. For instance, after establishing that remittance income was being used for agricultural inputs, to influence policy we sort to assess the extent to which ICT enabled remittances had an impact on subsistence farming.

To probe if subsistent farmers were receiving more remittances than non-subsistent farmers in eastern region, we used Pearson‟s chi-square for a cross tabulation of variable „I receive remittances‟ against „I make a living by farming‟. We found no significant relationship between making a living by subsistent farming and receiving remittances, $\chi^2(1) = 1.34$, p = .25 n.s. This was because the majority (i.e. 89%) were subsistent farmers against 11% who claimed other ways of life. In addition to limitations discussed earlier, mono methods could not have established this depth without being disrupted by political instability. MM allowed us to investigate the use of ICT-enabled remittances and their prevalence without risking our safety.

Fourth and finally, we used data from earlier phases as foreknowledge for guiding further knowledge acquisition. We probed the deeper issues behind the information needs and barriers and enablers of ICT use using telephone interviews. For example, after finding that our survey results disagreed with literature that gender, age and level of education were barriers to ICT adoption, we used interviews to investigate why. We have already shown examples of how age and education were alleged to be barriers by Mr M of Mt Darwin and Mr G of Marange. We concluded that both of them were barriers, particularly to text messaging when the elderly people happen to be uneducated. As for gender, we concluded that gender was only a barrier in cases where females had no income and had to rely on their husbands. As Mr M of Mashonaland East said:

„…most of the women cannot afford to buy phones for themselves, usually men buy phone for women. They (men) are better (at using mobiles), for example before I bought this Smabr, I used a Nokia and I gave it to my wife so when I buy a better one I will also give this one to my wife so you see I will be ahead.‟

We concluded that when economic barriers are removed, ICT skills are not related to gender as Mr. E of Seke puts it:

„There is no difference, men and women all have phones and they use them in the same way.‟

The use of MM revealed a conflict that prompted us to investigate for instance why gender and age were barriers. Our investigation went beyond probing if there is a difference to establishing why it exists and why others say there is no difference between men and women.

The reader will acknowledge these as traditional strengths of MM research being harnessed to improve quality of data in unfavourable conditions. We argue that it is MM‟s superiority over mono methods that allowed us to establish such knowledge depth in a conflict zone without risking researcher‟s safety. As exemplified above MM allowed us to develop our understanding by following up on questions raised in previous phases.

MM‟s ability to safely address our research question in a conflict zone is prime testimony to its relevance for addressing safety concerns. As Heidegger (1978) posits it: „Every inquiry is a seeking. Every seeking gets guided beforehand by what is sought.‟ (Heidegger 1978, p. 24). We sought data that can inform ICT policy; as Williams (2002) puts it, policy makers need data on which they can base their decisions. Since Zimbabwe is an unsafe domain whose ICT policies are centralised, macro level decision makers will benefit from local level research that can be easily generalised. MM research produces both nomothetic and idiographic perspectives; this project design which traces phenomena from general to specific is more so than usual. This is hard to achieve in a conflict zone but MM allowed us to do so.

Limitations: Although mixing methods addressed the limitations of the methods used during each phase, it had limitations that must be acknowledged. These limitations are practical, theoretical and political.

Practical limitations: MM requires competence with quantitative and qualitative methods including how to mix them properly (Johnson & Onwuegbuzie 2004). We had to update our knowledge of statistical models in order to work with quantitative data. The overall project also required more work, time and resources than we expected. We designed four data collection instruments and we analysed

four separate sets of data. These challenges were weighed against our need to ensure researcher‟s safety and its practical relevance to policy research (Brannen, Hepinstall & Bhopal 2000). Pursuing peripheral benefits like the opportunity to learn diverse research methods during the researcher‟s PhD training may lead to unnecessary wastage of resources.

It was also challenging to deal with conflicting results between quan and qual phases. For instance, our survey found no significant difference in texting skills across age and gender divides, yet focus groups showed a difference. We followed Slonim-Nevo and Nevo (2009) in treating this as a conflict instead of a contradiction. A contradiction happens when a statement is alleged to be both true and false. This abrogates a theory‟s ability to distinguish between truth and mendacity. On the contrary, a conflict renders a proposition to be true under certain conditions although discrepancies are evident (Slonim-Nevo & Nevo 2009). As mentioned earlier, we expect our survey findings (i.e. that gender and age are not barriers) to be applicable particularly when female users have equal ICT access to men and when elders are literate and unhindered by handset complexity. All interviewees said that the youths were better at texting than elders. Although our survey found no significant difference between them, it showed that more young people (i.e. 88%) could text while only 12% of elders could.

This ‚conflict‟ prompted us to use interviews to check why survey results differed with both literature and our focus group results. Interviews established that older people are generally less able to write and that young people text both to save money and for fun. This did not answer why the survey found no significant difference. We only managed to learn the causes e.g. that elderly people are affected by handset complexity and inability to write. This shows that subsequent methods do not always have the capacity to resolve conflicts between results from preceding ones. These and other limitations discussed in previous sections show how MM invoked challenges that kept us questioning both our skilfulness with various methods and the practicality of mixing them.

Theoretical limitations: Another limitation of combining methods is that it evokes the controversy of seeming to be combining conflicting research paradigms (Teddlie & Tashakkori 2003; Morgan 2007; Descombe 2008). This discouraged our colleagues in different philosophical camps from endorsing our research. Those who favoured our interpretivism questioned our interest in generalisation as neo-positivism. Likewise logical empiricists (positivists) wanted our report to be written in singular third person instead of first person narrative. We write this paper in selective first person because our hermeneutic dialectic epistemology views our findings as our subjective interpretation as opposed to objective stance of positivists (Bednar & Welsh 2008).

Morgan (2007) attempts to dispel this contradiction by suggesting that paradigms are communities of practice not world views (Descombe 2008; Creswell 2009). We see paradigms as world views because communities of practice are also bound by a common philosophy. Morgan (2007)‟s community of practice option, unifies MM practitioners by avoiding the controversy of philosophy. This is because if paradigms meant world views and if methods were tightly coupled to them, then MM researchers would be considered schizophrenic for having more than one world view at a time. This question has been tackled by MM scholars (Morgan 2007; Descombe 2008; Creswell 2009). Those who define research paradigms as communities of practice settle the controversy of seeming to be mixing paradigms by claiming that communities could be bound by methods not world views. Similarly those who prefer to mix methods concurrently advocate pragmatism as MM‟s research paradigm. They claim that in their designs, MM rides piggy back on pragmatism (Teddlie & Tashakkori 2003). Those who refuse to separate research methods from research paradigms advocate the use of different paradigms for each method (Creswell & Plano Clark 2007). We refer to these as transparadigmists and we disagree that one can change from world view to another in one project.

Our reservation for these approaches is that they only convince those who agree with their definition of a paradigm. Our use of one paradigm under the premises that methods are not tightly coupled to paradigms is acceptable whether a paradigm is defined as a world view, community of practice or shared belief. These theoretical controversies often diverted our attention from the case to philosophical debate.

We experienced that MM often faces political limitations. It is discouraged by partisan PhD supervisors and journal editors who have not yet accepted MM as a legitimate research method. This old guard with nostalgia for a bygone age has not fully understood that the ephemeral nature of scientific knowledge often applies to the methods used for creating it. As a result the novelty of MM presents a cultural shock to them. As Sorensen (2002) puts it, when you invite controversy on more than one issue as MM often does, „you have stuck your neck into more than one guillotine". In spite of this we chose the challenge of confronting competing academic camps over the danger of failing to collect any convincing data or being victimised for researching in a conflict zone.

We found MM to be ideal for addressing researchers" safety concerns because we managed to use it as a multipronged approach for collecting diverse data from safe places. Using one method to achieve this could have led to serious risks. Since visiting conflict zones invites the risk that we meant to avoid, then minimising the researcher"s exposure to it should count as risk avoidance. We therefore make our claim on the basis that MM allowed us to collect rich data without entering risky rural areas of Zimbabwe.

Having demonstrated how we used a sequential MM design to address safety concerns in Zimbabwe, we suggest that future research must consider how other MM designs apply to safety and other research challenges. We therefore present use of MM for addressing researchers" safety concern in conflict countries as one of its valuable uses.

Conclusion

Our use of MM to address safety challenges opens a new frontier for MM research. This emanates from MM"s ability to address practical challenges by confronting a research question from many perspectives. Through this research project on ICT4D in Zimbabwe, we have shown how MM enables the collection of rich data without exposing the researcher to danger. While researching in a conflict zone is less than perfect, MM was the safest and best possible approach to data collection. We demonstrated this by collecting credible data while minimising time spent in dangerous places. A sequential MM design accomplishes this by using each phase for improving the design of the next phase and it reduces researcher"s exposure to danger by eliminating exploratory work in dangerous places. Finally we conclude that while the amazing resourcefulness of MM allowed us to research in a risky country, it comes at a cost of time, skills and belligerence with defenders of established approaches.

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