MOBILE ASSEMBLAGES AND MAENDELEO IN RURAL KENYA: THE CASE OF MARAKWET

LEAH JEROP KOMEN

A thesis submitted in partial fulfilment of the requirements of the University of East London for the degree of Doctor of Philosophy

October 2014

DEDICATION

This thesis is dedicated to ALL who believe it is never too late to dream, to learn a new skill and to take up a new challenge.

ACNOWLEDGMENTS

Isaac Newton once said, "*If I have seen a little further it is by standing on the shoulders of Giants."* Indeed, I subscribe to this remark because I have not embarked on this journey alone. Several other people "conspired" to bring me this far.

First and foremost, my gratitude is to God, the Almighty, who not only granted me life but also the will-power to take on such enormous challenge. At first, the tasks of completing a PhD looked far beyond my wildest imaginations, but God kept goading me on, as he was with me all the way, guiding me, providing for me and comforting me when those hard truths reined in. Thank you my Lord and saviour for your supernatural presence and enablement even when it felt like I was alone, yet in my innermost heart you were all along with me.

Secondly, I would like to thank my husband, David Komen, for not only believing in my ability to do the PhD, but also choosing to do the double roles of being a father and a mother to our two brilliant boys, Emanuel Kimutai and Enoch Kibet, while I came over to pursue my studies abroad. Honey, I have said this to you before and I say here again, you are a special gift from on high and I am blessed to be your wife. Thank you for every manner of support. My boys, you are mighty men of valour! Thank you for being good boys while I was away and supporting your dad the way you did. You are amazing young men.

I wish to also acknowledge the encouragement that came from Daystar University, and specifically Professor Peter Ngure and Professor Faith Nguru, Dr. Rosemary Kowuor, Professor Mike Kuria and Professor Levi Obonyo. You all challenged me to do this doctoral study. Even when I thought it was definitely a high calling, Professor Ngure, you said to me, 'You are equal to the task' and for this I am grateful. Thanks to Daystar University, for modelling servant leadership in me, and to you Professor Stephen Talitwala, who motivated me without even knowing it. I will forever be grateful for meeting you and hiking a ride in your car to Athi River when you shared a word about tenacity and resilience. It registered firmly in me, sir, and it will never leave me. To my loyal friends, Beverly Mukami and Mr. Maurice Onyango, you were the birds on my

shoulders, always keeping tabs and checking that I was on course even though you had not taken the PhD journey yourselves.

To my supervisors from London Metropolitan University where it all began, I say "thank you." I give gratitude particularly to Dr.Olga Goriunova for not only working with me diligently and patiently, but also for linking me up with Dr. Tony David Sampson of University of East London, an amazing supervisor. You picked the best and I have enjoyed my time with his sharp and constructive criticisms. Tony, as you prefer to be called, you are an amazing supervisor, and I will gladly recommend you to others. Dr. Abel Ugba, you came in almost towards the last leg of my thesis but did superb work, especially in the methodology. What can I say? I am blessed to have had you at the time I did. Thank you, sir.

Prof. Nick Wanjohi, thank you, sir, for facilitating my success by sending in your financial input and also your timely advice. I would not have done it if you had not come the manner you did. Prof. Shaukat, the then chief executive officer at national council of science and technology, thanks for pushing for my data collection funding. This kept my research respondents happy and made them willing and agreeable. I realise how frustrated you were when you wished you could do more, nevertheless for what you did, I truly appreciate, sir. To you my brother, Arap Sang, thanks for using your networks to bring in some funds from the now deputy president, his Excellency Wiliam Ruto, whose input went a long way. Thanks brother Wewe ni wa Maana. And to you all my siblings thanks for your moral support and prayers.

Having a place to call home is critical, especially in a foreign land, and the International Lutheran Student Centre (ILSC), you were that home away from home. Rev. Timothy Fletcher, Desta, Miriam, Pui, Adela and all the kitchen staff, you were a very big part of my success story. Thank you for stepping in and paying my last rent when I could not. Thank you, fellow PhD students, Win, your wife Pom, and Haydar and Katherine; though we were involved in completely different concentration, knowing we were in this together encouraged me to pursue mine too. Your encouragement when I felt like throwing in the towel kept me going. Thank you heaps!

Prof. Parimala Rao, you were miles ahead of me, but yet humbled yourself and came to my level. You walked with me through your numerous texts and when we stayed together, you offered to do packed lunches for us as we went to the British library. I am still mesmerised by your kindness. My success is yours too. Thanks prof. you are a warm spirited person, and may God bless you big time!

Mr. Muganda, you were my brother abroad; you gladly gave me a roof for over a year, fed me, cared for me, sometimes dropped me on my way to the university. What more can a student ask for? I am forever grateful that I met you when I did. Not many would do what you did without asking for favours or something in return. Kongoi, I will not forget one Festus Jonah Kipkebut, who became a big brother to me, always checking out on me and cheering me on. Jonah, I remember when the going got tougher, how you came with your star statement, '*Remember you have left family and friends back home; it is just for a season and reason. So focus, and you will be fine.'*

These words kept ringing in my ears every time. Kongoi Tilyennyu. To all my London friends, Sister Margaret Lesuuda, Jane Toroitich of the Kenya High Commissioner's Office London and Kootabmnyoot Fraternity, thank you! Thank you so much to all my friends, Lindy Sharpe for hosting me for 5 weeks, Professor Henrietta Moore (namesake) for being the big sister to me, stepping in when I was in dire need. Remember the translation job! You are amazing!

To Hillsong Church, you nourished me spiritually, making sure that I kept everything in perspective and especially the Hendon Connect Group. What a family! I am blessed to have an opportunity to lead you. I will not forget the support of my family, Dad and Mum, your prayers went a long way. And the church back home, Christ is the Answer Ministries (CITAM WOODLEY), I was told of the many prayers you offered on my behalf and for supporting my husband and children. God will surely reward you openly. Amos, my departed friend, you were my cheer squad; too bad you could not live to see me finish this. May your soul rest in perfect peace and whatever you inspired me to do, that I have done. To all that I could have forgotten, I want you to know it is not deliberate, THANK YOU ALL and GOD BLESS!

To the Manager of Elmstead house CareUK, Ms. Dianna Maddaford, I will never thank you enough for offering me that part-time job. By working with the home I got to know the true meaning of life and by helping those people to be happy by exercising, just those smiles were so rewarding and made me see my scholarly challenge as surmountable. Thank you, CareUK – Elmstead house staff and especially Jennet Itoe, my line supervisor, for being so lenient with me when I had to excuse myself at short notices to see my supervisory team. You are wonderful! I will not forget Dr. Theophilus Ejorh of the Centre for Adult Education, University College Dublin, Ireland, who proofread this thesis. I give you my gratitude!

Finally, I wish to specifically thank all who stood against me, those of you who thought I could not amount to anything, those of you who thought I was making the worst decision to leave my family behind in pursuit of a PhD degree, those who thought I was 'sitting' on my husband. Honestly, I needed your negative energy to make me marshal every positive energy in me to attain these heights. Believe it or not, you pushed me to my destiny, and to you I say a big THANK YOU!

TABLE OF CONTENTS

Dedication	2
Acknowledgements	3
Abstract	9
Declaration of authorship	11
CHAPTER ONE: INTRODUCTION	12
1.0 Introduction	12
1.1 Two kinds of development	13
1.2 Theoretical underpinnings of mobile telephony	25
1.3 Maendeleo and power	29
1.4 Maendeleo emergence	32
1.5 Co-presence and mobile phone sharing	36
1.6 Time and space re-definition	44
1.7 Power and gender relations	47
1.8 Critique of the Assemblage Theory	50
1.9 Methodology	51
1.9.1 Research question	55
1.9.2 Research aims	55
1.9.3 Research objectives	56
1.10 Rationale of study	56
1.11 Summary of main findings	58
1.12 Limitations of the study	60
1.13 Original contributions to knowledge	60
1.14 Thesis outline	61
CHAPTER TWO: THEORIES OF TECHNO-SOCIAL TRANSFORMATIONS AND DEVELOPMENT	67
2.0 Introduction	67
2.1 Adoption of new technologies	69
2.1.1 Diffusion of Innovation Theory (Rogers, 1995)	69
2.1.2 Technology Acceptance Model (Davies, 1989)	71
2.2 Impact of Determinist theories	74
2.2.1 Information communication technologies for developments (ICT4D)	76
2.2.2 Social consequence of mobile telephony (Social Determinism)	76
2.3 Uses and domestication of technologies theories	85
CHAPTER THREE: METHODOLOGY	100
3.0 Introduction	100
3.1 Historical underpinnings of ethnography	101
3.2 Application of ethnography to the study of communications technology	103
3.3 Methods	111
3.4 Research design	115
3.5 Participants	117

3.6 Procedure 118
3.7 Limitations of ethnographic interviewing 119
3.8 Materials 120
3.9 Ethics and consent 120
3.10 Analysis of data: Thematic 121
3.11 Data validity 124
3.12 Challenges 124
3.13 Conclusion 125

CHAPTER FOUR: MOBILE ASSEMBLAGES AND CO-PRESENCE 126
4.0 Introduction 126
4.1 Time and space re-definition 132
4.2 Power, gender and mobile phone assemblage 143
4.3 Mobile phone sharing assemblage 153
4.4 Trust and Mischief Assemblages 164
4.5 Chapter summary 167

CHAPTER FIVE: MAENDELEO AND CASE STUDIES 169
5.0 Case Study 1: Social gatherings (Barazas) 169
5.1 Case Study 2: The M-PESA phenomenon 174
5.2 Historical context of money transfer 175
5.3 Empirical studies of mobile money 177
5.4 Mobile phone banking (m-banking and m-commerce) 181
5.5 M-PESA as an assemblage 182
5.6 Roles of M-PESA as an assemblage 183
5.7 Processes of M-PESA as an assemblage 185
5.8 M-PESA and possibility space 186
5.9 M-PESA: A transformative model? 188

CHAPTER SIX: CONCLUSIONS 195
6.0 Introduction 195
6.1 Maendeleo: A radical & inclusive model of social change 196
6.2 Summary of findings 204
6.3 Recommendations and areas for further research 211

Bibliography 212
Appendix A: Guidelines for translators 228
Appendix B: Consent form 229

ABSTRACT

Research on Information Communication Technology (ICT) and Development involves assumptions about the potential of such technologies to engender social transformations and development. Corporate organisations have financed studies that seek to understand the impact of such technologies in a bid to push for their business agenda (Castells et al., 2007; Vodafone, 2005; ITU, 2004) and also act as a means of helping developing nations eradicate poverty levels in the wake of the millennium development goals (MDGs). This kind of development is seen as synchronic, without considering the target populations' involvement in decision making, and also tends to dictate what development should look like in the eyes of most development economies where such ICTs like mobile telephones have come from. Such development is also considered as being linear in nature (Melkote and Steeves, 2003; Donovan, 2011).

This thesis is an attempt to advance the second kind of development that is diachronic in nature, which pays attention to the interrelationships of human technology rather than the former that privileges technology as engendering social transformations and development. This kind of development has been conceptualised as *maendeleo,* a Swahili term that denotes process, participation, progress and growth. Unlike the first perspective of development that views technology as causing changes, maendeleo sees social transformations and development as an interaction between mobile telephony users and their specific contexts. It is a localised understanding of development from the participants' encounters with mobile telephony in their everyday life. This thesis thus examines the role of mobile telephony in the social transformation and development of the Marakwet people of rural Kenya, using ethnographic methods of data collection and assemblage theory as theoretical framework.

Historically the Marakwet community of Kenya suffered from decades of insecurity due to cattle-rustling with their neighbours. Since its advent in Marakwet a decade ago, mobile telephony still remains complex. On one hand, it is seen as answering the insecurity question by allowing users to alert each other in case of an invasion, but at the same time is seen as the source of more insecurity, especially since mobile phones can also aid the enemies to cattle-rustle. Physical meetings that are the domain of most Marakwets are also affected by the technology, with it being seen as reducing the need

for social gatherings, yet enhancing it at the same time. Mobile money transfers, discussed as M-PESA, have not been spared either regarding services deemed to boost development and bring about social cohesion, on one hand, while still believed to cause disharmony within households and also be a 'risky' endeavour with lack of sufficient money deposit security, on the other.

Twenty-five ethnographic interviews were conducted with 12 households, taking into account age, gender, literacy levels and the length of time the device had been accessed by users. The interviews were complemented with data obtained from 5 focus group discussions among homogeneous groups (women, men, clan elders, girls and boys). The findings show that mobile phone is implicated in everyday life of the people of Marakwet, challenging concepts such as co-presence, power and gender relationships, interpersonal networks and also the idea that the use of mobile telephony in the region incorporates older modes of communication models such as the community horn. Mobile telephony influences and is influenced by all areas of community life: health, education, and agriculture, religion forming assemblages of people (users), financial institutions, government and mobile phone service providers.

This thesis challenges the dichotomisation of society into micro (individual or household) and macro (national or societal) that ignores the intermediate or meso levels. The boundaries suggested by such categorisation are blurred by communication technologies that re-define terms, such as time and space, public or private places, here and there. In a way, macro and micro distinctions also assign power to macro forces to determine the micro, which in the advent of technologies, the micro can only be changed if they so wish and not necessarily because change has been decided, packaged and delivered to them via mobile telephony or any other communication technologies. Instead, it is how they negotiate power, gender relations, cultural inclinations and socio-economic dispositions in their domesticated use of mobile telephony that facilitates social change and development.

Key words: Assemblage, Maendeleo, M-PESA, Social transformation, Co-presence, Development and Sharing.

DECLARATION OF AUTHORSHIP

I, Leah Jerop Komen, declare that the thesis entitled, *Mobile assemblages and maendeleo in rural Kenya: The case of Marakwet,* is my own and has not been presented in any other institution for an award of any degree. I confirm that:

- This work was done wholly and mainly while in candidature for a research degree at this university;
- Where I have consulted the published work of other scholars, I have clearly indicated;
- Where I have quoted from the works of others, this too is clearly indicated;
- I have acknowledged all main sources

Signed……

Date ……..

CHAPTER ONE

INTRODUCTION

1.0 Introduction

> *Since the coming of mobile telephones in this area, things have really changed. We no longer have to travel, if it is not necessary, we can call our relatives and friends and especially our children who are working and, most importantly, we can receive money from them through M-Pesa. I can say that the mobile phone has brought us maendeleo (development).*
>
> (Suter, 52 year old research participant, field data, 2012)

The introduction of mobile telephony in so-called 'developing' countries, such as those in Africa, has increased the ownership of mobile phones by many people on low and middle-incomes in proportions greater than the availability of other essential amenities, such as clean water and electricity. An appreciation of the techno-social transformational qualities that mobile telephony has facilitated can be observed in the day to day existence of people who live in the developing world. A techno-social transformation is based on the notion that any technological system is also a social system having the capacity to self-organise and also an ability to cause changes in the social system as it is transformed in the process of its interaction with the social system. An emerging body of research shows that the low communication costs that mobile telephony presents has tangible economic benefits, such as improving agricultural and labour markets as well as improving the producer and consumer welfare in particular contexts (Aker, 2010; Donner, 2008; Nyamnjoh et al., 2007, Waverman et al., 2005).

Furthermore, the massive mobile phone penetration in Africa and other developing countries shows that as mobile telephony continues to spread, it is being transformed

from being a mere communication tool to one of service delivery platform that affects and is affected by the techno-social interaction of mobile telephony and users within specific contexts. It is argued that one of the reasons for the massive uptake is the fact that the developed world model of personal ownership of a phone is not relevant or, rather, is inappropriate for most of developing nations (Vodafone Report, 2005). Invariably, ICT for development (ICT4D) studies are based on the assumption that ICT can contribute to the improvement of socio-economic conditions in developing nations (Mann, 2004; Sahay, 2001; Walsham et al., 2007). The above comment from the ethnographic study carried out for this research points to the complex human – technology interrelationship that mobile telephony plays in social and economic transformation at the local level, which can be described in general terms as an example of 'development'. This poses an important question though: What kind of development is it?

1.1 Two kinds of development

To begin with, the meaning of the term, 'development', is contested, since what is considered to be development in one context may be thought of differently in another. Development can be approached as a category or a discourse. As a category, development can be seen in diverse dimensions. For instance, the United Nations has its development agencies (such as the United Nations Development Programme—UNDP), while the World Bank takes development as part of its official name – the International Bank for Re-construction and Development (Naz, 2006). As a discourse, one can choose to view development by making statements about it, teaching it, re-modelling it, positioning it or even ruling over it. Discursively speaking, development

is thus a complex term to be approached from different angles, resulting in the production of different discourses around it.

As a concept, development gained academic prominence after World War II when major political and social changes were taking place in the 'Third World', a term that is considered as a polite epithet for 'poor countries' (Escobar, 1995, 2011; Crush, 1995; Melkote and Steeves, 2007). It is in this context that the notion of development became synonymous with socio-political and economic changes in the South. In colonial times, the term 'development' was taken to indicate the process of 'modernisation' through which 'less developed' countries (i.e. deemed to be lacking in access to basic human amenities) embraced modern technology. This macro level perspective would often be discursively characterised as a necessary movement from traditional farming tools and informal learning (usually done through oral communication) to the use of improved mechanised farming techniques, and the introduction of various kinds of formal education, such as the ability to speak and write in key European languages. In this way, the use of the term, 'development' indicates the process of transition or transformation towards a modern, capitalist or industrial economy (Ferguson, 2009: 15). According to Crush (1995), development became and is still a primary mechanism through which the Third World has been imagined or imagined itself, which thus suggests that there are other ways of seeing and doing.

This dichotomizing of the world made most of the 'resource-poor nations' at that point in time desire to be 'civilised' or modernised in order to be on a par with the developed economies. Development was not simply an instrument of socio-economic control or domination by the West against Africa, Latin America and Asia, but it also became a

categorising tool such that countries deemed lagging behind were clustered as ‘underdeveloped’, ‘Third World’, etc., while the West or colonial masters regarded themselves as ‘developed’ and the ‘First World’(Escobar, 1995; Crush, 1995). The conceptualisation of development proceeded, as Crush (1995: 214) noted, by creating abnormalities such as, ‘the poor’; the malnourished’, ‘the illiterate’, ‘the landless’, and so on, which the West would then move to ‘treat’. However, Crush goes on to explicate that by seeking to eliminate the problems that the West had ‘singled’ out, so to speak, they actually ended up multiplying them even further indefinitely.

Even today, the process of development is arguably still understood from this Western perspective, as evidenced by the use of terms, such as ‘developing or less developed countries and people’ (Escobar, 2011; Crush, 1995). An example of such input was apparent at the Millennium Summit, held in 2000 in New York City, which discussed and debated the role of the United Nations in the new millennium and also addressed major global inequalities related to the extreme poverty that still exists, despite four decades of development aid (Steeves and Kwami, 2013). The member states agreed on the eight interrelated Millennium Development Goals (MDGs), which they planned to achieve by 2015. These included: eradicating extreme hunger and poverty; establishing universal primary education; promoting gender equality and empowering women; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and building global partnerships for development.

The struggle to achieve the MDGs is largely concerned with how to bridge the gap between the more developed countries (MDCs) and the less developed countries

(LDCs). The recently published MDG report claims that remarkable strides have been made in meeting all eight MDGs with a year to go (MDG Report, 2013), acknowledging the place of information and communications technology (ICT) in acting as a catalyst for development, especially in the LDCs. Such faith in ICT was expressed by Muhammad Yunus, the former CEO of Grameen Bank, and Peace Laureate, when he stated that "The fastest way to fight poverty is to place a mobile phone in the hands of every person." This kind of development is synchronous in nature, with social transformations expected to happen at once and uniformly. Communication technologies and any other intervention or innovation introduced by the West are expected to produce certain results already predetermined by them. Development needed to fit into a certain narrative and any deviation was blamed on the recipients of development interventions and not the technology or intervention. Social transformations and development were thereby equated with 'modernisation', which suggests that the more modernised a country or a people are, the more developed they are perceived.

This kind of view seems to be mirrored in Suter's comments above, where he talks about the mobile phone having brought about development (which is translated as *maendeleo* in Swahili) and pointing to changes that have been catalysed by the embrace of mobile telephony introduced by external bodies in a bid to modernise the rural communities of most developing countries. This situation perhaps echoes a similar macro level viewpoint offered by the proponents of information communication technologies for development (ICT4D), who believe that the adoption of ICT by less developed countries (LDCs) would significantly reduce poverty levels. They argue that the introduction of information communication technologies (ICTS), such as mobile

telephony, increases access to crucial information that will facilitate efforts to reduce poverty levels of such countries. ICT is assumed to open up opportunities for the masses living in rural communities, allowing them to participate in socio-economic activities that could ultimately transform their lives in a 'developed' world.

A second understanding of development ostensibly focuses more on the micro level of the community and it includes the 'quality of life' and 'standard of living,' involving, for example, the amelioration of poverty within rural communities. According to Chambers (1985: 147), rural development is 'a strategy to enable specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need…and to demand and control more of the benefits of development.' Development is thus no longer viewed as a historical movement, but more as "an activity, a social programme, a war on poverty on a global scale", which requires active planning, participation and implementation on the ground" (Ferguson, 2009:15). Arguably, there is little participation by the local community in such projects, as development initiatives are designed and executed at the macro level, on behalf of the community.

While empirically studying Lesotho, Ferguson challenged the 'development' projects that had been initiated there. He (2009) shows that there was a different kind of development there that did not necessarily fit exclusively into either of the two categories, but lay somewhere between. He argues that the 'development' projects in Lesotho have not generally brought about any significant reduction in poverty, and have not introduced new relations in production (capitalist or otherwise) or brought about a "significant economic transformation" (P.16). According to Melkote and Steeves

(2001), the most well-meant strategies, such as developmental projects, may or may not produce the expected outcomes.

In most cases 'development' projects as understood by the West and passed on to the less developed countries as a strategy to reduce poverty levels, end up alienating the intended cohorts: the people for whom the projects are intended have little say in the decision making processes. This position, as explicated by Ferguson, seems to fit in well with Suter's experience above, since he also sees the mobile phone as an enabler of *maendeleo* without acknowledging the efforts and sectors necessary to achieve this kind of development. He does this when he appreciates the revolutionary ability to achieve some things that he could not do before the advent of mobile telephones in Marakwet, in the western part of Kenya. Though diachronic in nature, this second kind of development still has some elements or characteristics of the synchronic development. It is therefore a hybrid of modern and traditional knowledge.

This thesis draws on the observation by Suter and will challenge conventional notions of development that are received and sustained at a macro level to mean that better communication technologies, better road infrastructure and better farming tools can all be introduced to populations that have been labelled 'under developed' or 'less developed' in a bid to help them 'leapfrog' into modernity. Development of this kind only operates at a macro level in society. The efforts and strategies of the governments, firms and global organisations, such as United Nations bodies like the United Nations Development Programmes (UNDP), constitute attempts by the developed world to improve conditions in developing countries. This kind of development is synonymous with urbanisation, mass education, and the mass adoption of communication

technologies and is usually measured by penetration rates, so that an increase in mobile phone penetration rates in a country tends to indicate an increase in development.

The overriding argument concerning this, synchronic, kind of development is the assumption that societies across the globe move at a broadly similar pace of development, from a pre-industrial condition to one of modernisation and then to post modernisation. This macro level perspective on society can be beneficial to the commercial sectors of a country, as they drive their business agendas. However, the perspective does very little to show the dynamic influence of such technologies on users and how users influence the said technologies, missing out the critical element of grasping the interrelationships between the human and non-human components of mobile phone assemblages, which is the focus of this thesis.

This study draws attention to a different understanding of development, *maendeleo*, a Swahili term that denotes progress, growth and improvement from the previous state of affairs, which is confirmed by the people, as they see or experience social changes facilitated by mobile telephony at a micro level. Maendeleo takes up the second kind of development but deliberately includes the active participation of the users of mobile telephones as told in their experiences of use. This thesis thus approaches *maendeleo* as an assemblage because it encapsulates the interaction between persons, their mobile telephony and the context of use. To help explain this concept of *maendeleo* effectively, the assemblage theory is employed, as it examines relationships in terms of both the national (or macro level, by looking at policy matters in regard to the use of mobile telephony) and the individual and community (or micro level and intermediate, as people engage with their devices through various uses, both as individuals and as

households). This involves moving away from the dichotomy of the macro versus the micro debates that boxes society into categories, such as the urban versus the rural, the rich versus the poor, the national versus the local, the West versus the South, and developing versus developed countries – to a new, meso, frame of understanding that acknowledges intermediate levels and interrelationships between the parts that form the assemblage of development. Assemblage theory opens up these categories to a more robust and vast understanding of society that does not deny the need for change occurring at either the macro or the micro levels; instead it argues for a re-conceptualisation of social change, especially as facilitated by mobile telephony. As argued by Escobar (1995; 2011), while social change is part of human experience, communities in the Third World may find that there is a need for some sort of organised or directed change. Escobar, however, cautions this change should not take the form of 'designing life' or social engineering. Rather meanings and categories need to be redefined through their innovative political and social processes that redefine the social and knowledge. In other words, to understand change effectively especially in the light of communication technologies such as mobile telephony, change itself must be conceived in different terms, not as caused (at the macro or micro levels of society), but as emerging out of interactions between technology, users and their context. This thesis takes note of the fact that macro, micro and intermediate levels interact dynamically in the technologies and societies into which they are introduced.

These two perspectives on development are captured sufficiently with *maendeleo* as an assemblage. In the first instance, *maendeleo* is seen as a sign of modernity. Mobile telephony is viewed as a new phenomenon not just because of what it has helped users do, but what it also signifies (a move to modernity). In her study of Chinese migrant

women workers, Wallis (2013) points to the use of mobile phones by the young Chinese migrant workers moving from rural to urban areas as a mark of modernity. This sentiment is echoed in the current study, with certain kinds of mobile phone ownership viewed as marks of modernity. Another participant in the study, Cheptuigong, 38, explains:

> '*You can tell who has maendeleo by the type of phone one owns. For example, most of us women have this kind of phone (pointing to a 2G phone) which is really basic, having the spotlight, the voice call and text, but has no internet. But these young people of these days, they have better ones like that one (points to a young man on phone with a 3G), those can use internet. So you see, some people have more maendeleo than others just by what kind of phone they own.'*

Secondly, *maendeleo* can be viewed as a project, a strategy, an intervention or a process, which is the second kind of development. The intention of this kind of development is to improve the standard of living of individuals under the spell of 'underdevelopment'. This second kind of development is well known among impact studies scholars, especially with regard to ICT4D, who argue that the accessibility of certain information communication technologies can facilitate development by providing much needed information. For instance, access to mobile telephony can provide an avenue for persons to receive relevant information that can be channelled towards development. Maendeleo unlike ICT4D, is not deterministic in nature, it does not ignore the input at the macro nor limit itself to the micro; instead, it assumes a middle ground, that is, a hybrid of the two clusters. It is, however, never a guarantee that channelling development loaded information will result in development. It must encapsulate the willingness of the target populations to access the information and use it appropriately for development.

The two kinds of development can also be understood as two kinds of emergence (diachronic and synchronic). Emergence takes place in transitions in which systems are

produced by interacting parts that produce something new but not in the absolute sense of something that has never existed before, but only in the relative sense that something emerges that was not there in the interacting entities acting as causes. Manuel DeLanda (2006) uses the concept of water, which is the combination of two gases – hydrogen and oxygen – to explicate emergence. He notes that when the two gases interact, they form water, which is irreducible. Even though water can extinguish fire, oxygen and hydrogen fuel the fire. In other words, water has properties that are not possessed by its constituent parts (hydrogen and oxygen), as water is liquid at room temperature, whereas hydrogen and oxygen are gases at room temperature. DeLanda goes further to explicate that any emergence is dependent on the historically contingent identity of wholes defined by the emergent properties, capacities, and tendencies of the interactions between parts. Using a knife that has properties to cut, he demonstrates the potential or capacity of a knife to cut, but it can only do so in contact with things that can be cut.

Development, when viewed as an emergence, is dependent on the constituent parts: the people interacting, the context, the technologies introduced, how the technologies are used, and their effects. For example, the knife can only cut things that have the capacity to be cut. Likewise, ‘development’ can only be possible if the people being developed have the capacity to embrace the ‘development.’ The persons to whom development is introduced must demonstrate the potential to experience the said development. This potential is what comes forth as an emergence when components interact in an assemblage, such as development.

Protevi (2005) in his articulation of emergence refers the first kind of development to as synchronic emergence – that is, the emergence of 'order out of chaos'— one that enables focused systematic behaviour through constraining the action of component parts. This focused systematic behaviour constraint can be either 'upward,' which is the mutual constitution of the local-to-global, or 'downward,' which is the global-to-local causality. For example, the capacity of individuals within developing countries (parts) to chart their course out of poverty is dependent on the global determinism of United Nations social structures that form the (whole). It is also the case with synchronic development that when parts interact, such as the mobile telephony and people, something new emerges. This kind of development assumes that a transformation happens at once, and if any nations do not transform, then they have themselves to blame for not travelling a proven path to successes, so to speak.

The second kind of development that views development as a 'strategy and event or social program' (Ferguson, 2009, p.15) can be understood as a diachronic emergence. Unlike the synchronic emergence that posits transformations as happening at once, diachronic emergence considers the dynamic nature of historical processes such that what stands as a systematic unity is actually an event or process deemed to change with time, as components parts continue to interact to form contingent wholes that can be very stable (territorialised), destabilised (deterritorialised), and can even form new entities (reterritorialised).

Diachronic emergence acknowledges the fact that transformations do happen, but they are neither uniform nor happening only once, but as many times as there are interactions between parts and wholes. Different contexts experience development differently because of the unique situations surrounding each context. Unlike the synchronic

emergence that clusters the social into macro and micro levels, diachronic emergence includes the intermediate levels, such as the not always harmoniously competing institutions, groups, social networks, families, dysfunctional couples or gender considerations, to name just a few. According to DeLanda (1997), these intermediate scales or levels are the meshworks of hierarchies and hierarchies of meshworks. Therefore, interactions between parts and wholes are detachable (i.e., parts are detachable and all wholes are made up of parts or individuals, such as individuals in a nation or city) and are thus relations of exteriority (see Chapter 2).

The concept of emergence is a perspective that embeds mobile telephony in a systematic manner in which component parts interact and are affected by context. An example is Suter's narrative at the beginning of this chapter and how travel and everyday activity have been influenced by his use of mobile telephone in Marakwet. The mobility of mobile telephony favours multiplicity, described as 'an affirmation that is irreducible to any sort of unity' (Deleuze & Guattari, 1984:p.42).

In other words, the use of mobile telephony goes beyond the one and the many clusters of social relations: it may show unity in terms of what is done through the technology, but it does not unify social relations. This study draws attention to this second type of development, named *maendeleo*. As already stated, this thesis approaches *maendeleo* as an assemblage because it encapsulates the interaction between persons, their mobile telephony, and the context of use, mapping out the multiple logics, discourses, power, and gender relations within which contingent uses and understanding of mobile telephony by rural communities such as the Marakwet community of Kenya.

1.2 Theoretical underpinnings of mobile telephony

To help explain this concept of *maendeleo* effectively, assemblage theory is employed, as it examines both national (macro level) and individual/community (micro level) relationships. While the former looks at policy matters in regard to the use of mobile telephony, the latter focuses on how people engage with their devices through various uses at both individual and household levels. This involves a shift away from the dichotomy of the macro versus the micro debate that pigeonholes society into categories such as the urban versus the rural, the rich versus the poor, national versus the local levels, the West versus the South, and developing versus developed countries, to one that acknowledges intermediate levels and interrelationships between the parts that form the assemblage of development.

Assemblage theory (translated from the French word, *agencement,* which means assembling) was originally credited to the French philosophers, Gilles Deleuze and Felix Guattari (1987), for their work on schizoid analysis. It was first expounded in their book, *Anti-Oedipus* (1972), as a machinic and a desiring machine, but later expounded in their next book, *A Thousand Plateaus,* as the assemblage (1987). Guattari, a psychoanalyst, challenged the view of the Oedipus complex, as expounded by Sigmund Freud, who saw it as a starting point for analysis that empowered psychoanalysts in dealing with clients. The body received its identity according to how the psychoanalysts perceived it, thus making identity linear by nature. According to this theory, a body conceived of as a machinic assemblage becomes a body that is multiple, no longer depending on the given identity or interior classification (relations of interiority) but on particular assemblages it forms with other bodies, human or otherwise (relations of exteriority).

Deleuze and Guattari discuss the idea of bodies as 'desiring machines' or 'assemblages,' suggesting that desire flows through and between human and non-human bodies in complex ways. In desiring machines, they argue that 'everything functions at the same time, but amid hiatuses and raptures, breakdowns and failures, stalling and short circuits, distances and fragmentations…disjunctions by the very fact that they are disjunctions are inclusive' (Deleuze & Guattari, 1984, p.44). Consequently, a body's function or potential becomes dependent on which other bodies or machines it forms an assemblage with. Colebrook's (2002) bicycle assemblage explains this better. As a machine, a bicycle does not begin to work until it connects with another machine. When it connects with a cyclist, it becomes a vehicle, when placed in gallery, it becomes artwork.

Klein's (1993) cigarette assemblage is similarly multiple. When smoked, it becomes a drug; when held seductively at the end of one's fingers, it becomes an object of beauty; and when shown in a movie or film, it becomes a plot device. A cigarette, therefore, acquires multiple identities as it links or connects to other machines or bodies around it to show its glory or potential. A mobile phone also acquires multiple identities in the hand of the user in connection with other components, such as other people, the environment, and other technologies. A mobile phone in the hand of an individual that is texting or making a call is a communication technology, a reinforcer of social relationships or an instrument to disrupt social relations, if used to abuse or perform mischief. In the hands of a user living on a hillside, the functionality of a spotlight makes the mobile assemblage a security device to guide the individual, and when used to alert others about thieves or criminals, it becomes a weapon of self-defence. These

multiple identities of mobile telephony present it as diachronic and equally transversal, cutting across all of everyday life and influencing and being influenced alike.

Mobile phone assemblages can also be seen as a mechanic connection of the mobile device, human brains, hands, ears, eyes, and mouths, resulting in a device that allows desire to flow. All bodies, human or non-human, are continually forming connections. It is, therefore, these connections or assemblages that allow desire to flow and have the capacity to transform bodies and produce new social formations. More recently, DeLanda (2006), American writer, artist and philosopher, reintroduced and expanded the concept of assemblages in order to develop a new ontology of social theory. He posits the idea that assemblages are a useful way of comprehending the complexity of social arrangements without: (a) analysing components that are reducible to either micro level explanations, such as individual rational decisions or choices, or (b) macro-level explanations, such as world historical totalities or categories. In contrast to the reduction of social processes to micro and macro worlds, which can be seen in the works of Hegel, DeLanda argues that: (a) social theory should be concerned with the arrangements between wholes and parts, and (b) that an assemblage perspective grasps the coming together of heterogeneous components that are defined either by their material (concrete) or expressive roles.

Due to these interactions between parts and wholes, several processes take place. The first stabilises the assemblage. DeLanda calls this process 'territorialisation.' The second category, 'deterritorialisation', increases or sharpens the boundaries between components, thus destabilising the assemblage. All assemblages are individual persons, nations, cities and the like, meaning, therefore, that an individual is an assemblage. If

such an individual is involved in entrepreneurship, he/she will have more mobile phone contacts from those he/she does business with. So, forming an assemblage of like minds, allows desire for flourishing businesses to flow, but the same individual can also belong to other assemblages that may or may not necessarily be involved in business. These contacts could be drawn from a person's kin or social network groups, with a constant open door for newer networks in the course of everyday life. Furthermore, the individual can cluster his or her contacts based on these lines, creating a strong business base (for fellow entrepreneurs and market destinations), which is decentralised, thus creating a transformation into many other assemblages. It is important to note here that the more deterritorialised an assemblage is, the more it is transformed.

Assemblage theory, therefore, introduces a new metaphor for understanding the social world, one that speaks of heterogeneity, so that a thing is understood as composed of other things. However, there is a criticism of assemblage theory, which is the fact that it introduces indefiniteness and indeterminacy that makes it difficult to explain. There is thus a dilemma of how to explain the parts of an assemblage with the entire contingency associated with its parts. The fear of many has been how to explain these contingent parts without explaining it away. DeLanda (2006) demonstrates how one can explain the heterogeneity and contingent parts without explaining it away, as will be discussed in other sections of this thesis.

1.3 Maendeleo and power

The dynamics of social transformation and the development of people who are experiencing a global communication technology, such as mobile telephony, for the first time are curious and complex. This is because, whereas developed countries are

moving from one communication technology to another, areas such as Marakwet are rapidly moving from traditional communication technologies to global communication technologies. However, as will be shown in later chapters, people in Marakwet view mobile telephony not so much as 'leapfrog' to modernity but also as a complementary form of technology, which can exist within their own traditional community. To view development as 'leapfrog' is a synchronic approach that maendeleo moves away from. It instead sees mobile telephony as enabling a space of possibilities, which is diachronic, allowing for transversal transformations, as in social power relations.

It can be argued that mobile telephony, to some extent, has enabled the establishment of a level playing field insofar as power play is concerned. For instance, "interviewee 6" in this ethnographic study reveals that '*not only does the mobile phone become a household gadget that anyone can buy, both the rich and the poor, depending on how much money they can afford, it is also owned by both men and women, old and young alike.'* However, another respondent, Kirui, admits that mobile phones have encouraged the development of sharp power distinctions:

> *You know how economically strong a person is by the kind of phone they own, some cheaper phones are for poor people but these internet phones are for people who are economically empowered*, (Kirui, 39 year old research participant, field data, 2012) .

In both accounts above, mobile telephone can be argued to empower and dis-empower too. This is typical of assemblages, because it is the case of part and whole interactions that are never reduced to a single logic. Power as an assemblage acquires multiple identities too, as it links up with other bodies, one of empowering and disempowering. It can be argued according to the foregoing testimonies that mobile telephony reduces power distinction (de-territorialising) in one instance and yet sharpens or (territorialises) in another. Assemblage is much more than identifying assemblages,

but also what identified assemblages can do, which is about affects and effects, as discussed earlier under the rubric of diachronic emergence. Some of the affects and affectivity of mobile telephony are the ability to produce power relations and construction of gender roles that in turn constitute mobile phone assemblages. One significance of looking at mobile assemblage as a way out of mapping power and gender relations is its strength in refusing the simplistic binary or dichotomies of exclusion and inclusion, the emancipation or the lack of it, empowerment versus disempowerment or control versus the controlled in the understanding of the intersection between technology and society.

Power as an assemblage is not limited to top-bottom or bottom-up notions, but circulates among the interacting parts — in this case, the person having ownership of and/or access to mobile telephony, whom they are interacting with, and the space of possibility (e.g., the idea of mobile telephony as a marker of 'modernity'). In the context of urbanisation/modernisation at a macro level, for instance, the uneven diffusion of mobile telephones due to disparate access to socio-economic resources by various clusters of people or groups of communities and problems of connectivity presents a huge challenge in terms of understanding the extent of influence of mobile telephony on individuals living in rural communities like the Marakwet of Kenya.

Connectivity means communication that lies at the heart of the social world. Such connectivity allows people in often isolated rural communities to be active in networks of sociality and modes of self-transformation that are crucial for their wellbeing and proper functioning in the society. To such communities, the mobile phone is not an additional mode of communication, but one of the key ways of maintaining touch,

because prior to the advent of mobile telephony the people of Marakwets maintained contacts with each other through word of mouth, letter exchanges and the use of their traditional horns. However, the ease and frequency of access facilitated by mobile phones somewhat counters domination, shifting conceptualisation of power from top-bottom or bottom-up to one that circulates between users and everyone who has access, but does not in itself eliminate gender and power differences completely. The more power relation shifts the more it de-territorialises the assemblages it forms, as technology and users interact with their environments. Thus, the more de-territorialised a community becomes, the more it is transformed.

Mobility also introduces new capacities to affect and be affected, what DeLanda calls 'space of possibilities', as discussed earlier. Mobile phones also have potential tendencies to affect or transform assemblages they are connected to. For example, through mobile phones, people can link up to form a gathering, and yet as they interact within that spatial distance, the mobile phone is equally present, almost standing as the next person in the group waiting to affect or be affected. When a call comes and people are engaged in a co-present situation, the decision to take the call or not affects the identity and nature of that group and the individual engaging in a phone call conversation, by either stepping aside or answering the call in a low tone or not receiving the call at all. Mobile telephony also gives rise to new ways of organising and conducting everyday practices like farming, doing small business, and talking to friends and relatives that are far and near, hence enhancing family kinships and relationships. These new ways were not foreseen or predicted before giving rise to diachronic emergence. The ability of mobile telephony to infiltrate everyday life has influenced the conceptualisation of time and space so much that it is no longer possible to consider

space in terms of dichotomised categories of here and there, near and far, private and public, or even presence and absence.

1.4 Maendeleo emergence

Maendeleo depicts an amalgamation of the first kind of development (historical period or synchronic emergence) as well as the second kind (event or strategy-diachronic emergence) that when incorporated into policy can help to improve livelihoods and so on. It can be regarded as synchronic because it is happening at a time in history — the information age — and also diachronic because it is novel, yet happening over time. Some of the indicators of *maendeleo* include: freedom of choice, empowerment and a better standard of living.

Shrestha (1995), while discussing development in Nepalese, uses the term *Bikas* to mean developed and the opposite term *Abikas* to mean the underdeveloped, uncivilised or backward. Bikasis were perceived to be those that had acquired modern technology and identified themselves as such. This description and distinction on how development was understood made development not just a concept but a practice that clustered society, thus exacerbating class hierarchy (p.268). Furthermore, Shrestha describes the *Bikasis* as people associated with objects such as roads, airplanes, dams, hospitals and fancy buildings without overlooking education that had to be formal and that Bikasis spoke English, the language of the modern. She stated also that Bikasis saw themselves as "developed", and as such they isolated the Abikasis, making them feel dejected. If they ever visited the countryside, Shrestha observes, the Bikasis would speak English, the language of the Bikas, and also shied away from manual labour, which was deemed to befit the *Abikasis*. Such sharp distinctions both territorialised and re-territorialised

society, as individuals began to study and acquire skills that would move them from being Abikasis to becoming Bikasis. It appears from this illustration that though the imperialists had left, a legacy is still in place in terms of their lifestyle, or imperialist values that have had been retained by the Nepalese people. Such sentiments are echoed by Said (1993), who when describing the legacy of imperialism, points out that 'Westerners may have physically left their old colonies in Africa and Asia, but they retained them not only as markets but also as locales on the ideological map over which they continued to rule morally and intellectually'(p.25).

Unlike the Nepalese *Bikasis,* who would demonstrate significant social transformations in terms of poverty reduction and economic empowerment, an individual experiencing *maendeleo* does not necessarily exhibit any extraordinary traits, such as a significant reduction of poverty levels or significant economic transformations, but a positive change in terms of seeing and doing things. *Maendeleo* is thus multi-faceted in nature, and it appears in various ways and in all spheres of life, from agriculture (via the ability to send texts to an agricultural extension worker describing the symptoms of pest infested crops), to the purchase of materials for small business entrepreneurs from a different town, to the ability to text and call via a mobile phone, to church activities (sending of church financial collections through the mobile phone), and also to the rescue of female children from the perpetrators of female genital mutilation (FGM).

Maendeleo contributes to solving the problem of macro and micro reductions by focusing on the micro story, while not neglecting the macro. *Maendeleo* customises macro definitions and applies micro realities in a transformed version that further transforms the social interactions through the everyday interrelationships between

mobile phone usage, the users, and their environs. *Maendeleo* acknowledges the social changes that occur due to the use of mobile telephony; however, this change is not defined by governments or big institutions or organisations, but rather is experienced and recounted by the participants as they go about their everyday lives. Maendeleo is robust and experienced differently by different people as they encounter technology. For example, having a 1G mobile phone is maendeleo to one who has never had one before, and having a 2G is maendeleo to one who has had previous versions. Likewise, to a farmer the ability to text the agricultural extension worker about the health of crops is maendeleo, while to a religious leader the ability to send and receive church remittances from followers via mobile money transfer is maendeleo, and the list goes on and on (see Chapter Four).

The mobile phone's capacity to affect is contingent on the existence of other things that can be affected by it, such as a charged battery (which affects the phone's capacity to be affected) and good interpersonal relationships, as in the case of a borrowed or shared phone. The same can be said of the ability to send and receive money via mobile phone as a diachronic emergence that is contingent on tendencies and properties of mobile phone and users: mobile phone users who have registered for the said service; the property of a mobile phone to send electronic money via mobile telephony; the capacity of the user to read and understand the content of the short message texts that show how much has been sent by whom and to whom; the corner shop operator and the availability of funds for such withdrawals to be made; and the proper functioning of a mobile phone (e.g., having enough charge to show the contents of the short text message).

Based on DeLanda's conceptualisation of assemblage theory as adopted in this study, it is arguably incorrect to depict the people of Marakwet as a social unit and say they have all experienced uniform *maendeleo*, as each individual experiences *maendeleo* according to specific needs, interactions, and social status, and not only as individuals, but also as part of an assemblage of relationships with, for example, money, social gatherings, and the environment. Individuals cannot, therefore, be taken as a unified whole because they are varied within social relations in terms of their interactions with their mobile phones as with their environment or contexts. This is in contrast to the first type of development as a process of modernisation designed by the 'developed' world for the 'developing' world. It is not just about bringing about an improved standard of living, rather it encourages a way of life that is localised and articulated by the persons experiencing and interacting with this technology.

DeLanda (2006) links these spaces of capacities with conversation analysis. He argues that as people gather to converse, it always involves more than the physical presence and incorporates other capacities, tendencies and functionalities of mobile telephones that make co-presence a reality. The conversation analysis theorist, Erving Goffman (1959), defines co-presence as a face-to-face situation between two or more people, arguing that since most of our behaviours are carried out in front of others, we are in fact constantly performing before an audience. This conversation shows a shift in the understanding of the social aspects of development by making a deliberate movement away from a 'top to bottom' analysis towards one that allows an interchange of positions and actions. Several people in conversation allow each other turns to be listened to and to speak. There is room for an interruption both when it is deemed necessary and when it is not. Consequently, conversations present social relations as

complex, fluid and open to multiple interactions. Goffman's conversation analysis helps in linking up micro and macro levels of development and society and also in explaining the complexity of social transformations that emerge as people use mobile telephony within and without their context for various reasons (see Chapter Five).

1.5 Co-presence and mobile phone sharing

The unpredictable nature of conversation(s) presents it as complex, just as development is. The content of conversation(s) is vast, including other aspects that are not necessarily linguistic in nature such as mannerisms, gestures and symbols. Goffman (1959) uses a 'theatrical metaphor' to illuminate the issue of identity and how it is conceptualised using every day social interaction or conversation. Goffman observes that just like a 'dramaturgy', there are actions that are considered 'front stage', which are usually carried out before an audience, while those who are 'back stage' remain invisible to the audience. He argues that there is a distinction between the roles we play on the 'front stage' and the way we behave on the 'back stage'. In other words, social interaction or co-presence comes about in and through social interactions with one another, where participants 'perform', by assuming a role and trying to create an 'impression' as much as is possible.

DeLanda's theory of assemblage and Goffman's theory of co-presence agree on this novel understanding of the social, in that they see the social as being no longer reducible to a category or grouping of wholes or totalities, but rather that it is individuals within wholes who are irreducible. The very fact that we are in the presence of others influences what we do and how we think in many ways. It is an everyday, and almost taken for granted, experience that reveals a great deal about social interaction among

people. According to Goffman, what is done before an audience is usually a rehearsed performance meaning that what is displayed on the front stage is the result of what is done on the back stage. For example, when two people are interacting, there are certain forms of behaviour that are deemed appropriate, certain words that are considered respectful and others that are considered disrespectful. If, for any reason, inappropriate communications are conducted in the presence of another, an immediate feeling of embarrassment follows, which can destabilise a harmonious conversation, resulting in a different form of behaviour or choice of phrases, such as "I am sorry" and/or "Forgive me", to return the otherwise awkward situation to normalcy.

Goffman also explains that for there to be a smooth front stage performance, what is done in the 'back stage' area need not come to the front stage and that when what is supposed to be hidden comes to the sight of the audience it causes embarrassment, which can also be seen as a social control mechanism. For instance, playing jokes on someone or humiliating someone before others could be a sanction of some sort for not following group norms. This attribute is evident in mobile phone sharing and varies from one cultural group to another.

Mobile phones bring people together in new ways, but also combine with older support systems. Although the mobile phone has become an increasingly personalised device, there are some contexts in which sharing its functions with others challenges the assumption of the individual nature of how it is used. Mobile phone functions enable the users to share the device at will with relatives and even strangers. In contexts where sharing is the norm, the sharing of mobile telephony is incorporated with other support systems, such as communal meetings and group meetings, which are most often

scheduled for and carried out under specific trees or certain agreed-upon venues. Mobile phones, consequently, bring people together in new ways, but also combine with older support systems complementarily. Burell (2010) defines mobile phone sharing as an informal, non-enumerative resource for distributing activities where multiple individuals have a relationship with a single device as a purchaser, owner, possessor, operator and/or user. This implies that as the original holder, one grants to another the partial use, enjoyment or possession of a thing, resource or place (p. 230). In this study, mobile phone sharing is the ownership of, and/or access to, a mobile phone by the owner or designated custodian, who makes the device available for use by someone other than themselves for free, or with a token given in return.

Mobile phone sharing gathers people together, therefore encouraging co-presence. According to the research participants, mobile phone sharing greatly encouraged interpersonal communication. For instance, in the teenage cohort, the kind of interactions that emerged when they converged to listen to the radio or news, were not limited. After listening to news they would then embark on their everyday social interactions, which lasted even longer. The quote below explains this better:

> *'We usually call each other either via texting or by word of mouth. Then we meet over here ([pointing to the hillside]. We listen to news, entertainment and our favourite soccer teams and how they have fared. Afterwards we just talk about stuff from school work, politics, anything'* (Interviewee 7).

The notion of sharing assumes a free exchange among people sharing the mobile phone device. However; sharing also introduces limitations to social interactions, consequently affecting issues of gender roles, power differentiation and shifts in time and space conceptualisation. For instance, only those who contribute to cost sharing have access to mobile phone sharing. As a result, only they can gather together for whatever reasons. A person who is seen as not contributing is often locked out, and is

therefore not invited to join the rest at the place of gathering. This was particularly the case with teenage groups: *'For those who don't contribute either by buying air time, or charging the phone, we just block them off, we don't want parasites, we must cost share'* (Kipkiyeny 19 years). Mobile phone sharing has also been approached as one of the ways that poverty can be reduced or 'shared', instead of each person purchasing a phone. It is assumed that since one does not necessarily need to own a mobile phone, the cost of purchasing such a device could be skipped, saving the said money for matters of development. This is, however, contrary to observations made by one participant, as the ethnographic data below shows:.

> *You see I did not go to school. So when I receive a text I ask my husband to read it. Sometimes he is not around, like when he goes to watch over our cattle, and then I ask anybody who is around. I just hear the sound and I ask someone to read what it is saying* (Chepsiro , 58 years old).

The narrative of Chepsiro is a typical example of the utility of mobile telephony by the majority of residents living in the Marakwet district. Even though theoretically the mobile phone belonged to Chepsiro, her lack of literacy meant that she had to trust her husband to decipher all the texts on her phone, thus demonstrating the need that often exists for phone sharing (see Chapter Three). Mobile phone sharing in itself, according to Chepsiro's case, does not necessitate poverty reduction or development, because sharing is dependent on other factors, such as what is shared, how it is shared, the frequency of the sharing, with whom and for what purpose. In the absence of her husband, she would allow someone else to help read messages, opening the door to unprecedented trust issues. Essentially, this model of mobile phone use necessarily involves co-presence.

This attribute is evident in mobile phone sharing and varies from one cultural group to another. For instance, among the elderly, mobile phone sharing is understood as a

common and normal thing to do, and anyone who refuses to share their phone is reprimanded. Similarly, the young (especially teens) will only share if there is an understanding that sharing is done in turns, and when they see situations in which an individual is barred from mobile sharing as a reciprocity failure. The following quote from an ethnographic interview demonstrates this:

> '*I do not have to worry because I don't own a mobile phone. All I need to do is give the owner twenty bob (twenty Kenya shillings) to charge his phone or bamba twenty (twenty Kenya shillings) for a top up. Then I can come along and we listen to the news together with other friends. So it is not a must to own a phone. We just do cost sharing or else you will be punished by your peers if you don't contribute'* (Kipkebut, 22).

The embarrassment revealed in the above narrative exists among peers but can also be a marker of social status. For example, it is usually the case that a boss embarrasses a junior worker and not the other way round. In other words, the management between front stage and back stage is crucial to the management of self-image or identity. In the previous narrative, Chepsiro shares with her husband as a priority and only considers asking others if her husband is away herding cattle, making gender roles even in mobile phone sharing quite marked. The second narrative by Kipkebut shows a kind of mutual of interaction related to the fear of being punished by peers. He shares by contributing, because he does not want to feel embarrassed or lose face. This interaction can also be experienced in mobile telephony as people-interacting. On one hand, they can be face to face with others, and on the other, face to face with their mobile phones, which affects social relations.

When mobile phone users focus more on their phones, for instance, while exchanging texts with significant others, an immediate co-present other is somewhat temporarily shut out. The ability to shift one's attention at will affects not only one's self-image

before another, but also contributes to how identity is created, nurtured and shifted in human-technology interactions. Identity, therefore, is presented as fluid, as will be discussed in detail in Chapters Three and Four. For instance, a person who does not want to be contacted can control who calls by sending a text to say that they are busy or even put their phone on vibration mode so they can claim it was inaudible. One can also claim to be in a meeting to avoid being contacted by certain individuals that they have chosen not to converse with.

This act of blocking others by 'meetings' or putting one's mobile phone in the silent mode is one means of exercising control over others. When two or more individuals meet up to converse under a tree or at a market place, as was the case in Marakwet, they are members of Marakwet community (i.e. at the intermediate level) who are using mobile telephony, a global technology (macro level), within Kenya as a country. In actual fact, the use of mobile telephones facilitates a co-presence that links all levels of society from micro, intermediate and macro levels.

Therefore, an understanding of co-presence is critical in linking the interactions at a micro (co-presence) and macro level of society. Understanding mobile phone use as a mode of development will involve the individual user and those they link with via mobile phone, government apparatuses, non-governmental organisations, mobile phone operators and other institutions, such as banks. It also involves the specific contexts in which a mobile phone is used and specific ways that the technology is manipulated by users, in line with either already established needs or emerging needs.

Assemblage theory thus provides a more complex way of looking at mobile phone use as discussed above, which involves social networks, business linkages, cultural input, skill of use and the capacities of the mobile telephone as a communication gadget, among other things. Therefore, when one picks up a phone to receive a call or a text, one is immediately linked to the caller, the context of the caller and the place or sometimes places (be they physical or electronic spaces/places mediated by the mobile phone) they are in. So, the content of discussions or exchange(s) could touch on social encounters, business initiatives, market prices or bills. The list is inconclusive. An interaction such as this shows that presence is not limited to co-presence but includes multiple places or presences. This study thus extends Goffman's co-presence to include multiple presences in the wake of mobile technologies such as the mobile phone (See Chapter Four).

DeLanda's conceptualisation of society as an assemblage helps us to understand a society by moving us beyond micro or macro categories and onto a more complex interaction between technology and users. Identity in assemblage theory is defined alongside relations of exteriority that look at components as being heterogeneous and constantly interacting, hence forming assemblages that have stronger boundaries (territorialising) or which enhance their sharp differences, and in the process destabilise the identity of the assemblage (de-territorialising) among relations of interiority that view components as constitutive, taken as a unified whole. Through coding and decoding, the identity of an assemblage continues to change as users or actors interact. This means that within one single assemblage there can be more assemblages and as heterogeneous parts interact they can keep shifting and forming new assemblages.

Assemblages can, therefore, only be said to exist when heterogeneous parts interact and cease when the parts are no longer interacting. For instance, the literate user of a mobile phone is likely to be more capable of manipulating the technology than an illiterate or semi-literate individual, as was the case of Chepsiro and her husband, discussed earlier in this chapter. Chepsiro and her husband form an assemblage with the phone. She is forced to share, and in a sense she is not liberated by the act of sharing. Her narrative shows that sharing does not necessarily help with poverty reduction, nor does it promote development. One of the key ingredients for making development a success is the empowerment of the people involved, however, Chepsiro is not in any way empowered but rather condemned to that state due largely to her limited literacy. By not being able to read her texts, she is likely to miss out on crucial information, such as texts inviting her to shift to a cheaper tariff or advice to use better farming techniques by the agricultural extension officer. Chepsiro's identity as a dependent individual is produced in the assemblage. Her case helps one to think through identity as dynamic and changing, depending on assemblages that one becomes a part of. Such cases may challenge the received notion of mobile telephony as an equalising technology and one that reduces poverty and promotes development. Some themes that emerge from the consideration of mobile telephony as a mode of development (*maendeleo*) and influencing co-presence, include time and space re-definition as well as changing power and gender relations in mobile telephones and user interactions.

1.6 Time and space re-definition

This study uses DeLanda's (2006) assemblage theory as a theoretical framework and Goffman's (1959) theory of co-presence as a link between the micro and macro levels of society, to provide insights into the interrelationships of mobile telephony and time-space constraints. The impact of mobile telephony for everyday activities has created a

sense of relaxed temporal constraints (Schwanen and Mei-Po, 2008), while in some instances it is deemed to have increased spatial and temporal flexibility. This is shown in the following testimony:

> *'Yes, the mobile phone has really helped me in talking to my children in Kamendi, talking to my uncles and all my relations wherever they are. It has really helped because instead of spending a lot of money, now it costs less. Take, for instance, going to Nairobi… The bus fare is Kshs. 1,000 besides lodging and food. This comes to roughly Kshs. 4,000, but now with the phone, it is very cheap, and is actually less than ksh100'* (Mathias, 48 years old).

The above narrative by Mathias has implications for mobile telephony in terms of daily travel activities. Mobile telephony is portrayed, as such, as a factor for increasing the spatial and temporal flexibility of everyday activities, such as checking the welfare of family members and sharing information in regard to nuclear and extended families. It is not just his immediate family, his children in Kamendi, but also his uncles and other relations. Similar findings were noted by Schwanen & Mei-Po (2008) in their empirical research. Their analysis suggests that the implications of the internet and the mobile telephone are complex and also dependent on the type of activity, the persons involved and the technologies and socio-physical context in which such technologies are embedded. Their findings reveal that participants viewed the internet and mobile phone as relaxing temporal constraints to a stronger degree than they enhance spatial flexibility and that in regard to gender differences, the internet and mobile phones at best consolidate gender differences in the space-time constraints associated with everyday activities.

Co-present encounters can also be located within time and space when bodies are brought together. Goffman (1963) has termed this type of co-presence 'gathering', implying a coming together of two or more people in which people sense that they are

close enough to be seen and to see others (p. 17). This notion of 'gathering' is important, because it forms a kind of social territory around who gathers with whom, for what and where, and for how long. Space is embodied in day to day interactions. It is through the interactions between bodies that participants locate themselves in the same manner that an actor in a drama assumes a role and plays it before a specified audience. It is no longer a physical place, but the space(s) created as bodies interact.

Similarly, presence is not limited to co-presence, as evidenced by increased face-to-face to mobile phone interactions (Urry, 2007). Co-presence is both a location and a relation (Callon and Law, 2004), thus re-emphasising the notion that presence cannot be reduced to co-presence. In this regard, co-presence questions the taken for granted assumption of time and space mediated by technologies, such as mobile phones. Even meetings that are arranged via mobile phones have been questioned, with scholars arguing that such meetings are rarely a sequence of purely face to face interactions within physical places (Katz and Aakhus, 2004; Licoppe 2004; Ling 2004). How we use our mobile phones is affected by the attention we pay to co-presence. The term 'perpetual contact', coined by Katz and Aakhus (2002), suggests a near constant co-presence facilitated by mobile telephony by directing behaviour to some extent, consequently positioning users at multiple locations at once. To own or have access to a mobile telephone not only involves being available through text or voice calls but also places the user in multiple locations at once. This involves being physically present and being available electronically to be texted or called. Time has been made fluid in this regard.

Goggin Gerard (2006), a mobile telephony theorist, acknowledges the implication of information communication technologies (ICT) for daily travel activities, but points out that scant attention has been paid to relationships between ICT and space-time constraints. This study thus uses DeLanda's (2006) assemblage theory as a theoretical framework and Goffman's (1959) theory of co-presence as a link between the micro (individuals or within households) and macro (societal or community) levels of society, to provide this missing link between the interrelationships of mobile telephony and space-time constraints, and also to explain how mobile telephony has in some instances relaxed temporal constraints.

1.7 Power and gender relations

There is a belief as well as an understanding that the more mobile phone penetration rates increases in Africa and other developing countries, the higher the possibility of achieving gender equality (ITU, 2004). This belief is derived from the United Nation's millennium development goal (MDG) number three, which seeks to promote gender equality and also empower women by 2015. It has also been argued that ICT can deliver not only information to women, but also contribute to women's empowerment and development, in addition to serving as a means for the eradication of poverty (Maier and Nair-Reichert, 2008). Consequently, in comparison with other information communication technologies, the mobile phone is said to have contributed to equalising the communicative social integration of men and women much more than the internet, even in areas in which male users dominate (ITU Report, 2004). Inadvertently, due to illiteracy rates faced by women in developing countries as well as structural and cultural barriers, many scholars contend that women's access to ICT is limited, thereby

perpetuating inequalities (Wallis, 2013; Archambault, 2010; Balasubramanian et al., 2010).

The current Marakwet study, however, demonstrates the assumptions of gender empowerment and equality as a rather complex notion, given the various domestic assemblages the researcher encountered. Some married women participants explained how their use of mobile telephony had enabled them to save money and also send and receive money via their mobile phones with or without the knowledge of their husbands. This was not the case before the advent of mobile telephony, since a man (husband) received all the monies from the farming proceeds and decided how to distribute them, sometimes spending more on personal, rather than family, use. One participant, Jerop, a married woman with four teenage children, explains:

> *'Before the coming of mobile phones, my husband used to demand I give him all the money from our mango farming; then he would give very little money for house use and reserved some for drinking local brew. But now, I also have my phone, so I save in my M-PESA helping me to pay school fees for our children.'*

This testimony by Jerop just shows that she feels empowered to be able to surpass the traditional gender roles and believes that the barrier of gender roles no longer stands in her way, as she can also be the provider, paying school fees for their children, a traditional role believed to be played by males/husbands in this community. Barriers in the context of mobile telephony can also become opportunities, as seen in this case.

As a result, households can, to some extent, rely on the creation of power hierarchies between spouses. For example, it is highly plausible that men who are often financially stable will transfer airtime (talk time) to their wives, girlfriends, sisters and their

mothers, with the exception of single women households where the woman is the sole provider.

In her ethnographic study of young migrant women from rural-to-urban China, Wallis (2013) examines mobile telephony as an assemblage. In her analysis she provides an intimate portrait of the social, cultural and economic implications of mobile communication for a group of young women engaged in semi-skilled work in China, where they work for an indefinite period of time. Situating her work within feminist studies, technology studies and communication theory, Wallis explores the ways in which mobile telephony is being integrated into transforming the social structures and practices of contemporary China. She targets the relationship between young rural-to-urban women to show how mobile phone use empowers 'immobile mobility' (p.6). She defines 'immobile mobility' as a "socio-techno means of surpassing spatial, temporal, physical and structural boundaries" (p. 6). In other words, she argues, mobile phones tie these women to certain places and jobs while also helping them to broaden their horizons and pursue 'modern' identities. The findings by Wallis fit in with the domestic assemblages in the current study, as explicated by Jerop's experience.

Wallis (2013) further examines 'immobile mobility' alongside labour policies, and seeks to find a connection with the improved economic status of migrant women. She finds that mobile phones provide "more controls to bosses" (p.175). She also finds that the use of mobile telephony does not help female migrants find better jobs or lead better lives. In actual fact, they remain immobile with their mobile phones. The reason why mobile phone ownership is fundamental for migrant women is because mobile phones

are more than a material or technological object. Mobile phones symbolise migrant women's desire for modernity and ways to achieve self-determination.

The global diffusion of mobile phones has generated hope by enabling individuals in developing countries to increase their income and life opportunities, while numerous socio-cultural factors contribute to the outcomes of technology in diverse contexts. These include gender, age and class, which produce particular constraints on the ability of users to generate higher incomes and find better jobs, as in the case of migrant women in Beijing. Therefore, according to Wallis, the mobile phone as part of an assemblage, includes: (a) idea(s), which is perceived as freedom or progress; (b) practices, such as calling or texting; and (c) the effects that mobile phone usage has on users. Mapping a mobile phone as part of an assemblage does not mean looking at the mobile phone itself but at the flow of relationships within which it is given meaning as well as its power to 'assemble specific bodies, passions and representation in particular ways' (Wallis, 2013), just as a social gathering, a coming together of individuals converging at a particular place yet comprising different ideas, practices in how to use mobile telephony, and co-presence dynamics.

Mobile phones as part of an assemblage, include both human and non-human bodies, actions, feelings and sometimes phrases or statements that symbolise and depict whatever is regarded as paramount. The interrelationship between mobile phones and their uses ought to be dynamic and can be freely detached, attached and re-attached as the interaction goes on. For instance, rules can affect interaction, as suggested by Goffman's 'frames' at the beginning of the section. These 'frames' are clusters which help to constitute and regulate activities in social interactions. Consequently, examining

mobile phones as part of an assemblage will include users, and the socio-economic factors that contribute to the outcomes of technology in the users' specific contexts.

1.8 Critique of the Assemblage Theory

Assemblage theory is a useful theory for explaining the link between the macro and micro levels of society, by showing that whatever happens in these levels are not distinct but interplay (including the intermediate levels), therefore privilegin none as responsible for social change. This has equally become the assemblage theory critique. The theory has been criticised for ignoring the power of macro forces to determine the micro. In the defence of the theory, DeLanda (2006) highlights the need to understand the intermediate levels too, further explaining that social change occurs at any level without privileging the macro. This, according to him, is because assemblages are wholes whose properties emerge from interactions between parts, that is the macro interacts with the micro and intermediate levels, too.

Assemblage theory is still the preferred theory to explain the complex interaction between mobile technology and users within their respective contexts, because it re-thinks emergence as complex and thus does not rely on the earlier problems associated with the one and many relations. DeLanda also answers the question of one to many, when he says that such interactions between parts can be used to model intermediate entities: for instance, interpersonal networks and institutional organisations are assemblages of people, just as cities are also assemblages of people, networks, organisations and a variety of infrastructural components (p. 6). The historically contingent identity of 'wholes' is defined by their emergent properties, capacities and tendencies, so that even if wholes or assemblages may seem similar so much so that no

one can tell them apart, each will still be unique due to its individual history. Assemblage theory takes cognisance of such identity politics, such as the presence of class or categories, but argues that categories indeed exist and that it is rather the access to resources that determine subjectivity and not linguistic labels.

1.9 Methodology

This study focuses on the Marakwet sub-tribe of the Kalenjin community who live in the Rift Valley in western Kenya and have a population of roughly people (369,998 (2009 census-see Map A below). The study investigates mobile use by way of exploring the complex relations established between mobile technologies, individual (micro-level interactions) and societal (macro level interactions) as well as the intermediate levels that make up the social assemblages of rural Kenya.

Map A

(Source: htttp://www.geology/world/Kenya-satellite-imageshtml).

The study investigates mobile telephony usage among households in a Sibou village in the Marakwet District of Kenya. An understanding of mobile phone usage helps to explain the dynamics that come into play when individuals interact in their everyday activities at a micro level (co-presence) and also the societal links existing among them (macro level). Rather than dissect the society into micro or macro elements, this study

attempts to focus on everyday usage of mobile telephony in Marakwet to push for a neutral understanding of the complexity of society by viewing mobile phone usage as part of an assemblage that facilitates development. The study moves away from impact studies in a way that assumes linear cause and effect outcomes rather focusing on interactions between mobile use, the users and their environment or context as a consequence, thus giving the study a multi-dimensional approach.

Ethnographic interviews as a method of data collection are key in explaining these dynamics of interrelationships by enabling users to tell their own stories in-depth, as they navigate their everyday life through their use of mobile telephony. These interrelationships between mobile telephony usage, users and their contexts form various mobile phone assemblages, such as people, land topography, other traditional models of communication such as the use of community horn to call for meetings, and mobile money transfers, among many other assemblages. It has become clear that the use of mobile telephony by users, especially those dwelling in the rural parts of developing countries, has brought or contributed to some social transformations. The researcher, therefore, uses ethnographic interviewing methodology coupled with assemblage theory to conceive of and illuminate new kinds of social transformations in the wake of mobile telephony introduction.

Goffmanian co-presence links the dynamics that are no longer micro (individual) or macro (societal) in nature but rather multidirectional, multi-levels, moving away from the dichotomy of society as macro or micro, so as to also include the intermediate levels. Through an understanding of the conversational analysis, these levels are shown not as distinct but sometimes overlapping. Assemblage theory (DeLanda, 2006) opens up

these dynamics in conjunction with ethnographic interviews that help make clear the various mobile phone assemblages.

To effectively study the target group, the researcher conducted 25 ethnographic interviews among 12 households with an average of 2 persons a household. Knowing that data concerning their everyday use of mobile telephony would be derived from people, the researcher obtained consent from the research participants. Those that could read and write signed a prepared consent form and those that could not gave their verbal consent, which was recorded on tape.

In total, 25 individual one-to-one ethnographic interviews were conducted, which were complemented by five data focus group discussions (FGDs). The researcher used two research assistants who were trained by her prior to data collection. The research assistants were trained in how to write notes during interviews and they also functioned as translators if there was a word that missed the researcher's understanding as a result of dialectal differentiation. The need for honesty was emphasised to the research participants and pseudonyms were used to protect their identities. After explaining why video recording was critical to capture their responses and not miss out on what they said, the participants consented to being audio and video recorded on a few occasions.

The research consisted of a theoretical investigation using assemblage theory to conceive of new kinds of social transformation that have occurred in the wake of the introduction of mobile telephony. It took into account age, gender, literacy levels and the length of time that mobile devices have been accessed by the participants. The interviews were complemented by video data captured from five focus group

discussions among perceived homogeneous groups (women, men, clan elders, girls and boys).

Data was analysed thematically using Aronson's (1994) four step approach: collecting data, identifying patterns, combining patterns into sub-themes and finally building a valid argument by choosing themes related to assemblage theory. Aronson's approach supports ethnographic interviewing as a method of gathering data from participants as they narrate their experiences into their mobile phones. Aronson's process also helps in the theoretical investigation by identifying patterns and combinations of patterns with sub-themes, explaining mobile telephony usage as part of an assemblage that looks at the social elements that facilitate *maendeleo* (development).

1.9.1 Research question

The research sought to provide answers to the following important question: What is the role of mobile telephony in the social transformation and development (*maendeleo*) of the Marakwet people of Kenya?

1.9.2 Research aims

The aim of the research is fundamentally: to investigate the use of mobile telephony in rural Kenya and gain an understanding of development (*maendeleo*), as seen at micro (individualistic), macro (societal) and intermediate levels, using the assemblage theory (DeLanda, 2006) and the notion of co-presence (Goffman, 1959) as analytical frameworks .

1.9.3 Research objectives

The key objectives of this study were to:

a) investigate the role of mobile telephony in the social transformation of households in Marakwet;
b) assess the role of mobile telephony usage in *maendeleo* (development) in Marakwet;
c) investigate the influence of mobile phones on co-presence in Marakwet;
d) record emerging accounts of the uses of mobile telephones and the cultural effects it produces in different households;
e) investigate changes in time and space configurations which may occur as a result of mobile telephone usage in Marakwet;
f) explore how power and gender roles are affected by mobile telephone usage by the research participants in Marakwet; and
g) discover the varied kinds of mobile phone assemblages in the target population.

1.10 Rationale of study

Mobile phones are becoming interfaces through which people conduct their everyday activities – such as banking, shopping, payment of bills and connecting with friends and relatives. In some instances, mobile telephony may appear to demolish distances by breaking the boundaries between the public and the private (Katz and Aakhus, 2002); yet in other instances, it seems to shape how individuals interact via mobile phone technology as they communicate with each other (Ling, 2004). Consequently, mobile phones tend to create new forms of technology-centred relationships that affect patterns of ownership and acquisition.

In the developing world, mobile phones are often the first telephones for many individuals, opening up new possibilities for communication in areas that have never installed land lines. The understanding in the West about most developing nations is that of 'leapfrogging' modernisation, development and other features, considered to reflect massive economic, cultural, political and social transformations. These assumptions have yet to receive sufficient empirical backing, especially for people living in rural communities who apparently need to experience this 'modernisation' or 'development'. This current study thus problematises important sociological questions in relation to time and interpersonal communication as well as gender and power relations in the light of mobile telephony. It highlights the role of mobile phone technology in macro and micro management and the implementation of everyday activities in relation to mobile phone usage in Kenya's rural communities.

This research focuses on *maendeleo* as a part of mobile phone assemblages in rural Kenya, by looking at the influence that mobile telephony is having as a link between the micro level (individual) and the macro level (societal) dynamic in a bid to understand the role of mobile telephony in the social transformations of the Marakwet people. There is a claim that the advent of mobile telephony in Marakwet has brought peace in a region that is slowly recovering from decades of insecurity and lack of peace. Historically, Marakwets as a community have been known to rear herds of cattle and other livestock and this has been their main sources of livelihood. Unfortunately, their interaction with the neighbouring Pokot community has frequently exposed them to attacks, resulting in loss of life, livestock and property. The advent of mobile telephony in the region seems to have been adopted and adapted quickly. Understanding the role of mobile telephony in the social transformation of such a community is critical in

explaining the place of information communication technologies in social transformations and development.

1.11 Summary of main findings

This study sought to ascertain the role of mobile telephony in the social transformations and development of the Marakwet people who reside in the rural areas of the western part of Kenya. Twenty-five ethnographic interviews were carried out coupled with five focus group discussions. Critical ethical issues were considered, such as the confidentiality and privacy of the research participants. Participants were asked to sign a consent form, and in the event that reading and writing were a challenge, they gave their consent verbally. Permission to capture data on tape was also obtained from the participants, and all ethical issues addressed. Data was audio-recorded digitally while focus group discussions were video-recorded. Observational notes were also incorporated as a triangulation to strengthen data collected.

Some of the findings of this study are as follows:

(a) The mapping of mobile telephony as part of social assemblage goes beyond studying the mobile phone as a communication device to include a network of relationships among people and their environment.

(b) Development as an assemblage is diachronic in nature, encompassing complex interactions that cannot be reduced to a top down or bottom up situation or status, but is rather a circulation of relationships within socio-economic networks.

(c) Co-presence is both a location and a relationship and also extends to include multiple presences that were not captured by Goffmanian conversation analysis, given the

ubiquitous nature of mobile telephony to exhibit the virtual and actual realities presenting both the material and expressive roles of mobile telephony at play.

(d) Mobile telephony in Marakwet is a site of power negotiations, representing in some instances power domination in terms of who owns a mobile phone within a household, who is entrusted with the stewardship of a shared mobile phone. Mobile phones neither encouraged power hierarchies nor empowered the women and girls as such, because each household differed in terms of their specific scenarios.

(e) There was no direct relationship between ownership of mobile phones and concepts, such as empowerment of women and girls, development and significant reduction of poverty of households in Marakwet. For instance, some women felt that mobile phones empowered them to do life much more without the fear of their male counterparts' interference, especially in cases of married couple's joint income, though the same women also admitted that they were still under the leadership of their male counterparts in terms of ownership of land, who shares the family income, among other family engagements. Having a mobile phone should enable individuals to earn more monies if they are engaged in entrepreneurship, such as small scale farming, because individuals can search and access market. However, the same mobile phones could bring a strain in the family relationship, as they also often result in the collapse of small scale farming due to suspicion and mistrust, as will be explained in detail in other sections of this thesis. Furthermore, research participants confessed that they spent more monies on phone than they spend in producing the money or fighting poverty, even though they could get money sent to them via phone to meet domestic needs.

(f) That the over celebrated mobile money service M-PESA had its undertones too, such as the lack of guarantee on the safety of cash deposited, especially in cases that one mistakenly sends cash to a wrong number which takes a while before it is recovered

and in some cases may not be recovered at all, making the risks high for the consumers of the services who could have spent a fortune to gather the said cash and then used to cater for a dire need.

1.12 Limitations of the study

One of the key challenges experienced is that the ethnographic interviews were time consuming. However, this was anticipated and sufficient time was allocated for it. Funding for the research was also limited, but the researcher utilised available funds judiciously and carried out the project efficiently. Although Kenya's other rural populations may share some of the familiar uses of mobile telephony, the Marakwet community is unique in the complementary use of this technology and the community's traditional horn. The conclusions from this study cannot, therefore, be generalised to all rural communities in Kenya, or to the Marakwet people living in urban areas. Nevertheless, the findings can serve as a useful reference or resource in future studies.

1.13 Original contributions to knowledge

Some of the key original contributions of the thesis to knowledge include:

1. The rural users of mobile telephony have not been studied empirically in context. The thesis thus provides baseline data to be used for reference in future studies.
2. Ethnographic interviewing as a method of data collection and analysis has so far been applied to rural-urban migrant workers (Wallis, 2010) but this method has not been used here.
3. The methods and theoretical framework used in this study had not been used in a similar context before. Even though ethnographic interviewing

had been previously applied in studies of rural-urban migrant workers (Wallis, 2010), the Assemblage theory has not been applied in the study of mobile telephony in rural low income communities. This study thus provides a framework for qualitative research in rural African populations that can be replicated in future studies.

4. Understanding mobile telephony as part of the assemblage for the rural context is a new approach.

Finally, mobile phones do not replace traditional methods of communities, as seen in the use of the community's horn as complementary. The key insight here is that the traditional horn has an advantage, which is, that it can be heard by everyone and is also widely recognised and respected as an enduring part/embodiment of the Marakwet cultural heritage.

1.14 Thesis outline

This thesis is divided into six chapters:

Chapter One: Introduction

This chapter gives the background of the study by discussing the two kinds of development, namely: (a) Imperial development, which treats development as a historical movement, that is, a synchronic kind of history that leapfrogs developing nations to modernity, all happening at once; and (b) Development as an event, strategy, or programme that recognises historical processes and techno-social transformations as dynamic and diachronic in nature, with transformations happening over time. This

second type of development embraces the concept of development as interpreted locally.

In this study, the concept of development will assume the Kiswahili word '*maendeleo.*' It shows that penetration rates do not necessarily mean development, because development is a relative term and is experienced differently even by people who are seen as homogeneous in nature, such as those living in the same geographical area, thus challenging the notion of developing nations 'leapfrogging' through stages of development just by a mere consumption of communication technologies like mobile telephony. This chapter has built on existing literature to show this conceptual disparity. It examined how maendeleo contributes to the discourse of social assemblages (i.e. the relationship between wholes and parts with wholes treated as individual parts or identities affected and being affected, giving rise to emergence and heterogeneity of component parts), not only as a link between the micro and macro dichotomies, but also as diachronic emergence that recognises that as people use mobile telephony in different contexts novel techno-social transformations emerge.

These transformations and developments are not limited to the positive or negative effects of mobile telephony but are robust because mobile telephones participate in both the construction of social order and its destabilisation. So far, impact studies have considered social relations in dichotomies, the rich and the poor, the West versus developing nations, information rich versus information poor, developed and developing, and the like. This chapter has subverted this dichotomisation of social relations, not only because it does very little to represent the dynamics of society, but also because it aids in widening the gap by emphasising the micro and the macro, while

ignoring the intermediate levels and treating social relations as wholes rather than individual entities within the assemblages they form. The chapter also has introduced the reader to key terminologies and preliminary insights into other chapters, namel;y: co-presence; M-PESA; power and gender relations; and the changing conceptualisation of space, (private versus public), time and social gatherings (Barazas), all presented as social assemblages.

Chapter Two: Theorising techno-social emergence and transformation

This chapter contextualises the issue of technology and the development of social relationships (i.e. the coming together of the social, economic and technological factors and how this relationship has been theorised in a given context). It provides a review of literature on how social transformations and development have been theorised before as: (a) adoption (Rogers, 1995),explaining the characteristics of adopters and pace of adoption (b) impact or deterministic theories (i.e. technological and social determinists), showing targeted change that can be identified as having been caused by technology or users, and (c) use and domestication approaches (i.e. the Domestication of Technologies theory, the Actor Network theory-ANT and the Assemblage theory), which assume the middle ground, oppose any segmentation of society to micro or macro levels, challenges the glorifying of either technology or humans for causing social transformations and development, instead focusing on the interaction between technology, users and their contexts as critical to the understanding of how social transformations and development occur in the advent of mobile telephony. The chapter favours assemblage theory because it is useful for addressing the complexity of social and diachronic augmented transformations by giving considerations to a space of

possibilities in which each component has open properties, capacities, tendencies, and most importantly figure in transversal emergence (DeLanda, 2006; Protevi, 2012).

Chapter Three: Methodology

This chapter deals with methods and methodology, in terms of what methods were chosen and why, how data was collected and analysed. It shows the link between method and theory, a demonstration of an allegiance to good research practice.

Chapters Four/Five

These chapters are discussed together under data presentation and analysis of (a) techno-social emergence and social transformation in Chapter Four and (b) maendeleo and case studies in Chapter Five. Chapter Four dwells on maendeleo and mobile phone sharing assemblage as well as gender and power relationships. This chapter also focuses on other concepts that arose from the data, such as determinism, shared use of mobile phones, use of horn alongside mobile telephony as complementary means of communication, and insecurity as assemblage and how it is being addressed in the wake of mobile telephony**.**

Chapter Five: Case study 1: Social gatherings

This chapter analyses social gatherings as part of mobile phone assemblage by focusing on social networks and how they are formed and implemented in light of the advent of mobile telephony in Marakwet. It also looks at how a key sociological issue, such as the re-definition of time and space, has transformed social interactions by blurring the boundaries between private and public spaces. It examines the mobility of mobile telephony and how it has affected socio-cultural practices, norms, and values, such as

those displayed during a social gathering. Mobile phone sharing is one case of diachronic emergence that shows an alteration of sharing as free exchange. The chapter thus also challenges notions about new technologies supplanting old ones, by demonstrating through the findings that mobile telephony in Marakwet has a complementary role.

Chapter Five: Case study 2 (M-PESA)

This chapter looks at the M-PESA phenomenon, not only as the game changer in mobile money transfers but also as software that further categorises society rather than address the critical question of social transformation and how it comes about. Through examining the research findings, the chapter shows that M-PESA also has its drawbacks in terms of serving market forces rather than empowering users. M-PESA use among the people of Marakwet is examined here in terms of how it has both further marginalised the already marginalised group (that is, women and girls) and also increased internal oppression and discrimination within the women folk. The chapter demonstrates that M-PESA has had both a liberating and a disconnecting effect with regard to matters of ownership and acquisition of mobile telephony in households.

Chapter Six: Conclusion

This chapter summarises the findings of the study, shows its contributions to knowledge, and also suggests potential areas for further research.

CHAPTER TWO

THEORIES OF TECHNO-SOCIAL TRANSFORMATION & DEVELOPMENT

2.0 Introduction

> *'The mobile phone is both good and bad, but mostly good because the person using it can decide how to use it'* (Kuskong, 39 years old, ethnographic data, 2012).

The above statement is heavy with philosophical questions as to the relationship between technology, such as the mobile phone and the user within certain contexts. Kuskong above, on one hand, romanticises mobile telephony as being 'mostly good' yet, on the other hand, shows that mobile telephony can be manipulated too for outcomes that can either be good or bad by the user because he/she decides how to use it. Kuskong's sentiments can also imply dynamic interaction between mobile telephony as a technology and users' ability to tap into the technology's capacity to affect and be affected. Such interaction between mobile telephony does not, therefore, occur in a vacuum, but is a complex interrelationship between technology user, their needs, mobile phone capacities and the ability of users to exercise those capacities to meet their changing needs.

Empirical evidence has suggested the numerous ways in which mobile telephony's capacities to affect and be affected have been documented, for instance, texting among Norwegian youths (Ling, 2004, 2007); beeping or call me back provisions of mobile telephony (Molony, 2010) and mobile money transfers (Donovana, 2012;Marowscynski,2009; Wachira, 2003), among others. Researchers have attempted

to unravel the nature of human and communication technology interaction to foster social transformations and development and have approached it from different standpoints.

From a causality point of view, researchers have been clustered as those who claim that mobile telephony has the capacity to cause social change (technological determinism); yet others are of the contrary opinion, privileging humans as causing change to technology (constructivism). For determinists the promise of modern technologies such as mobile telephony for developing countries are formulated under a broader discourse of modernisation and development which is often based on the assumption that underdevelopment is caused by deficiencies in good roads, communication technologies, vehicles, and gigantic buildings, all of which are considered as markers of development by developed economies. Information communication technologies are therefore seen as neutral and conduits for facilitating social transformation and development if proper diffusion of such technologies are followed through. Constructionists, on the other hand, view social transformation as caused by humans, and by appropriating communication technologies, there is a shift of the power of development and social transformations to all humans, as opposed the deterministic view that links causative power with communication technologies. To look at the interrelationship between communication technologies and humans from a causal perspective , in my view, is to short circuit a rather complex, dynamic assemblage of people, technology, their context, the properties of technology, the capacities to affect and be affected (DeLanda, 2006, 2011), hence reducing it to one of cause and effect. Other researchers, especially from media and cultural studies as well as science and technology, have approached this rather complex interaction from three further broad

categories, namely: (a) adoption of new technologies (b) impact or deterministic approaches to technology, and (c) use and domestication/appropriation of technology approaches. This chapter discusses these three categories to situate itself and also explicate why assemblage theory was chosen as the key theoretical framework for this study.

2.1 Adoption of new technologies

There are many theories that can be used to explain the adoption of new technologies. Wade (2009) identifies a number of theories used in the adoption of information systems (IS). This section focuses on two of such theories of adoption of new technologies, namely: the Diffusion of Innovation (DOI) theory and the Technology Acceptance Model (TAM).

2.1.1 Diffusion of Innovation Theory (Rogers, 1995)

The Diffusion of Innovation (DOI) theory is a theory of why, how and at what rate new ideas and technologies are adopted or spread through cultures that they are being introduced in order to modernise them. Essentially, DOI sees new ideas or technologies as being communicated using certain channels within a social system (Rogers, 1995). Individuals within a social system are seen as possessing certain characteristics that enable them to adopt particular technologies or innovation over a period of time. This adoption behaviour is clustered into five categories: innovators, early adopters, early majority, late majority and laggards (Rogers, 1995). This is in order of early adopters to late adopters or rejecters of technologies or ideas.

DOI is a suitable theory if one is seeking to know the process of introduction of new technologies, innovations or ideas in certain contexts. As regards mobile telephony, for instance, there is no doubt that the introduction of this technology to developing countries has provided the means for them to leapfrog fixed-line technology. The problem of introduction of fixed-line or land-line telephones has been a problem of most developing countries and so deep is the problem that even with privatisation and de-regulation of service operators, it has not been able to alleviate the situation, as many regions do not have such telephones to date. DOI in this case serves not only to show sharp divisions between developed economies by exposing how far the western economies are complemented by the mobile telephony, whereas for developing economies, it is just 'the' telephone. As an approach to study mobile telephony, DOI thus serves just as descriptive technology, and does not show the complex interaction between mobile telephony, changing patterns of use, their respective contexts of use and the larger economic sectors, such as financial institutions, governments, etc. According to Castells et al. (2007), there is no overwhelming evidence to support the hypothesis that mobile telephony helps to leapfrog into development by eliminating stages of economic development. Although mobile phones have undoubtedly reduced deficiencies in access to telephony in developing countries, there is still a wide gap between the developed and developing countries in terms of diffusion levels and the kind of technology in use. For instance, mobile telephony diffusion has not had much impact on 'internet divide' because a majority of phones in the rural parts of Africa and other developing countries are 1Gigabite mobile phones. This was, however, not the focus of this study.

Another focus that was noted by Castells et al. is the digital divide between rural and urban users of mobile telephony. They cite Mexico one example with a place where mobile telephony is higher in the urban areas. There was a similar observation in Ghana where the urban slum (Mamobi) was noted to have higher levels of mobile phone use than the rural (Praso). One of the key reasons for such disparity is the lack of/or insufficient connectivity in the rural Praso, which lacks telecom coverage, hence ICTS such as mobile telephony was perceived as widening the rural-urban divide. This study is, however, not a comparative study as above, but takes cognisance of the problem of rural communities or dwellers to enjoy sufficient telecom coverage and the socio-economic differentiations that such technology had enhanced, as will be discussed in Chapter Four.

2.1.2 Technology Acceptance Model (Davies, 1989)

Technology acceptance model (TAM) posits that technology speed and nature of adoption are dependent on the perceived usefulness and ease of use by the potential users of the technology. Consequently, if potential users perceive the technology as beneficial and easy to use, they will adopt it quickly, but when they perceive it to be complex and not beneficial they are most likely to reject it (Davies, 1989). Both DOI and TAM can be lumped as modernisation theories, whose intention is to introduce new innovations or ideas to contexts that have none or are under-developed so as to: (a) modernise them, and (b) explain the speed at which social transformation occurs in various contexts in respect to the unique characteristics of the users of technology, the knowledge base of the users and the competencies to use, whether or not the introduced technologies are easy to access, use or maintain.

Giddens (1990) has defined modernisation as the appearance of modes of social life or organisation that emerged in Europe from around the seventeenth century onwards and which subsequently became more or less worldwide in their influence. Modernisation theories, such as DOI and TAM, explain the changing ways of communication and media use in traditional and (post)modern societies.

The Modernisation theories evolved in three waves. The first wave appeared in the 1950s and 1960s. It attempted to explain the diffusion of Western styles of living, technological innovations and individualist types of communication (highly selective, addressing only particular persons) as the superiority of secular, materialist, Western, individualist culture and of individual motivation and achievement (Lerner, 1958; Schramm, 1964; McQuail, 2000). Significantly, this first wave was based on economic development underpinnings, especially the idea that the mass media promotes the global diffusion of many technical and social innovations that are essential to modernisation (Rogers, 1962). The second wave of the Modernization theory is a part of the Critical theory, which was popular in the 1970s and 1980s and does not support but criticise the influence of Western modernisation. This is held to be a case of Western cultural and economic imperialism or dominance (Schiller, 1976). This second category acknowledges that in as much as communication innovations came from the Western economies, they were heavily dominated by Western notions of development, one that created a dependency syndrome rather that enable persons for which innovations were meant to be liberating. Peripheral (developing) countries are assumed to be dependent on communication innovations or other innovations in the Core (i.e. the Western world).

The third wave of modernisation theory came along in the post-modern era of the 1990s. According to Giddens, (1990), this wave assumes a middle ground and is neither an anti-western modernisation nor in favour of it. Giddens showed that modern society is characterised by time-space distanciation and disembedding mechanisms. He notes that traditional society is based on direct interaction between people living close to each other, whereas modern societies stretch further and further across space and time using mass media and interactive media such as mobile telephony. He defines distanciation as the process of stretching links, connections across the globe, dissolving fixed links between time and place so that even long distance relationships, for instance, can be experienced as close. This theme of the combination of unification and fragmentation in society and in media use is also present in the work of Meyrowitz (1993) and van Dijk (1993, 1991/1999). Van Dijk explains the rise of the new media, such as computer networks and mobile telephony, as important tools for modern life. The missing link in all the modernisation theories is the conspicuous absence of the user of technologies, who is assumed to be passive, just consuming technology according to the prescription of technology innovators.

Also, Modernisation theories such as the DOI, TAM are critical for explaining the process but fails to capture the surprises that such innovation attract. For instance, the success of technology in one context does not mean success in another, as users are very unique even though at face value they may seem homogeneous, for example, residing in the same location, speaking the same language and belonging to the same social status and the like. DOI assumes, for instance, that only those that are highly literate and exposed will adopt technology first, whereas those with low literacy will be the last (termed, laggards). This is a handicapped thinking, because a highly literate

individual could as well not adopt a technology or innovation out of sheer tastes or preference. Credit must however, be given to Everett Rogers, for having successfully carried out the research in the 1960s, a time when choices were minimal and the literate had fewer options, compared to the 21st century literate, who have to choose from a myriad of communication technologies.

2.2 Impact of Determinist Theories

The spread of mobile telephony and other wireless mobile communication technologies is affecting people's lives and relationships (Aakhus and Katz, 2002). To a large extent, mobile telephony changes how people live their lives and see their worlds. The impact of mobile telephony is vast and in most cases having a dual influence. For instance, mobile telephony can accelerate the speed and efficiency of life by enabling one to do so much within a short time (for example, settling bills by sending money via mobile phone at a distance, yet doing shopping in person) but at the same time allow for flexibility at business and professional levels as well as in the household/family and personal life. Mobile telephony can affect the way people relate in a face-to-face interaction, what Ervin Goffman (1959) has called co-presence. As a matter of fact, one can increasingly go face-to-face or to mobile phone-face, since people are more likely to include the presence of a mobile phone as additional member of the group waiting to announce its presence when a text or call comes in. The outcome can be considered as intrusive or accepted depending on the nature of the incoming call or text in a co-presence situation.

Mobile phones' ability to influence large political change at a macro level has also been documented (Rheingold, 2002). For example, mobile telephones were used in Manila,

Philippines, for organising public protests to throw the then President Joseph Estrada from office on allegations of corruption charges levelled against him. Hostile satirical jokes and anti-Estrada texts were said to have been widely circulated against the government.

The above incident in Manila could be read from different viewpoints. On one hand, one can applaud the technologies' capacity of texting and the people's exercising of the capacity to text and re-text, hence resulting in political change. But, at the same time, it can be argued that technology had just facilitated an outcome that came about at a time when the people of Manila were ready for change. Not long after the ousted president was arrested, did he use his mobile phone to conduct interviews (Chandrasekaran, 2001). The mobile phone in this regard can be regarded as a double edged sword, acting as tool to spur political agitation and actions, while being instrumental to two-way interpersonal communications.

Mobile telephony is influencing not just person to person communication, business front or political space; it is also affecting the everyday life of users. For instance, mobile telephony is already modifying established communication patterns (some of which are firmly rooted in the culture of different people) and in other cases amplifying and/or substituting for them. For example, before the advent of mobile telephony in many contexts, communication was written in form of a letter and sent through the post office, which usually took some time before reaching the intended recipient(s). Today, mobile telephony has made communication brief and specific, as simple texts just outline the purpose of the message, as opposed to writing a letter that has more room for details about the recipient or the writer. The impact of mobile telephony is,

therefore, wide and vast, and researchers have looked at its impact in yet other categories, too. Some have taken the technological determinist position (for example, information communication technologies for development-ICT4D), which privileges technology, while others have taken the social determinist (or social consequences of technology) stance that privileges humans. We now turn our attention to these theories.

2.2.1 Information communication technologies for development (ICT4D).

> Mobile telephony has a positive and significant impact on economic growth, *and this impact may be twice as large in developing countries*" (Waverman et al., 2005: 12).

The massive uptake of mobile telephony across the globe explains how it is perceived as a technology that causes socio-economic changes. The above quote by Waverman et al., appeared in a macro-level analysis of some 92 developing countries, among them South Africa, Tanzania, Egypt, and Morocco, where they identified mobile telephony as one key driver of economic growth. The authors observed that mobile phones are low cost and far quicker to roll out than fixed lines. They also noted that mobile phones substitute fixed landlines in poor countries, but complement fixed lines in richer countries, implying that they have a stronger growth rate in developing countries. Waverman et al., therefore, seem to suggest a direct relationship between higher levels of mobile telephone penetration and the rates at which they consequently lead to high gross domestic product (GDP), particularly among low-income developing countries (Sridhar and Sridhar, 2006). An empirical study of mobile telephony in Africa (sponsored by Vodafone) concluded that mobile phones can have significant beneficial impacts on a country's economic development. In some cases, the study noted, the impact could be a per capita GDP that was 0.59 percent higher, if there was an average of ten more mobile phones per 100 populations (Castells et al., 2007). In regard to

connectivity, Waverman et al. (2005: 17) noted that, 'while in developing countries the benefits of mobile phones are twofold – the increase in network effect of telecoms plus advantage of mobility, in developed economies the first effect is muted.' These penetration rates, they explained, could be the reasons for economic growth rates among developing countries.

At a micro level, Goodman (2005) used survey methodology to explore how mobile phones contribute to social capital (or social cohesiveness) within communities in South Africa and Tanzania. In his own study, Jensen (2007) looked at the micro economic impact of mobile telephony on fish farmers in India's Keralan coast. These studies have inclined towards the deterministic view positing technology as determining the social. Although quantifiable data is good for making business sense, it does little to show complex social formations and fails to capture the relationships between the technology and users as it also does little to show whether any meaningful development has been achieved at all. Informational communication technologies for development (ICT4D) attempts through numerous empirical studies to show that both quantifiable and quality of data, indeed, show that if used correctly, ICTs can facilitate social transformations and development.

Research on ICT4D concerns assumptions on ICT innovations and ways that such innovations contribute to development. In most cases, ICTs are assumed to cause progressive transformations, yet in other instances the same ICTs are blamed for causing disruptive transformations. The role of ICT in development, for instance, is contested between those who see it as facilitating broad-based human development (Waverman et al., 2005; Aker and Mbiti, 2010) and those who believe it is perhaps

impotent and, at worst, counterproductive by creating further inequalities (Castells et al., 2007). However, according to Escobar (1995), ICTs may, in fact, 'offer unexpected opportunities that groups at the margin could seize to construct innovative visions and practices' (p.225). These emerging visions or innovative ways of seeing and doing things in the advent of mobile telephony by the marginalised is complex. For instance, new ICTs such as mobile telephony expose users to new forms of control, but are themselves being exposed to transformation by the human groups they enrol (Feenberg, 1995). Mobile communications, nevertheless, are bestowed with the potential to enhance development efforts by facilitating the circulation of useful information (Slater and Kwami, 2005; Melkote and Steeves, 2004). For Donner (2008), information communication technologies like mobile telephony have the potential to improve entrepreneurialism by enabling access to new markets for produce, fishery, crafts and many more, as well as providing critical information concerning the market price. Consequently, mobile telephony facilitates efficient businesses, increasing profits in places where other modes of communication are poorly developed.

Archambault (2010), however, disagrees with this optimistic view of mobile telephony, arguing that the link between ICT and development is based on wishful thinking rather than empirical studies (p. 94). Similarly, Horst and Miller (2005) in their study of low income Jamaicans observed that mobile telephony was used only occasionally to engage in income generating activities, arguing that new technology, in fact, inhibit development by reinforcing redistribution of resources that could actually have been invested. African scholars, Mazrui and Okigbo (2004), argue that 'many Africans are enamoured by new communication very often for all the wrong reasons' (p.16).

However, they do not explain what the 'wrong reasons' are or, better still, what the 'right reasons' are.

Some scholars have even cautioned against being too optimistic, imagining that the rollout of ICT will completely resolve complex and infrastructural problems (Donner, 2008). For instance, whereas in most developed economies the advent of mobile telephony is regarded as mobile, being able to communicate on the go, for most developing countries the key factor is for connectivity first and then the ability to communicate on the go as well. Mobility is critical for developed countries that already have connectivity in place, but for the developing connectivity first, and then mobility. Due to lack of proper developed road and communication infrastructure in most developing countries, connectivity and mobility in them divide society into clusters – rural and urban, rich and the poor, the micro and macro, individual and group, among other dichotomies. This thesis thus is an attempt to move away from the broad causal patterns (macro) and the focused story (micro) to examining the interplay of society and mobile telephony that brings all the levels into focus and privileges none, while at the same time exploring how mobile telephony is implicated in social transformations and development of users of the said technology.

2.2.2 Social consequence of mobile telephony (social determinism)

Mobile telephone usage is pervasive in nature, influencing everyday lives. This influence is further enhanced by the mobile phones' capacities such, as mobility (the ability to be reached wherever one is), and the constant reachability or availability (being perpetually ready to be contacted). These capacities have influenced how people interact when in a close proximity and even across distance. Depending on how users

manipulate their mobile telephony, matters to deal with work and leisure have been modified, interrupted or even stashed. Similarly, how to interpret time and space has also been influenced, for example, private and public spheres (Aakhus and Katz, 2002). In this sub-section, we focus on the social consequences of mobile telephony on: (a) work and leisure, and (b) private and public places.

Work and leisure

Mobile telephony changes people's attitudes towards work and office hours, such that being perpetually available becomes an undertone of this technology. One runs the risk that others assume the mobile phone owner will accept messages regardless of place or time, as is also the case for voice calls. Kopomaa (2000: 55) states: "Personal and professional messages become intertwined. Sundays are no different from Mondays, nor February from July." The supervisors may call their subordinates or juniors at any time, even if that time is after office hours. Similar observations were made by Wallis (2013) in her study of Chinese migrant workers. In this study, supervisors could call on any of the migrant women to go back to work or answer some work related questions. This was also the case in the current study, where one respondent explained how his private or leisure time had been deeply interrupted, while at the same time noting that the same mobile phone could be used to excuse oneself from work or direct one's juniors to attend. He narrated:

> *'I think this mobile phone has really affected my family time, sometimes I am home with family and my boss calls on matters official, sometimes asking me to go back to work since I am one of the managers to attend to a client; but, on the other hand, I can call my juniors whom I have given my locker key and ask them to remove whatever the senior wants. That way, I do not have to travel all the way; so, it is good and bad'*(Kipkieny, 54 years, ethnographic interview, 2012).

There seems to be no clear distinction between work and leisure times. Amazingly, official calls after office hours were not considered to be disruptive to one's leisure time. The consequence of this, as noted by Maenpaa (2000), may be the formation of a digital version of Foucault's panopticon in which there is no room for choice between work and personal needs (p. 143). The fluid relation between work and leisure becomes even tacit when it comes to teenage mobile phones. To teenagers, it is more of a battle between leisure/private time and school work, with studies indicating that most students would chat via Facebook or short messages (sms) using their mobile phones. This is the case especially in developed countries. In extreme cases, poor academic performances are blamed on the massive uptake of mobile telephony among teenagers across the globe, for instance, the social meanings and uses of mobile telephony among Norwegian youth (Ling, 2004.)

Private and public Places

Mobile telephony has been termed to be pervasive, cutting through the public and private spheres. Political thinker, Hannah Arendt, conceptualised the public realm as comprising two interrelated phenomena. The first is that 'everything that appears in public can be seen and heard by everybody and has the widest possible publicity' (Arendt 1998:50). Arendt lays emphasis on reality as depending on appearance, what can be seen or heard is real. The other is that the term 'public' signifies the world itself insofar as it is common, and this common world gathers people together but also separates people (Arendt 1998:52). Arendt gives an illustration of a table that has individuals seated across each other. On one hand, the table brings them together and, on the other, prevents them from knocking each other's feet. The table thus gathers and also separates. She also defines the term 'private' as being governed by necessity and

survival needs associated with labour and work. Private matters concern personal and self-interests, as opposed to the public realm that is defined by action for the common good of the public, such that activities carried out 'by an individual inhabiting a private space has no significance and consequence to others, and what matters to him are without interest to other people' (Arendt, 1998: 58).

In the context of mobile telephony, the private and public realms are further problematised. One of the distinctive characteristics of mobile telephony is that it privatises public places. That is to say, as someone is on call or talks on the phone, he/she is, at that point in time, in his/her own private space (Aakhus and Katz, 2002: 23). Observing behaviour in public places will show that when one is receiving a call even in a notably crowded public space, he/she tends to move away and lower his/her tone, looks at ground or turns his/her back on others, hence creating own private place that guarantees himself/herself a social absence from others. Communication technologies, mobile telephony in particular, tend to transform and rearrange relationships between the domestic and public spaces (Morley, 2002). They function particularly to broaden the sphere of the home outside the physical household, thus blurring the boundaries between public and private spheres. However, what is within the household is not necessarily private. It is only deemed so if it has no significance and consequence to others around.

Though the blurring of private and public boundaries is true in cases of an individually owned mobile phone, shared mobile phones, however, deviate from this, as they defy new techno-social situations and new boundaries of identity and place (Ito et al., 2006: 206). This is because the shared mobile phone cannot fit into the 24/7 routine of most

mobile communications (Ito, 2004: 6-7). This is particularly the case in most African contexts where sharing is embraced as a norm, hence what is considered private or public is largely a cultural construct based on norms, values and behavioural patterns. The 'shared use' contexts are a good perspective to look at in the interrelationships between mobile telephone and its users. On the touch of a button, one can have access to otherwise private thoughts (back- stage) and relay them with a click on their phones, as they share texts. At the same time, the very fact that they do this in the presence of others (front-stage) makes the public and private realms in co-presence situation almost impossible.

Raymond Williams (1974), a cultural theorist, in his television study, termed this binary 'mobile privatisation', referring to multiple 'electric' technologies that arrived somewhat concurrently with television, and which saw the emergence of once mobile and home-centred way of living (p. 26).In other words, television allowed the viewer to have contact privately with an 'out there', consequently bringing the outside in (ibid.: 27). Here, one can still be physically within the home and yet, simultaneously, be electronically transported to other places. In a study of Australian mobile telephony, Wajcman et al. (2004: 12) argued that mobile penetration is far reaching, penetrating 'new geographic spaces that enable the consumption and communication process to be applied in new social, cultural and psychological spaces.' Space in the advent of mobile telephony, therefore, has materially changed being in the private or public space or both without physically moving.

Williams' notion of 'mobile privatisation' seems to suggest a sphere that goes beyond the confines or boundaries of physical place(s) to a multiple scenario of places within

a place. This is paradoxical, as earlier domestication studies (Morley,1986; Gray, 2003) had shown technologies that were confined to physical locations, yet with the advent of mobile telephony, domestication moved to several localities or places. When one uses the device, it creates a locality even though it is mobile.

The privatisation of public spaces or places represents a dilemma of co-presence and the understanding of what is to be said in public and what is to be kept in private, as will be discussed in-depth in Chapter Four. This may, in fact, affect or introduce newer ways of looking at the norms and rules that govern a social interaction. Mobile telephony in light of private and public places becomes even complex. For instance, mobile phone may be understood 'in terms of increased contacts and immersed, synchronized living', while social efficiency implies controlled social relations, such that a mobile phone user 'may choose the person who most closely satisfies their preferences at any given moment.'(Kopomaa, 2000: 123-4). It is possible, therefore, to state that social relations or interactions may change when mobile (Maenpaa, 2000: 134). Mobile telephony is largely considered pervasive, collapsing work and leisure, home and office, and private and public spheres. Impact studies, be they determined by the social or the technological, serve to categorise society into the micro or macro level, leaving out the intermediate level. Such studies highlight the influences on the social or economic front of mobile telephony, but leaves out a critical moment of technology and human interaction, which can help to understand the interrelationship better. The next section looks at the third category of human technology interaction theorisation and explains the rationale for the choice of assemblage theory for this study.

2.3 Uses and domestication of Technologies Theories

This sub-section focuses on the third strand of approaches that can possibly be used to understand mobile telephone and its potential for social transformation and development. These approaches include: the Domestication of Technologies Theory (duGay et al., 2007; Goggin, 2006; Morley; 1986); the Actor Network Theory (Latour, 2005) and the Assemblage Theory (Deleuze and Guattari, 1987; DeLanda, 2006, 2011).

Domestication of Technology Theory

This theory was originally conceived as a way of understanding stages through which domestic technologies, such as personal computers, were introduced into the 'moral economy' of the household (Morley, 1986; Gray, 2003). According to Silverstone, Hirsch and Morley (1992), its key proponents, the processes of domestication plays out at societal level (macro) and also in daily (micro) interactions, as people figure out where to place devices and, most importantly, who gets to use them for what and who is excluded or not. Domestication is helpful in showing the dynamics of power relations, especially within households in cases of shared mobile telephones. However, not all mobile telephones are shared and individual use can sometimes go against the grain, as already suggested by the findings of this study. When domestication of technology theory is applied in mobile communication studies such as this, in most instances it needs to be supplemented by other theoretical frameworks to be able to account for the non-fixed nature of mobile phones, the diverse locations in which mobile phones are used, a wide range of user practices and ideas as well as the myriad ways in which mobile phone is ascribed meaning across space and time. For example, Ling (2004) employed the domestication of technologies theory, but preferred to call it an approach or method, in his book, *Mobile Connections*. To address this gap, Goggin Gerard (2006) employed the idea of 'circuit of culture' in his comprehensive empirical

analysis of the rise of ’cell phone culture’. This model was originally developed by DuGay et al. (2007) to understand the Sony Walkman radio technology, how it was adopted and sustained. The circuit of culture proposes five stages or processes, namely: production, representation, consumption, regulation and identity that must be considered to fully understand cultural artefacts.

Unlike the earlier theories of determinism that took parallel stands, the domestication of technologies theory assumes a middle ground and does not privilege social transformation to either human or technology. This theory would have been good for this study, but as stated earlier, there arose a need to supplement with another theory that would explicate how humans and technology interact. The ‘circuit of culture’ model is useful in terms of explaining the processes of studying a cultural artefact. However, this does not meet the objective of this research to investigate how mobile telephony and humans interact and the ability to affect and be affected by each other. Most importantly, the role that mobile telephony plays in social transformations and development cannot be comprehensively understood using the domestication of technologies approach.

Actor Network Theory (ANT)

An aspect of the domestication approach falls under the social shaping of technology approach called, the actor network theory (ANT). According to Law (1999) ANT focuses on the ‘relational materiality’ of different assemblage of human and non-human actors (p.4).

Latour (2005) argues for a re-think in the conceptualisation of the social. Rather than looking at the social as a given set of realities, he recommends that the social should be

thought of as an assemblage of diverse components brought together via work of connections, associations and actor networks, instead of analysing either actors or networks. He rejects the dichotomy of agency (human) and structure (non-human), arguing instead for a middle ground. His central argument is that the social is not a constituted entity with causative power, but is an outcome of a series of associations. ANT sees relations between components as hybrids and constant constructions, and not as purely social, natural, technological or cultural phenomena. For him, the social 'is not given reality', but refers to movement, displacement, transformation, translation and enrolment (p.93). Law (1999) agrees with Latour on the heterogeneous nature of the components or elements making up an assemblage. In his words, 'what matters is the way in which such elements work together to order and perform the social' (p.4). In relation to communication technologies, ANT can be said to offer a series of tools for analysing the mobility of knowledge and technologies. However, it tends to stress on the materiality (concrete) of actors or elements, leaving out the virtual, which is so much a part of the information communication technologies (ICTs), such as the mobile telephony. ANT suggests that technology is as much a product of social construction as it is of technical innovation. It does not differentiate between the social and the technical and does not support the clustering of society into large scale (macro) and small scale (micro) divisions. Instead, mobile technology uptake or adoption results from the building of fluid networks of heterogeneous associations between humans and non-human actors. ANT focuses on stakeholders or actors within the socio-technical network and how they are involved in shaping the form and spread of technology.

According to Latour (2005), the interrelationship between technology and humans is a social assembling process through the associations of both human and non-human actants. The social assembling process is external to the actants, which do not become

social but remain human, material, technological and biological. ANT also provides a framework for describing the processes of technology use and domestication, by looking at all involved in the fluid interactions between physical, human and non-human actors, resulting in the formation of a fluid network of heterogeneous associations between human and non-human actors. Furthermore, ANT does not differentiate between the social and the technical, but attacks the large scale (macro) and small scale (micro) divisions/clustering of society. Goggin (2006) used ANT, too, because of its strength in eluding binary oppositions between technology and society, considering the agency of both human and non-human actors and how a technology is shaped. However, just like any other theory, ANT has received its fair share of critics, with Goggin noting a significant critique of the approach as its inattention to gender and power. In the context of mobile telephony, ANT is very useful for showing the fluid association between heterogeneous actors, human and non-human. However, ANT focuses on concrete actors only, leaving out the virtual, which is critical in the full understanding of mobile telephony. Nigel Thrift (cited by Sampson, 2012: 43) also critiques ANT for failing to sufficiently capture the event in the following:

> ANT is, of course, exemplary in this respect. It eludes essentialising the individual node. The opening up of the cognitive subject, the 'mind in-a-vat' to the outside world of relation is a Tardean reinvention of the social through and through….The other problem with ANT is that it tends to neutralise the intensity of events, giving precedence to 'steely accumulation' over 'lightning strikes'…ANT, it seems treats accumulation as an effect or product generated by heterogeneous means. Knowledge and agency are products composed or translated within, relationally between bits and pieces from the social, architectural, conceptual and textual ad infinitum. Yet, however much the heterogeneous engineering of an actor network is regarded as a verb (to translate) rather than a noun (the translated), in other words, a generative process recursively reproducing itself, the character or organisation it produces is always a product, an effect or a consequence, not an event.

The failure of ANT to capture the event (the ability to affect and be affected) and also leaving out the virtual that is critical to the understanding of the role of mobile telephony in social transformations and development. This inspired this researcher to

turn to assemblage theory that not only shows the associations and connections between actors and various techno-social networks, but more so explain the part and whole relationships as contingent embracing both the event and the nature of mobile telephony as a material (mobile phone device) but also heavy with expressivity through the virtual.

The Assemblage Theory

As discussed in the introductory chapter, Assemblages are centred on the relationship between heterogeneous parts and wholes. They may appear as wholes but, in actual fact, they are coherent bits or parts whose components can be plugged off and then plugged onto others to form new assemblages or wholes (relations of exteriority). Assemblages in this sense have functional capacities that are not limited to a single logic, in other words, they are not designed to do only one thing (DeLanda, 2006).

As DeLanda notes, *assemblages* in Deleuze's conceptualisation are 'characterized by relations of exteriority.' This means that the role that components play within an assemblage is not what defines them, otherwise if it did, then it would be a relation of interiority. This is a crucial aspect of the assemblage theory, since *relations of exteriority* 'imply that a component part of the assemblage may be detached from it and plugged into a different assemblage in which its interactions are different' (DeLanda, 2006: 10). In addition, DeLanda succinctly points out that 'the exteriority of relations implies certain autonomy for the terms they relate' (p.11) and, consequently, according to Deleuze, 'a relation may change without the terms changing' (cited in DeLanda, 2006: 11).

Looking at a human body as a whole, DeLanda argues against Hegelian organic totalitarianism that parts of a whole are reducible, and explains how in the age of

technology, one crucial part of the body, such as the heart, can be detached from it, though the body can still be supported by machines to carry on with its functions. In other words, one component of the body (e,g., the heart) can be detached from the rest of the body components or parts and could be plugged (or transplanted) onto another assemblage (i.e. another human body). In the face of technological advancement, the body is, therefore, no longer a seamless whole as it was assumed to be during Hegel's time.

Deleuze's primary pattern of an assemblage, as reported by DeLanda, is: (a) the heterogeneity of its components (b) the material and expressive roles that components play within assemblage (c) the processes of territorialisation and de-territorialisation that often occur as components are coded and decoded, causing a further re-territorialisation, and (d) the emergence that comes about as parts and wholes interact, releasing their capacities, properties and tendencies. In DeLanda's reconfiguration, however, the principle of heterogeneity is not taken 'as a constant property, but as a variable that may take different values' (DeLanda, 2006: 11). This, he does, by looking at the extent to which the concept of assemblage is to be defined:

> The concept of assemblage is defined along two dimensions. One dimension or axis defines the variable roles which an assemblage's components may play, from a purely material role at one extreme of the axis, to a purely expressive role at the other extreme. These roles are variable and may occur in mixtures, that is, a given component may play a mixture of material and expressive roles by exercising different sets of capacities (DeLanda, 2006: 12)

Roles

Components play two roles in an assemblage, namely: material and the expressive roles, in addition to a combination of the two. For some assemblages,

the material roles might include the natural resources deposited along spatial boundaries that define them, such as agricultural land or minerals, and/or technologies. Material components in any assemblage might include a wide range of causal interactions, such as between technologies like mobile phones and their interrelationships with the environment. The expressive role, on the other hand, serves as a catalyst for change, which is the expressiveness or glory of the components. For instance, territorial animals use their odour to express their identity, flower their scent and colour and the like. In communication devices, such as mobile telephony, expressive roles would include any functionality or property of the device to influence change or the identity of the component parts or even wholes that are treated as individual entities in assemblage theory. For instance, the ability to exchange information is clearly important, whether one is considered rich or poor. Assemblage theory helps in explaining how the use of mobile telephony affects poor people's income in terms of the uses it could be put to. In this instance, mobile telephony's role would be to connect users to the information, hence performing an expressive role as well. The roles within mobile telephony assemblage are not rigid and sometimes can overlap, interchange or supplant.

Processes

The second dimension defines the 'variable processes in which these components become involved that either stabilize the identity of an assemblage, by increasing its degree of internal homogeneity or the degree of sharpness of its boundaries, or destabilize it….one and the same assemblage can have components working to

stabilize its identity as well as components forcing it to change or even transforming it into a different assemblage…. the same component may participate in both processes by exercising different sets of capacities'(DeLanda, 2006).

These processes are territorialisation, de-territorialisation and sometimes re-territorialisation. Territorialisation is the process that stabilises the identity of an assemblage whereas de-territorialisation is the process that destabilises it. The processes of linguistic coding and decoding added by DeLanda show the flexibility of assemblages to move from material and expressive roles. In his articulation, the individual mind is considered under physical assemblage as a material component like any other and, therefore, is not a core element in social assemblage. DeLanda talks about a whole wealth of non-linguistic elements, such as gestures, facial expressions, inflections, and the like, that can shape the assemblage toward territorialisation or deteritorialisation.

Assemblages are composed of heterogeneous elements or objects or components that enter into relations with one another. The relations among the parts are contingent in nature. Thus one can have physical objects, happenings, events as well as signs, utterances, gestures and other non-linguistic cues forming an assemblage. These processes consolidate and rigidify the identity of assemblage or, on the contrary, allow assemblage certain latitude for flexible operation. When put together, the processes recur and in the repetition assemblages are formed, modelled and destroyed for others to form, remodelled and transformed. The more de-territorialised an assemblage is the more transformed it is.

Emergence

Emergence is another critical consideration in assemblage theory. As component parts interact and the processes of territorialisation, de-territorialisation and even re-territorialisation take place, something new emerges. DeLanda uses water to demonstrate that the synthesis of water, indeed, does not produce something that has never existed before, but only in the relative sense that something emerges that was not there in the interacting entities acting as causes. Hydrogen and oxygen molecules are gases at room temperatures and when heated together a new entity, called water, emerges, which is liquid at room temperature. When any of these two gases is added to fire it ignites it more, but when water is poured on fire it puts it out. Water is a new emergent entity resulting from the combinations of molecules of hydrogen and oxygen.

To understand the concept of emergence better DeLanda introduces wholes, the identity of which is determined historically by the processes that initiated and sustained the interactions between parts. He argues that the historically contingent identity of these wholes is defined by their emergent properties, capacities and tendencies. Using the kitchen knife as an illustration, DeLanda demonstrates that the effectiveness of the knife is determined by its properties to be either sharp or blunt. He points out that although the property of sharpness is an actual capacity of the knife to cut, it stops being actual if the knife is never used. But when the capacity becomes actual it is not a state like the state of being sharp, but as an event, an event that is always double capacities – to cut or to be cut. The capacity of the knife to cut is contingent on other things that have the capacity to be cut. Emergence is critical to our understanding of parts, wholes, and interactions because the relationship is dynamic and with each action there is a reaction and counteraction. This explains why there are surprises every time there are active

interactions between parts, and why wholes are not permanent entities, but change time after time.

Two models of emergence

Protevi (2012.) discusses the two models of emergence, namely: diachronic and synchronic. The diachronic model insists on dynamic historical processes that bring about constant transformations through the processes of territorialisation, deterritorialisation and re-territorialisation. Synchronic emergence is static, claiming that social transformations only happen at once. Diachronic emergence focuses on the relations of exteriority or the idea that the interaction between parts and wholes are detachable, whereas synchronic emergence categorises parts and wholes as totalities. Diachronic emergence also capitalises on the capacities, tendencies and properties of components to transform assemblages, while the synchronic focuses on emergent properties of components only.

Assemblage theory is critical in linking the micro and macro levels of society, as DeLanda (2006) points out as follows: 'Interacting persons yield institutional organisations; interacting organisations yield cities; interacting cities organise the space in which nation states emerge and so on.' In other words, in assemblage theory wholes can serve as components parts in larger assemblages. The two kinds of emergence can also be used as analysis for the two kinds of development. The synchronic emergence is characterised by linear explanations, that social transformations are fixed and defined even before they actually occur, which is, therefore, similar to the first kind of development. The second type of emergence is diachronic, that is dynamic, explaining

that social transformations are contingent, happening at different stages, influencing and being influenced by external factors, but at the same time transversal.

Mobile telephony as techno-social assemblage

The integration of mobile phones into everyday life triggers interest in sociocultural institutions, people and places and how adaptation and adoption of mobile telephony can be regulated. Mobile telephony is one of the communication technologies that alter patterns of social life, and, as such, it is susceptible to multiple interpretations. While celebrated as a technology that liberates users by addressing time and space constraints, it has equally been loathed as a technology that disrupts the integrity of places and face-to-face interactions (i.e. co-presence). Plant (2002: 30), a media practitioner writes: 'Even a silent phone can make its presence felt as if it were another additional person to social group and… many people feel that just the knowledge that a call might intervene tends to divert attention from those present at the time.'

Mobile telephony has the capacity to facilitate meetings within a geographical location, not only between persons in a spatial proximity but also those without geographical boundaries. The assembling of people in spatial location can be said to present the material role of mobile telephony defined as the coming together of human bodies properly oriented either physically or psychologically toward each other (DeLanda, 2006: 12). According to DeLanda, materiality is not limited to face-to-face conversations, but 'interpersonal networks structuring communities' and hierarchical organisations governing cities or nation-states are also used as illustrations (Ibid.). Similarly, in a mobile telephony assemblage, components that play material role include: mobile telephone as an object or device; rich networks of human bodies and

their interaction with mobile telephony; and a range of social and cultural institutions at all levels of social strata to which mobile telephony is integrated.

Components that play expressive roles in mobile telephony are vast and complicated. DeLanda argues that expressivity is not reducible to language and symbols, but includes elements that go beyond language and symbol demarcations (2006: 12). Bodily expressions, such as gestures, facial expression and tonal variation are equally important as the contents of conversation like words, symbolic representations, and choices made regarding the topics of discussions and networks of social relations revolving around conversations and conversers. DeLanda deliberately refuses to privilege language by demonstrating the richness of non-linguistic elements of a conversation, drawing on Goffman's dramaturgical approach to conversation (see Chapter Five of this thesis). By locating the material and expressive roles of mobile telephony, one can conclude that an assemblage is the product of multiple determinants that are not reducible to a single logic. For instance, the notion that the introduction of mobile telephony or communication technologies will aid in poverty reduction or in closing the digital divide is challenged by assemblage theory. Numerous other factors are at play every moment there is an interaction between mobile telephony, its users, the cultural context, environmental disposition, language and competencies, which are just among a myriad of other determinants. Transformation in this regard, therefore, cannot be reduced to a single logic of development or social transformation.

An assemblage is not static. Neither is it simply a collection, a gathering or a composition of things that are believed to fit together. Rather it also maps, selects, pieces together and allows for conception and conduct of individual units as members

of a group, in this case teenagers. Parents, too, can control their children in various ways, as demonstrated by Oksman and Turtiainen (2004: 325 – 326) and Ito (2004). In additional, the adoption of mobile phones by parents in some ways extends the ways they interact with their children. The identities of teenagers become blurred in these assemblages. This unpredictable nature of interaction between humans and mobile phone technology explains emergence as a strong tenet of assemblage theory. Marcus and Saka (2006: 101-2) observe that assemblage focuses 'always on the emergent conditions of the present.' This makes possible the double emphasis on the material (people and objects), the actual and the assembled as well as on the emergent, the processual and the multiple. Furthermore, DeLanda points out that 'the exteriority of relations implies certain autonomy for the terms they relate' (2006: 11) and, consequently, according to Deleuze, 'a relation may change without the terms changing' (cited in DeLanda 2006: 11).

The social assembling process, according to Bruno Latour (2005), a key proponent of actor network theory (ANT), comes together through associations between human and non-human elements. ANT is similar to assemblage theory, but also different in some ways. The social assembling process is external to the actants, which do not become social but remain human, material, technological and biological and this is in line with the relations of exteriority proposed by Deleuze and Guattari and adapted by DeLanda (2006). In their analysis of cell phone use among resource constrained communities in Cape Town, Donner, Gitau and Marsden (2009: 578) argue that there is 'no fixed thing called a cell phone', but rather a process by which technologies and communities influence one another. This is because 'technologies themselves evince unstable meanings as they migrate among contexts and get assembled and reassembled into

diverse formations' (Dean, Anderson and Lovink, 2006: viii). This argues for an assemblage analysing of technology not as a technology that exists in a vacuum, nor as one that affects only the micro or macro, but rather one that captures the complexity of interrelationship of the said technology with users of the same, which embraces the intermediate levels between an individual user (at the micro level) and the societal or the macro level.

Donner (2004, 2005), while studying micro entrepreneurs in Kigali, Rwanda, shows the situation that cuts through the micro and macro levels. He shows a strong business (or instrumental) and personal uses of mobile phones among small business owners. He shows the diverse uses of mobile phones in that while they could be used to find new customers and expand business networks (macro level), they are also just as likely to be used to amplify strong ties with existing personal relations (micro level). An individual user though having power to use the device in whatever way, to whomever and wherever, also submits to the institutions of authority, such as the government, regulatory boards, service providers and interpersonal networks.

Majority of work done on mobile phone use and place has examined how mobile phones operate within particular social settings, particularly public places where their usage has been deemed rude or disruptive (Ling, 2004; Ito and Okabe, 2003; Castell et al., 2007). Much of this work has relied on observations in particular location analysing how usage is keyed to particular settings (Ito and Okabe, 2003; Ling, 2002; 2004; Murtagh, 2002; Weilenmann and Larson, 2002; Plant, 2002). There is, however, less study that focuses on the social setting constructed by the mobile phone communication itself, how the mobile phone links up with social interactions, places, and other things

such as previous communication technologies and environment to which it is embedded. This study attempts to fill this gap.

Mobile telephony breaks down certain social boundaries and also those that construct sustain and reify other social boundaries (processes of territorialisation, de-territorialisation and re-territorialisation, as discussed in Chapter One). Research by Slater and Kwami (2005) and also by Horst and Miller (2005, 2006) in developing countries like Ghana, South Africa and Jamaica indicates that mobile phones have become a key tool for managing business and diaspora relationships and obligations. These works suggest that it has become increasingly difficult to distinguish between social and business issues, because interpersonal connections often contribute to social capital formation, which is critical in the development of small business entrepreneurship (Donner, 2005). This thesis draws a lot on social and cultural studies of technology that see the technical and the social as inseparable outcomes of ongoing and historically contextualised practise (Latour, 1987, 2005; DeLanda, 2006; Mckenzie and Wajcman, 1999; Wallis , 2013).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The purpose of this study is to investigate the role of mobile telephony in the social transformation and development of Marakwet. It examines everyday mobile usage, patterns of use, and preferred choice of mobile application/function among the inhabitants of Marakwet.

In this chapter, the researcher aims to:

a) examine the historical underpinnings of ethnography;
b) describe the methods used for data collection;
c) explain the methodology that underlines the choice of data gathering techniques;
d) discuss the research design and ethical underpinnings; and
e) discuss data collection challenges.

3.1 Historical underpinnings of ethnography

This is an explorative study using ethnographic interviews as the main method of data collection, complemented with focus group discussions and ethnographic observations. Van Maanen (1988) described ethnography as a written representation of selected aspects of a culture. Ethnography around the 1970s and up to late 1980s involved one single investigator who 'lives with and lives like' research participants, usually for a period of one year or more (Van Maanen, 1996, p. viii)). This traditional method of ethnography was employed by anthropologists, who used participant observation as their main methodology. This field work later culminated in a finished written documentation of the completed research. Classic examples of old ethnography or anthropology include: Margaret Mead's *Growing up in New Guinea* (Mead, 1930), Bronislaw Malinowski's *Argonauts of Western Pacific* (1922) and Whyte's *Street Corner Society* (Whyte, 1981). This type of ethnography has also been used in various

disciplines, such as nursing, organisational behaviour, education and even human computer Interaction (Simonsen and Kensing, 1997). According to Hammersley and Atkinson (2007), there seems to be no consensus on the definition of ethnography, but it is unanimously accepted to have been inspired by practices of cultural and social anthropology as well as in human computer interaction studies.

Bryman (2008) prefers to outline what constitutes ethnography, rather than define it. Some of these include: 'the researcher being immersed in a social setting for an extended period of time, making regular observations of the behaviour of the members of that setting, listening to and engaging in conversations and interviewing informants on issues that are not tenable through observation or that are unclear to the researcher'(Bryman, 2008: 402). In explaining further Lindhof observes that ethnography is a matter of epistemic posture of the researcher that finds its explanation in two root words: *ethno* (people) and *graphy* (describing), which involves a 'description of cultural membership that encompasses observing things as they happen, listening to what people say and questioning people' (Lindhof, 1995: 20). Thus, ethnography does not only show cultural production but also reveals the embedded nature of cultural practices. In this way, ethnography places emphasis on the sociology of meaning.

Ethnographic interviews were originally employed by research-clinicians (Newfield et al. 1991), who asserted that ethnographic interviews could be used to deepen conversations during therapy sessions and also encourage the emergence of ideas that could better be understood under the rubric of thematic analysis. Currently, ethnographic interviewing as a method of data collection has expanded and researchers within and outside the medical or psychological fields have embraced the method, which is now thought of as a commonly used qualitative methodology for collecting data (Aronson, 1992). Ethnographic interviewing, for instance, is useful in finding out user behaviour patterns and also provides insight that would probably not be evident in formal surveys (Silverman, 1994; Miller and Slater, 2000). It is therefore a useful tool when seeking to understand choices, decisions and diverse uses of communication technologies that are pervasive in a society such as Marakwet.

Mobile telephony is one of the modern communication technologies that the current research is investigating. Challenges with using ethnographic interviewing to

investigate mobile telephony are evident. For example, mobile telephony does not fit into the conventional description of ethnography that deals with a single domain or one aspect of social life. Mobile phones oscillate between various domains, for instance, from work to leisure and family circles.

Secondly, mobile phones are not necessarily located within a spatial context - something that earlier ethnographies had examined (Gray, 2003: Morley, 1986). However, new ethnography helps ethnographers to study something that is spatially mobile through challenging the fixed ideas of time and space, as seen in various literature (Katz and Aakhus, 2003; Goggin, 2009; duGay et al. 2007; Ling, 2004, 2007). Mobile telephony offers the user the capacity to be in different places at the same time, hence challenging ideas of spatial fixidity. Another challenge in conducting this research is linked to the complexities regarding data collection about mobile technology use. There is a need to account for potential for physical movement and changing geographical locations of users and also negotiate access to private and public spaces that are blurred in their boundaries (see Chapter Four).

3.2 Application of ethnography to the study of communication technologies

Ethnography has been approached differently in different fields of study capturing diverse aspects of social life. For instance, in regard to information communication technology studies, ethnography captures cultural practices and communication strategies that enable people to collaboratively use technological innovations (Easterbrook et al., 2010). Additionally, this approach allows researchers to understand or improve understanding of human thoughts and actions through an interpretation of human actions in context (Jabar et al., 2009; Sjoberg et al., 2007).

Old versus new Ethnography

Ethnography has been described as 'the study of people as they go about their everyday lives' (Buchbinder et al., 2006: 47). This is particularly paramount in finding out user behaviours (Miller and Slater 2000: 195). The application of ethnography can be traced to the early 1900s when western anthropologists undertook studies of people in faraway countries to document their belief systems and cultural arrangements. In the 1990s, however, ethnography began to take new directions, being applied across various

disciplines like media and communications, sociology, social shaping of technologies studies, etc. Non-anthropologists today are likely to study some aspects of culture or even sub-culture in their own cultures (Ling, 2004) contrary to the anthropological works that involve immersion in a culture over extended period of time, which is based on learning the language and participating in social events with research participants, elements that were foreign to the anthropologists. In this new strand of ethnography, ethnographers need to be 'taught' the ways of language and expectations of the social group they seek to investigate and the individual study of their social world (Edmond, 2005:124)

This new strand of ethnography is also known as post-modern ethnography (Marcus, 1998). There is a move away from a 'single site to local situations of conventional ethnographic research designs to examine the circulation of cultural meanings, objects and identities in diffuse time-space' (Marcus, 1998: 79). In other words, ethnography today is a multi-sited approach. New ethnography emphasises making visible the person of the researcher (Angrosino, 2005; Skegs, 1994; 2007), sometimes referred to as, 'situating oneself' (Letherby, 2003: 143).

Multi-sited approach, according to Marcus, raises three fundamental methodological concerns, namely: limits of ethnography, the power of fieldwork and the loss of the subaltern. He argues that ethnography is grounded on the notion of everyday, intimate, knowledge of face-to-face communities and groups, hence producing a holistic portrait of a single site. Multi-sited ethnography, on the other hand, goes beyond a single site descriptions or explanation to a cultural formation produced in different locales rather than in the conditions of a particular set of subjects that is the object of study. In this approach, Marcus argues, 'there is no global in the local-global contrasts now so frequently evoked' (Marcus, 1998:79), instead, there is a hybrid of the two with the relations emerging as the two sites interact or connect. However, this idea of prolonged stay among a people presents a number of challenges.

Firstly, the idea of 'entering the field' is sometimes positioned as akin to being a colonialist explorer (Coffey, 1999; Ahmed, 2000; Marcus, 2007; Horschelmann and Stenning, 2008). This thought is based on the fact that an ethnographer observes behaviours as an 'outsider' or, as Marcus calls it, 'exotic' or 'other', likening this to the

manner in which the colonialist powers viewed the societies and cultures of groups they colonised (Marcus, 2007). Viewing participants as 'other' could lead to an inaccurate interpretation of a people, especially if they are different to the ethnographer's.

Coffey (1999) points to the way ethnographers have a tendency to construct their 'field' of study as something foreign or as a stranger (see also Marcus, 2007; Horschelmann and Stenning, 2008) observing behaviour in a participant manner, yet so detached from the participants. Coffey goes on to decipher this, noting that 'this suggests a distant and remote site, which an ethnographer must learn about and endure' (Coffey, 1999: 19). In other words, to execute ethnography the ethnographer needs to keep some distance by becoming increasingly familiar with the values of a specific culture, yet remaining distant in order to achieve 'professional' objectivity (Angrosino, 2005). This is almost impossible to achieve if the ethnographer happens to operate from both an 'insider's position' and an 'outsider's', meaning that the researcher is observing behaviour that he or she is already implicated in. Fine et al. (2000: 108) argue: 'There has long been a tendency to view the self of the social science observer as a potential contaminant, something to be separated out, neutralised. Minimised, standardised and controlled'

The debate between strangeness and over-identification or 'insider' 'outsider' duality persists to date. It is not clear if ethnographers who engage in their own culture actually succeed to distance themselves completely. Coffey (1999) describes the strangeness as often viewed as a 'form of epistemological virginity, to be cherished and never to be regained once lost' (Coffey, 1999: 23). This dichotomy of strangeness and over-familiarity, according to Coffey, is too simplistic, as it relegates the relations and negotiations of the field to the peripheral position. These two positions, whether insider or outsider, stranger or familiar, have a place in ethnographic research and are relevant to the successful completion of ethnographic work. They are not too distinct positions, but are interchangeable as the research progresses.

Secondly, there is a growing feeling that the integrity of the fieldwork is being watered down by multi-sited ethnography or new ethnography, meaning that the kind of knowledge and competencies that come with immersion into the fieldwork is likely to be lost. But fieldwork as already perceived conventionally is in itself potentially multi-sited. In responding to this, Marcus (1998) points out that not all sites receive the same

treatment as to receive a uniform set of fieldwork practices of the same intensity. Using his Colombian research on violence as an example, Marcus demonstrates that multi-sited research is indeed 'inevitably a product of knowledge bases of varying intensities and qualities' (Marcus, 1998: 22). Marcus focused on how violence as a concept had been perceived by potential victims of violence, to how it seeped through media, into popular culture, advertisement and images in Colombia, architecture, and the reflection of drug trafficking as a flamboyant taste and wealth, to institutional sites such as the professionals' (Marcus, 1998: 22-3). The approach is expansive, reaching all the affected as victims and those responsible for legislation and implementation of strategies against violence in Colombia.

The third and final concern on new ethnography, according to Marcus, is the perceived loss of the subaltern, that is, those who are characterised and affected by systemic domination. He argues that although multi-sited approach may not necessarily forsake the position of the subaltern, it is bound to shift to other domains of cultural production and subsequently challenge the privileged positioning of ethnographic view or perspective. Similarly, Haraway (1991: 192) states as follows:

> A commitment to mobile positioning and to passionate detachment is dependent on the impossibility of innocent 'identity' politics and epistemology as strategies for seeing from the standpoints of the subjugated in order to see well. One cannot 'be' either a cell or molecule or a woman, a colonised person, a labourer and so on, if one intends to see from this position critically...

In other words, one assumes many positions and viewpoints if one is to critically examine a phenomenon that is in itself complex in nature. Multi-sited ethnographies, therefore, define their objects of study through several different modes or techniques. Examples of approaches that have used multi-sited approach include the arena of social and cultural studies of science and technology.

New ethnography is also evident in the era of globalising technologies, such as digital media. Coleman (2010: 1) defines digital media as encompassing a wide range of non-analog technologies, including cell phones and the internet, among others. The diversity and pervasiveness of digital media can be difficult to study, but they at the same time

make it compelling conduits for ethnographic inquiry. Many scholars have engaged in debates on media consumption, reception and production, some of them feeling that digital media have a tendency of promoting global cultural inequalities, hence serving as instruments of cultural imperialism (Matterlart, 1983; Guback and Varis, 1982; Schiller, 1991, 1992; Castells et al., 2007). These scholars posit that there will always be cultural inequalities in western industrialised countries, dominated by a few media multinationals in those countries. Others believe that audiences are active and can influence both media, its content, and even determine how and when to use media technologies to suit their own ends (Ang, 1985; Fiske, 1987; Morley, 1980, 1983; Radway, 1984).

In her review of digital ethnographic approaches, Coleman (2010) classified them into three possible focus areas. The first are those that 'explore the relationship between digital media and the cultural politics of the media. This, in her opinion, will include aspects of cultural identities, representations and imaginaries, which sometimes hinge on youth, diaspora, nation and how indigeneity is remade, subverted, communicated or circulated by an individual or collective'(Coleman, 2010:.2).

People the world over use internet applications and mobile phones to stay in touch with family and friends overseas, making digital media central to Diaspora relationships, and also for closing time and space constraints and providing users with a home away from home experience. For instance, through internet applications like email, social networking sites and video chats as well as cell phones, one is able to stay in touch by calling, texting or even doing both via video or phone call, making the distance between the caller and the called constricted.

To understand the intersection between the local and the global, Abu-Lughod (1991) coined the term *halfies,* to refer *to* 'people whose national or cultural identity is mixed by virtue of migration, overseas education or parentage' (1991: 237). He claims that the position of *halfies* unsettles the conventional anthropology on the distinction between the self and the other, thus supporting new ethnography that suggests that one can conduct ethnographic research in own culture and context. Abu-Lughod also uses *halfies* to refer to individuals who face dual identities and struggle with multiple accountabilities. On one hand, as 'insider' one may question theories and assumptions

just because their own identity is at stake, while on the other hand, the researcher as an 'outsider' may go to a context clothed with theories that guide his or her research, which can lead to certain conclusions. Consequently, being an 'insider' is not necessarily a privileged position and neither is being an 'outsider'. As an insider of the Marakwet community with a lived experience of the local scene under study and the familiarity of the global media and cultural discourses acquired during the postgraduate training in the United Kingdom, the researcher was a '*halfie*' in the sense of meeting the insider and outsider characteristics. Brittell (1993) observes that these two positions need not be viewed as distinct from each other, and also that their viability need be re-evaluated (Brettell, 1993: 14).

The second category envisaged by Coleman (2010: 6) explored what she described as 'vernacular cultures of digital media, evinced by discrepant phenomena, digital genres and groups, such as hackers, bloggers, internet memes and migrant programmers always determined by selected properties of digital media.' Scholars are increasingly applying ethnographic strategies to practices, subjects, modes of communication and groups that are entirely dependent on digital technologies for their existence. Coleman (2009, Coleman and Golub, 2008; Lin, 2007) looked at free software and open source software for hackers and developers. A case in point is the 2009 post-presidential election protests in Iran that provided a powerful reminder of the two-edged sword of digital activism. Social media tools can thus gather and scatter at the same time. Also it could be used to support grassroots political mobilisation as well as government surveillance and human rights violations. In such particular dramatic occurrences, citizen purchased low CDs loaded with anti-censorship software, ensuring that a steady stream of images were uploaded onto social media networks and the mainstream news (Sreberny and Khiabany, 2010).

Thirdly, Coleman (2010) classified the last ethnographic approach to digital media as prosaic. This strand 'examines how digital media feed into, reflect and shape other kinds of social practices, like economic exchange, financial markets and religious worship.' (Coleman, 2010: 8). In other words, they show how the use and production of digital media have become integrated into everyday cultural, linguistic and economic life. Examples of studies under this cluster include how digital technologies magnify the speed, exploitation and reach of contemporary global neoliberal capitalism

(Castells, 2009; Harvey, 1990; Sassen, 2002). Other ethnographic accounts under this category have examined the lives, ideologies, hopes, desires and perceptions of digital journalists and grassroots bloggers (Boyer, 2010; Rusell, 2010; Srinivasan and Fish, 2009), among others. There is a growing number of digital technology users today who have turned to each other via online forums to supplement or even supplant the doctor's advice, discuss side effects of medication (Dumit, 2006; Epstein, 2008; Rudin, 2006) and persons with disability turning online for spiritual nourishments (Davidson, 2008).

These last categories focus on the very mundane uses of digital technologies by everyday users. However, in these accounts, there are hardly studies that have focused on rural ethnic communities' usage of digital technologies such as mobile telephony. Again, a majority of researchers were outsiders trying to get the insiders' stories. The current research, however, is one that encapsulates both standpoints.

As an insider, the researcher knows the culture under study which, according to Geertz, implies 'grasping' a proverb, catching an illusion, or seeing a 'joke' (Geertz, 1974: 45). The distinction between insider and outsider was summarised almost a decade later by Ellen (1984), who suggested that the distinction was based on traditional conception of fieldworks as conducted by the lone ethnographer in some kind of exotic place far away from one's own home country, and whose goal was to become gradually socialised into the life of the group under study, learn their language and thereby gain an insider's knowledge and understanding. Hennigh (1981) contrasts these two positions by stating that 'while the anthropologist in a foreign place struggled to gain insights, the anthropologist in her own culture struggles to withdraw from it' (Hennigh, 1981: 125). According to Hennigh, the insider is therefore too familiar with the setting for the unfamiliar and exotic to arouse curiosity (O'Relly, 2009: 112). The insider is likely to be too familiar with the culture to the detriment of the inquiry if he or she does not always keep to the research question and seek to obtain the answers from the participants and not what he or she knows about the people or the culture of the people under study. Outsiders, on the other hand, have been viewed as untrustworthy by insiders. Outsiders are often viewed as people who have a business to do on their own behalf or for other organisations, and most likely they are people who get paid to get the story of the research subjects. Often questions, such as 'Who are you working for?' and 'So you want to get our story to give to some millionaires or to make millions?' are

usually asked outsider researcher by the subjects. The outsider researcher is thus viewed as a 'foreigner' ready to 'milk' information from respondents in exchange for some huge sums of monies from funding institutions or organisations.

In this study, the word 'foreigner' was somewhat re-defined, so that even though the respondents knew the researcher as one of their own tribe and village member, they still perceived her as 'stranger' based on the thinking that someone was paying her for the study. After making the necessary introduction and explaining the purpose of study – that it was purely an academic exercise, and not funded by any organisation – the subjects relaxed their earlier negative perception of the researcher from one of a 'stranger out to make cash using our stories' to that of 'our daughter doing her study abroad', with an eagerness to engage in the study. However, being foreign does not necessitate trustworthiness or lack of it while being an insider equally does not necessitate authenticity. An understanding of these two spheres helped to forge a path that is well informed and this was the path the researcher chose, constantly reflecting on the implication of every move during the life of the research endeavour.

As an insider, the researcher knows the Marakwet sub-tribe to some extent even though she hails from the Nandi sub-tribe that is a part of the larger Kalenjin tribe with 10 sub-tribes. Being married to a Marakwet for 16 years on, the researcher could understand some of the stories and everyday life. Some jokes and narratives told by the Marakwet were common among the Kalenjin tribe. But even with that the researcher still was not a Marakwet sub-tribe native and that made her an outsider needing some help from the research respondents and local translators of some terminologies that were not similar to the larger Kalenjin tribe. As an insider, the advantage the researcher had is the distance and perspective. Nonetheless, this was disadvantageous too, for instance, based on the fact that they regarded the researcher as their very own, most of the research participants assumed that she knew what they wanted to say, but she kept insisting that it was their stories and that it was important they owned them as they were the people that have encountered mobile telephony. Based on this, the researcher's opinion is that being an 'insider' or 'outsider' is not two discreet positions.

3.3 Methods

This study is grounded in ethnographic data collected over a period of 6 weeks during the month of December, 2011. During this time, the researcher conducted 25 one-on-one semi-structured ethnographic interviews and 5 focus group discussions in the Sibou village of Elgeyo-Marakwet County in western Kenya. The interviews were designed to elicit open-ended responses to three broad and sometimes overlapping areas, namely:

a) descriptions of personal mobile phone use patterns and preference by individual household members of Sibou;
b) perceptions on the societal use and implications of mobile phones among various groups within the community; and
c) opinions on how mobile phones can benefit the community better.

The first category of questions focused on individual use, the second group on the impact on the community's or society's socio-economic status; and the third on issues or perceptions beyond the first two groups of questions. Participants were encouraged to draw on their personal experience when answering questions and to ask for clarity where the need arose. The researcher was guided by an interview schedule (see Appendix 1), but was not confined to it, as she picked up the responses and interjected where participants needed clarity, and vice versa.

The researcher chose the above methodologies not simply to achieve triangulation, but also because of the their suitability and capacity to elicit rich data that describes the varied uses and appropriation of mobile telephony and the influence it has on development of households in Marakwet. Triangulation was originally conceptualised as an approach to the development of measures of concepts, resulting in great confidence in findings whereby more than one method would be employed (Webb et al., 1966). Triangulation, according to Denzin (1970: 310), entails using more than one method or source of data in the study of social phenomena. When used broadly, it refers to 'multiple observers, theoretical perspectives, sources of data and methodologies.')

Realising that respondents were not free to talk on their 'whole' experience of mobile telephony, the researcher initiated some group discussions, which elicited richer data than one-on-one interviews. It was noted that although mobile telephones were considered as individual communication technologies, most use and domestication was

shared by many. Fife (2005) observed that group interviews seldom result in the discussion of strongly-held minority viewpoints and also that they have a tendency to move towards consensus after an issue has been bandied about for a while'(Fife, 2005: 95). This method proved helpful especially when dealing with specific social groups within the community. There were five group interviews involving these distinct social groupings: clan leaders, women, teenage girls, teenage boys and a mixed group of men and women. Individual ethnographic interviews were conducted with 12 households, giving a total of 25, as already stated. All interviews lasted between one and half to three hours.

Two research assistants were chosen by the researcher based on earlier contact with one and on recommendation for the other by the clan leaders, who also double as the custodians of the community's values and protectors of the people. The first research assistant had worked on a previous research project conducted by this researcher, and was chosen based on trust and the quality of work he produced. This particular research assistant was also a community leader and a patron of a primary school. Above all, he is literate and has a good rapport with the people, which makes him stand out in the community. The second research assistant was recommended by a clan leader based on his hard work in the society, and at the time of this research he was serving as both a religious leader and a community leader. Leadership structures are paramount in the context and if one was not fronted by the community, it would be difficult to carry out any meaningful research there. The two research assistants were trained on how to write appropriate notes, record interviews on a digital recorder and on how to conduct themselves more like researchers than community leaders in the field. They also doubled up as research translators because the dialect of this researcher differed slightly from the one spoken by the target group. At the end of the preliminary meeting, the two signed a translator document having read and understood their requirements and mandate (see Appendix 2).

Pilot study

Before commencing the field study, the researcher tested the general questions with 4 individuals, each representing a social category in the community. One elder represented the clan leaders' fraternity and also the illiterate folk; one middle-aged woman represented the women and the middle-aged; a middle-aged man represented

the literate and non-indigenes who have settled in Marakwet; while a teenager represented the youth.

The four participants in the pilot study were interviewed to see whether their responses would elicit data that would help answer the research questions and also to double-check on the clarity of the questions and address instances of ambiguity.

Interview transcript discussion lines	Field notes
1. Life before mobile telephony	The researcher noticed that all, except the teenager, understood the question on on how they had conducted every day activities before the adoption of mobile phones in the region. However, the teenager wanted to know whether it was before the phones got to Marakwet or before he bought his own phone. The researcher had to ask for a response to both and noticed that it was time-consuming.
2. Decisions to own or not to own a mobile phone	The researcher wanted to check whether the decisions were solo or induced by certain challenges, such as the perceived benefits or pitfalls, whether someone else made the decision or the phone owner did. The researcher chose to use a third party question and rephrased her question after noticing the people were not responding appropriately. The question then had to read as follows: 'What in your opinion was the deciding factor to own or not own a mobile phone?'

3. Personal patterns of use/preferences	This was understood and responses given.
4. Social change/mobile telephony	In this session the researcher wanted to know the community's needs and whether or not the respondents thought mobile telephony had a role. This was discussed at length and the discussion generated expected but also surprising data.
5. Mobile phone use across clusters-clan leadership, women, men, teenage girls/boys and children	As the researcher observed the activity, she realised the ease with which the groups discussed their preferred use, especially during the focus group discussions. The responses could not come forth in an individual interview. It was, therefore, necessary and good that the researcher used both one-on-one and group interviews
6. Recommendations to the government, service providers and local leadership	Here, again, the responses were profuse.

Critique of methods of data collection chosen

As earlier stipulated, this study employed ethnographic interviewing, focus group discussion and observation as methods of data collection. All responses were noted down in note books as well as captured in audio and video formats, in some instances. In spite of the richness and depth that these methods elicited they had shortfalls too.

Note taking, for instance, was challenging as the researcher needed not only to listen to responses from participants, but also to provide clarifications on questions asked, watch out for interjections from participants and write them down. This method makes

ethnographic interviewing as a method of data collection time-consuming. Upon noticing this, the researcher transferred the responsibility of note-taking to the two research assistants, while she concentrated on asking the questions and seeking clarifications. In addition, the video recording and digital recorder were used in some cases with the consent of the respondents. Regardless of these challenges, the researcher found this as the best method because it yielded naturalistic data.

3.4 Research design

This study is situated in the use and domestication or appropriation of technologies approach. As a qualitative media and cultural study, it employed interviews of potential and actual users of mobile telephony. Interviews are of three kinds, namely: structured, semi-structured and unstructured interviews. According to Bryman (2008), structured interviews are usually administered on a standardised manner guided by an interview schedule. The intention is that respondents will respond to similar questions in the same sequence. This is commonly used for survey research. Semi-structured interviews, on the other hand, refer to a scenario whereby the interviewer uses a series of questions that form an interview guide with a variation in the sequence. The interview guide includes a number of open-ended questions. It is flexible, thus allowing the interviewer to seek detailed descriptions/further clarifications from the interviewee. Unstructured interviews take the form of conversation, with the researcher having a list of topics to be covered.

Other types of interviews that may fall under these three broad interview types (structured, semi-structured and unstructured) include: phenomenological interviews; ethnographic interviews; feminist interviews; oral and life history interviews; in-depth interviews; focused groups; and dialogic or confrontational interviews (Bryman, 2008: 196; Spradley, 1979; Adams and Van Manen, 2008). Phenomenological interviews focus on generating data to examine participants' lived experiences. Adams and Van Manen (2008) note that the purpose of phenomenological interview is to elicit 'direct descriptions of a particular situation or event as it is lived through without offering causal explanations or interpretive generalizations' (Adams and Van Manen, 2008: 168). Phenomena, such as violence and street families are best examined using this interviewing technique. Ethnographic interviewing was coined by Spradley (1979) and

its purpose is to elicit participants' descriptions of key aspects related to the cultural world which they are part of. Such aspects include: space, time, activities, events, people and objects. The purpose of ethnographic interviews, according to Spradley, is to explore meanings that people attribute to actions and events in their cultural worlds, expressed in their own language.

This researcher adopted ethnographic interviewing, using semi-structured qualitative interviews as the main data collection tool. This was because the researcher was interested in the interaction between mobile telephony and the everyday life of the people of Marakwet. The interviews focused on some aspects of their lives, such as their activities, how they conceptualise time and space while having a mobile technology that goes beyond the boundaries of here and there, or public versus private spaces. As users interact with their mobile telephones new emergence of techno-social relationships occur. Through the use of ethnographic interviews the researcher also investigated how these changes come about and their implications for development. The ethnographic interviews were complemented by focus group discussions and observational field notes.

The above mentioned methods were triangulated to strengthen the validity of data. Using more than one method meant that data could be captured in at least one, if not all, of them. What could not be spoken or revealed during one-on-one interviews was discussed at ease during the focus group discussions, whereby the old adage 'There is safety in numbers' worked well. Behaviour and mannerism, including non-verbal cues, could be captured in the video tape, observing non-verbal cues, among other leads. This enhanced the quality of data collected.

The sample

Households in Marakwet are either polygamous (one husband and more than one wife) or monogamous (one man, one wife). Those in a polygamous relationship can be said to be extended and those in a monogamous relationship were nuclear families. The majority of families in Marakwet are nuclear. The researcher conducted semi-structured ethnographic interviews among 12 households. Six of these households were of nuclear descent, while four were of polygamous descent, all cutting across various social characteristics, such as age, gender, length of access to and use of mobile telephony.

They were also some highly literate and moderately literate individuals. Fielding and Thomas (2008) observe that semi-structured interviews allow flexibility, probing areas of interest as it unfolds. The researcher initially hoped to conduct the interviews within households but circumstances changed and most of the interviews were held in convenient places like under trees and by the roadside. Traditionally, meetings that were deemed important were held under trees or designated geographical locations, such as furrow sites and at the foot of a hill. The researcher had hoped that since word had gone round prior to interview days, participants would be found at home, which was not to be.

Serious developmental or purposeful meetings were held outdoors, instead of indoors. Such meetings are called *'Barazas'*, a Swahili word for 'purposeful group gathering'. These meetings had their own challenges, which included intrusion by others. Each interview lasted about one and half to two hours, whereas the focus group interviews lasted from an hour to two or three hours.

3.5 Participants

Participants were drawn from demographic clusters, such as age, gender, social status and family size. Also, participants spoke an average of two languages – the local dialect (Marakwet) and Kiswahili, which is the national language. A few of them spoke English, Kenya's main language of instructions in schools and the entire education system. A total of 12 households were interviewed with an average of 2 members per household. The 12 households were carefully selected from nuclear families. The following table is a representation of the statistics of participants:

Description of cluster	**Number of interviews**	**Total**
6 Nuclear households	2	12
4 Polygamous households	2	8
2 Non adopters	2	2
Clan elder, religious leader and women leader	3	3
Total		25 Interviews

3.6 Procedure

Ethnographic interviewing is similar to unstructured interviewing in the sense that the interviews are flexible, questioning is usually informal and phrasing and sequencing of questions vary from interview to interview (Bryman, 2008: 196). But, even though ethnographic interviews may resemble everyday conversation, given their informal and flexible nature, the researcher was focused on finding answers to specific questions derived from the research objectives listed in this chapter.

The researcher had employed ethnography as the key methodological framework, since it can be conducted using semi-structured interviews with open ended questions, which in turn allows an opportunity for probing for the purpose of achieving clarity and consistency of data collected. Spradley (1979) classified ethnographic questions into three broad categories, namely:

a) those dealing with description aimed at gaining participants' descriptions of space, events, time, objects, people and activities (p. 78-91);
b) structural questions; and
c) contrast questions.

The last two categories are usually done after initial data collection and they seek to systematically check for understandings and refining of data analyses. In this study ethnographic interviews shall mean semi-structured interviews conducted within the cultural context of Marakwet. Also the use of an interview guide enabled flexibility on the sequence and pattern of interviewing, which in turn made variations from interview to interview based on participants' responses to previous questions and emerging issues possible.

The conduct of ethnographic interviews is varied. Mason (1996) talked about the need to use an interview guide, while Warren (2004: 17, cited in Seale et al., 2004) affirmed the necessity of a researcher 'getting to the field armed with a list of questions.' For Rapley (2004: 18), there is a need to observe flexibility in the list of questions, and this

evidenced by his words: 'You don't have to ask the same questions in the same way in each interaction.' In the current study, all interviews were guided by an interview schedule, prepared as a guide by the researcher. The researcher was flexible, so to allow participants to freely discuss their experience of mobile telephony without feeling that they had to be 'mechanical', but rather were merely responding to questions.

3.7 Limitations of ethnographic interviewing

Ethnographic interviews are of much value in that the interviewees take control of the interview, and rather than simply responding to the researcher's questions, they tell their experiences through life stories (Gray, 2003). Ethnographic interviews were collected on a one-to-one basis as well as in groups or family units. Despite the significance of these interviews for eliciting rich responses, they were limited by being time-consuming. However, it is also in the many responses that one can adequately study a phenomenon one can argue. The interviews were captured on a digital voice recorder. These methods helped the researcher to explore the interviewees' accounts of the uses of mobile phones and their articulations of the cultures of the different households, structures of power and authority across gender and age, among other variables. In spite of the rich data that the ethnographic interviews elicited, it was however limited to only what was told through stories, testimonies and the like. In order to explore what was not said, the researcher evaluated patterns of behaviour and uses of mobile telephony through observation.

3.8 Materials

The researcher used a notebook to write down questions to ask the participants. These questions did not follow a specific order, but rather served as a guide for the researcher on what needed to be asked to achieve the research objectives. The research assistants also kept notebooks where they jotted down participants' responses during the interviews. Prior to any recording, be it hand-written, audio-taping or video recording, the researcher explained why the tools needed to be used. This was to avoid any unethical situations arising, such as people feeling they must be in their best behaviour to be recorded. The researcher explained that the three tools (notes, audio tape and sometimes video recorder) were for the reason of not missing out on what was said during the interviews. The researcher thus obtained permission before using any of the

said research tools. Bertrand and Hughes (2005: 76) observed that audio taping has a huge advantage in that it allows for everything to be recorded, allowing the researcher to decide later how much and what needs to be transcribed. It also allows the researcher to focus on interview flow. However, the demerit of audio taping is that voices may not be easily recognised, and so the research assistants were advised by the researcher to note down the initials of the participants.

Videotaping or recording was particularly used during the group interviews to provide visual data that was not evident in audio taping or the hand written notes. This made it easy to identify the speakers. However, the very presence of a video camera attracted many bystanders who came to the research venue out of curiosity. The researcher used her discretion to include or exclude the bystanders.

3.9 Ethics and consent

All interviews were digitally recorded, after the researcher had obtained consent from participants. Participants consented by nodding or verbally saying 'yes', and on rare occasions, they signed the consent form drafted by the researcher (see appendix B). The interviews were then transcribed and pseudonyms assigned to all interviewees as had been discussed with them earlier, with permission obtained. The assigning of pseudonyms was aimed to protect participants' identity and privacy.

At the beginning of every interview, the interviewees were encouraged to participate freely and also told that they were entitled to their opinion even if it differed from those of others. The researcher carefully explained that there were no right or wrong answers and that their participation, though voluntary, needed to be honest. In addition, the researcher stated her affiliation to the university and made it clear that she was not part of any government agencies or administration and that the research was for purely academic purpose. She stated verbally and in writing, using the consent forms, that responses were confidential and that participants' identity would be respected. For the purpose of confidentiality in the research participants were informed that they would be assigned pseudonyms, but with their permission.

3.10 Analysis of data: Thematic

The researcher employed strategic ways of interpreting data, even while the data collection was ongoing. According to Hammersley and Atkinson (1993), two critical phases are identified as far as data handling is concerned. These are: generating concepts and developing typologies. Principles suggested by Aronson (1994) on performing thematic analysis guided the research analysis. Aronson provided three critical phases in the performance of thematic analysis.

Step One

This involves collection of data. Used audio tapes are collected to study the talk of a session on ethnographic interviews (Spradley, 1979). In this study, the researcher collected all the tapes used. The researcher then transcribed the tape-recorded interviews verbatim and organised into flexible coded categories created by the researcher. These categories included: mundane uses of mobile telephony and how these uses were articulated in broad based concepts of power, gender relationships, socio-economic implications for development/maendeleo, and emerging patterns of use among various household members in the community.

During the transcription the researcher looked out for links that provided insight into the development of theoretical themes. These links have been termed 'coding' by ethnographers. According to O'Reilly (1993), coding is defined as a euphemism for the sorting and labelling of data, which is part of data analysing process (O'Reilly, 2009: 34). These links may emerge as the researcher keenly scrutinises the data, seeking relationships that might emerge with a close examination of transcripts and field notes. As Dey (1993) suggested, we seek patterns in data, such as 'putting together building blocks; moving, aligning, re-aligning, and building until patterns emerge that make some sense.'

Step Two

This is the thematic analysis step. Identified patterns are re-grouped or classified to form themes. Taylor and Bogdan (1989: 13) defined themes as 'units derived from patterns such as 'conversations, topics, vocabulary, recurring activities, and feelings, meanings and folk sayings and proverbs.' This researcher adopted an open coding

system that is inductive in nature. O'Reilly (2009: 37) has noted that while using an open coded system the researcher remains 'open to surprise to discovering new ideas or fresh insights which could challenge initial research focus or even take the researcher to new directions.' These codes developed as the researcher sought for recurrent phrases, statements, lines of thought, practices, etc.

After noting the recurrent activities and user patterns, the researcher then grouped them into key themes that included: M-PESA as a most talked about phenomenon and mobile phone sharing practices. These two themes then became an umbrella for diverse uses across households in Marakwet. Other issues that came up include the use of the term *maendeleo,* power and gender roles in the use of technologies and the association of mobile devices with matters that were of critical significance, such as peace and light.

Step Three

In this phase the researcher then combines and catalogues patterns into sub-themes. Themes that emerge are then pieced together to form a comprehensive picture of the participants' collective experience. The researcher adopted an open coding system. As already seen above, O'Reilly (2009: 37) noted that while using an open coded system the researcher remains 'open to surprise to discovering new ideas or fresh insights which could challenge initial research focus or even take the researcher to new directions.' Again, these codes developed as the researcher sought for recurrent phrases, statements, lines of thought, practices, etc.

After developing the coding, the researcher then listened to the interviews again and went through the transcripts to see whether any significant thought(s) had been left out. As she did this, she re-coded some sub-themes and merged others that spoke on similar themes. This was again re-organised by reflexive thinking, going through the objectives of the study, the reviewed literature and the methodology, after which she prepared to discuss the findings, as will be seen in the next chapter.

Step Four

This is the final phase where the researcher builds valid arguments for choosing themes, and this is usually done by re-reading related literature. Having looked at the relevant

literature (discussed in previous chapters), this researcher noticed links between key discussions on time and space re-definition, power and gender relations and the continuation of traditional communication technologies and emerging youth cultures in light of the emerging themes from the data gathered.

The researcher then categorised recurrent or common themes from the transcriptions and recorded interviews to ensure consistency of data with the research objectives. This in turn enhanced credibility of the data and increased its validity. Data interpretation was conducted against the objectives set and also the theoretical framework (explained in the theory chapter and mentioned in the methodology section of this thesis-).

For the analysis of observation, the researcher turned to co-presence (as discussed in earlier chapters), which included presentation of self, the on-stage and off-stage presentation drawn from Erving Goffman's (1959) dramaturgical analysis of conversations and self-presentation. Through this analysis of conversation assemblage, the researcher found a link between method (ethnographic interviewing and observations) and assemblage theory. Mobile telephone uses revealed a connection between mobile telephones, users and their context, all coming together to form assemblages that have various heterogeneous components, such as people, place, horn and social interactions.

3.11 Data validity

The researcher was aware of the distortion of information that can occur when interpreters are used and that this may jeopardise the validity of data. However, the researcher knows the local dialect sufficiently well to guard against any significant distortion in data interpretation. Interviews were conducted by the researcher and whenever there was need to translate a word or two, the research assistants would be asked to do the translation. This was, however, minimal as the researcher's dialect is not significantly different from that of the research participants.

3.12 Challenges

While there was commonality in regard to dialect and language, the researcher noticed inevitable differences and challenges, albeit in different times (Osgood, 2010). Firstly, the research site and the people had been studied before by a 'foreigner' who conducted her studies in late 1980s and has maintained her research activities in the area. She is now working on another research project involving the mapping of furrow irrigation technology in Marakwet. Participants tried to compare this researcher to her predecessor.

Secondly, the previous scholar was funded and that meant that her incentives to the respondents were way above what this researcher could provide. The scholar is a European and that meant that the current researcher had to be perceived differently by participants. In terms of age, the European scholar is older than this researcher. The common cliché that 'West is best' was at play here, as some members of the community expected large amounts of money or other incentives to take part in this research.

Thirdly, one respondent confessed to having had pre-conceived ideas about this researcher. She had this to say:

> *'Before you start this process I have a confession to make. You see when I first saw you I knew you must have been sent by a big organisation and so that would mean you have been given big money, and you were here to just extract information for yourself and the organisation, but having listened to others you have interviewed, I feel guilty. I now realise that you are just a student doing your study. I ask God to forgive me and please you also forgive me'* (Jeruto, 46 years).

This confession did not just take the researcher aback, but propelled her to forge ahead. It was clear from this confession that researchers will always attract some measure of perception and expectation from participants. The researcher reiterated her position as a student and that her research was purely academic.

During the investigation, the researcher realised that although she was an insider, she had assumed a new status that eclipsed her previous social affiliation and interests. - She was now investigating persons, probing their lives, and scrutinising their motivations and actions from a scholarly vantage point. There was an assumption, however, by participants that the researcher already knew what they meant, as one individual challenged the researcher's constant persistence on hearing their views,

saying, *'You know exactly what I am talking about! Why do you want me to repeat it?'* To address this, the researcher often insisted on getting first-hand descriptions so as to guard against the imposition of meaning, rather than merely getting participants to tell their story.

3.13 Conclusion

This chapter has looked at ethnographic approach as a method that can be used to explain the use and domestication or appropriation of mobile telephony and the assemblages present in this technology. It has also introduced the reader to the methods chosen for data collection, the methodological and theoretical underpinnings, and suggested a need to focus on ethnographic interviewing as a way of obtaining data on perceived uses of mobile telephones within households. The chapter described the nature/types of data, explained how it was gathered and analysed and also discussed the challenges faced by the researcher. The next chapter discusses the theoretical framework of the study.

CHAPTER FOUR

MOBILE ASSEMBLAGES & CO-PRESENCE

4.0 Introduction

This chapter interprets co-presence as a location and a relationship (Callon and Law, 2004). Such conceptualisation of co-presence is facilitated by the ubiquity of mobile telephony and its capacity to connect individuals across distances, enabling participants or users to arrange and re-arrange social interactions. According to the current study, individuals in relationships would call each other via mobile phones and arrange to meet at a certain place where they would engage in one-to-one conversations, but also allowing for significant others to intrude in these conversations via phone calls or texts. The following interview excerpt makes this clear.

***Interviewer**: You have told me that you usually arrange a face-to-face meeting on mobile phones. How does that work?*

***Interviewee 1**: Yes, you just call someone on their mobile phone, or if they don't have a mobile phone, you call their closest neighbour, who will then tell the person where the meeting will be, at what time, and things like that. You see that way you save on time and money.*

***Interviewer**: How exactly do you save on time and money?*

***Interviewee 2:** You see, when you call first, then you avoid having to make a journey all the way and miss the person you are looking for. It saves on money because, usually if I am calling someone who is far, I would have to take a motorbike and pay something like Kshs.100. So if I get to know the person will not be coming, then I stay home.*

***Interviewer:** Assuming that you have called and agreed to meet in a certain place and have therefore saved on time and money, would you turn off you phone so that you pay attention to the person or persons you called for a meeting?*

***Interviewee 3**: It all depends on how important the meeting is, but usually even if the meeting is not that important, we like to leave our mobile phones turned on just in case there is an emergency, like the Pokots can attack and we get the report fast. So we either leave the phone on or put it on vibrations.*

According to the above, the influence of mobile phones on co-presence increases face-to-face interactions. This corroborates the work of other scholars (Ling, 2004; Castells et al., 2007; Ito, 2002). However, Interviewee 3 implies that mobile phones could be seen to reduce such meetings, in that one participant might swiftly become unavailable at short notice. Thus, mobile phones can be said to decrease co-presence (Ling, 2007).

In this chapter we will explore the issue of co-presence in light of three critical points. Firstly, we will explore how mobile telephony has influenced the way the inhabitants of Marakwet configure time and space. This will help us explain the changing nature of the social in the face of communication technologies like mobile telephony, and the need for a new conceptualisation of the same. Secondly, we will explore how mobile telephony has affected the issue of gender and power relations in rural communities of Marakwet that have had limited experience of modern communication technologies. Through this, we will explore how the politics of ownership and access play out within households. It is common knowledge that women play a critical role in maintaining

social networks, especially among family members and kin. Thus, there is an assumption that the in-roads that mobile telephony is making in Africa and other developing countries will lead to equality (Milek, Stork and Gillwald, 2011). However, despite the great potential that mobile telephony has for gender equality, this study will show that, in some instances, the technology reinforces gender inequalities. In such cases, mobile telephony is thus implicated in both gender parity and inequalities. Finally, the chapter will explore the sharing model of mobile phone usage in Marakwet. In doing so, it will explore how this has challenged the notion that mobile telephones are for individual use only. We will also show the many strategies developed by users to control who to allow or deny, and also touch on the culture of reciprocity prominent in the area. Through this, we will understand how it is aiding or impeding mobile telephone use among members of the Marakwet community. These three points will all be discussed in terms of mobile assemblages and co-presence in order to shed light on the need to understand the "social" differently.

Mobile assemblages and co-presence

Erving Goffman was one of the most astute sociological thinkers and observers that explored human behaviour from a micro sociological perspective. According to him, what makes the social does not lie at the level of micro-sociological structures, nor macro level but at the interaction level. Goffman (1959) uses the metaphor of a theatre to analyse social life as a dramaturge, comparing members of the society to actors playing roles on stage. Most of our behaviour takes place in the presence of others. Goffman, therefore, argues that we are constantly performing roles for an audience. The script we are enacting may have been written by society, but a believable and competent performance involves more than just going through the motions such that interactions are not driven only by social actors' individual motives and intentions, but also by the management of invisible situational norms and the impacts of these norms on the self.

The key to dramaturgy is the front stage and backstage distinction. According to Goffman, the front stage is where performance takes place. Examples of this are the classroom for a teacher and the podium for a preacher. In these places, the audience sees a choreographed and ordered performance. The back stage is equivalent to the theatrical back stage – that which is hidden from the audience. These are all activities

that the audience does not see, but which are crucial to a competent performance. For instance, for a preacher the backstage activity would be all the preparation that goes on beforehand (choice of sermon topic, dress code, choice of illustrations, speech preparations), and the same could apply to anyone preparing to make a presentation before an audience. These backstage activities include: decisions and negotiations of what is expected and what is not expected. Goffman proceeds to emphasise that being frontstage involves the risk of giving a faulty performance, especially if the audience does not cooperate. He observes that while on stage there are many ways one tries to convey favourable impressions. These include the use of objects, choice of clothes and body language. Conversations stress the relations of exteriority. Goffman (1967: 1) defines his subject matter as follows:

> The class of events which occurs during co-presence and by virtue of co-presence. The ultimate behavioural materials are the glances, gestures, positioning, and verbal statements that people continuously feed into the situation, whether intended or not. These are the external signs of orientation and involvement-states of mind and body not ordinarily examined with respect to their social organisation.

While interpreting Goffman's conversational analysis, DeLanda (2006) sees conversation as an assemblage performing both material and expressive roles. He singles out co-presence as the main material component in a conversation and goes further to define it as 'human bodies, correctly assembled in space, close enough to hear each other and physically oriented towards one another' (p. 53). DeLanda also names other material components, such as the attention and involvement needed to keep the conversation going as well as the labour spent repairing the ritual disequilibrium. The expressive component of a conversation would be the flow of words making up its content. Goffman's approach emphasises the properties of conversations that cannot be reduced to component parts, such as ritual equilibrium, which may be threatened if involvement or attention is not properly allocated. Threats to this ritual equilibrium or stability include, embarrassing events, such as linguistic errors or breaches of etiquette. This is so, because these moments divert attention from the conversation itself to the norms which the participants mutually enforce (Goffman, 1959; DeLanda, 2006).

These moments of embarrassments that cause temporary disequilibrium can be a tool for social control, for example, some jokes might attract public humiliation as a form

of sanction for not following the group norms. Thus, depending on the genesis of the embarrassment and who embarrassed who, they can be a source or marker of power. It is most unlikely that a junior officer will embarrass his or her seniors, and so the things that might destabilise the ritual equilibrium depend on the respective statuses of individuals involved. Threats to ritual disequilibrium are in themselves territorialising (stabilising) because they increase the homogeneity of participants and components at play, but at the same time they are de-territorialising because they increase the sharpness of boundaries.

The use of mobile telephony can be analysed as an assemblage bringing together components of a heterogeneous nature. These components include the mobile phone device; the persons interacting with the technology and also the context or place. Co-presence can be argued in the case of mobile telephony as an assemblage involving two or more people and their mobile phones. As an object with material components, a mobile phone can be read as an indicator of an individual's status or position (Fortunati and Riccini, 2003). Also it seems to have a 'life of its own' in form of ring tones, vibration, peeps, wall papers and might be understood as a portal for interacting with another.

Mobile phones offer a double or multiple frontstage appearance. A study of Norwegian youth (Ling, 2004: Ling, 2007) is testament to this. Ling explains that when caught up in a situation of an intruding phone call or text, an individual is often torn between attending to physically present others and attending to the 'perpetually connected' others. Ling finds that most would attend to the perpetually connected other (2004) as opposed to the co-present, meaning that emphasis is shifting away from face-to-face to a perpetually connected other. The choice between picking up the phone call and answering an incoming text is a concrete check on status engagement (Ling, 2007: 102).

Mobile technology can be used to keep others away and also to bring others close. This attribute of keeping others away would be termed de-territorialising, while that of bringing people close would be deemed territorialising. Co-present encounters can also be located within time-space when bodies are brought together. Goffman (1963: 17) has termed this type of co-presence a 'gathering', a coming together of two or more people wherein people sense that there are close enough to be seen and to see others. In

other words, space is embodied in our day-to-day interactions and it is through the interactions between bodies that participants locate themselves, just as how in dramaturgy an actor assumes a role as he/she plays the role of the specified actor. It is no longer a physical place, but the space(s) created as bodies interact.

Urry (2007: 177) observes that mobile technologies affect social interactions even when people are 'face-to-face.' He argues that co-presence and distant communications increasingly intermingle. Katz and Aakhus (2002: 2) note that people are increasingly 'face-to-face to mobile phone', because the mobile phone is brought along even when people meet socially. This creates a scenario wherein participants are present, yet absent at the same time, a situation called 'absent presence', states Urry (2007). To experience, 'absent presence', is to be available for the co-present (face to face conversation) and at the same time open to others virtually via their mobile phones. The possibility of absent presence further complicates co-presence, reinforcing the idea that co-presence is both a location and a relation (Callon and Law, 2004). Mobile telephony 'exposes our taken for granted assumptions as to how we ought to interact in different situations' (Ling and Donner, 2009: 29). This description by Ling tends to lean toward privileging co-presence as the 'primary engagement', relegating communication via mobile telephones to a secondary level. This does not take into account the fact that co-presence has been itself transformed by mediated interactions. This input further complicates mobile telephony as a tool for communication, facilitating interpersonal interactions, but also gathering and scattering conversation constituents and other humans engaged in the conversation or via texting.

According to Goffman (1959), social interaction is determined by the ratification of the scene and mutual understanding of the roles to be performed. Persons interacting in any conversation behave in terms of how they assume others in the conversation are thinking. This could be in reference to unspoken rules or norms that govern behaviour in a co-presence. Conflicts, therefore, occur when the performers in a conversation do not concur as to what roles are to be performed and how they are prioritised.

According to Bauman (1992), the definition of what is socially acceptable encourages the self to develop through experimentation (p. 2003). The self is, therefore, able to change direction to fulfil new subjectively defined objectives. The self, portrayed

through mobile and internet use, may not necessarily be a true representation of the inner self. Goffman asserts that misrepresentations can occur in face-to-face interaction, but the use of technology enhances the ability for people to construct a well-orchestrated self. For instance, some of the respondents admitted to concealing their identity through the phone, saving their extra-marital romantic friends' numbers under names from the opposite sex. Kigen (38) had this to say:

> *As for me, I save all my girlfriends' names using men's names, for example, if I have a girlfriend called Jane, I would write her name as John so that my wife may not know am cheating on her, should she decide to scroll on my phone when am unaware.*

The responses to the girl cohort indicated similar sentiments. For instance, Jeruto (21) said, *'For most of us really [pointing to other girls in the focus group], we save our boyfriends' names by just putting initials, for instance JM for Jacob Mutai and the like.'*

Mobile telephony makes users available every time of the day, therefore impacting significantly on our understanding of time and space. This, in effect, allows users to re-draw boundaries between public and private spaces and further affecting relationships. This chapter will discuss co-presence as follows: re-definition of time and space; power and gender relations; mobile phone sharing, and trust and mischief assemblages.

4.1 Time and space re-definition

Co-presence has been defined as the face-to-face interaction that goes on between two or more people (Goffman, 1959). In light of the mediating technology of mobile telephony, co presence may be viewed as a challenge to the assumption of time and space as fixed. The influence of co-presence facilitated via mobile telephony has received divergent analysis, with some scholars positing that mobile telephony has increased face-to-face interactions (Urry, 2007), while others challenge this explanation, arguing that even meetings that have been arranged via mobile telephony are rarely purely face-to-face encounters within physical places (Katz and Aakhus, 2004; Licoppe, 2004; Ling, 2004). What is undeniable, however, is that mobile telephony does influence our everyday activities. It affects how we behave when we are before others, what we do in our closets and, most importantly, having a mobile phone and using it either for texting or calling makes one not only available to be called

or be texted, but also allows one to maintain a near constant co-presence with select others through voice or text, despite the fact that users are at multiple locations at once. This situation has been termed 'perpetual contact' (Katz and Aakhus, 2002). Here, time has been made fluid. This is explained by the 53 year-old Kiatu, in response to the open-ended question of how a mobile phone has influenced his everyday life:

> *You see I am a public servant, working in Thika, that is, in Kiambu County. Before the mobile phones came here, I could call my wives. I have three of them, one in Kapcherop, another in Tot and one at Kapsowar. But I used to use a lot of money and sometimes the telephone booth could be faulty. Now with the mobile phone I can arrange a group talk where I not only talk to my wives, but also the workers in my farms,,, but I cannot turn it off; my boss could just call me up for any enquiries or emergency, because I head a section. This thing [pointing to his mobile phone] has made it easier to do so much in a short time, and you also don't have to be physically there.*

Mobile telephony has been termed pervasive, cutting through the public and private spheres. Political theorist, Hannah Arendt, distinguished the public realm as comprising two interrelated phenomena. First, 'everything that appears in public can be seen and heard by everybody and has the widest possible publicity' (Arendt, 1998: 50). Arendt puts emphasis on reality as depending on appearance: What can be seen or heard is real. Second, the term 'public' signifies the world itself. Insofar as it is common, this common world gathers people together, but also separates them (Arendt, 1998: 52). Arendt gives an illustration of a table that has individuals seated across from each other. On one hand, the table brings them together. However, on the other hand it prevents them from knocking each other's feet. It gathers, but can also separates. She also defines the term 'private' as being governed by necessity and needs for survival associated with labour and work. Private matters concern personal self-interest, as opposed to the public realm that is defined by action for the common good, such that 'activities done by an individual inhabiting a private space has no significance and consequence to others, and what matters to him are without interest to other people' (Arendt, 1998: 58).

A private life, according to Arendt, is a life of deprivation of public participation; an opportunity to be seen and heard; an avenue to air one's views and to be objective. In other words, 'privacy lies in the absence of others' (Arendt, 1998: 58).What is public or private is distinguished by relevance, 'only what is considered relevant, worthy of being seen or heard, can be tolerated so that the irrelevant becomes automatically a

private matter' (Arendt, 1998: 51). This is not to say that what is done in private is not relevant, but rather that its relevance diminishes once it enters the public realm. There is a fluid relationship between the public and the private life. According to Arendt, freedom is in the public realm, while labour and work which are largely situated within households stand in the private realm. This articulation of public versus private realm appears, however, to be difficult to attain. What is in the public and private sometimes overlaps or supplants each other and sometimes the two spheres are seen as one.

Goffman's (1959) dramaturgy presents the social as a frontstage. Therefore, whatever happens is considered public, but some private thoughts and actions are within sight too. When performing in public spaces or places, individuals who are private in their conversations are public at the same time, forming assemblages of varied heterogeneous components. The negotiation between private and public spheres is, however, very hard to distinguish, sometimes interchanging and other times overlapping, as seen in the patterns of mobile phone use in some of the research participants' testimonies below:

Njeri, 19, who hails from Nyeri County and now lives with her sister in Marakwet, occasionally runs the sister's merchandise shop at the Tot Shopping Centre. She says she takes advantage of a history of cattle rustling in the area, and calls her parents, her boyfriend or any of her relatives who lives in the city and have never been to Marakwet, to say that she is stuck somewhere and needs emergency money, when, in fact, she is peacefully selling stuff at her sister's. Her story line went as follows:

> *'Hello! am stuck. Imagine, Pokots have struck again and I was heading to Eldoret [neighbouring town], suddenly the roads were blocked and I cannot make it to Tot now, please send some cash through so that I can organise for a motorbike.'*

She enjoys that the response is swift. According to Njeri's story, the private element would be the fact that her story is untrue, and the public element would be the information which she shares with others. However, there is a chance that what was private will be brought into the public sphere. For instance, someone could discover that Njeri was lying by calling her sister and establishing that all was calm. Njeri,

however, asserted that this rarely happens because most people see Marakwet as remote.

Communication technologies tend to transform and rearrange relationships between domestic and public spaces (Morley, 2002). Mobile telephony, particularly, broadens the sphere of the home outside the physical household, hence blurring the boundaries between public and private spheres. However, what is within the household is not necessarily private. It is only deemed so if it has no significance and consequence to others outside the household. Though the blurring of private and public boundaries is true in cases of an individually owned mobile phone, Ito et al. (2006) argue that it is not so much the case in terms of shared mobile phones. Shared mobile phones defy new techno-social situations and new boundaries of identity and place. This is because the shared mobile phone cannot fit into the twenty-four hours a day service of most mobile communications. In most African contexts where sharing is embraced as a norm, what is considered private or public is largely a cultural construct based on norms, values and behavioural patterns. The 'shared use' contexts are a good perspective to look at regarding the interrelationships between mobile telephone and its users. With the touch of a button, one can access otherwise private thoughts (backstage) and relay them as they share texts. At the same time, the very fact that they do this in the presence of others (frontstage) renders impossible the distinction between public and private realms in situations of co-presence.

Ling's (1999) study of Norwegian youth found that co-present others openly scorned mobile phone users when they judged their use of the mobile device as inappropriate. This 'inappropriate behaviour' has been highlighted by Wei and Leung as loud talking, ringing of the mobile phones and widespread discourteous usage, which blur the boundary between public and private behaviours (Wei and Leung, 1999). This has been understood as unwanted conversations in co-presence, based on the judgements of the co-present, hence defining public as a shared place. However, if the same study was done with youths across the developing world where shared use is most prominent, these findings might differ. In his comprehensive account of impact of mobile telephony on the developing world, Castells et al. (2007) observes that there is a lack of empirical studies in this area.

Public and private divides are getting smaller with the use and appropriation of mobile telephony. The dynamic of the private and the public as venues for mobile telephony has been explored in terms of technology's social intrusiveness (Love and Perry, 2004) and etiquette in terms of users' handling of conversations (Weilenmann, 2003). Although mobile telephony has infiltrated traditionally public spaces like restaurants, theatres, public transportation, parks, streets and most other open spaces (Ling, 2004), research indicates that mobile phone use is generally more tolerated in some areas of public space than others. While this has since changed, examples of places where mobile phones were once prohibited, either by law or by normative expectations, include buses, theatres or restaurants (Ling, 1999). Conversely, cell phone use in outdoor spaces, like parks, has always been more tolerable.

The mobility of mobile telephony makes it hard to position the device in any of the spheres, because it is both public and private in its uses and meanings. Therefore, there is a need to rethink the whole notion of public and private spaces or places. One can argue with Harvey (1997) that new technologies such as mobile telephony have caused a 'time-space compression', a situation that these new technologies 'make possible, introduce changes in popular consciousness, as we live increasingly in multiple and even more disconcertingly, in 'virtual worlds'(Harvey: 210). This is evident in the following account by the area legislator, Ms. Linah Jebii:

> *'I pity those who came before me [meaning former area members of parliament]; I wonder how they used to do their work. For me I have personal assistants (PAs) in every village and when I need to have a meeting with them, I ask the PA to be there and then they broadcast my talk via a loud speaker and we get to talk at length with the villagers usually gathered in a baraza [meeting of opinion leaders usually clan leaders or elders and members of the community]. So you see I do not have to travel all the way this way. Mobile phone has cut unnecessary distance and at the same time brought meetings close virtually if you like.'*

In contrast, Farman (2012) argues for a more wider view of mobile telephony not just as a communication tool, but also as a catalyst for meetings, which involves facilitating, gathering and scattering individuals in order to bring them to a conversation. This conversation can be physical, that is, face-to-face within proximity. It can also be mediated, for instance, when one participant responds to a text message while attending to the person-to-person encounter. Ling (2007) observes in one of his many studies of

the Norwegian youth that even in a face-to-face encounter or co-presence, individuals are constantly engaging with the significant other, such that when a phone call goes off, one is torn between attending to the incoming call or carrying on with the co-presence. Mobile telephony in this regard is influencing how time and space has been traditionally conceptualised as fixed and sequential. Regarding time and space, Paul du Gay (1997: 210) notes:

> ...the new electronic media not only allow stretching of social relations across time and space, they also deepen global interconnectedness and annihilating the distance between people and places, throwing them into intense and immediate contact with one another in a perpetual 'present', where what is happening anywhere can be happening wherever we are.... This doesn't mean that people no longer lead a local life – that they are no longer situated contextually in time and space. What it does mean is that local life is inherently dislocated – that the local does not have an 'objective' identity outside of its relationship with the global.

Although the above remark does not mention mobile telephony specifically, it refers to digital media technologies that enable a crossing of boundaries between territories via the mediation of technology. Assemblage theory shows these aspects of territorialisation and de-territorialisation processes that occur during interactions between technology and users. Mobile telephony is implicated in these processes by mediating interactions between users who could send texts, call or send money across physical distances virtually. The idea of being able to call or text other people across distances and engage in communication across physical or virtual space(s) is an assemblage.

Components in assemblage, as discussed by DeLanda (2006), must be guided by relations of exteriority. That is, an individual, though pushed by their economic strength, will not be solely driven to assist those in the rural areas just because of their own emotional attachments. Instead, their decision will be informed by societal norms, the expectations of their relationships which most often affect how they behave while frontstage (i.e. everyday life).

Conventionally, time and time-keeping are fundamental in the planning and execution of activities. In the words of Louis Mumford, 'the clock is not merely a means of

keeping track of hours, but of synchronizing actions' (Mumford, 2004). Other scholars have argued that through the mobile telephone use, a meeting can be renegotiated and redirected in real time (Townsend, 2000; Ling and Haddon, 2001; Cooper et al., 2002). Though modern time itself is a product of technology, clocks are usually fixed. Mobile telephony, however, has made time fluent and flexible. One can still carry on attending to other matters as one coordinates household or office activities. Unlike Goffman's (1959) single frontstage, mobile telephony offers multiple frontstage performances. For instance, while attending to text messages, one can be conversing with an individual; having face-to-face interaction with another; directing or giving instructions non-verbally through gestures to others, for example, pointing to a direction where the next action should be happening, but also having face-to-face with the mobile phone at the same time. This is typical of an assemblage because it is not rigid, but changes, transforms, comes together and sometimes disintegrates to be gathered again through the processes of territorialisation, de-territorialisation and re-territorialisation.

Times have been made fluid with the advent of mobile telephony due to its mobility, portability and ease of access and use. The effect of this is that, wherever an individual is, he/she can observe and manage time, act on issues, or renegotiate others. Wise (2012) reiterates Deleuze and Guatari's (1987) and DeLanda's (2006) assemblages as being always stratified between two planes. On one stratum is the collective assemblage of enunciation, characterised by incorporeal agency, which is the ability to act at a distance and symbolically. On another stratum is the machinic assemblage or technology a plane of corporeal agency.

As an assemblage, a mobile phone is more than just its physical components (hardware and software), but also includes elements of the attached human, such as the ear, hand, brain, eye. In addition to this, as an assemblage, it includes qualities such as its brand, the quality of voice, based on receptivity, texts, screen-size and so on. It also includes affects, such as how it transforms behaviour, shapes the space around us, focuses and refocuses our attention, and sometimes distracts. One can enter into a mobile phone assemblage by simply picking up a mobile phone, scrolling through emails in the case of internet enabled phones, answering a call, responding to a text, and so on. One can then leave the mobile phone assemblage and enter another assemblage of language where some statements are accepted and others are not (Wise, 2012). Mobile telephony

creates territories that shape space through processes of territorialisation, de-territorialisation and re-territorialisation, all operating in time. Mobile assemblages can be viewed thus as operating in time and space but also symbolically *as* time and space. The mobile telephone in itself is a device that has time configuration and through its appropriation and use, one can create or state space.

Space is occupied by individuals, social groups, activities and objects, and thus spatial proximity and the interactions between bodies or person to person locate us. According to Lefebvre, 'social space is a social product' (Lefebvre, 1991: 26) and is produced in three moments, namely: 'spatial practice; representations of space; and spaces of representations' (Lefebvre, 1991: 33). This conceptual triad presents special practice as consisting of production and reproduction of social formations and locations, ensuring continuity and some level of cohesion.

For Lefebvre, representation of space is tied to the production and representation of spaces as encompassing complex symbolism. He uses an analogy of the body to decipher the three moments. He argues that, 'each body is space and has space. It produces itself in space and it also produces space' (1991: 170). This means that as an individual, one occupies certain physical space, but at the same time represents other societal positions in terms of functions and being capable of reproducing this representation as well. This is co-presence, which, as discussed earlier, is both a location and a relationship. Lefebvre further argues that 'space is not a thing but rather a set of relationships between things, it is neither a subject nor an object but rather a social reality-set relations and forms' (1991: 86, 116). Critics of Lefebvre, such as David Harvey, have taken issue with the privileging of practice of space over the representation of space. Harvey asserts that 'to argue that the relationship between the experienced, the perceived and the imagined are dialectically rather than causally determined leaves things much too vague' (Harvey, 1989: 219).

Lefebvre's theorising of the production of space provides a good starting point in the comprehension of mobile telephony in time and space constructions. A mobile phone can be said to represent a set of relationships between people and mobile telephony. The functionality of mobile phones in regard to their display and positioning within the household can affect the relationships and socio-economic and cultural lives of people

within and without. In the context of digital media, of which mobile telephony is a part, Farman (2012: 17) suggests that 'spatial relationships have always been determined in the way we understand ourselves: our place in larger context and cultural meanings infused in gestures, objects and signs systems.' Therefore, the interrelationships of people and technology produce the spaces that then transform the conceptualisation of time and space as fluid.

One of the potentials of mobile telephony is to leapfrog physical mobility constraints. Since it is portable and small in size, one is no longer restricted to a locality with a mobile phone. Instead, one can be accessed whenever, from wherever and by whomever. This has been theorised as having double effects. On one hand, it is seen as a medium of organisation, enabling processes within cities that could not be realised on the basis of face-to-face interaction (Lasen, 2002: 20, 26). On the other hand, it might be considered as a medium of 'disorganisation' which produces anarchy by enabling everybody to access everybody else directly, without observing formalised channels of communication (Bahardt, 1958, cited by Geser, 2006: 8). Both the rich and the poor can equally own or access mobile telephones easily due to varying prices spread across socio-economic differences. However, differences may come in terms of what type of phone one owns. On one end of the spectrum, there are smart phones. On the other, there are phones with only basic provisions, such as calling, texting and sending and receiving money. The latter are the cheaper handsets, and thus the poor or middle class members of society are limited to owning only these phones. However, despite these aspects, it is undeniable that the mobility of mobile phones frees communication from boundaries which were imposed upon it, such as time and distance (Wellman and Tindall, 1993; Palen, 2002; Wei and Lo, 2006).

Mobile phones have been equally used to support and maintain relationships that are not constrained by physical proximity (Wellman et al., 1993; Campbell and Russo, 2003). In other studies, mobile phones are conceptualised as an 'umbilical cord' making social emancipation processes more gradual and less traumatic by allowing parents and children to retain a permanent channel of communication when spatially distant (Palen et al., 2001). Contact can be maintained between parents and their children even when they are separated for reasons, such as study or business. The use of mobile phones, in this case, lessens the impact of an immediate separation. Therefore, to some extent

mobile telephony has a key role to play in bridging distances. The use of mobile telephony also encourages parenting, helping parents to communicate with children who have come home from school (Rakow and Navarro, 1993). For example, family members can be called or texted from one's place of work in order to micro-coordinate home chores.

Mobility of the mobile phone has facilitated the emergence of new forms of youth cultures. Ling's study of teenagers in Norway established that teenagers use coded language to avoid parental surveillance, while they engage in romantic relationships (Ling, 2004). In a survey to ascertain the uses and perceptions of mobile telephony, Fox argues that the 'mobile phone is a new medium for gossip, anytime, anyplace, anywhere', comparing it to 'using a space age technology to return to Stone Age gossip' (Fox, 2001). Mobile phones can be used as a tool to re-establish the fluid and casual modes of informal communication, which are typical of traditional communal life, then. One might argue that this counteracts the gains of social cohesion and integration.

In another study, Campbell considered the use and perceptions of mobile technology by religious groups. The findings showed that the orthodox community in Israel were able to utilise text messaging to create social and religious networks like 'kosher-phone'. This example shows how a community's cultural values can literally shape the form and function of a new technology (Campbell, 2003). As a technology of social networking, the mobile phone has become central to establishing and maintaining relationships in the areas of religion, family and romantic relationships. Similar findings emerged in the current study. Most church members and their pastors have a particular mobile phone number that the faithful would use to send monetary contributions to church. To receive this number, one has to be a member of the church in question. One of the local pastors had this to say:

> *'You see, money has become safer now, because initially we could collect offerings and keep in the church office over there, but thieves would break in and steal, but now we can receive money from the congregants through a number that has been made known to them. So even if the phone is lost, the money will be safe, because of the personal identification number that authorises. All offerings, tithe and even money for building projects are channelled through the phone via a known number. Life has become good.'*

Mobile telephony is largely considered pervasive, collapsing work and leisure, home and the office, and private and public spheres. Cultural theorist, Raymond Williams (1974), in his television study, termed this binary 'mobile privatization'. In this, he referred to the way in which the multiple 'electric' technologies that arrived concurrently with television saw the emergence of a way of living which was at once mobile and home-centred (p. 26). This notion of 'mobile privatization' assumes that one can be public yet private at the same time, watching what is on television (public), in the confines of one's own house (private). However, one could argue that what is done within the confines of the house is also public, based on the theorisation of public space.

In her study of migrant women in China, Wallis (2013) observes that mobile phones also promote 'immobile mobility', a situation wherein, even though the women were free to use their phone wherever they wanted, their bosses would call them to harass and intimidate them after office hours. The migrant women were therefore immobilised, despite the ostensible mobility afforded them by the phones. In a study of Australian mobile telephony, Wajcman et al. (2004) argue that mobile penetration is far reaching, penetrating 'new geographic spaces that enable the consumption and communication process to be applied in new social, cultural and psychological spaces' (Wajcman, 2004: 12). Space has, therefore, materially changed in the advent of mobile telephony, being private or public or both simultaneously, without physically changing.

Williams's notion of 'mobile privatization' seems to suggest a sphere that goes beyond the confines or domestication of physical place to a multiple scenario of places within a place. This is paradoxical, as earlier domestication studies (Morley, 1986; Gray, 2003) showed technologies that were confined to physical locations. However, in the wake of mobile telephony, domestication has moved to several localities or places. At the same time, when one uses the device, one is both mobile and creating a locality. Yet one could also argue that mobile telephony has created 'private mobilization', a situation wherein the private is now made mobile. For instance, Chebet, a mother of 4 in Marakwet, calls her neighbour to check on her children (private), while she attends to the farm in the hope of bringing home food at the end of the day. Morley focused on the social meanings and uses of family television, while Gray looked at the video cassette player. Both of these are technologies positioned within households. Internet-

enabled devices, such as smart phones and personal computers, make it possible for participants to be in multiple places and localities at the same time. This can be done through chatting, emailing and Skyping.

Mobile telephony, particularly, reinforces rather than destroys place in several of its uses. The technology can, indeed, enable communications that cross previous social boundaries, but this does not necessarily mean that the devices erode the integrity of existing places or social identities. Mobile telephony perpetually emphasises the role of place in maintaining interaction and intimacy. This is usually the case in terms of the ubiquitous question, "Where are you?", which could be understood in two ways. The first is, as a way of identifying and choosing what conversations are fitting for the said geographical location and which ones are not. The second is, as a way of surveillance. As Massey notes, locality – as a particular practice of place – emerges through a combination of electronic co-presence and face-to-face actions (1993).

The literature reviewed and some evidence from data collected and analysed point to a more complex understanding of space and time, not just a binary relationship in terms of the stretched or compressed, the private or public, the micro or the macro and the domestic or wild. However, what have not yet been shown fully in this analysis are the intermediate players/levels between mobile telephony as private and public, or as a time changer of the present age, in terms of how it affects distance, mobility and place. Wallis's (2013) work, mentioned earlier in the introductory chapter, comes close to addressing the complexity of the social, moving away from the binaries of the public and the private and liberation and marginalisation. Wallis's study focused on Chinese migrant women moving from rural to urban areas, but the current research focuses on the households of rural folk en masse, rather than just women. This thesis thus argues for an approach and study that factors in the actual and virtual interaction between man and technology, and exposes technology as complex, enabling co-presence with individuals around, but also facilitating co-presence of mobile technology users and other users via the mobile telephony.

4.2 Power, gender and mobile phone assemblage

Gender differences persist in the way mobile telephony is put to use. For instance, Rakov and Navarro (1993) have found that mobile telephony may reinforce conventional gender patterns by emphasising the role of women as 'nurturers' through their 'remote mothering' use of the device. Contrary to this position, Ling (2001) in his Norwegian study found that the gender gaps had drastically narrowed in the wake of the current century. He discovered that more female teenagers than males possessed a mobile phone, yet the reverse was the case amongst young adults over 20 years old.

Mobile phones around the world have been adopted and adapted for commercial as well as overtly non-commercial purposes. The device is used by executives and heads of organisations and industry; farmers to find the best price for dairy products or fish catch (Jensen, 2007); small business owners around the world to find suppliers (Donner, 2005); teens in suburbs; the poor, the middle class and the upper class. Though initially designed for commercial purposes (Kopomaa, 2000), the mobile phone has now been used for all kinds of activities, from micro-coordination of activities within households (Ling, 2004), to mobile banking (Marawwczynski, 2009), texting, for fashion designs (Fortunati, 2005), etc. It now seems that the control processes that were engendered in an industrial context have been destabilised and applied to interpersonal interactions. The role of the mobile phone as a personalised networked device is the most obvious of these controls. Donner and Ling (2009) observe this in terms of how participants use mobile phones to interact and perhaps control others. For instance by asking questions such as 'Where are you? Are you coming home for dinner?' (Donner and Ling, 2009: 142).

Mobile telephony has the capacity to create a somewhat hybrid interaction between the wireless and co-presence. This gives rise to an intertwining of mediated and co-present activities (Ling, 2008; Taylor, 2005). An example is, texting a friend while waiting for a bus. According to Licoppe (2004), this has led to what she refers to as 'connected presence', the idea that we carry out interactions with family and friends throughout the day, while accounting for texts and calls (Smoreda and Thomas, 2001; Castells et al., 2007; Wei and Lo, 2006; Ling, 2008). The relationship between the caller/texter and the called/texted can be a juncture for the display of power dynamics. For instance, a parent can call his/her teenage child to monitor whether or not he/she has left a party and even to ascertain his/her exact whereabouts if the phone is turned on.

Foucault (1984) discussed the issue of sex as a typology through which to understand matters of power and control. He termed the idea that sex was used as a mechanism to control and subdue others the 'repressive hypothesis' Foucault delineates a period where sex was not to be mentioned by name, because an interplay of prohibitions disallowed sexual topics and introduced silence. There was also a control of enunciation, where and when it was possible to talk about such subjects became much more defined. Foucault explores how tact was employed between parents and children to some extent in discussing topics of a sexual nature, teachers and pupils or masters and domestic servants. According to Foucault, priests were critical of the understanding of sex matters, because they were individuals through whom power passed and were also important actors in fields of power relations. Sex debates were subject to what was largely considered normal and anything contrary was frowned upon. In the postmodern age, however, sex became a topic no longer to be quietly discussed, but, instead, became a discourse for many. It was not just sex but knowledge about sex that demystified sex talk and subsequent action. For Foucault, knowledge is a form of power because, as knowledge is exercised as a form of social control, constraint, regulation and discipline of the conducts and practices of other people through the workings of social institutions (Ransom, 1997, p.19). According to Foucault (2000) power rather than being something external to or imposed on is now 'linked to circulation of relations with systems of power that produces and sustains them as well as the effects of power that it induces and which extend it' (p.132). ICTs are a vivid demonstration of the circulation of power in a sense that rather than view the owner of a mobile telephone as all powerful, power is also exercised by whoever else uses the device to his or her own identified needs. However, the government through its regulator can exercise power over the telephone operators in terms of what frequency they allow and also the service providers or operators can equally oversee the clientele in terms of texts of communication that go on via mobile telephony. They store the personal identification number; have data bases of who are registered mobile phone users and the like. Similarly, the users can decide to allow and disallow certain information, for instance, one can hide their date of birth, place of residence, thereby making it difficult to trace an individual if a need arose for that to happen. Power is seen no longer as a bottom up or top bottom entity, but rather circulates, as mobile telephony users interact with the device with respect to their contexts, giving rise to emerging uses and novel ways of use.

The question of gender and power differentiation also touches almost every aspect of life, including human-technology relationships. This is the case to the extent that socially constructed roles that distinguish male from female become evident in the assemblages produced by these human-technology interrelationships. Gender is not synonymous with the marginalisation of women, even though it is constitutive of it. Scholars agree that gender definition 'is never given but varies according to specific cultural and historical settings... and is subject to discursive struggle and negotiations' (Van Zoonen, 1991: 45). Each society constructs their gender roles differently, and gender differentiation must be understood within a context or society. Gender roles, include: the expectations placed on both females and males in a society as well as the rules and regulations and norms and values that govern certain behaviours and actions. As an assemblage, gender becomes a contest between what are accepted, rejected, modified and re-assembled roles. For instance, in most African cultures, men are expected to offer security, fend for food and protect the family, while women are expected to take up nurturing roles, such as cooking and taking care of the sick and the elderly (Molony, 2009). This same dynamic can be observed in mobile phone user relations, in that women have been reported to perform nursing duties through 'remote mothering', as was discovered by Rakow and Navarrow (1993).

Mobile telephony touches on fundamental aspects of gender identity. Mobile technology has the capacity to change the way people communicate, but its effects are not evenly distributed. It is assumed that the gender gap diminishes whenever there is high mobile telephony penetration. However, researchers have varied views on this. In terms of mobile phone penetration and usage, Rice and Katz (2003) note that more females own mobile phones than males. However, in developing economies, research has shown that women are heavy users of other domestic technologies, such as the domestic landline, having 'appropriated a practical, supposedly masculine technology for distinctively feminine ends' (Ficher, 1988: 212). This can be attributed to the fact that social network maintenance and an intrinsic enjoyment of social interaction are traits that are coded as female (Ficher, 1998: 226).

It is necessary to establish how mobile phones represent women in a different context. However, the analysis of mobile phone interaction is largely quantitative, as there is

often more focus placed upon numbers than the actual influence of mobile phones on human interaction, and vice versa. Rather than focusing on the numerical, this research seeks to provide wider understanding of mobile telephony and user interrelationships, bringing to the fore the emergence of behaviours, patterns of use, and dynamics of the social. It does so by employing assemblage theory, which is well-suited to the task, as it recognises the complexity of the social and context of application. Some contexts permit certain behaviours, and thus territorialise certain uses, while some others prohibit certain behaviours, and hence de-territorialise certain uses. The current study finds the implications of gendered mobile use to be complex. Mobile use among teenage girls varied. They used mobile phones to send texts to their boyfriends; chat on Facebook, in the case of those whose mobile phones were internet enabled; receive money from their boyfriends; use the call back function; update parents on school performances; ask for fees; and send requests for visiting days and business matters.

Cherop, 21 years old, said the following:

> *'You see, for teenagers it is a bit different, like mine has internet. So most teenagers use social network like Facebook to chat with friends who are far and near…and also to check mails from my lecturers, say, in case a class has been cancelled or even email the lecturer to excuse myself from class.'*

However, this observation was not shared across the group, since only a small proportion had internet enabled phones.

Most of the girls, despite having mobile phones, used them secretively because they were not allowed. One girl had this to say:

> *'In school the girls still suffer from dire restrictions to phone use; this further pushes them to use their mobile phones either in the toilet or dormitories once the member of staff on duty has left the school compound'* (Jeruto, 19 year old)

The girls' group interview affirmed that their use of mobile phones was not permitted at all in school and those caught would be sent home on suspension for two weeks, after which they would come with their parents to explain. Jeruto, a form two student further noted her dissatisfaction with the arrangement to halt their use of mobile phone saying:

> *'You see, this is not fair because the boys would always have their phones even if they are not allowed, because when they circumcise they are thought as adults and will then live away from the common house or home, but for the girl you are constantly with your parents and so you have no ways of hiding, including using the toilet to talk to your friends or hiding it somewhere'* (Jeruto, 19 year old).

Another respondent corroborated these claims:

> *'You know, boys are not close that much with parents. So even if they have phones, parents are not likely to know. And you see they live in their own houses and so they can hide the phone there, but for girls, you live with your parents, and can easily be caught and can be punished big, because parents do not allow one to have a phone if they are still in primary or secondary schools'* (Emmy, 18 years old).

These testimonies illustrate gender divisions in Marakwet. Usually, once boys reach puberty they are initiated and expected to build their own houses and live away from the family house. They are deemed mature and thus capable of taking care of themselves, making their own decisions and being involved in family decision-making. The girls, on the other hand, are seen as long-term visitors who will get married in due season. Chepchumba (19) made the following observations:

> *'Girls are given much supervision, because they are constantly living in the same house with parents; they are harassed and denied phone access, because many parents assume that mobile phone can make one to have boyfriend, then sex and get pregnant easily. Again, unlike the boy who will remain in the homestead girls are always seen as leaving any time to join their husbands.'*

Kiptoo, a primary school teacher, explained this further: *'Mere possession of mobile phone does not lead to pregnancies, but the tendency to be misled is high, and relationships blossom more via mobile phone.'*

The excerpts above show that mobile phones might reinforce gender roles as sustained in the culture of the people.

Mobile phones have also been used to rescue girls at risk of genital mutilation, which, though condemned, is still carried out in pockets of Marakwet. This reinforces the fact that mobile telephony is a double-edged sword. While it may seem to marginalise women, on one hand, it also rescues them. Kitaon (52), an anti-female genital mutilation agent in the village stated:

> *'Using my phone, I will call for rescue once we have identified the place and girls that are set for the bad practice. We get them out of there and take them to a rescue centre immediately. This thing [meaning mobile phone] has saved many of our girls from cruel traditions.'*

Due to seclusion and marginalisation, girls have developed a way of backing up messages from their boyfriends. For example, they use security code, or open a different file to store love messages. For those who have no capacity to store more texts, however, they will write them down in their journals, which they refer to as 'secret books'.

> *'My phone is not a very nice one, it has minimum inbox message capacity, so I have to write it down elsewhere like in my diary or 'secret book', then I delete those that I think don't make sense. I do the same for contacts that are inactive by deleting them and getting active members saved on my phone book'* (Cherop, 21 years old).

Girls in this study indicated that boys owned more mobile phones than girls, because their needs and priorities differed. One of the participants noted that boys could spare money and invest in a phone, whereas for the girls their spare money went to *'a lot of personal needs, for emergency on other days'* (Chebet, 20 years old), meaning that they used their savings to purchase sanitary towels.

In this study, girl children seemed disadvantaged because of constant surveillance by their parents and those in authority, such as their school administrations. However, this unsupportive environment regarding the ownership and use of mobile phones has not deterred them from developing survival tactics.

A section of Girl's group interview (Source: Ethnographic interviews, Marakwet, 2011)

Castells et al. (2007: 45) clustered the gendered uses of mobile telephony into three trends, namely: those that show clear gender differences in acquisition and use; those that blur traditional gender lines or make no gender difference; and the culturally specific use of gender. Many scholars have found that women are more likely to use mobile phones for maintaining social networks and coordinating family activities in developed economies (Rakow and Navarro, 1993; Ling, 2002; Gergen, 2005; Lemish and Cohen, 2005). There is also evidence of this in developing economies (Nyamnjoh et al., 2008; Molony, 2009). However, Buskens and Webb counter this, observing that women in developing economies are not very competent with mobile telephony due to their gendered roles. Buskens and Webb argue that 'the challenges of managing a rural household create a heavy daily workload for women, leaving them with hardly any spare time to become familiar with new technologies' (Busken and Webb, 2009: 44). A study of South Asian families in the United States and India showed that women viewed mobile phones as a means of control, opting to leave them at home in order to avoid perpetual accessibility (David, 2003). These two examples illustrate that the use of mobile telephony is not uniform, regardless of sameness in gender.

A study conducted in Israel by Lemish and Cohen (2005: 250) similarly discovered that, 'both men and women discussed their perceptions of [mobile telephony's] role in their lives in quite a traditional manner; activity and technological appropriation for men, and dependency and domesticity for women.' However, examination of their practices showed limited differences. There are very few studies which explore gendered use of mobile telephony in Africa. In Tanzania, researchers found that female respondents in particular saw mobile phones as another household asset. However, in South Africa the mobile phone was deemed to be an individual possession (Samuel et al., 2005). In other African countries, such as Uganda, Morocco, Burkina Faso, Cameroon, Mali and Senegal, mobile telephony was also shown to be gendered. In these countries, research found that women use the mobile phone more for personal and social purposes, while the men use it more for professional activities (Huyer et al., 2005). This illustrates a high tendency to link mobile telephony with everyday life.

In a study to determine mobile phone use among rural women in Nigeria, Comfort and Dada noted that women's special responsibilities for children and the elderly mean that women typically cannot migrate to towns and cities as easily as men (Comfort and Dada, cited in Buskens and Webb, 2009). This feeling of being marginalised is further demonstrated by the manner in which Nigerian husbands prioritise phone top-ups over household budgets. Husbands were often found to buy credit or airtime top-up for their mobile phones instead of contributing the same amount or less to their household expenses (Comfort and Dada, cited in Buskens and Webb, 2009). From this Nigerian account, one can clearly see the subordinate place of women in patriarchal societies. In this context, mobile phones become one more signifier of the gender gap between men and women. Like many other ICTs resources and opportunities, women's access to mobile telephony is restricted. From this particular Nigerian case study, therefore, it has been demonstrated how mobile telephony extends existing gender inequalities.

However, mobile telephony has not only contributed to further marginalisation of women by men, but has also clustered women. Buskens and Webb cite a study of women entrepreneurs in Zambia that summarises this phenomenon:

> Over a period of time, low-income earning women who are part of women's empowerment mobile phone sustained virtual network begin to lose their

> ‘voice’. They become silent listeners and simply recipients of texts and alerts from more financially empowerment members. They become the mobile phones virtual network’s ‘lower-classes’ (Buskens and Webb, 2009: 99).

Gender disparity is seen in the ownership of, access to and use of mobile phones across social divides. The foregoing Zambian scenario also characterises mobile telephony as a double-edged sword. On the one hand, mobile telephony contributes to integration and cohesion in society. However, on the other hand, it fragments existing family and social structures.

The maintenance of romantic relationships continues to amaze many, especially in the face of mobile technologies. The strategies to establish and sustain such relationships depend upon the individuals involved as well as the context which serves as a supporting environment for the relationship. The question of who initiates romantic relationships varies from context to context. In many African countries or societies, a woman is traditionally not expected to initiate a romantic relationship with a man. If she does, she risks being misconstrued as immoral (Goliama, 2010; Nyamnjoh et al., 2008; Goggin, 2008; Mulama, 2007). Gender roles require that she should be always passive. However, these beliefs are currently changing. This is perhaps partially due to the globalising effects of communication technologies, which make it easier for women to initiate romantic relationships.

The use of mobile phones by women has served to empower them in terms of freedom of speech and decision making. Goggin notes that mobile telephony enables women to subvert traditional gender roles in courtship by taking the liberty to court men (2008: 164). While some women have enough money to top-up their phones with calling credit, other women have taken the opportunity to cultivate new, more outgoing, personas through text messaging, hence the saying, ‘If you are shy to tell personally, you can tell it through a text’ (Nyiiri, 2003; 203). Even in the days when courtship was initiated solely by men in Africa, women employed non-verbal communication to indicate to men that they liked them. They could do this through their body language and gestures, such as being kind to men and so on (Goliama, 2010). Though in a slightly different way, this disposition was evident in the current study. For example, the use of middle men still persists to this day. Kigen (39) had this to say:

> *'You see behaviour is important and I remember during my days in college people asked their counterparts to get them well behaved girls. So in actual fact even today people can get to know each other, fall in love and begin long lasting relationships. As a matter of fact I know of two married couples who met this way.'*

In conclusion, then, women's access to and use of mobile telephony cannot be understood in isolation from their gendered positions and roles.

4.3 Mobile phone sharing assemblage

Although mobile phones are generally thought of as personalised to particular individual users, there are contexts where the sharing of a mobile phone's functions among numerous users challenges this notion. Various mobile phone features enable users to frequently share the device and its functions with others, a view that contrasts and challenges the expectations of individual use.

In cultures where communal sharing is valued and taken as normative, it is natural for the mobile phone to be incorporated into other shared support systems, such as meeting called by elders that involve social, economic, cultural and political activities. Shared mobile phone use generally refers to an arrangement wherein a mobile phone device is made available to multiple users, typically in a public space. This access is either free or a small affordable fee per use is charged the borrower or interested user.

The sharing of mobile telephony is common practice in most developing nations, though there are insufficient empirical studies on this phenomenon. Burell (2010) defined mobile phone sharing as an informal, non-numerative resource distributing activity where multiple individuals have a relationship with a single device – as purchasers, owners, possessors, operators and/or users. This implies that an original holder grants to others the partial use, enjoyment or possession of a thing, resource or place (p.230). However, such a definition is not exhaustive, and emerging methods of sharing are now challenging and problematising it. For instance, the sharing of mobile phones for money transfer makes the sharing both formal and informal, while the roles of those with access to the device are multiple and sometimes even overlap. This then raises a critical question concerning the kind of interactions that exist between mobile

phone users and the mobile phone device. Several scholars from different disciplines have attempted to interpret this human-machine relationship.

Scholars in science and technology studies (STS) have argued that the relationship between the user and the mobile device or any other technology is one of interrelation that does not privilege one over another. Critics argue that theorists in science and technological studies have attempted to explain the actual tension and interaction between humans and machines, but failed to go further. Lucy Suchman argues for a more inclusive understanding of human machine interactions that acknowledges the complexities of such interactions without turning a blind eye on actual realities. She contends: 'We need a story that can tie humans and non-humans together without erasing the culturally and historically constituted difference among them' (Suchman, 2007: 270). Following the actor-network theory (ANT), articulated in the works of Michel Callon and Bruno Latour, Suchman argues for an approach that does not locate privilege on the side of either humans or artefacts, but in the fields of 'intra-actions' in which humans, machines, and boundaries between them are produced, disrupted and transgressed (Suchman, 2007: 256). Suchman implies that by looking at the co-production of humans and machines as an effect of fields of intra-action, a new view of the human will also emerge. We must thereby understand interactions between machines and humans as dynamic and not based on only one aspect.

Sharing can be viewed as a practice informed by cultural norms of reciprocity. Thus, one who refuses to share a device, such as a mobile phone, might be seen as a rebel against customs. Such an individual might also be viewed as selfish. However, a person who has been a victim of phone robbery or fraud may be reluctant to share his or her phone, regardless of whether his or her society approves of it or not. Sharing, in this case, exposes the complex nature of human-machine interactions, as analysed by Suchman and Latour. As historical as they may be, the dynamics that come with technology adoption are constantly evolving, as people domesticate technologies to fit their own needs, interests and expectations. There is no one way of explaining these dynamics except by observing and explaining them within the contexts where this relationship is realised. However, even then, the results from such a context cannot be generalised because the intra-actions are complex.

Mobile phone sharing as a concept and method can be well articulated under the rubric of assemblage theory, which takes account of all processes, including the purchase, use and sharing of mobile phones, as these take place between individuals. Sharing encompasses the material components which include the physical device itself and factors, such as, the decision whether to share this device with other people by temporarily giving it away, or to share it within a group, as is the case when the device in question is a radio and multiple people can listen to programmes at the same time. Other non-physical attributes are also taken into account, such as, the tastes and preferences of those interested in sharing. For example, young people will agree what programmes to listen to on the radio long before they converge to do so. This process of deciding beforehand is also culturally informed and, by so doing, it foregrounds the expressive role of mobile phone sharing. Certain attributes thus shape the use and functions of mobile telephony and its use as household items.

Mobile phone sharing can bring people together, strengthening what binds them. This is a process called 'territorialisation.' It can also, however, separate people, depending on who is allowed to share a phone with and who is not. The decision to include or exclude people can destabilise a community in one way, but it also can create another assemblage of common that encompasses those heaved off from the original group. This in itself is both de-territorialising and re-territorialising. For example, sharing can be viewed from one angle as a cultural norm, promoting a common practise, while, on the other hand, those who refuse to share their mobile devices are deemed to be rebels. A person who has been a victim of phone robbery or fraud would be reluctant to share his or her phone regardless of whether the society approves of it or not. The act of mobile phone sharing is largely influenced by the context in which it is actuated. A context could present mobile phone sharing as an act of altruism or reciprocity and/or as a means of coerced reciprocity.

Mobile phone sharing as an assemblage, as already seen in this thesis, includes both the material and expressive components. According to DeLanda (2006: 12), the components of a social assemblage that play a material role, though varying widely, must 'at the very least involve a set of human bodies properly oriented (physically or psychologically) towards each other.' The material components involved in mobile phone sharing, include: the mobile phone device itself; gender roles, in terms of who is

allowed to share with whom and; the expectations of society in regard to the practise of sharing. These expectations, in turn, include: requests for physical aid, for instance, one phone user calling another to ask for them to take care of their children; to purchase stuff from the market; to rescue them from situations, etc. Other components of the assemblage, include: the amount of time, energy and devotion invested in building and sustaining mutual relationships, and the people exchanging conversations concerning the sharing practise, who could do so in physical proximity, but could also do so at a distance.

Expressive roles, as articulated by DeLanda (2006: 12), go beyond language and symbols to include 'bodily expressions (posture, dress, facial gestures) and the manner of expression not so much on what is said but how it is said.' DeLanda also includes decisions made before actual encounters, which include the choice of topic and decisions ancillary to sharing, such as, the motivation behind sharing, decisions on whether to share time, money and/or chores. All of this is facilitated by mobile telephony. In light of the above, sharing assemblages have the following expressive components: (a) the non-linguistic display of solidarity, cohesiveness and trust, for example, the manner in which participants greet each other and how they stand together, with close proximity depicting a closeness of relationship; (b) particular Marakwet dialects, whose use expresses the fact that an individual belongs to a community; (c) interpersonal networks among peers and also throughout the community as a whole; and (d) certain cultural practices that include preferred areas for meetings, communal meeting places, choice of times and length of meetings, etc. These roles, as clearly explained in the works of Deleuze and Guattari (1987) and later by DeLanda, are heterogeneous in nature and augmented by the capacities and skills of those involved. For example, a literate person is likely to share his/her phone as a conduit to receiving and withdrawing monies for others who cannot read or write or who cannot operate the device that well. For such an individual, the ability to frequently use the device is higher than for an individual who only borrows a device and thus needs assistance in reading M-PESA texts, etc. Thus, though sharing was found to be a common phenomenon in this study, it varied between groups and people.

Amongst teenagers, the act of sharing was found to be motivated by friendship and the need to share costs. One was not expected to share without contributing in one way or

another. For instance, Boaz, aged 19, explained how he makes contributions towards his friends mobile phones, to enable him use the phones to call his girlfriend or listen to radio broadcasts:

> *'I do not have to worry, because I don't own a mobile phone, all I need to do is give the owner twenty bob (twenty Kenya shillings) to charge his phone or twenty bamba (twenty Kenya shillings) for top-up; then I can come along and we listen to news together with other friends. So it is not a must to own a phone; we just do cost sharing.'*

Yet another respondent Cheptoo, aged 18, had this to say:

> *'For us girls we do not have that much money, but what we do is agree to top up one phone and each can text to their boyfriend or whoever and another can decide to pay for the phone charging and then we can save the texts under different files, so that one can feel a sense of privacy.'*

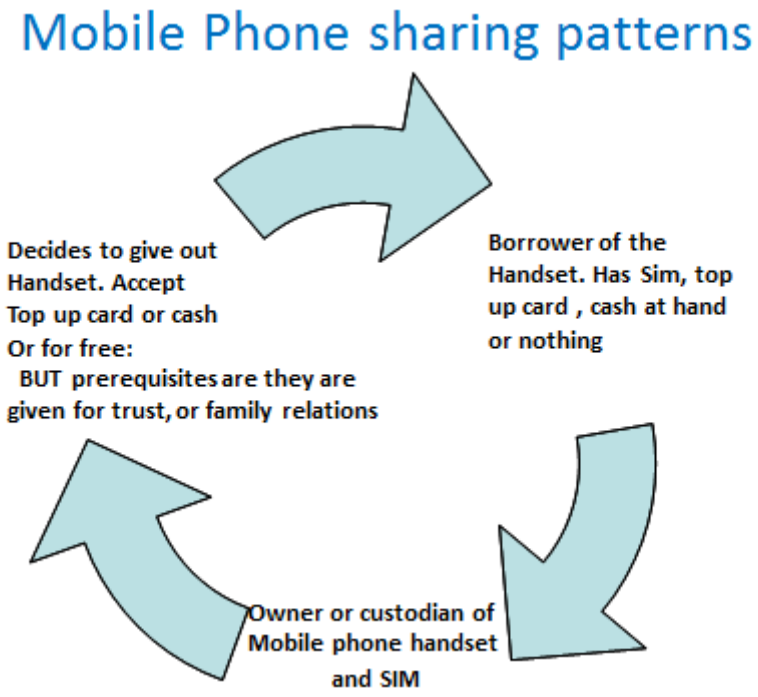
These two perspectives illustrate how actions in this part of the world depend largely upon the circumstances, needs and desires to communicate that are rooted in the act of cost sharing and reciprocity. They are motivated by a lack of phones, which the teenagers do not consider to be an impediment to their ability to communicate with significant others. They see it as an opportunity to hang out together even as they go about their lives. Sharing activities among teenagers, include, but not limited to: sending short message texts (sms); emailing others for those with internet enabled phones; calling; sending and receiving money via their mobile phones, a service dubbed (M-PESA); listening to news and; listening to music, especially among teenage boys.

In the current study, activities in relation to mobile phone sharing went on regardless of what gender owned or had access to the device, be they temporary custodians of the borrowed phone, or a friend of a friend. This then raises the critical question of whether or not technology is gender neutral.

Teenage boys listening to news via shared mobile phone

When individuals interact through mobile phone sharing, they not only display their preferences as to who they ask favours from, but this choice implies aspects of their personalities, that is, what they like; who they like to hang out with; who they prefer and; what their tastes are like. For instance, two people might have identical mobile phones with the same amount of credit, and those who do not own mobile phones will make a choice as to who they will borrow the phone from. It is very likely that factors, such as the attitude of phone owner towards the potential borrower, the relationship between the owner and the non-owner, experiences in the past and matters of trust, will affect who the person without a mobile phone chooses to borrow the device from. In other words, a 'mobile phone is not only a symbolic repository for the user's social capital but also signals to others certain unspoken clues about the user's identity and social status'(Larsson, 2009: 9).

Mobile phone sharing practices are diverse and vary from one person to another. However, some practices are preferred over others in the current study. Some of these practices relate to those held in the pre-ownership culture, where many depended on a few who had communication technologies like radio and television to meet their information need.



Most participants shared their mobile phones for free across the divides of age, gender and economic status. It was evident from this study that sharing was largely an altruistic act, as opposed to a means of addressing scarcity of money or resources. However, data from this research shows that altruistic acts can be motivated by a lack of resources, a position the participant, Chebeet, explains as follows:

> *'People don't share mobile phone just because they don't have enough money; sometimes people share mobile because of many reasons, like a poor network from Orange may warrant someone to borrow a phone from someone with Safaricom. Then, again, the issue of charging… if one's phone loses charger he or she will ask to use another's that has a charger. Yeah, it is always like that around here.'*

This was similar to others. For instance, Kibiwott, a civil servant aged 42, insists that it is not only money or lack of it that makes people want to share:

> *'Sometimes, when people share the phone they get together and can discuss stuff. For example, the other day our member of parliament called on us in a baraza [open air meeting, held under a tree] over the phone, the person put his phone connected to the speakers and we talked with her for over an hour. So she has the money but prefers to share the phone so that she can address the constituents!'*

This revelation from Kibiwott expands sharing beyond the simple need of people for air time to the sharing of organisation, leadership and the like. Mobile telephony has facilitated more sharing of community life. Mobile phone sharing also reinforces the social networks like the *barazas* in this case. People still meet under a tree and so, in spite of mobile telephony's ubiquity, common physical ground or place is still important. In other words, mobile telephony is a forerunner for physical meetings in some instances. This echoes Lefebvre in his arguments on space, in that mobile telephony creates and expands community spaces.

Most of the teenagers used shared mobile phones to share music downloads, news alerts and, in the case of boys, sports reports. To do so, they converged by the hillside where reception was clearer. Mobile telephony, it can thus be argued, is a tool that facilitates further social networks and social connections.

Besides airtime top-up, another prevalent mobile phone sharing practice is beeping, otherwise known as flashing or "please-call-me." This practice involves calling an individual and hanging up even before they can answer. In some cases, this is symbolic, for example, teenage girls indicated that if they flashed their boyfriends twice, it would be in order to convey that they needed top-up. Otherwise, it means that the beeper or flasher expects to be called back.

Usually, such practice goes hand in hand with the economic status of an individual. This researcher established that individuals who are flashed are perceived by the flashers as being able to call back, since they were perceived to have money or, at least, have more money than the flashers. However, flashing is also used to convey symbolic meanings understood by those engaged in the flashing practice. Emmy, aged 21, notes: *'When I flash [my boyfriend] twice he knows I am asking for air time, but if I flash once, it means he needs to call me back.'* Other girls were in agreement with the symbolic meaning of flashing, which varies from one person to another.

Kibet, a 49-year old businessman, says:

> *'I hardly get flashed but when I am, I first of all feel afraid;, I get scared because I think to myself, "Something must have terribly gone wrong", and*

when I call sometimes it is really bad news like someone has died or sometimes good. Mostly it is bad news.'

Lena, a mother of two, insists that,

'Flashing is a nice way to hide your shame, at least, imagine if you have a phone that doesn't ring, at least when you flash, someone can call you. Like when my children take too long to call me I flash them, then they call me and I feel good.'

All these testimonies reveal various scenarios and meanings of flashing as a mobile phone sharing practice. One of the key challenges of flashing using a shared mobile phone is the fact that, unless the recipient of the flash recognises the flasher, it is a fruitless venture. In most cases, however, those doing the flashing have given their number to those they are flashing.

Another common mobile phone sharing practice among teenage boys in Marakwet is '*harambee*', a Kiswahili word that means pooling resources. It refers to the situation or process, whereby each individual teenage boy puts their money towards paying for mobile phone charging and pre-paid phone credit. The money is credited on one person's phone, and others are invited to text or call or listen to radio, music, news, etc.

Nicodemus, aged 18, does not own a phone. Musa, aged 21, owns a mobile phone. Together, they agree on how much is needed for the maintenance of the mobile phone which Musa owns. In pooling funds for pre-paid top-up cards and charging the phone to be able to sign up for news alert and music downloads, the pair is joined by Boaz, 19, and Kiptoo, 23. Thus, the five do not need individual phones. Instead, they just need to raise enough money to top–up Musa's phone. Though these boys were happy that they had the ability to use and access Musa's phone, they sometimes felt awkward having to go to him to receive or read text messages from their girlfriends. Each of the boys mostly wanted to own their own phone.

Table 1: Shared uses across age brackets and gender

Men	Age (brackets)	Women	Shared phone (handset)	What is shared
2	11-20	1	Yes	Music and Text(SMS)

3	21-30	3	Yes	Music downloads, radio, news alerts, SMS.
4	31-40	3	Yes	M-Pesa account, calling, spotlight
5	41-50	2	Yes	M-pesa, calling, spotlight, news alerts
2	Above 50	-	Yes	M-Pesa account, spotlight, calling.
16	Total	9	Yes	

Total number of individual interviews: 25

Table 2: Further evidence of phone sharing among clusters of people in Marakwet

Cluster	Whom it is shared	SIM card/top-up	Pre-requisite	Free or charged
Men Only	Family, friends and neighbours	None	Trust	Free
Women only	Family, relatives and friends	Top up if able	Trust/emergency	Free
Boys only	Romantic friends	Either SIM or top up card	Anyone in need	Buy own top-up/ radio listening done on turns via mobile phone
Girls only	Family, friends	Top up cards	Anyone in need	Free
Men/women	Close family children and extended families	None	Be well known to & close proximity when using the device	Free

Total Number of Group Interviews: 5

From the above results, one can argue that most personal mobile phones are, in fact, communal mobile phones. The majority of the respondents said that they share their handsets with whoever is in need in the community, on the condition that the assisted individuals used ‘good language’, because in some cases they had lent someone a phone and the person had used abusive language to a significant other. In such cases, the owners of mobile phones became vigilant and insisted that they be at a close proximity when the other person used their phone.

The majority of the participants in this study would share their handset for free, especially with old men and women who are considered as the custodians of the community's traditions and cultural values. However, there is a small proportion that would usually charge money for their handsets. These people would mainly be youths in their teens and early 30s. They would allow others to use their phones for free only if the individual asking for such services proved beyond reasonable doubt that they could not afford a top-up card. Just like the older men and women, they would be vigilant and ask that the users of their phones be in a close range just in case anyone decided to be mischievous by using abusive language in calls and texts. In all the above cases, trust seemed to be a pre-requisite to phone sharing.

Very few respondents, aged 50 or above, own a mobile phone. However, this is due to their failing eye sight impeding their ability to read the small writings on the mobile phone's screen, and then reverting to the practice of consuming local brew, which is considered a proper pastime in old age. Due to the fear of losing their phones, most men leave their phones locked up at home or, if they trust their wives, leave the phones with them. There is, therefore, a smaller proportion of mobile phone ownership at this age and a majority would rely on their neighbour's mobile phone to call or, in most cases, receive money from their children in the urban areas. Therefore, one phone could literally be shared between four and five elders of the community. Phone sharing is evident in the everyday activities of any member of a household who may or may not be physically present in a locality to experience place. In the section that follows, mobile phone sharing will be examined in terms of concepts or themes that arose as the researcher went about collecting and analysing data.

Norms, values and regulations play a big role in determining how much of the device is shared. There are individuals who may be uncomfortable sharing their devices but feel obliged to do so. Attributes, such as, altruism and reciprocity inform the practice of sharing of resources or technologies. Chavan and Gomey (2008) in their study of the cultural factors behind phone sharing in rural India, pointed out that people were largely interested in sharing their devices. Owners and users of mobile devices were happy to share them with a wide range of significant others within their social relationships, such as family, friends, siblings, peers, relatives and even strangers. According to this Indian

study, sharing occurs at variety of locations, both private and public. However, the issue of whether a place is 'private' or 'public' is problematised with mobile telephony, since these boundaries are blurred.

Though mobile phones were largely shared in Marakwet, this idea of a singular African "culture of sharing" as shaping mobile phone uses and access (James and Versteeg 2007: 118) is not that simplistic. Rather, there were contingent activities of sharing that did not map to any single overarching cultural principle. Sharing depended on the mobile phone device itself, whether or not it had enough charge or talk time, and the relationships between prospective sharers. To some individuals, sharing was selective and strategic, while to others, it was altruistic. It produced systematic exclusions and inclusions and, on other occasions, preferential access.

4.4 Trust and Mischief Assemblages

Mobile phone sharing, as discussed above, challenges the conceptions of design aimed at independent and private uses. It is also not limited to economic scarcity or paucity of mobile phones. Instead, it is rooted in socio-cultural constructs, such that an individually owned phone can be customised to suit multiple users. Because of this, privacy concerns have been raised in relation to the sharing of mobile phones, engendering precaution concerning sharing. Trust comes as a pre-requisite of mobile phone sharing, whereas mischief comes with a decline in sharing.

Moral economy, as posited by theorists who discuss the domestication of technology, lays emphasis on values, norms and regulations of behaviour around the household. This is evident in the current research, as has been discovered that individuals are expected to behave appropriately when using a shared phone. The behaviours viewed as unwanted, include: using abusive language over a borrowed phone; sharing insensitive text messages using another's phone, and; most prominently, playing the conman or con-woman with a shared mobile phone. To avoid such things occurring, lenders of mobile phones remained in close proximity to borrowers, so they would be able to eavesdrop on the conversation to check for any misdeeds.

This act of remaining close enough to borrowers to hear what goes on was also tied to larger societal expectations and disciplinary measures put across by Kenya's regulator, the Communication Commission of Kenya (CCK). Most of the interviewees stated that they feared what might happen if the individual borrowing their phone exchanged abuse or became mischievous, because they knew that the government regulator would be on their cases since each SIM was registered under a username.

In this study, persons aged forty-five years and above emphasised **trust** as an important consideration for sharing their mobile phones. Chukor, a father of two teenage boys, said the following:

> *'You see, inasmuch as I would want to help everybody, there are people who are very bad. Someone can ask to use your phone to call, text or even send M-Pesa, But when they do like that, they send abusive texts or quarrel with someone using your phone.'*

However, when the same participant was asked whether there are situations that trust was not a requirement, he said:

> *'Well, you cannot refuse someone to use your phone for emergency cases like sicknesses, invasions of the Pokots or even concerning the death of a loved one! When it comes to a matter of life and death, you do not need to be that cautious.'*

In this scenario, sharing is one of the cultural practices that do not consider emergency situations as a pre-requisite. Hezekia, 80 years old, however, applies caution, stating:

> *'These days there are many people who are corrupt and bad; they will lie to you and even steal the phone from you, especially for those of us that cannot read or write. So I must know you, know your character and behaviour, before I can allow you to use my phone.'*

Yet the same respondent showed a compromise of some sort in matters of emergency, saying: 'But when a child is sick or there is an invasion from the Pokots or an accident anyone can use my phone because that is a matter of life and death.' Similar sentiments were expressed by both male and female respondents in matters of health or emergency. In such situations, one was obliged to share, regardless of whether one knew the borrower, or whether or not they approved of the act of sharing. For some, this was the only case whereby sharing was done for free, with the borrower choosing to give a tokenistic contribution if they so wished. It appears that for situations affecting a

community adversely, everyone was expected to share freely. In the case of mundane matters, on the other hand, one had the prerogative to choose. Teens preferred to share with their peers, but are also open to lending to their parents and neighbours or strangers. The elderly, on the other hand, only shared with their grandchildren and wives, aside from the overall sharing which was need-based. The majority of the women interviewed used the mobile phone quite often through sharing, even though the majority of phone owners were men.

To reiterate, mobile phone sharing reveals certain things about participants' personalities. Farman takes this argument further, showing a link between spatial relationships and identification. He suggests that 'spatial relationships have always been determined in the way we understand ourselves ...' (Farman, 2012: 17). Mobile telephone sharing, in this case, does not only highlight the patterns of communities, but also the ways these practices reproduce themselves in different social settings. Mobile phone sharing, too, has a link to the way users of mobile telephony view themselves (see Goffman, 1959).

Mischief was also cited as one of the risks of mobile phone sharing, irrespective of the reason for sharing. Siaban, 48 years old, told of how, due to lack of electrification, he had to take his phone to the nearby corner shop for charging. He explained that, because of this, he had to fight hard to regain trust from his friend:

> *'I took my phone as usual for charging and paid. While my phone was still at the charging shop someone went and said that was his phone and needed to make a call and return it for charging. He was given the phone, after which he sent an abusive text. So when I went to finally take it back from the charger's shop, a friend of mine whose name I had saved called me and rained insults on me, asking me how could I. We had to call Saraficom [leading service operator] to verify what time it was texted and searched among ourselves until we found the culprit. It is very bad. You cannot be too safe with a mobile phone.'*

Mischief was further cited when it came to matters of security. Mathew, 58, narrated:

> *'Sometimes mobile phone can cause unnecessary worries, like one day someone send texts around that [a rival sub-tribe] Pokots were coming to attack us… and so people got so tensed up only for a second message to be sent out to friends to say it was a joke. I wish such people could be arrested.'*

Though mobile phone sharing is widely embraced and practised, numerous risks accompany it, and any excitement is equalled by concerns about it. This is typical of assemblage perspectives, which display complexities, because as wholes they are composed of heterogeneous components.

4.5 Chapter summary

This chapter has focused on mobile telephony at a micro-level through the analysis of co-presence. Co-presence is a vital introduction to the interrelationships or interactions that users forge and maintain with one another as well as with the technologies. Mobile phones not only facilitate face-to-face meetings but also reduce such meetings. As discussed in this analysis, co-presence does not only refer to face-to-face meetings, but also to remote contacts through mobile phones.

Gender and power relationships have also been discussed in the chapter. It was discovered that, though most women own mobile phones, the male folk take precedent, with women usually receiving used phones as 'gifts' after the males have bought better phones. The chapter also discussed the ways in which this evidences Foucault's conceptualisation of power as multi-directional.

Mobile phone sharing was also discussed at length. Sharing was shown to be partly altruistic, but also complex since trust has to determine the sharing, except where it concerns risks or emergency situations, such as sickness, invasion from some warring sub-tribes or landslides. The study found that mobile phone sharing is not only occasioned and characterised by economic factors but also family norms and literacy levels. Mobile phone sharing also causes tensions occasioned by the need to exclude (de-territorialise) or include (territorialise) some individuals and, as such, not everyone is an equal partner. In conclusion, then, mobile phones are very much at play at the micro level affecting everyday activities. Mobile telephony facilitates and sustains co-presence but also reduces the need for face-to-face meetings. The mobility capacity of mobile phones helps to bring people together, both physically and relationally, and also offers new ways of demarcating and managing boundaries of time and space (Ling, 2004).

In the next chapter, we turn our attention to two case studies, namely: Social gatherings, which are usually facilitated by mobile telephony's social networks and the traditional community's horn and M-PESA, the mobile money transfer in Marakwet, and how these two broad concepts help to develop our understanding of mobile telephony assemblages and maendeleo further.

CHAPTER FIVE

MAENDELEO & CASE STUDIES

5.0 *Case study 1: Social gatherings (Barazas)*

Social gatherings are critical to the community under study. These gatherings are formal in nature, bringing invited persons to a designated venue to discuss issues that concern them. The means through which such invitations are sent out varies from verbal (word of mouth), sending signals by blowing the community horn or texting short messages to members, who then tell other members of the group. This triangulation of methods is to make sure that none of the intended group members misses out on the crucial meeting in a designated physical place. Most of the developmental meetings are facilitated under a tree or in the market place, termed '*baraza'*, a Swahili word for gathering [for a purpose, such as deliberations and/or dissemination of information, settling family disputes, clan conflicts and sharing notices of crucial events in the near future]. This section will examine the significance of social gatherings and the role of mobile telephony in influencing such meetings and, finally, explore how such gatherings foster maendeleo.

The community horn in Marakwet

Research participant blowing the horn (Ethnographic interview, 2012)

Before the advent of mobile telephony in Marakwet, the community used the horn to call for barazas. The clan leaders would then meet up at designated place(s) and discuss issues affecting the community. Such issues ranged from cattle rustling, crop pest infestations, settling family disputes and mitigating inter-clan conflicts, among others.

A decade after the advent of mobile telephony in Marakwet, the community still prides itself in the use of traditional horn, besides mobile telephones. One of the reasons given for the persistent use of what would otherwise be termed as the traditional communication model over modern technology, such as mobile telephony, was the strong advantage it has for all that can hear. It is claimed that once the horn is blown, everyone can hear its sound, regardless of how far they are in the escarpment. Yet, those who may not hear the sound, for whatever reason, will still be told by word of mouth by those who heard it and knew its interpretation. It is also claimed that every message

has a unique sound, such that one that is calling for an emergency escape from the valley due to the invasion by the neighbouring community, would be distinct from the one that is calling members to converge to discuss the apparent infestations of pests on crops. Similarly, the above two sounds are distinct from one that is alerting people about the arrival of new planting season so they can plant crops or announcing the coming of a prominent individual to the village.

One would assume that with the advent of mobile telephony which is easy to use and quite handy and mobile, the community would quickly relegate the horn to the background in favour of mobile telephony that has both individual and group benefits. This study, on the contrary, has established that the traditional community horn is still a preserve and used today as a mark of part of Marakwet's cultural identity and heritage. The community still uses their community horn (shown above) alongside mobile telephony to relay relevant information on when, where and what to deliberate on in the next baraza, usually done by the furrows site, under a tree or specific market days. Mobile phone and community horn, therefore, are essential requirements and devices for social gatherings in Marakwet.

Nature of social gatherings (Barazas)

All Barazas are summoned by clan leaders, who appoint an individual that then goes up the hill and blows the horn, usually at dusk, to prepare the people for next day's meeting by the furrows site or an alternative meeting place. Once the sound is heard, those with mobile telephones will text each other making sure that everyone required to attend the baraza is fully informed. Word of mouth is equally used for those who have no access to mobile telephony and who, for some reason, were not at home when the horn was blown. Young people would be assigned to particular households to pass the information around. Once this is done and the meeting kicks off, the members begin to discuss the purpose of their assembling. Such meeting is usually an assemblage of people, things and ideas and practices, all forming a social assemblage. Leaders take turns to discuss the subject matter and the topics of discussion would range from matters of insecurity (cattle rustling), initiation ceremonies (young person's being circumcised as a rite of passage) and developmental matters (better farming practices, tackling pest infestations, addressing the threats of an imminent famine or lack of food), among other community related issues.

There is a change in the way social gatherings are now conducted in this age of mobile telephony. Unlike the past when people would, upon hearing the sound of the horn, gather physically to discuss, now there is an emerging pattern of pre-meeting modalities that include texting and sending word of mouth. Once people converged, other modalities ensue, including: having mobile telephones as "additional" or extra members of the community or converging members. A phone call coming through during these community discussions can be seen as disruptive if it has nothing to do with the discussions at hand. Yet, such a call can be allowed just in case the caller is calling as an emergency situation to report the sickness of a family member or if it is a call from a far country in different time zone. All the same, members are encouraged to put their mobile phones on silent mode. Members who are bored can decide to be mischievous and claim that a call of high importance has come, in which case they will excuse themselves from the group for a while. One participant had this to say:

> *'In as much as we encourage people to put their phones on silent mode, they don't usually do so because of the nature of this place. There could be the danger of cattle rustling any time, so we are always prepared for anything. In fact, mobile phones are brought along for emergency sake'* (Murkomen, 54 year-old clan leader).

Another participant added a quick rejoinder, stating:

> *'Like some of us [meaning him], we are community leaders, but also in charge of the campaign against female genital mutilation; we could be called at any time to go and rescue one of the girls. So I leave mine [pointing to his mobile phone] on always 24/7'* (Mwalimu, 49 year-old anti- FGM campaigner).

Barazas are no longer a meeting of people within a physical place only, but also allow for the presence of mobile phone as added member(s) of the group, therefore, making baraza a hybrid of places (physical and virtual). Texts coming in at will are usually from persons who are not physically present, with the exception of some who want to share some short notes, for instance, discussion points, with the literate members of the group.

Although the sounding of a horn is public, not everybody is invited to the so-called barazas. Only a select few, usually clan leaders or community leaders who are largely male attend such meetings. Therefore, barazas just like any social assemblage

territorialises and de-territorialise, only to re-territorialise again. For instance, if a matter concerns women cohort they could invite a women's leader to the meeting just for the section of discussion that affects her and her female cohort. The meeting quickly territorialises when her slot is finished and she is asked to step aside for the men to discuss matters that concern the community. This gives rise to what Ito and Okabe (2005) have termed 'techno-social situations', whereby users assemble social situations as a hybrid of virtual and physically co-present relations and encounters. Social gatherings are both a location and a relationship, for example, political meetings organised via mobile phones.

The use of mobile telephony as a catalyst for discussions on development, show how vast social interactions are embedded in socio-economic and cultural lives of Marakwet people. Through an understanding of the tools of assemblage theory, such as the processes of territorialisation and de-territorialisation, one gets to understand why certain relationships hold and why others do not (DeLanda, 2006). It also explains why individuals in assemblages cannot be treated as generalities, as each individual carries their own tastes, preferences and priorities depending on the nature of the social interactions at hand. Social gatherings are one way of showing that development is, indeed, neither people nor technology driven, but an interplay of the two constantly working within their respective contexts, social groups, etc.

Barazas help to map different linkages of mobile phones, in a socio-economic and cultural sense. They create an avenue for people to tell their own narratives about their choice of mobile phone use in their everyday living. Once the baraza kicks off, it is not rigid in its identity, as seen already in the manner in which mobile phones are left turned on just in case an incoming call changed the dynamics of the meeting. For instance, a text or call announcing the invasion of cattle rustling would definitely change the focus of the meeting from general development issues to specific security threats. Relations of exteriority is at play, especially when an area legislator uses her phone to call her personal assistant who then connects his phone to the speaker during an ongoing baraza to discuss matters of politics and listen to the grievances of her constituents. In this case, mobile phone serves to both territorialise and de-territorialise. The ability of the personal assistant to use his/her phone connected to the public address system or loud speaker defines the limit of capacities that mobile phone permit.

Barazas do not look at development as or in terms of projects, but rather as maendeleo that affects every area of life encompassing matters that range from health conditions to crop failure, insecurity, conflicts, disputes, among others. Power play is not a top bottom or bottom up affair, as seen in the era of impact studies, but rather as circulating. For example, an incoming call or text is given some allowance, for though the meetings are structured, there is room for flexibility, as seen earlier in the legislator's incoming calls.

The application of assemblage theory tools, such as processes of territorialisation and de-territorialisation, expressive and material roles, relations of exteriority and the space of capacities facilitated by the emerging user patterns during the social gatherings, help to show that, indeed, development is not given, but rather dynamic. It has no single narrative and, even though it happens in one place, it is not only a relative term but also context sensitive, all of which Maendeleo is and embodies.

5.1 *Case study 2: The M-PESA phenomenon*

M-PESA was developed by the mobile phone operator, Vodafone, and launched commercially by its Kenyan affiliate, Safaricom, in March 2007. M-PESA ("M" for mobile and "PESA" for money in Swahili) is an electronic payment and store of value system that is accessible through mobile phones (Mas and Radcliffe, 2010). To access the service, customers must first register at an authorised M-PESA retail outlet. The process is free and only requires the customer's name, government ID number, date of birth, occupation and mobile phone number (Mas and Radcliffe, 2010). If the customer has an older SIM card, it is swapped for one that supports M-PESA, but their phone number remains the same.

The customer chooses a secret PIN and is then assigned an individual electronic money account that is linked to their phone number and accessible through a SIM card-resident application on the mobile phone. Customers can deposit and withdraw cash to/from their accounts by exchanging cash for electronic value at a network of retail stores (often referred to as agents). Once customers have money in their accounts, they can

use their phones to transfer funds to other M-PESA users and even to non-registered users, pay bills, and purchase mobile airtime credit or save the money for future use, hence using their mobile phones as banks. The user has a personal identification number (usually 4 digits) that is a secret code to access an M-PESA account and transact business. This makes M-PESA considerably 'safe' since only the owner of the mobile phone or one with a registered M-PESA line can access own money unless, of course, they reveal the secret code to another. A loss of a mobile phone or subscriber identification module (SIM) card does not affect the money saved on M-PESA accounts.

5.2 Historical context of money transfer

Prior to the operations of M-PESA in Kenya, money transfers were done by sending money informally, for example, sending a driver or conductor of a vehicle plying the route where the recipients(s) reside. Sending cash through friends, relatives and neighbours or the post office was also another option. These informal systems of money transfers were prone to theft and high way robberies (Hughes and Lonie, 2009; Kim et al., 2010). Sometimes, money sent through friends and relatives took a while before it reached its intended destination and, in most cases, it used for unintended purposes, while that which was sent through the post office by being enclosed in a letter sometimes failed to make it to its destination (Sanders, 2003). These sentiments were echoed in the current study by participants narrating personal experiences of how they lost money sent to them, or information reached them later than expected, hence failing to satisfy the purpose. For instance, one participant narrates his ordeal as follows:

> *'I will not forget how I lost Kshs 2000 in 1998. My cousin who resides in Seum [a village in another county] sent me this cash for paying people to till our land. He gave the said amount to the driver of the only vehicle plying this route… then, unfortunately, the driver denied knowledge of receiving the amount and when confronted he changed routes and left this place. That is why I am happy for M-PESA – no one can con me of my money now'* (Kichway, 49 years old, ethnographic interview data, 2012).

M-PESA service is touted as being cost effective, and many can afford it, even the poor in the community. It is assumed that the money paid for transfer of mobile money is much lower than the cost of sending the same amount through financial institutions like the banks. One of the added advantages of M-PESA is the mobility of virtual money

and also the fact that one can make withdrawals whenever and wherever for as long as they have access to an agent and possess some form of identification, in most cases their national identity card number.

Below is a table showing the estimated cost for sending and receiving money through M-PESA. Customer registration and deposits are free. Some fee is charged varying on the amount to be withdrawn (see table below).

Table 2: M-PESA Tariffs:

Transaction Range (Ksh)		Transaction Type and Customer Charge (Ksh)		
Min	**Max**	**Transfer to other M-PESA Users**	**Transfer to Unregistered Users**	**Withdrawal from M-PESA Agent**
10	49	3	N/A	N/A
50	100	5	N/A	10
101	500	27	66	27
501	1,000	33	66	27
1,001	1,500	33	66	27
1,501	2,500	33	66	27
2,501	3,500	33	88	49
3,501	5,000	33	105	66
5,001	7,500	55	143	82
7,501	10,000	55	171	110
10,001	15,000	55	220	159

15,001	20,000	55	237	176
20,001	25,000	82	275	187
25,001	30,000	82	275	187
30,001	35,000	82	275	187
35,001	40,000	82	N/A	275
40,001	45,000	82	N/A	275
45,001	50,000	110	N/A	275
50,001	70,000	110	N/A	330

(Accessed at http://www.safaricom.co.ke/personal.m-pesa 15/02/14).

Customers are not paid interest on the balance of the M-PESA accounts; instead, the forgone interest is paid to a not-for- profit fund controlled by Safaricom, the purpose for which has not been decided yet (Mas and Radcliffe, 2010).

5.3 Empirical studies of mobile money

Mobile money is not a new phenomenon and has been developed in other developing countries as well. For instance, in the Phillipines, the Globe Telecom operates a GCASH and in South Africa, WIZZIT facilitates mobile phone transactions through the formal banking system (Ivatury and Pickens, 2006). Similarly, mobile banking technologies have developed in Sudan and Ghana and in a number of countries in Latin America and the Middle East (Mas, 2009).

Some studies examined the impact of mobile phones, focusing more on small business enterprises where mobile money banking is seen as the key mover in business transactions. These studies include: the impact of mobile telephony on small business entrepreneurs in Kenya (Wachira, 2003), in Tanzania (Molony, 2009), and in Mozambique (Archambault, 2010).

A large number of qualitative empirical studies provide insights into the characteristics, patterns and potential impact of M-PESA, widely recognised as one of the most successful mobile money transfers in Africa and the globe. For example, Marowsczynski and Pickens (2009) found that M-PESA users often keep a balance in their accounts, therefore using the service as a fundamental bank account. Jack and Suri (2009) observe that the nature of M-PESA use could allow users to set up their personal savings accounts, because friends and, even, relatives would not be able to know the timing or the amount of money stored in these accounts. Additionally, members who are registered users of M-PESA can also pull their monies together and converge them in a group M-PESA account, for various purposes. For instance, in the current study, members of social groups, such as Chesawach traditional dancers, would send their little earnings to a group M-PESA account, after which they use it to facilitate their travel whenever a respected member of society, such as the president, area legislator or senator, comes to visit the place (See below, a section of Chesewach traditional dancers displaying their regalia)

A section of Chesewach traditional dancers (Ethnographic interview data, 2011)

In all these studies, the researchers observed that the livelihoods of the people had improved at a micro level with the adoption and use of mobile telephony in their everyday small businesses. However, the adoption and use of mobile telephony for small business enterprise is not in itself sufficient to warrant the cause and effect relationship that seems to emerge from these studies. The use of mobile money

application is complex in nature, involving the making of decisions prior to use, during use and even thereafter. For instance, the availability of mobile money opportunity makes doing business easier, in terms of sending and receiving cash intended for business, though it could also be a source of anxiety should someone send huge sums of money to the wrong recipients. Attempts to recover that money only makes sense if the matter is reported soon enough to avoid losing such sums of money, but a slight delay could mean a loss of business money. This is, therefore, one of the drawbacks of mobile money transfers, recognised and reported worldwide. To do this without looking at various drawbacks is purely simplistic and somewhat taking a technological deterministic view, which in itself has been described as linear in nature and as a tangent to socio-economic development.

An article in the *Times* newspaper of Britain was captioned as follows: *'Poorest farmers can feed the world with a $5 mobile* phone.' This headline was a culmination of reports compiled by Vodafone, Accenture and Oxfam. In the article, the writer argues that with sufficient utilisation of the mobile phone for agricultural purposes the world's poorest could solve the impending food crisis by giving vital information directly to farmers in emerging markets in Asia and sub-Saharan Africa. The reports also affirmed the urgency for food security, stating that 'up to two billion people are dependent on smallholder agriculture' and it is in the utilisation of mobile phone for agricultural purposes that this problem will be tackled. The practicality of how exactly mobile telephony would translate to food security in Sub-Saharan Africa was not articulated in the reports.

The reports cited mobile commerce (m-commerce) as the driving force of agricultural uptake, especially in Africa and India where the lack of high street banking services has meant that a majority of people have never held bank accounts. However, this is debatable and warrants empirical studies. In the current study, for instance, a majority of those who used mobile money provision, be they their own phones or shared, admitted that hardly do they send money for saving purposes. Kigen (39) and Chekieny (68) said that their M-PESA money is really for the purpose of purchasing talk time and send same to their relations in case of emergencies like sicknesses or someone needing urgent cash. Upon further probing, the two participants were found to have bank accounts. Another respondent, in a quick counter statement, stated as follows: *'As for*

me I don't have that much money to live on let alone to save, so I use my M-PESA account really to receive cash from my children, who don't make much too. So I hardly save' (Kiatu, ethnographic data, 2012).

Recently, many governments in developing economies and agencies are making concerted efforts to extend telecommunications services, especially mobile telephony, to rural areas as an intention to: (a) alleviate poverty (b) encourage economic growth, and (c) overcome or, at least reduce, the digital divide. One of the significant drivers of this is mobile money. It is argued that across the developing world, more people have mobile handsets than bank accounts (Porteous, 2006).

While rigorous empirical studies are scant on the impacts of mobile telephony in most developing countries, there is an increasing evidence of the effects of mobile phones on market prices as well as consumer prices at micro-level in low-income countries. For example, in Indian fish markets, Jensen (2007) found that the expansion of mobile phones in the Kerala region had contributed to dispersed market prices and reduction of wastes. The results of the study also suggest an improvement of well-being among fishermen and consumers, with fishermen's profits increasing by 8% and consumer prices falling by 4%.

Some scholars have also investigated the impact of mobile telephony on farmers' market participation. Uganda's banana farming is one such study. According to Muto and Yamano (2009), mobile phone coverage was associated with an increase in the probability of market participation for banana farmers. In South Africa, the impact of mobile phone coverage on labour force showed an increase in employment opportunities by 15%, with the increase attributed to more women being employed (Klonner and Nolan, 2009).

These studies focused on the impact of mobile coverage at a micro level with every result indicating a positive story. However, such 'improvements' cannot be attributed solely to mobile phone penetration rates. It is the contention of this thesis that several other underlying factors play a role, for instance, market dynamics, the ability of farmers to afford and use mobile telephony for agriculture or micro-enterprising with their produce, the literacy levels of farmers, and political goodwill, among others. The

contributing factors are heterogeneous and, to attribute 'success' of market participation, be it in market prices or consumer prices reduction, is to assume a technological determinist position that is linear and ignores other critical factors. The effects of mobile telephony cannot be equal, since each context adopts and maximises the use of mobile telephony, according to their levels of needs.

5.4 Mobile phone banking (m-banking and m-commerce)

Mobile banking has grown so rapidly, taking on different names like "transformational m-payments", "leap from cash world to cellular banking" (*The Economist*, 2006); "m-commerce", "close the digital divide" (Dholakia and Ksheti 2004) and "empowerment device" (Maurer 2008). The narrative of mobile telephones in Africa is one of a tectonic and unexpected change in communications technology. From being virtually unconnected in the 1990's, over 60 percent of Africans now have mobile phone coverage, and there are now over ten times as many mobile phones as landline phones in use (Aker and Mbiti, 2010). Even more fascinating is the growth of M-Pesa. Within eight months of its inception in March, 2007, over 1.1 million Kenyans had registered to use the facility, and over US$87 million has been transferred over the system (Safaricom, 2007). By September, 2009, over 8.5 million Kenyans had registered to use the service and US$3.7 billion (equivalent to 10 percent of Kenya's GDP) has been transferred over the system since inception (Safaricom, 2009).

In Kenya, small business entrepreneurs use the M-Pesa service to send money and use the mobile phone to send and receive information on the market prices of goods (Wachira, 2003), while in Sudan, mobile telephony has been cited to have brought improvements in information flows between the buyers and sellers as well as reducing travel time (Erickson, 2010). A study on the cloth weaving sector in Nigeria affirms ways in which costs and risks are being reduced and time saved, often by substitution of journey, while also highlighting the continuing need for physical meetings due to issues of trust, design intensity, physical inspection and exchange and interaction complexity (Jagun et al., 2008).This is critical as far as the perception of and use of mobile phone by various people and contexts are concerned.

In Tanzania, the M-PESA service has been stretched to include helping with the treatment for the debilitating condition of obstetric fistula (Neate, 2011). A local non-

governmental organisation (the Comprehensive Community-Based Rehabilitation in Tanzania – CCBRT) in partnership with Vodafone uses M-PESA services to aid women who are victims of the condition. As a partnership they appoint 'ambassadors' who locate the victims and once they are located, they would then call the CCBRT who would then use M-PESA or send bus fare to the ambassador to enable the victim to be brought for surgery. Once the victim makes it to the hospital the 'ambassador is paid $3 for their services. Writing in *The Guardian* newspaper, Neate reiterates how further the m-banking has spread in Tanzania to the extent that church congregations use their phones to make donations, rather than placing money in collection plates (Neate, 2011).

Recently, in Kenya, a service was introduced to enable parents receive national leaving certificate results of their children who have completed secondary and primary education and also for the constituents to monitor the flow of money from the exchequer, dubbed "constituency development fund" (CDF) and designed for constituency development. With their phones, they can text a message to the customer service of the district headquarters asking to be told the amount remitted to their constituency and for what developmental project. This subject is yet to be studied and documented. This chapter, however, focuses on the M-PESA phenomenon as an assemblage, and also attempts to examine the debate around M-PESA as a transformative model, its links to development (Maendeleo) with special inclination to the rural populace.

5.5 M-PESA as an assemblage

M-PESA can be approached from an assemblage theory perspective, which encourages the consideration of micro (individual), macro (societal) and intermediate level inclusion, rather than see them as separate (DeLanda, 2006). M-PESA contributes to the ongoing debate on the relationship between technology and society (Maurer, 2011). In order to understand the interplay of technology and society, there is a need to go past these micro or macro levels to the actual interplay or interaction that goes on as humans interact with technology. Some of the necessary tools of assemblage theory, include: roles that components parts play in an assemblage, some of which are material (concrete) and others expressive (virtual); the processes in which an assemblage identity is shaped by the nature of the boundaries created by the ongoing interaction of

parts and wholes and resulting in territorialisation (stable), de-territorialisation (unstable) and, in some cases, further re-territorialisation due to the nature of constant dynamic interactions. The other tools are relations of exteriority versus relations of interiority and, finally, the emergence theory which posits that as components interact they exhibit properties that give rise to space of possibilities, the idea that certain tendencies can be manifested and capacities exercised as components interact bringing to the fore what could otherwise be hidden (DeLanda, 2011). Assemblage theory helps to navigate this rather complex interrelationship between humans and their mobile telephony. The thesis now examines each of these.

5.6 Roles of M-PESA as an assemblage

DeLanda (2006) explains that the concept of assemblage is defined along two axes. On one end, there is the purely material role, while, on the other, is a purely expressive role. Yet, these roles may occur in mixtures existing, so that components that are heterogeneous in nature may play both expressive and material roles by exercising their capacities.

As a social assemblage, M-PESA has at its material role human beings oriented to each other face-to-face and also the mobile money transfer model itself; and on the expressive role, is the human capacity to manipulate or use the model fully. Mobile phones and services have in the past been regarded as appropriate technologies for developing countries (Harvey and Sturgess, 2010) due to low cost, ease of use and flexible subscription plans (Andjelkovic, 2010). This makes M-PESA particularly skewed to bridging digital divide, which Van Dijk and Hacker (2005) have noted as occurring in four stages – psychological, material, skills and usage.

Psychological barriers to adoption of M-PESA would include the apathy or the fear of technology and issues relating to trust. However, these barriers become insignificant due to the existing goodwill towards Safaricom, which is already a trusted brand with rigorous agent training and regular auditing (Mas and Radcliffe, 2010). The use of immediate transaction confirmation via short message service (SMS) as well as paper and digital bookkeeping (Mas and Morawczynski, 2009) helps to maintain trust. M-PESA is perceived as the safest, cheapest and quickest way to send and receive money for diverse reasons or purposes.

M-PESA comes as a free SIM card encrypted and compatible with most basic phones that are accessible to many individuals, especially those living in rural areas. This compatibility with basic phones and free SIM makes M-PESA able to overcome the material divide (Hughes and Lonie, 2007). In addition, the registration of new M-PESA users is free and simple (Haas, Plyler and Nagarajan, 2010), not requiring a minimum balance (Mas and Radcliffe, 2010) and also allowing users to send money to non-users who could redeem it for cash at an agent shop (Mas and Ng'weno, 2010). The skill challenge seems to be addressed by the SMS response or confirmation text sent when the mobile money transfer is successful. For instance, in the current study Cheruiyot, 53, an illiterate research participant, explains how he has managed to counter the challenge of illiteracy. He explicates as follows:

> *'You see me , I don't know how to read or write but when an SMS comes from my son, I will ask one of these children to read for me, but then my son also will call to say how much he has sent. So, you see, no one can cheat me of my money.'*

According to Michael Joseph, Vodafone's director of Mobile Money globally, the parent company from which Kenya's Safaricom originated:, 'M-PESA is the game changer in mobile money banking/transfer' (Personal interview, 2012). He further explains the success of M-PESA across the region as having been birthed to meet Kenya's significant existing need, that of sending money home by those working in urban settings. This is so because many migrants maintain strong ties with their rural folk through remitting money back home to meet certain needs, such as: pay farm workers their wages, pay school fees for siblings and children studying in rural schools and tertiary institutions, and make financial contributions to social institutions like churches, community organisations and the like,

Mobile phone sharing makes M-PESA popular among many people, because one does not need to be registered or own a mobile phone if they choose not to or if they cannot afford. All they need do is use their social networks to their advantage and give out their neighbours' phone numbers to their sons and daughters who will then send them money through the neighbours' phone numbers, since they are registered M-PESA users. Ezekiel (87), Selina (48) and Timon (21) shared their experiences on how they receive money from friends and relatives, even though they do not own mobile phones. Their

testimonies suggest that the process was similar. Whatever the roles M-PESA performs to users is not a guaranteed Maendeleo, as having to be registered or being allowed to use another's phone to receive money or store money does not in itself translate to development/ maendeleo. For instance, those who own mobile phones and subsequently have M-PESA accounts that they let out are viewed occasionally by those who don't as powerful and affluent. In a sense, this may be the case, but it is also a display of power and gender relations that sometimes reinforce gender roles and supplant them, in some situations. To assume that M-PESA has brought Maendeleo is too simplistic and, as per the assemblage theory, there are factors that are heterogeneous and constantly interacting with the players that cannot be linear in explanations. M-PESA as a modern model is not in itself Maendeleo, but it is, without doubt, a mark of maendeleo.

5.7 Processes of M-PESA as an assemblage

The ability to transfer money instantly, securely and inexpensively leads to enormous changes in the organisation of economic activities, family relations and risk management and mitigation, among other things. In a sense, this has enhanced social networks, making it more solid (stable/territorialised) and, in another sense, almost disintegrating (unstable/De- territorialised) it, hence the irony of mobile phone use. A decade ago, family members in different parts of Kenya had a very limited scope of communicating with relatives in distant parts of the country, and they faced even greater difficulties in sending or receiving remittances. But nowadays, in many cases, appeals for assistance and the availability of resources can be communicated and money can be transferred almost instantaneously.

M-PESA has within it the capacity to include or exclude, allow or disallow persons from accessing and using it. This happens, especially in cases of shared mobile phone. As already stated in this analysis, registered M-PESA user may allow his or her phone to be used by relatives, neighbours or friends to receive or send money based on certain social factors such as the interpersonal relationships. DeLanda (2006) calls these processes of allowing persons that are tightly linked as (territorialisation) and that of disallowing or excluding others for any reason (de-territorialisation).

In Marakwet, M-PESA account is shared among close relatives, friends or trusted neighbours. Whereas anyone could be allowed to call or receive a call, M-PESA was slightly different because as one respondent puts it: *'This is money matters!'* (Kamau, 39). There is thus a need to double-check that the person sending the money through another's phone also sends cash to withdraw. Again, as already stated, M-PESA is territorialising, de-territorialising and, sometimes, re-territorialising based on transactions and persons involved.

5.8 M-PESA and possibility space

According to DeLanda (2011), every assemblage must be treated as a unique historical entity characterised by: (a) actual emergent properties that make it an individual singularity as well as (b) the structure of possibility spaces defining its tendencies and capacities thus defined by universal singularities (p.188). DeLanda proceeds to distinguish between properties and capacities using a kitchen knife analogy, stating that a kitchen knife may be sharp or not sharp. In this analogy, sharpness is the kitchen knife's property, while the shape of the knife is an emerging property because the metallic atoms must be arranged in a certain way to achieve the shape, either triangular or otherwise. The knife equally has the capacity to cut things, but this is dependent on things that can be cut, which produces a duality of cutting or be cut. Similarly, emergent properties and tendencies can be distinguished using the same kitchen knife analogy. The knife has a property of solidity, yet under intense ranges of temperatures it can melt and even get gaseous under extreme high temperatures. This ability to liquefy or turn gaseous is a kitchen knife's tendencies. Tendencies and capacities do not need to be actual to be real, however, tendencies are finite, while capacities are infinite. But for capacities to affect, they need to be finite, for instance, for a knife to cut there must be cuttable things, so the capacity to affect is dependent on the capacities to be affected.

The space of possibilities is defined by the entity's (assemblage) tendencies and capacities and it explains how tendencies and capacities can be real even when they are not actual. The events in which tendencies are manifested and capacities exercised are dual in nature, affecting, on one hand, and being affected, on the other. One factor that is likely to affect the capacities of an assemblage, such as mobile telephony, is mobility. Mobility increases the capacity for it to affect and be affected by other components and

the more deterritorialised a mobile assemblage is the more it is transformed. A mobile assemblage is more likely to encounter novel situations than an immobile one.

Similarly, M-PESA as an assemblage has the capacity to include and exclude. It is dependent on an individual to decide whether to allow or disallow his or her M-PESA account to be used by household members and others. Some pre-requisites for the use of an M-PESA by others, besides the owner, include: good interpersonal relationships among users, the lack of or fewer mobile phones available within a context and the literacy levels of some users.

M-PESA has the tendency to bring about anxiety and loss. For instance, M-PESA does not have user deposit security per se, such that if one deposited money in their M-PESA account and wishes to send it across to another, a simple mistake of wrong number would mean that the cash has been lost and the process to recover it takes long, should the wrong addressee decide to withdraw the cash and disappear or even discard his or her SIM, which perhaps was not registered with the company in the first place. There is thus no guarantee that cash misdirected can be recovered and this breeds fear, anxiety and uncertainties among users of this otherwise safe software service.

In summary, to discuss M-PESA as part of a social economic assemblage means to go past the narrow M-PESA software and user to include government policies, financial institutions and how they have stretched their services through M-PESA platform to encourage people to not only open bank accounts but also to remit their savings to banks using their M-PESA accounts, hence bypassing the long queues of customers in many banks. As an assemblage, M-PESA also includes several users irrespective of their gender, existing social structures that prescribe social norms and mores such as honesty, respect for others' hard earned monies and also other services that are needed to make sure M-PESA rollout possible. A good example of this is to ensure that mobile phones are charged, else having money in one's M-PESA account without that individual's phone or in the case of a shared phone not having enough charge, will mean no access to the said monies irrespective of the urgency to withdraw them. Some of these charging operators, include the corner shops who have battery charging services due to the lack of rural electrification or because of under-developed and under-exploited rural electrification platforms (see below)

A corner shop where phones are brought for charging at a fee (Ethnographic interview data, 2011)

5.9 M-PESA: A transformative model?

The uptake and use of M-PESA as a bridge between rural non-banking or less-banked folk and the banking urban centres has been described or perceived as transformative. M-PESA lets people make small to bigger financial transactions using SMS technology without having to create bank accounts or having to physically carry cash. As a result, those who were previously excluded from formal financial activities (i.e. saving money, sending money, etc.) that could be made available through operating a bank account can now actively participate in the financial industry. On this premise, M-PESA has been praised as one of the most successful business models in developing countries, as it is believed to have significantly contributed to poverty relief, job creation and sustainable development in Kenya, for example. But is this the case across Kenya? Is M-PESA the magic bullet needed for development to occur and be sustained in Kenya? Does it exist in itself or is it a part of ingredients forming the great development story? Does M-PESA foster socio-economic and cultural inclusion, hence development? These questions will be handled in the sub-sections that follow.

Among the changes researchers have noted are changes in the nature, pattern and impact of remittances. Morawcyznski and Pickens (2009) observe that M-PESA users sent

smaller but more frequent remittances, which resulted in larger remittances being made to rural areas. They also observe that urban migrants using M-PESA visited their rural homes less frequently, potentially weakening the social ties between them and their home communities. However, this claim has been disputed in this study, as the responses and experiences several participants suggest. For instance, Siaban, 54, a civil servant and polygamist married to three wives, all living in different locations within the district, states that since the advent of mobile phone he gets to talk daily to his wives and children scattered across the valley, hence strengthening the family unit. He perceives having cash readily on M-PESA as enabling him to purchase air-time to talk to his family members in the rural areas. Below is his testimony:

> *'This is really good because I even get to talk to my shamba boys (farm workers) using the same phone unlike those days without the phone. I would have to go home literally and that would mean not accomplishing much. With around kshs 300 I get to talk to everyone, even my kids know papa will call to find out about their homework. So I find that I am much closer to my family now.'*

Researchers have also noted the potential or capacity of M-PESA to affect savings. Morawcyznski and Pickens (2009) observe that users often keep a balance on their M-PESA accounts, thereby using the system as a rudimentary bank account, despite the fact that the system does not provide interest. In addition, Vaughn (2007) notes that some individuals stored money in M-PESA due to safety considerations, especially when travelling across the country. Plyler et al. (2010) argue that M-PESA has enabled small businesses to expand and grow and also increased the circulation of money in those communities**.** Findings from the above researchers represent M-PESA as a safe haven for many, especially in regard to money saved, since one has to have a PIN to access it. However, the current study suggests that M-PESA causes worries, too, especially if someone mistakenly sends money to the wrong person, which may take a long time to be tracked. Even, there is no guarantee that money sent to the wrong person will be reverted to the original intended recipient. One participant narrated her experience of how she lost some cash for including a wrong digit in the recipient's number.

> *'I am more cautious now when sending money, after my experience three months ago. I sent money to a wrong person… it was kshs, 10,000. I did not realise at first that I had sent it to a wrong person and after a while I called the*

> *person I was sending it to only for him to say he had not received money. When tracked by Safaricom, it was established that the mistaken destination had already withdrawn the money and could not be reached. Whenever I call customer service I am promised that investigations are being carried out… to date my money is completely lost.'* (Cherotich, 42 years old, ethnographic interview data, 2011).

Also, M-PESA has the property of savings that is dependent on individuals' capacities to make money and save for future use thus affecting economic activity directly by increasing access to funds and indirectly by increasing savings and banking rates. Plyler et al. (2010) argue that M-PESA has promoted the growth rates of small-scale firms in the communities they studied, and that this was largely driven by the increased circulation of money in these communities.

M-PESA has the potential and capacity to influence several groups of the community towards empowerment. For instance women in this ethnographic study felt that the fact that they have access to mobile phones and can use M-PESA function they were liberated from their husbands control of monitoring who calls them for how long, what time and most importantly denying them access to money send by either their sons and daughters working in the urban cities. Several women in the women cohort shared this view and emphasised that with M-PESA they can save towards the household affairs and even towards development projects such as rice farming, mangoes and green gram business that seem to thrive in the area. The explanation by Chepkieny says it all:

> *'M-PESA has made us women able to have some control in our hands. Imagine my husband used to be sent cash by our son working in Nairobi [capital city of Kenya]; he would use the money for drinking the local brew and if I ask him for money for food his excuse will always be we don't have money. Even when I confronted him over the said money sent by our son, he would say I had no business over the money that was sent to him. It was then that I discovered I can open an M-PESA account secretly and now I get money sent to me by our son, but my husband has no idea. I have developed our home a lot. I bought the green grams seedlings, paid school fess for our smaller children. Now I have another problem; he thinks someone is giving me money, like suspecting me. Well, it is his problem.'*

Another participant reiterated the issue of empowerment thus:

> *'Well, as for me, he knows I do get cash from our children; but he demands to control it, that I should withdraw and give it to him to then decide how to use it. Initially, I used to bring the cash, but then as I talked to my fellow women, I realised they too have decided to be clever; so I withdraw money sent me but give him only some of it. So he thinks I am really submissive but am clever, I have saved money in my account number and he cannot access it. I keep changing my PIN number* (Chepchumba, 53 years old, ethnographic interview data, 2011).

The above quote by Chepchumba shows that M-PESA is a double-edged sword, such that it liberates her to be able to get cash without her husband's knowledge, meaning she can have control over the funds. Yet, at the same time, M-PESA has the tendencies to be used for mischief, too, and on other occasions it curtails the liberty, since Chepchumba has to be extra vigilant to make sure that her husband never gets to know, otherwise she could be in untold trouble.

Money stored or transferred through M-PESA can be used for numerous purposes, such as: to purchase agricultural farm tools and seedlings, purchase goods for small retails shops, and emergency situations like abrupt illness, payment of hospital bills and making religious remittances, purchase food stuff and talk time, and so on. The ability of M-PESA to allow for deposit and withdrawals makes it a versatile tool, so that when used can result in development or underdevelopment, as a dual event.

M-PESA and micro/macro level discourse

M-PESA penetration has reached greater heights, sending fright to many banks, which necessitated the introduction of a link between mobile phone operators, users and banks.

Poster showing link between local bank KCB and an M-PESA agents network (Ethnographic data 2011)

Users with bank accounts are persuaded to remit or deposit money to their bank account using a link from the bank. In other words, M-PESA can link actors, institutions and the processes that occur between micro and macro agencies. As a means to control crime and criminal activities, the government of Kenya required that all mobile phone users be registered and, at the same breath, one of Kenya's service providers, Safaricom also went to register all of its M-PESA account holders, which now serves as a means of detecting fraudulent and criminal activities. Though the Safaricom own the data base yet should there be an investigation, such data is requested by the government and therefore the surveillance if you like is alive to some extent.

M-PESA has the capacity to alleviate poverty only if service users channel the monies towards the second kind of development that allows them to interact with several aspects of development and maintain enough flexible in their activities, The second kind of development appreciates the fact that society has for a long time been clustered into the micro and macro levels. Again, with the help of assemblage theory, M-PESA can bridge the gap, and also demonstrate that it is not an isolated venture, but rather one

that connects the service provider, user(s) and the state or government responsibility of ensuring that safety and criminal acts are addressed by monitoring user behaviour and service use.

M-PESA illustrates that maendeleo is multi-directional, targeted, flexible and, most importantly, complex. How money transfers happen is not unitary. Some individuals use the monies just to facilitate travel; others use it to avoid travel or skip it; some use it as a control mechanism; yet others see it as a liberator. M-PESA also helps in mapping mobile telephony as assemblage that involves more actors – from individual users to mobile phone operators, government agencies such as the Kenya's regulator Communication Authority of Kenya (CAK) previously called Communication Commission of Kenya (CCK) – and also shared mobile phone use by showing the connection and association of these parts that together form mobile phone assemblages and money transfer assemblages.

M-PESA also territorialises, in the sense that not everyone is allowed to use a shared phone. Issues of trust and mischief assemblages come into play. Literacy plays a key role in the success story of M-PESA. However, this is not an impediment seen in earlier narratives of semi-literate participants who would ask someone to read out a text for them but still call the one sending the cash through mobile phone just to double check and guard against mischief by the literate people. A mobile transfer further reinforces maendeleo as diachronic emergence, with fresh and newer ways of money transfers being conducted by both registered and non-registered M-PESA users. In a sense, one can argue that M-PESA equalises social strata given the ability for all to use the service, including the rich, middle income or poor, literate and otherwise, rural or urban dwellers, religious and non-religious, and every gender. However, that does not tell the entire story, because gender differences are also reinforced in mobile money transfer. For instance, in cases where the male takes control of all monies, he utilises or distributes it as he chooses, giving his wife or wives whatever he deems appropriate her/them. This kind of scenario further impedes development efforts, if the husband spends the said monies on local liquor at the expense of the children's education, agricultural activities, or even the health of the household. Being able to send and receive money through mobile phone is thus both liberating and limiting and is also a

potential source of stress for those who cannot make enough to survive on, let alone share through mobile phones.

M-PESA, on one end, eliminates or limits the discrepancy between the micro and macro by showing the connections and association between the device, mobile phone charging corner shops, users and their contexts, regardless of their socio-economic status or literacy levels. M-PESA can then be said to facilitate maendeleo only if it facilitates participation across the household in terms of what the said monies are able to cater for: Is it the paying of education bills so that children are not sent out of school, thus helping to fight or reduce illiteracy levels? Is it the boosting of the household economic status by meeting health needs, such as ill-health, delivering pesticides for crops that are infested, and so on? Or is it about saving, in terms of curtailing unnecessary journeys, among other things? Thus, M-PESA in itself cannot deliver development unless it is a concerted assemblage, as shown above, meaning that monies sent should be channelled towards poverty eradication or, better still, towards socio-economic activities that in the long run promote maendeleo.

CHAPTER SIX

CONCLUSIONS

6.0 Introduction

Corporate bodies have a disposition to financing research projects that seek to understand the impact of modern technologies in development. In very many cases, such projects aim to promote corporate business agenda (Castells et al., 2007; Vodafone, 2005; ITU, 2004), while also purportedly seen as a means of helping developing nations to eradicate poverty levels to meet the millennium development goals (MDGs). While this kind of development is essentially synchronic in character, as it fails to engage or include the target populations in decision making, it is also linear and simplistic in embodiment and ethos (Melkote and Steeves, 2003; Donovan, 2011), and dictates the nature of development, as perceived by most development economies where ICTs like mobile telephones have originated.

This study, essentially, aimed to find out the role of mobile telephony in the social transformations and development of the Marakwet people of Kenya. The thesis used the assemblage theory as propounded and developed by DeLanda (2006) in addition to other (essentially contrasting) understandings of development (Escobar, 1995: Crush, 2006) and Goffman's (1995) model of conversational analysis, to both analyse and foreground the need to understand the complex concept of development by acknowledging the micro and macro levels of society, while focusing on the intermediate level where techno-social interactions, social transformations and development occur. The key objectives of the inquiry included to: investigate various kinds of mobile assemblages evident in everyday use of mobile telephones in households in Marakwet; discover emerging accounts of uses of mobile telephones and the cultures it produces in different households; examine the link between mobile telephony and development; investigate the influence of mobile phone use on social interactions/co-presence in Marakwet; explore power and gender negotiations in light

of mobile telephony usage; and discuss two of the identified mobile assemblages at length.

In its analysis of the use of mobile telephony in rural Kenya, the thesis has provided a robust and more complex understanding of development that recognizes and incorporates micro (individualistic), macro (societal) and intermediate level concerns, by employing the assemblage theory (DeLanda, 2006) and the notion of co-presence (Goffman, 1959) as analytical frameworks. Essentially, the thesis thus demonstrated that: mobile telephony figures significantly and plays a critical role in the social transformation of households in Marakwet; mobile phone usage has an increasing influence on co-presence in the community and makes important cultural impacts on different households. Similarly, while changes in time and space configurations occur due to mobile telephone usage, mobile phones usage also impact power and gender roles wit in the context of varied, but intersecting, mobile phone assemblages within the Marakwet community.

6.1 *Maendeleo*: A radical & inclusive model of social change

The thesis discussed two types of development. The first is what is known as "imperial development", which is the type of development that is perceived and treated as a historical movement, that is, as a synchronic kind of history that leapfrogs developing nations to modernity, all happening at once. The second is the understanding of development as an event, a strategy, or a programme that recognises historical processes and techno-social transformations as dynamic and diachronic in nature, with transformations happening over time. This second type of development embraces the concept of development as interpreted locally.

The study problematised the tendency in impact studies to construct social relations in terms of dualities or logocentric binaries, such as the rich and the poor, the West and developing nations, information rich and information poor, developed and developing/underdeveloped, and so on. The research thus interrogated and subverted such dichotomisation of social relations because, apart from scantily representing societal dynamics, classification also aids the widening of existing tensions by emphasising micro and macro concerns, while ignoring the intermediate and treating

social relations as wholes rather than as individual entities within the assemblages they form and consist of.

The Marakwet people of the western part of Kenya reside in one of country's rural areas. Unlike any other Kenyan rural community, the Marakwet have a particularly unique history of tribal insecurity due to the many decades of cattle rustling that has bedevilled the region. The people have been presented as a community that is governed by strong clan leadership structures that form part of the broader community leadership framework, in addition to acting as gatekeepers and custodians of Marakwet cultural practices. The livelihoods of this people are mostly subsistence farming and livestock rearing. The hillsides topography of Marakwet makes the movement of people and their livestock in the escarpments an everyday exercise. Houses and homes are situated at the hilly side, whereas livestock are kept down the valley from where the people journey to and from the pastures on a daily basis, checking the livestock downhill and then returning to the main house at the hilly side. Social gatherings, known as *Baraza*s, where developmental agendas are discussed, are widespread. This particular and peculiar type of settlement has made mobile telephony and the use of mobile phone spotlights desirable by community members, especially during the night.

The term '*maendeleo'* has been employed throughout this thesis as a recurrent and pervasive terminology that denotes social change – process, progress, better life conditions and unhindered access to opportunities. A local Kiswahili word, *maendeleo,* suggests that penetration rates do not necessarily mean development, because development is a relative term and is experienced differently even by people who are seen as homogeneous in nature, such as those living in the same geographical area. In this way, *maendeleo* challenges the traditional and dominant notion about developing nations 'leapfrogging' through stages of development by mere consumption of communication technologies like mobile telephony. The study advances extant literature, by demonstrating the contributions of maendeleo to the discourse of social assemblages[1], not just as a link between micro and macro dichotomies, but as diachronic emergence that recognises that, as the people of Marakwet use mobile

[1] This suggests the relationship between wholes and parts with wholes treated as individual parts or identities affected and being affected, giving rise to emergence and heterogeneity of component parts.

telephony in different contexts, novel techno-social transformations emerge. But, such transformations are not limited to the positive or negative effects of mobile telephony. Instead, they are more complex, robust and paradoxical in character, in that mobile telephones figure effectively in both the construction and destabilisation of the social order.

Thus *maendeleo* has been examined and deployed in this thesis as part of a social assemblage that comprises heterogeneous components, such as the mobile telephone, users of mobile telephones, the socio-economic activities of the Marakwet people (such as, small scale farming and livestock keeping), techno-social situations and interactions, financial institutions, community social structures (such as, clan leadership) and the use of the community's own modes of communication (such as, the use of traditional horn alongside mobile telephony) to summon members for social gatherings and communal occasions where developmental issues are discussed. This radical but inclusive perspective challenges the notion of imperial development that is driven by Western nations, which is linear and synchronic. The thesis thus embraces and provides a localised understanding of "development" by appropriating maendeleo to depict an understanding of development that is people-centred, context-sensitive and where inclusive participation (i.e. of the people) is recognised and promoted every step of the way.

Maendeleo does not in any way discard the macro and the micro at the expense of the intermediate or meso level. Instead, it lays emphasis on the interactions that cannot be purely described as micro or macro, but characterised by a hybrid of levels. The thesis thus contends that maendeleo is diachronic, allowing for a multi-directional approach to social change and transformation, seeing these as no longer limited to top-bottom or bottom-up dynamic. Maendeleo is, therefore, a shift from a linear conceptualisation of social change and development deemed to be flowing from top to bottom. As a complex and inclusive transformative approach, it enables the occurrence of change at any stage, as the population interact with both their mobile phones and their locales.

This thesis repudiates impact studies, which, despite being diachronic in nature, tends to be similar to the technological determinist point of view that considers social transformations as linear and targeted. In contrast, this thesis has delved into the

nuanced socio-technological interaction between technology and users, giving consideration and credence to context or environmental disposition. Techno-social transformations are understood as dynamic and constantly changing, as humans, technology and the environment interact. Similarly, while development is understood as dynamic, maendeleo depicts quotidian improvement of life at all spheres – health, agriculture, culture, politics, social life and economic situation.

The thesis analysed the phenomenon of the M-PESA, in terms of its dual role as game changer in mobile money transfers and as software that further categorises society rather than address the vital issue of the meaning and agency of social transformation. Evidence from the study suggested that M-PESA also has its drawbacks, as it serves market forces rather than empower users. Among the people of Marakwet, M-PESA usage further diminishes already marginalised groups like women and girls, while also intensifying internal oppression and discrimination within the women folk. In fact, empirical evidence in the study amply demonstrated that M-PESA has had both a liberating and a disconnecting impact on households in matters of ownership and acquisition of mobile telephony.

Mobile phone sharing is conspicuous in Marakwet. However, the motivation to share one's mobile phone is not entirely due to a lack of resources, hence the need to meet half-way, but more so, as a practice that is embraced and, to some extent, normative. Mobile phone sharing also has been discussed as constituting a hindrance to gender inequality and the exploitation of women, on one hand, and as an emancipatory tool, to some extent, as more women now engage in phone sharing to escape the control of their husbands, who have formed the habit of monitoring the calls they receive in a bid to ascertain callers' identity and call durations. Thus, as the women of Marakwet appropriate this opportunity for mobile sharing, it is common to see so many people possessing SIM cards but not mobile phone handsets, as sharing can both empowering and emancipatory for them. Generally, mobile phone sharing, M-PESA, the traditional communal horn, the landscape and land use reinforce, diversify and enlarge mobile assemblages in Marakwet.

The thesis connected maendeleo, ethnographic interviewing and assemblage theory as a possible theoretical and methodological union together with a further adoption of

Goffmanian conversational analysis to show the link between the micro and macro levels of Kenyan society. In other words, the thesis has shown that in order for anyone to understand the interplay of technology, such as mobile telephony, and society, one has to study it from an interactional, rather than causal, point of view. An interaction of this kind shows that mobile phone assemblages are not just for what they are, but more for what they can do, with assemblages foregrounded as conduits of both affects and effectivity. It has, therefore, been indicated in this thesis that ethnographic interviews and assemblage theory can work hand in hand to explain the complexity of mobile telephony, in the sense that it bridges the gap between the micro and macro. In doing so, there is recognition of the centrality of the intermediate levels and also an explanation of the emergence of use patterns, diachronic development and the space of possibility as manifesting in and characterising mobile telephony in Marakwet.

The thesis goes further than defining the assemblages that mobile telephones introduce, by also showing what these assemblages can do. For instance, the notion that sharing is a free exchange or a preserve of the affluent members of society is challenged. According to empirical evidence, mobile phone sharing is not limited to only those who are deemed to be resource-rich, but the devices can be shared across the community, given the embedded idea of sharing as a cultural expectation/element of the community. However, the nature of sharing differs among groups. For instance, the young shared their mobile phones for a fee, whereas the majority of the elderly shared them for free. In matters of emergency, sharing a mobile phone is deemed as life-saving and also done for free. It is also shown in this thesis that sharing is not just limited to monetary considerations. For instance, one can bring their loaded SIM card and, so, only borrows the handset; or one can bring their phone that can be fully or partially charged to be used by others in exchange for talk time or free texts. This thesis, therefore, subverts the notion of sharing as an entirely free exchange or solely as a means of sharing costs or 'poverty'. Although most people, who share, in this context, are of same gender, it is, however, not restricted to same gender. Anyone can share or is free to ask for an opportunity for sharing, regardless of their gender.

The thesis also analysed the idea of co-presence, especially how social gatherings necessitate co-presence, both as a location and relations. The example of teens meeting at particular places to listen to news or listen to their choice music played on radio is

here tied to the very fact that they are usually the same group of friends. The thesis presents social gatherings, firstly, as avenues for complementing old communication models like the community horn, which is used to call out for a developmental meeting, and, secondly, for sending mobile phone texts and making calls. Contrary to the thinking that the introduction of most new technologies is an indication of the supplanting of the old models, this study maintains a different view. The Marakwet have been found to hold dearly to their horn as an indicator of their culture, even though they have also embraced mobile telephony as a modern technology that has facilitated maendeleo or social change.

The thesis also challenges the concept of time and place in the face of mobile telephony. Time and space is no longer understood in terms of physical place or things happening in the exact time, but is rather seen as involving negotiations and re-configurations. A case in point in the thesis is the ability of a legislator to attend a community developmental meeting, '*baraza*', without necessarily being there in person. By linking her phone up with that of the appointed personal assistants, which is then connected to a speaker, the people can engage her in a conversation. Both the time and costs of travel then become irrelevant, as the meeting kicks off as though she were there in person.

Traditionally, the Marakwet community of Kenya has been susceptible to security risks stemming from cattle-rustling with its neighbours and, in spite of its advent in Marakwet over a decade ago, mobile telephony still remains a complex experience. Though, it answers the insecurity question by allowing users to alert each other when there is an invasion or threat of invasion, at the same time it serves as a potential source of more insecurity, especially since mobile phones can also aid the enemies to cattle-rustle. Again, physical meetings that are traditionally common to the Marakwet are also affected by mobile telephony, which is believed to reduce the need for social gatherings, while at the same time enhancing it. Similarly, mobile money transfers, discussed in this thesis as M-PESA, while boosting development and fostering social cohesion, also cause family conflicts and remain a 'risky' endeavour if individuals cannot provide sufficient money deposit security.

Beyond the dichotomisation of society into micro and macro concerns that ignore intermediate or meso considerations, this thesis holds that boundaries suggested by such

categorisation are blurred by communication technologies in their attempt to reformulate and rethink such critical terms as time and space, public or private places, here and there. Fundamentally, macro and micro distinctions are deployed in the traditional discourse in way that power is allocated to macro forces or simply arrogated by them to determine the micro, wherein in the advent of technologies the micro can only be changed if they so wish and not necessarily because change has been decided, packaged and delivered to them via mobile telephony or any other communication technologies. Thus, it is the way the Marakwet community negotiates power, gender relations, cultural inclinations and socio-economic dispositions in their domesticated use and appropriation of mobile telephony that facilitates social change and development.

The foregoing understanding suggests the complex human-technology interrelationship that mobile telephony plays in social and economic transformation at the local level, which can be described in general terms as an example of 'development', thrusting up the critical question: What kind of development is it? The overriding argument concerning this, synchronic, kind of development is the assumption that societies across the globe move at a broadly similar pace of development, from a pre-industrial condition to one of modernisation and then to post modernisation. This macro level perspective of society can be beneficial to the commercial sectors of a country, as they drive their business agendas. However, the perspective does very little to show the dynamic influence of such technologies on users and how users influence the technologies, missing out the critical element of grasping the interrelationships between the human and non-human components of mobile phone assemblages.

Therefore, to fully understand change, especially in the light of communication technologies such as mobile telephony, change itself must be conceived in different terms, not as induced, created, produced or generated (at the macro or micro levels of society), but as emerging out of interactions between technology, users and their context. For this reason, this thesis accentuates the fact that macro, micro and meso levels and concerns interact dynamically in the technologies and societies into which they are introduced.

Mobile telephony, to some extent, has enabled the establishment of a level playing field in Marakwet, insofar as power play is concerned; although in very many cases, it has encouraged the development of sharp power distinctions. As a matter of fact, mobile phones play an ambivalent role of both empowering and dis-empowering individuals, as already stated in this chapter. Again, this is emblematic of assemblages, which are underpinned by part-and-whole interactions that are irreducible to a single logic. Therefore, as an assemblage, power acquires multiple identities too, as it connects with other bodies, one of empowering and disempowering. The thesis thus demonstrates, based on available empirical evidence in the research, that mobile telephony reduces power distinction (de-territorialising) in some instances and yet sharpens asymmetrical power relations (territorialising) in some others.

But assemblage is much more than simply identifying linkages and convergences. Instead, it also concerns what the role and ability of specific assemblages are about, namely affects and effects. Some of the affects and affectivity of mobile telephony are its ability to engender power relations and the construction of gender roles, which in turn constitute mobile phone assemblages. To reiterate an earlier position, one way in which mobile assemblage enables the mapping of power and gender relations is its ability to disavow the simplistic binary or dichotomies of exclusion and inclusion, emancipation or the lack of it, empowerment or disempowerment, and control or the controlled, in the understanding of the intersection between technology and society.

Again, as partly mentioned previously, power as an assemblage is not limited to top-bottom or bottom-up ideas, but circulates among the interacting parts — in this case, the owner or user of mobile telephony, whom they are interacting with, and the space of possibility (for example, the idea of mobile telephony as a marker of 'modernity'). In the context of urbanisation/modernisation at a macro level, for instance, the uneven diffusion of mobile telephones due to disparate access to socio-economic resources by various clusters of people or groups of communities and problems of connectivity presents a huge challenge in terms of understanding the extent of influence of mobile telephony on individuals living in rural communities like the Marakwet of Kenya.

However, the ease and frequency of access facilitated by mobile phones somewhat counters domination, shifting conceptualisation of power from a top-bottom or bottom-

up logic to one that circulates between users and everyone who has access, but this does not in itself eliminate gender and power imbalances completely. As such, the more power relation shifts the more it de-territorialises the assemblages it forms, as technology and users interact with their environments. Thus, the more de-territorialised a community becomes, the more it is transformed.

6.2 Summary of findings

Mobile phone assemblages in Marakwet are interlinked with traditional means of communication. For instance, the community's horn is complementary to the mobile phones. Both mobile phones and community horn are essential to communal social gatherings, from where the attribute of mobile phone sharing is evident. Mobile phone, therefore, cannot be studied apart from these other assemblages.

Some of the emerging accounts of mobile telephony in Marakwet, include the shared use of mobile phones by persons of all walks of life. For example, the technology enables the youth to listen to radio for current affairs, entertainment and news and also contribute to call-in sessions on local radio programmes. Also married women share mobile phones to use the M-PESA function, while husbands or men use the mobile phone mostly to navigate the landscape that is on the hillside so that they can check on the livestock, which are usually kept in areas away from the main houses. Spotlight (used as a torch) was one of the key reasons for owning or wanting to have access to a mobile phone, as it enables the people to navigate the land terrain that is often infested with dangerous reptiles like snakes. It is also used to light the path while using the toilets, which are often detached from the main house, as well as navigate the escarpment to maintain a regular check on the livestock, which are often left at the cowsheds down the hill.

The study established that there was no direct evidence of mobile phone being used for development purposes, as the majority of phone texts were social in nature, a few targeted agro-business, and the majority of M-PESA monies were aimed to settle bills that were unrelated to socio-economic development. The influence of mobile telephony on social interactions was complex and there was no single logic. For some people, mobile telephony had disrupted the social fabric by encouraging certain unbecoming

behaviours, such as marital infidelity, mischief and distrust, in cases where the children would send money to their mothers without the knowledge of their fathers (traditionally regarded as the head of the family), thus fracturing household relationships. On the other hand, mobile telephony was seen as facilitating social cohesion, improving social contacts and also encouraging multiple presences, making people do more than one thing at a time, and thereby saving on time that was used for other social encounters and matters. Mobile telephones in this context reinforce gender roles, consequently fuelling power hierarchies, yet equally empowering women who felt emancipated to engage in their own activities without their male counterparts or husbands monitoring or controlling their actions

M-PESA was celebrated by participants as the preferred mode of money transfer, making the community leapfrog to banking services that they are not privileged to access, given the inexistence of financial institutions in the area. The appropriation of M-PESA is thus robust, ranging from storing financial information on the phone; sending some of the money to others for air time/credit; sharing phones for a fee or for free, and; sending cash to meet needs such as paying bills, bus fares to relatives who need to travel to the city for one reason or another, paying hospital bills, school fees, debts and so on. Despite its apparent usefulness, M-PESA is not one hundred per cent safe when it concerns security of money deposits and withdrawals, as a simple mistake can cost one their hard earned money. Privacy and security concerns regarding deposits and withdrawals, consequently, present a major challenge for the M-PESA service. Mobile phone sharing also rules the context and this can be for free or for a token fee. Sharing was understood differently among social groups. For the youth mobile phone sharing was dependent on each other's input, because one could purchase airtime, another pays for the charging of the phone, another responsible for mobilising the group to meet at a particular juncture to share the device, while one mobile device could be shared by 3-5 young persons. This was also similar to other groups, namely women, clan leaders and ordinary male cohorts.

The thesis has shown that mobile phones also have potential tendencies to affect or transform assemblages they are connected to. For example, through mobile phones, people can link up to form a gathering, and yet as they interact within that spatial distance, the mobile phone is equally present, almost standing as the next person in the

group waiting to affect or be affected. When a call comes and people are engaged in a co-present situation, the decision to take the call or not affects the identity and nature of that group and the individual engaging in a phone call conversation, by either stepping aside or answering the call in a low tone or not receiving the call at all.

Among the Marakwet, mobile telephony also gives rise to new ways of organising and conducting everyday practices like farming, doing small business, and talking to friends and relatives that are far and near, hence enhancing family kinships and relationships. These new ways were not foreseen or predicted before giving rise to diachronic emergence. The ability of mobile telephony to infiltrate everyday life has influenced the conceptualisation of time and space so much that it is no longer possible to consider space in terms of dichotomised categories of here and there, near and far, private and public, or even presence and absence.

The sheer complexity of *Maendeleo* has been highlighted in the thesis. Multi-faceted and ubiquitous in character, mobile phones appear in various ways and in all spheres of Marakwet life, from agriculture (via the ability to send texts to an agricultural extension worker describing the symptoms of pest infested crops), to the purchase of materials for small business entrepreneurs from a different town, to the ability to send a text message and make a call via a mobile phone, to church activities (sending of church financial collections through the mobile phone), and also to the rescue of female children from the perpetrators of female genital mutilation (FGM).

As such, the mobile phone has the capacity to bring people together in new, different, ways, while also connecting with older support systems complementarily. Although the mobile phone has become an increasingly personalised device, there are some contexts in which sharing its functions with others challenges the assumption of the individual nature of how it is used. Mobile phone functions enable the users to share the device at will with relatives and even strangers. In contexts where sharing is the norm, the sharing of mobile telephony is connected with other support systems, such as communal meetings and group meetings, which are most often scheduled for and carried out under specific trees or certain agreed-upon venues.

Mobile phone sharing gathers people together, therefore encouraging co-presence and interpersonal communication. For instance, the teenage cohort enjoyed unlimited interactions when they converged to listen to the radio or news. Even thereafter, they would still continue their everyday social interactions, which lasted even longer. However, sharing can also be fraught with contradictions, as it can hinder social interactions. For instance, only those who contributed to cost sharing have access to mobile phone sharing. As a result, only they can gather together for certain types of social interactions. Non-contributors are often shut out, and will not be invited or welcome to join the group at the place of gathering. In this way, mobile telephony both enables and disables and includes and excludes individuals. Thus, it can unify and divide the community (and engender ill-feelings), raising questions about its capacity to "enable" development.

In fact, mobile phone sharing in itself does not necessitate poverty reduction or development, as sharing is largely dependent on other factors, such as what is shared, how it is shared, the frequency of the sharing, with whom and for what purpose. In the absence of a woman's husband, for instance, she would allow someone else to help read text messages to her, and this can provoke issues concerning trust. Essentially, this model of mobile phone use necessarily involves co-presence. But mobile phone sharing varies from one cultural group to another. Among the elderly, sharing is seen as common and normal, and anyone who refuses to share their phone is reprimanded. For young people (especially teens), sharing can be possible if there is an understanding that it should be done in turns and reciprocally.

The use of mobile telephones facilitates a co-presence that links all levels of society – micro, meso and macro. This is why a good understanding of co-presence is germane to linking all three levels of interactions. Understanding mobile phone use as a mode of achieving maendeleo also involves the individual user and those they link with via mobile phone, namely government apparatuses, non-governmental organisations, mobile phone operators and other institutions, such as banks. Moreover, it involves the specific contexts in which a mobile phone is used and specific ways that the technology is manipulated by users, in line with either already established needs or emerging needs. However, there is one important contradiction characterising mobile telephony, which is the fencing off or blocking out of co-presence. When mobile phone users focus more

on their phones, for instance, while exchanging texts with significant others, an immediate co-present other is somewhat temporarily shut out. The ability to shift one's attention at will affects not only one's self-image before another, but also contributes to how identity is created, nurtured and shifted in human-technology interactions. Identity, therefore, is presented as fluid.

This thesis further demonstrates the complexity of notions of gender empowerment and equality, a dominant theme in the research. For some women, for example, using mobile telephony enabled them to save money and also send and receive money via their mobile phones with or without the knowledge of their husbands. Before the advent of mobile telephony, a man (husband) received all the monies from the farming proceeds and decided how to distribute them, sometimes spending more on personal, rather than family, needs.

Some women feel empowered to be able to rise above traditional gender roles, believing that gender barriers no longer stand in their way. For example, they can now provide for their family and also pay their children's school fees, previously believed to be traditional male roles that gave men much power to dominate and control their households. Barriers in the context of mobile telephony can also become opportunities, as households can, to some extent, rely on the creation of power hierarchies between spouses. For example, it was shown that men who are often financially stable can transfer airtime (talk time) to their wives, girlfriends, sisters and their mothers, with the exception of single women households where the woman is the sole provider.

In summary, the following key points can be said about this inquiry:

a. The centrality of mobile telephony as part of social assemblage surpasses merely studying the mobile phone as a communication device to include a network of relationships among people and their environment.
b. As an assemblage, development is inherently diachronic, encompassing complex interactions that cannot be reduced to a top down or bottom up situation or status, but is rather a circulation of relationships in socio-economic networks.
c. As a location and relationship, co-presence also extends to include multiple presences that were absent in Goffmanian conversation analysis, given the

ubiquity of mobile telephony to exhibit virtual and actual realities that demonstrate the active material and expressive roles of mobile telephony.

d. In Marakwet, mobile telephony embodies a site of power negotiations and represents instances of power domination in terms of ownership of a mobile phone within a household and who is entrusted with the custody of a shared mobile phone. However, while mobile phones do not particularly encourage power hierarchies, they fail to significantly empower minoritised people like women and girls, although households differed in their specific scenarios.
e. There is no absolute or direct relationship between ownership of mobile phones and the empowerment of women and girls, development and significant reduction of household poverty in Marakwet. As a matter of fact, while mobile phones empowered some women in living life without being apprehensive of their husbands' interference, especially in cases of married couple's joint income, these women were still under their husbands' control in the matter of land ownership, as it is they that also share the family income, among other family matters.
f. Owning a mobile phone could stimulate an increase in family income, where individuals are engaged in certain occupations like small scale farming, as individuals could search and access diverse market opportunities. Nonetheless, the same mobile phones also have the capacity to bring about the collapse of small scale farming due to mutual suspicion and distrust between couples, which threatens the stability of family relationship.
g. The over celebrated mobile money service, M-PESA, also has its glitches, such as the lack of guarantee on the safety of cash deposited, especially in cases where individuals mistakenly send cash to wrong numbers, which can a take a while before being recovered or never be recovered at all, thus heightening the risks for consumers.
h. Finally, this thesis has shown that in spite of their important role in the life of the Marakwet community of Kenya, mobile phones do not replace traditional methods of communication, as seen in the use of the community's horn as complementary. The key insight here is that the traditional horn has an advantage, which is, that it can be heard by everyone and is also widely recognised and respected as an enduring part/embodiment of the Marakwet cultural heritage. Up till now, the horn still holds an important place, as both a

powerful symbol of solidarity and as a personification of communality and cultural continuity, among the Marakwet.

It is also important to reiterate key original contributions of the thesis to knowledge and scholarship. Some of these are as follows:

a. The rural users of mobile telephony have not been studied empirically in context. The thesis thus provides baseline data to be used for reference in future studies.
b. Ethnographic interviewing as a method of data collection and analysis has so far been applied to rural-urban migrant workers (Wallis, 2010) but this method has not been used here.
c. The methods and theoretical framework used in this study had not been used in a similar context before. Even though ethnographic interviewing had been previously applied in studies of rural-urban migrant workers (Wallis, 2010), the Assemblage theory has not been applied in the study of mobile telephony in rural low income communities. This study thus provides a framework for qualitative research in rural African populations that can be replicated in future studies.
d. Lastly, understanding mobile telephony as part of the assemblage for the rural context is a new and radical approach.

6.3 Recommendations and areas of further research

Development should be conceptualised as diachronic with transversal tendencies, and should no longer be seen being bottom up, or top bottom but multi-directional, in nature. As a matter of fact, development should be seen as vast and not reduced to small clusters, as evinced by the micro versus the macro debate. Assemblage and ethnographic interviewing present a novel way of studying the complex mobile telephony in areas that have not experienced 'modern' communication technologies.

This study, therefore, proposes the use of assemblage theory and ethnographic interviews to describe and analyse the complex interaction between mobile telephony

and users with regard to their context. It focused largely on the dynamics of changing concepts like time and space, presenting them as fluid, and the boundaries between public and private spaces as mutable.

However, in this study some concerns were raised by mobile telephone users in regard to health matters. For instance, some participants wanted to know the connection between mobile phone usage and cancer. They wanted to know whether or not mobile phone use caused cancer or brain tumours. There needs to be a study that focuses on the impact of mobile telephones on users' health in rural contexts, such as Marakwet.

Research participants were disturbed by the lack of prioritisation of the area connectivity, stating that for a long time they had suggested to the service providers to raise up masts to improve connectivity. They felt that the journey they had to take up the hill to be able to listen to radio was straining and arduous, and that a strong connectivity could be used in other meaningful development activities. This study suggests that this be investigated to ascertain how many users can enjoy mobile telephony with ease, and also to help them save time for other purposeful activities that could in the end help further facilitate maendeleo. Finally, there is also a need to further investigate mobile assemblages, how they form and how they can be considered as part of the transformative effects of mobile telephony in rural communities.

BIBLIOGRAPHY

Aker, J.C. and Mbiti, I.M. (2010) Mobile Phones and Economic Development in Africa. *Journal centre of Global Development*: Working paper, No. 211.

Aker, J. C. (2010b) Information from markets near and far: Mobile phones and agricultural markets in Niger. *American Economic Journal: Applied Economics 2,* (July 2010), 46-59.

Aronson, J., (1992) *The interface of Family therapy and Juvenile arbitration and mediation program*. Unpublished doctoral dissertation, Nova South-eastern University, Fort Lauderdale, FL.

Aronson, J. (1994) A Pragmatic View of Thematic Analysis. The Qualitative Report Vol..2 (1), Spring 2009. http://www.nova.edu/ssss/QR/BackIssues/QR2-1/aronson.html. Accessed 20/02/13

Abu-Lughod, L. (1991) 'Writing against culture', in R. Fox (ed.), *Recapturing anthropology: working in the present*. Santa Fe, NM: School of American Research Press. Pp. 137-62

Agar, J. (2003) *Constant touch: A Global History of Mobile Phone*. Cambridge: Icon Books.

Andjelkovic, M. (2010) The Future is Mobile. *SAIS Review*, 30(2), 121-33.

Ang, I. (1990) 'Culture and communication: towards an ethnographic critique of media consumption in the transnational media system,' *European Journal of Communication*, 5: 239-60.

Appadurai, A. (1991) 'Global enthoscapes: notes and queries for a transnational anthropology', in M. Fox (ed.) *Recapturing anthropology: working in the present*. Santa Fe, NM: School of American Research Press: 191-210.

Archambault, J., (2010) Cruising through uncertainty: Mobile phone practices, occulted economies & the politics of respect in Southern Mozambique (unpublished thesis)

Arendt, H., (1998) *The Human Condition* (2nd ed). Chicago: University of Chicago Press.

Argyle, M., (1976) *Gaze and mutual gaze*. Cambridge: Cambridge university Press.

Avgerou, C. (2002) *Information Systems and Global Diversity.* Oxford: Oxford University Press.

Avgerou, C. (2010) Discourse on ICT and Development. USC Annenberg School for Communication & Journalism. Volume 6, No. 3, Fall 2010, 1–18

Bauman, Z. (1992) "Survival as a Social construct." *Theory, Culture and Society*, 9:1-36.

Bauman, Z. (2003) *Liquid Love*. Cambridge: Polity Press.

Baym, N. (2010) *Personal Connections in the Digital Age: Digital Media and Society Series*. Cambridge: Polity.

Berg, A. (1996) Digital Feminism. Norwegian University of Science and Technology and Society: Trondheim. In Berker, T., Maren, H., Yves, P., and Katie. J.W (eds.) (2006) *Domestication and Media and Technology*. London: Open University Press,125-142.

Balasubramanian, K., Thamizoli, P., Umar, A., and Kanwar, A. (2010) *Using mobile phones to promote lifelong learning among rural women in Southern India.* London & NY*:* Routledge.

Bertrand, I,. and Hughes, P. (2005) *Media Research Methods: Audiences, Institutions and Texts*. New York and London: Palgrave MacMillan.

Bryman, A. (2008) *Social Research Methods* (3rd ed.). Oxford: Oxford University Press.

Burgoon, J., and Hoobler, G. (2002) Non verbal signals. In M.L. Knapp Daly (eds.) *Handbook of interpersonal Communication,* 240-299. Sage: Thousand Oaks, CA.

Buskens, I., and Webb, A. (2009) *African women ICTs: Investigating technology, gender and empowerment*. Pretoria: Unisa Press.

Campbell, S., and Tracy, R. (2003) The social construction of mobile telephony: An application of the social influence model to perceptions and uses of mobile phones within personal communication networks', Communication monograph, 70(4): 317-334.

Corbett, S. (2008) Can the cell phone help end global poverty? *New York Times*, April 13, 2008.

Cardoso, G., Espanha, R., and Araujo, V. (2007) *Mobile Portugal*. Lisbon: Obercom.
Carey, J., Martin, C. (2010) When media are new: Understanding the dynamics of new media adoption and use. Ann Arbor: University of Michigan Press

Chambers, Robert (1985), Rural Development: Putting the Last First. New York: Longman.

Chandrasekaran, R. (2001) "Police Arrest Former President." *Washington Post*, April 26.

Castells, M., Mireira F., Qui, J., and Araba, S. (2007) *Mobile Communication and Society: A Global Perspective*. London: MIT Press.

Chavan, A., and Gomey, D.,(2008) 'The Dilemma of the shared Mobile Phone: Culture strain and product Design in Emerging economies.' *ACM Interactions*, Vol 15: 34-9.

Chen, Y., Farinelli, U., and Johansson, T. B. (2004) Technological leapfrogging – A strategic pathway to modernization of the Chinese iron and steel industry. *Energy for Sustainable Development, VIII* (2): 18-26.

Chisenga, J. (2000) Global information and libraries in Subsaharan Africa. *Library Management, 21*(4): 178-187.

Coffey, A. (1999) The Ethnographic self: Fieldwork and the Representation od I dentity. *London*. Sage.

Cohen, A., Lemish, D., (2005) When Bombs go off the mobiles ring: The aftermath of terrorist attacks. In K. Nyiri (ed.) *A sense of Place: The Global and the Local in Mobile Communication* (117-28). Vienna: Passagen Verlag.

Colebrook, C. (2002) *Gilles Deleuze*. London: Routledge.

Clough, P., Han, S., and Schiff, R. (2007) Book Review: A New Philosophy of Society – Assemblage Theory and Social Complexity by Manuel DeLanda. *Theory, Culture and Society* 24: 387.

Communication Commission of Kenya (2011) *Third quarterly sector statistics report*. Nairobi: Communications Commission of Kenya.

Crush, J., (1995), Power of Development. New York: Routledge.

Cumiskey, K. (2003) 'Can you hear me now?' The Paradoxes of techno-intimacy via the use of personalised communication technology in public. *Dissertation Abstracts International* 64 (8-B) UMI NO. AAT 3103097.

Curtin, P.A and Gaither, T.K., (2007) International Public Relations : Negotiating Culture, Identity and Power : London. Sage

Davis, F.D. (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, Vol. 13, No. 3: 319-340.

Dean, J., Anderson, J. W., and Lovink, G. (2006) *Reforming Politics: Information technology and global civic Society*. London: Routledge

DeLanda, M. (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity*. London. Continuum.

Dey, I. (1993) *Qualitative Data Analysis*. London: Routledge.

Dholakia, N., Kshetu, N. (2004) Mobile commerce as a solution to the global digital divide: selected cases of e-development. In S.Krishna and Madon, S. (eds.) *The digital challenge: information technology in development context* (237-250). Brookfield, VT: Ashgate Publishing.

Donner, J. (2005) The Social and economic implications of mobile telephony in Rwanda: an ownership/access typology. In P. Glotz, S. Bertschi and C. Locke (eds.) *Thumb Culture: The Meaning of Mobile Phones for Society* (37-52). Bielefeld: Trascript Verlag.

Donner, J. (2004) Microentrepreneurs and mobiles: an exploration of the uses of mobile phones by small business owners in Rwanda, *Information Technologies and International Development*, 2(1): 1-21.

Donner, J. (2005) Research approaches to mobile use in the developing world: A review of the literature – Paper presented at international conference on Mobile Communication and Asian Modernities, City University of Hong Kong, 7-8 June.

Donner, J. (2008) Research approaches to mobile use in the developing world: a review of the literature. *The Information Society, 24*(3): 140-159.

Donner, J., and Steenson, M. (2008) "Beyond the Personal and Private: Modes of Mobile Phone Sharing in Urban India." In edited by S. Campbell and R. Ling (eds.) *The Reconstruction of Space and Time: Mobile Communication Practices* 231–250). Piscatawy, NJ: Transaction Publishers.

Donner, J., Gitau, S., and Marsden, G. (2011) Exploring Mobile internet use: Results of a training study in Urban-South Africa. *International Journal of Communication*, 5: 574-597.

Donner, J., and Tellez, C. (2008) Mobile banking and economic development: Linking adoption, impact and use. *Asian Journal of Communication*, 18(4): 318-332.

Donovan, K. (2012) Mobile Money, More Freedom? The Impact of M-PESA's Network Power on Development as Freedom. *International Journal of Communiction*, 6: 2647-2667.

Du Gay, P. (1994) 'Some course themes, Milton Keynes, The Open University. In Thompson , K(1997) Media and Cultural Regulation. London. Sage.

Du Gay, P., Hall, S., Janes, L Mackay, and Negus, K. (1997) *Doing Cultural Studies: the history of Sony Walkman*. London: Sage.

Du Gay, P., Hall, S., L Mackay, and Negus, K., (1997) Doing Cultural Studies: the history of Sony Walkman, London, Sage.

Ellen, R.F., (ed.) (1984) *Ethnographic Research. A Guide to General Conduct*. London: Academic Press.

Escobar, A., (1995) Encountering development: The Making and Unmaking of the Third World. Princeton: Princeton University Press.

Ferguson, J. (1990) *The Anti-Politics Machine: "Development," Depoliticization, and BureaucraticPpower in Lesotho*. Cambridge: Cambridge University Press.

Fielding, N., and Thomas, H. (2008) 'Qualitative interviewing.' In N. Gilbert (ed.) *Research Social Life* (3rd Edition). London: Sage.

FinAccess (2007) *Financial Access in Kenya: Results of 2006 national survey*. Nairobi: FinAccess.

Finkenauer, C., Engels. R., Meeus, W., and Oosterwegel, A. (2002) Self and identity in early adolescence: The pains and gains of knowing who and what you are. In T.H. Brinthaupt and R.P. Lipka (eds) *Understanding early adolescent Self and Identity: Applications and Interventions* (25-26). Albany, NY: SUNY Press.

Fiske, J. (1987) *Television Culture*. London and New York: Routledge.

Fontana, A and Frey, J.H. (2006) The interview: From Structured Questions to Negotiated Text. In N.K. Denzin and Y.S. Lincoln (eds.) *Handbook of Qualitative Research* (2nd ed.). London: Sage.

Fox, K (2001) *Evolution, Alienation and Gossip: the role of mobile telecommunications in the 21st century*. Oxford:P Oxford University Press.

Geertz, C. (1974) 'From the native's point of view.' *Bulletin of the American Academy of Arts and Sciences*, 28: 27-45.

Geser, H., (2006) Is the Cell Phone undermining Social Order? Understanding Mobile Technology from a Sociological Perspective. *Knowledge, Technology and Policy*, 19(1): 8-18.

Gilhooly, D. (2005) *Innovation and investment: Information and communication technologies and the Millennium development goals.* New York: The United Nations Millennium Project.

Giddens. A (1990) *The Consequence of Modernity*. Cambridge: Polity.

Goffman, E. (1963) *Behavior in Public Places*. New Yor: Free Press.

Goffman,E. (1959) The Presentation of Self in Everyday Life. Garden city. NY. Doubleday

Goggin, G. (2006) *Cell Phone Culture: Mobile Technology in Everyday Life*. London: Routledge.

Goggin, G. (2008) *Mobile Phone Cultures*. London: Routledge.

Goliama, C. (2011) *Where Are You Africa? Church and Society in a Mobile Phone Age*. Cameroon: Langaa RPCIG.

Goodman, J., and Walia, V. (2007) *Airtime transfer services in Egypt: The Transformational potential of m-transactions*. London: Vodafone.

Gray, A. (1992) *Video Playtime: The Gendering of a Leisure Technology*. London: Routledge.

Gray, A. (2003) *Research Practice for Cultural Studies*. London: Sage.

Grosberg, L. (1991) 'Cultural studies and/in new world.'*Critical Studies in Mass Communication*,10(10): 1-22.

Gugler, J. (2002) The son of the hawk does not remain abroad: The urban-rural connection in Africa. *Africa Studies Review*, 45(1): 21-41.

Gurumurthy, A. (2006) Promoting Gender Equality? Some Development-Related Uses of ICTs by Women. *Development in Practice,* 16(6): 611-616.

Haas,S., Plyler, M., and Nagarajan, G. (2010) *Outreach of M-PESA system in Kenya: Emerging trends*. College Park, MD: Financial Services Assessment.

Haddon, L. (2006) The Contribution of Domestication Research to In-Home Computing and Media Consumption. *The Information Society*, 22: 195-203.

Haddon, L. (2002) Youth and Mobiles: The British Case and further questions. *Revista de Estrudios de juventud*, 57(2): 115-124.

Haddon, L. (1992) Explaining ICT Consumption: The case of the home computer. In R. Silverstone and E. Hirsch (eds). *Consuming Technologies: Media and Information in Domestic Spaces* (82-96). London: Routledge.

Haddon, L. (1999) The Development of Interactive Games. In H. Mackay and T. O'Sullivan (eds) *The Media Reader: Continuity and Transformation* (305-327). London: Sage.

Haddon, L. (2000) Social Exclusion and Information and Communication Technologies: Lessons from studies of single parents and the young elderly. *New Media and Society*, 2 (4).

Hafkin, N. (2000) 'Convergence of concepts: Gender and ICT's in Africa.' In E. Rathgeber and E. O. Adera (eds.) *Gender and the Information Revolution in Africa*. Ottawa: International Development Research Centre (IDRC).

Hahn, H.P and L. Kibora (2008) "The Domestication of the Mobile Phone: Oral Society and New ICT in Burkina Faso." *Journal of Modern African Studies.* 46 (1): 87–109.

Hammersley, M. and Atkinson, P. (1995) *Ethnography: Principles in Practice* (2nd ed.). London: Routledge.

Harper, R., (2003) 'Are mobiles good or bad for society?' In mobile democracy: Essays on society, self and politics. Edited by Nyiiri, K Vienna: Passagen Verlag, pp 71-94

Harvey, D. (1989) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford: Blackwell.

Harvey, J., and Sturges, P. (2010) The Cell Phone as appropriate information technology: Evidence from Gambia. *Informational Development*, 26(2): 148-59.

Heeks, Richard (2008) ICT4D 2.0: The Next Phase of Applying ICT for International Development." *IEEE Computer,* 41 (6): 26–33.

Hennigh, L. (1981) 'The Anthropologist as Key informants.' In D.A. Masserschmidt (ed.) *Anthropologist at Home in North America: Methods and issues in the study of one's own society* (15-28). Cambridge and New York: Cambridge University Press.

Hughes , N., and Lonie, S. (2007) M-PESA: Mobile money for the "unbanked": Turning cellphones into 24 hour tellers in Kenya. *Innovations: Technology, Governance, Globalization*, 2(1-2): 63-81.

Horst, H. A., and Miller, D. (2006) *The Cellphone: An Anthropology of Communication*. Oxford: Berg.

International Telecommunication Union (ITU Report, 26 May 2014) http:// www.itu.int/../Global-mobile-users-top-33 billion-by-end-2007.aspx.

Ito, M. (2002) Mobiles and the appropriation of place. Receiver magazine 8 (2002). Retrieved on 20/10/11 from http://www.receiver.vodafone.com.

Ito, M. and Okabe, D. (2005a) Intimate Connections: Contextualizing Japanese Youth and Mobile Message. In R. Harper, L. Palen and A. Taylor (eds.) *The Inside Text: Social, Cultural and Design Perspectives on SMS* (127 -145). Dordrecht: Kluwer.

Ito, M. and Daisuke, O. (2005b) "Technosocial Situations: Emergent Structurings of Mobile Email Use." In M. Ito, D, Okabe, and Matsuda, M. M. (eds.) *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*. Cambridge: MIT Press.

Ito, M., Okabe, D., and Matsuda, M. (eds.) (2005c) *Personal, Portable and Pedestrian: Mobile phones in Japanese Life*. Cambridge, MA: MIT Press.

Ito, M. and Daisuke, O. (2003) "Mobile Phones, Japanese Youth, and the Re-Placement of Social Contact." In R. Ling (ed.) *Front Stage - Back Stage: Mobile Communication and the Renegotiation of the Public Sphere.* Grimstad, Norway.

Ivatury, G., and Pickens, M, (2006) *Mobile phone banking and low-income customers*. Washington, DC: CGAP.

Ivatury, G. and Mark, P. (2006) *Mobile Phone Banking and Low-Income Customers: Evidence from South Africa*. Washington DC: Consultative Group to Assist the Poor.

Jack, W. and Suri, T. (2011) *Mobile money: The economics of M-PESA*. Washington DC: NBER.

Jagun, A, Richard, H and Jason, W. (2008) The impact of mobile telephony on developing country micro-enterprise: A Nigerian case study. *Information Technologies and International Development,* 4 (4) Fall/Winter 2008.

James, J. and Versteeg, M. (2007) Mobile phones in Africa: How much do we really know? *Social Indicators Research,* 84(1): 117-126.

Jensen, R. (2007) The digital provide; information (technology), market performance and welfare in the South Indian fishers sector. *Quarterly journal of Economics*, 122(3): 879-924.

Katz, J and Aspden, P. (1998) Internet Dropouts: The Invisible Group. *Telecommunications Policy*, 22(4/5): 327-339.

Katz, J.E. and Aaakhus, M.A. (eds.) (2002) *Perpetual Contact: Mobile Communications, Private Talk, Public Perfomance*. Cambridge: Cambridge University Press.

Kean, J. (1995) Structural transformations of the public sphere. *The Communication Review*, 1: 11-22.

Kim, C., Mirsobit, M. and Lee, I. (2010) An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26: 310–322.

Kiiski, S. and Pohjola, M. (2002) Cross Country Diffusion of the Internet. *Information Technology for Development:* 25-31.

Klamer, L., Leslie, H., and Ling, R. (2000) The Qualitative Analysis of ICTS and Mobility, Time Stress and Social Networking. *Report of EUROSCOM P-903*, Heidelberg, Germany.

Klein, R. (1993) *Cigarettes are sublime*. Durham: Duke University Press.

Klonner, S., Nolen, P. (2008) Does ICT Benefit the Poor? Evidence from South Africa, University of Essex - mimeo.

Kopomaa, T. (2000) *'The City in your Pocket': Birth of the Mobile Information Society*. Helsinki: Gaudeamus.

Koskinen, I. (2008) Mobile Multi-Media : Uses and Social Consequences. In J.E. Katz (ed.) *Handbook of Communication Studies* (241-256). Cambridge: MIT Press.

Lasen, A. (2002) *The social shaping of fixed mobile and mobile networks: A Historical comparison*. Surrey: DWRC, University of Surrey.

Latour, B. (1999) 'On-Recalling ANT.' In J. Law and J. Hassard (eds.) *Actor Network Theory and After* (15-25), Oxford: Blackwell.

Latour, B. (2005) *Reassembling the Social: An Introduction to Actor Network Theory*. Oxford: Oxford University Press.

Laurier, Eric. (2002) "The Region as a Socio-Technical Accomplishment of Mobile Workers." In B. Brown, N. Green, and R.Harper (eds.) *Wireless World: Social and Interactional Aspects of the Mobile Age*, *Computer Supported Cooperative Work* (46-61).London: Springer-Verlag.

Lefebvre, H. (1991) *The Production of Space*. trans. Nicholson-Smith, D. Oxford: Blackwell.

Lemish, D., and Cohen, A. (2005) On the gendered nature of mobile phone culture in Israel. *Sex Roles*: *A Journal of Research,* 52(7-8): 511-521.

Lenhart, A. and J.B. Horrigan. (2003) Re-Visualizing the Digital Divide as a Digital Spectrum. *IT & Society 1(5): 23-39*

Licoppe, C. (2004) Connected presence: the emergence of a new repertoire for managing Social relationships in a changing communications technoscape. *Journal of Environment and Planning: Society and Space,* 22: 135-56.

Lie, M. and Sorensen, K.H. (1996) Making technology our own? Domesticating technology into everyday life. Oslo: Scandinavian University Press.

Ling, R. (2008) *New Tech, New Ties: How Mobile Communication is Reshaping Social Cohesion*. Cambridge, MA: MIT Press. Ling, R. (2004) *The Mobile Connection: The Cell Phone's Impact on Society*. San Francisco: Morgan Kaufman.

Ling, R. (1997) 'One can talk about common manners!' Use of mobile telephones in inappropriate situations.' In L. Haddon (ed.) *Communication on the move; experience of mobile telephony in the 1990's*.COST Report, Telia, Farsta.

Ling, R. and Donner, J. (2009) *Mobile Communication: Digital Media and Society Series*.Cambridge: Polity Press.

Ling, R. and Haddon, L., (2001) 'Mobile telephony and the coordination of everyday life.' In *Machines that become us*. New Brunswick, NJ: Rutgers University.

Ling, R and Hemelsern, P. (2000) 'It must be necessary. It has to cover a Need: The Adoption of Mobile Telephony among pre-adolescents and Adolescents.@ Paper presented at a seminar, Sosiale Konsekvenser ar mobiltelefononi, Organised by Telenor, 16 June, Oslo. Norway.

Ling, R .and Yttri, B. (2002) 'Hyper-Coordination via Mobile Phones in Norway.' In J. Katz and R. Aakhus (eds.) *Perpetual Contact: Mobile Communications, Private Talk, Public Perfomance* (139-169). Cambridge: Cambridge University Press.

Love, S., Perry, M. (2004) 'Dealing with Mobile Conversations and Public Spaces: Some Implication for the Design of Socially Intrusive Technologies.' Paper presented at CHI 2004, 24-29 April, Vienna, Austria.

Mackay, H. (1997) 'Consuming communication technologies at home.' In H. Mackay (ed.) *Consumption and everyday life* (261-294). London: Sage Publications.

Mazrui. A . and Okigbo, C. (2004) 'The Tripple Heritage: The Solitary Soul of a continent.' InC.C. Okigbo and F. Eribo (eds.) *Development and Communication in Africa* (15-30). Lanham: Rowman and Littlefield Publishers.

Menpaa, T. (2000) "Digitaalisen arjen ituja. Kaannykka ja urbaani elamantapa" [The Shoots of day-to-day digital life. The Cell Phone and Urban Lifestyles]. In T. Hoikkala and J.P. Roos (eds.) *2000 luvun-elama: Life in the 21st centuary*. Helsinki: Gaudeamus.

Maier, S. and Nair-Reichart, U. (2007) Empowering Women through ICT-Based Business Initiatives: An Overview of Best Practices in E-Commerce/E-Retailing Projects. *The 49 MIT Press*, 4(2): 43-60.

Makulio, A. (2012) Privacy and Data Protection in Africa: A State of the Art. *International Data Privacy Law*, 2(3): 163-78.

Malinoswki, B. (1922) *Argonauts of the Western Pacific: An account of Native Enterprie and Adventure in the Archipelagoes of Melanesian New Guinea*. London: Routledge and Kegan Paul.

Mann, C. L. (2004) Information technologies and international development: Conceptual clarity in the search for commonality and diversity. *Information Technologies & International Development,* 1(2): 67–79.

Mansell, R. and Silverstone, R. (eds.) (1996) *Communication by design: The Politics of Information and Communication Technologies*. Oxford: Oxford University Press.

Mansell, R. (2002) From digital divides to digital entitlements in knowledge societies. *Current Sociology,* 50(3): 407–426.

Marcus, G., and Saka, E. (2006) "Assemblage ." *Theory, Culture and Society*, 23(2-3): 101-106.

Maroon, B. (2006) 'Mobile sociality in urban Morocco.' In A. Kavoori and N. Arceneaux (eds.) *The cell phone reader: Essays in social transformation* (189-204). NY: Peter Lang.

Mas, L. (2009) The economics of branchless banking. *Innovations*, 4(2): 57-76.

Mas, I., and Morawczynski, O. (2009) Designing mobile money services. *Innovations Technology, Governance and Globalization*, 4(2):77-91.

Massey, D. (1993) Questions of locality. *Geography,* 78: 142-149.

Matterlart, A. (1983) *Transnational and the third world: The struggle for culture*. Westport, CT: Bergin and Garvey.

McKay, C. and Pickens, M. (2010) *Branchless banking 2010: Who's served? At what price? What's next?* Washington ,DC: CGAP.

McKenzie, D. and Wajcman, J. (1999) *The Social Shaping of Technology*. Buckingham: Open University Press.

McQuail, D. (2000) *McQuail's Mass Communication Theory*, 4th Edition. London, Thousand Oaks and New Delhi: Sage Publications.

Mead, M. (1930) *Growing up in New Guinea: A Comparative Study of Primitive Education*: New York: William Morrow and Co.

Mercier, P. A. (2001) Nouvex Moyens de Communication interpersonelle et Partage des roles.

Meso, P., Musa, P. and Mbarika, V. (2006) 'Towards a Model of Consumer Use of Mobile Information and Communication Technology in LDCs: The Case of Sub-Saharan Africa. *Information Systems Journal*, 15: 119-146.

Meyrowitz, J. (1985) *No sense of Place: The impact of electronic media on social behaviour*. Oxford: Oxford University Press.

Milek, A., Stork, C. and Gillwald, A. (2011) Engendering communication: A perspective on ICT access and usage in Africa. The Journal of Policy, Regulation and Strategy for Telecommunications, *Information and Media,* 13(3): 125-141.

Miller, D. and Slater, D. (2000) *The Internet: An Ethnographic Approach*. New York. Berg.

Misa, T. (1994) Retrieving sociotechnical change from technological determinism. In M.R. Smith and L. Marx (eds.) *Does technology drive history?* (115-141). Cambridge, MA: MIT Press.

Mobile Money Africa (2013) *2013 Report*. Retrieved on 9/3/13 from mobile-money-gateaway.com/event/mobile-money-africa-2013.

Molony, T. (2009) 'Trading Places in Tanzania: Mobility and Marginalization at a time of travel saving technologies.' In M. de Bruijin, F. Nyamnjoh and B. Inge (eds.) *Mobile Phones: The new Talking Drums of Everyday Africa*. Leiden: Langaa RPCIG.

Morawczynski, O. (2008) Surviving in the Dual system: How M-PESA is fostering urban-to-rural remittances in a Kenyan slum. Proceedings of the Eighth International Conference on Human Choice and Computers (HCC8), Pretoria, South Africa.

Morawczynski, O. (2009) Examining the usage and impact of transformational m-banking in Kenya. In, N. Aykin (ed.). *International, design and global development* (495-504). Berlin: Springer.

Morawczyski, O., and Pickens, M. (2009) *Poor people using mobile financial services: Observations on customer usage and impact of M-PESA*. Washngton, DC: CGAP.

Morley, D (2003) 'WEhat's home got to do with it?' *European Journal of Cultural Studies,* 6(4): 435-458.

Morley, D. (1980) 'Texts, readers, Subjects.' In S. Hall et al. (eds.) *Culture, Media and Language* (163-73). London and NY: Routledge.

Morley, D. (1983) 'Cultural transformations: the politics of resistance.' In H. Davis and P. Walton (eds) *Language, Image, Media* (104-119). London: Blackwell.

Morley, D. (1986*) Family Television: Cultural Power and Domestic Leisure*. London and New York: Routledge.

Mulama, J. (2007) A rural-urban digital divide challenges women inter press service, 15 Feb. Accessed on 12/10/11 from http;//www.ipsnews.net.

Murtagh, G. M. (2002) "Seeing the "Rules": Preliminary Observations of Action, Interaction and Mobile Phone Use.In B. Brown, N. Green, and R. Harper (eds.) *Wireless World: Social and Interactional Aspects of the Mobile Age* (81-91). New York: Springer.

Muto, M. and Yamano, T. (2009) The Impact of Mobile Phone Coverage Expansion on Market Participation: Panel Data Evidence from Uganda. *World Development,* 37(12): 1887-1896.

Naz, F., (2006) Arturo Escobar and Development Discourse: An Overveiw. Asian Affairs, Vol. 28, No. 3, 64-84, July - September 2006

Newfield. N, A., Kuehl, B.P., Joanning, H., and Quinn, W.H. (1991) We can tell you about psychos and shrinks: Ethnography of the family therapy of adolescent substance abuse. In. T.C Todd and M.D. Selekman (eds.) *Family Therapy approaches with adolescent substance abusers* (277-310). Boston: Allyn and Bacon.

Nyamnjoh, F., de Bruijin, M. and Inge, B. (2008) *Mobile Phones: The new Talking Drums of Everyday Africa*, Leiden: Langaa RPCIG.

Nyamnjoh, F. (2008) *Married but available*. East Lansing: Michigan State University Press.

Ochieng, R. O. (2000) Global information flows. *Library Management Journal,* 21(4): 215-216.

Olkowski, D. (1999) Flows of desire and the body-becoming. In E. Grosz (ed.) *Becomings: Explorations in time, memory, and futures* (98-116). Ithaca and London: Cornell University Press.

Opoku-Mensah, A. (2001) Marching on: African feminist media studies. *Feminist Media Studies,* 1(1): 25-44.

O'Reilly, K. (2009) *Key Concepts in Ethnography*. London: Sage.

Orlove, B. (2005) Editorial: Time, society and course of new technologies. *Current Anthropology*, 46(5): 699-700.

Overa, R. (2006) Networks, distance and trust: telecommunications development and changing trading practices in Ghana, *World Development*, 34(7):1301-1315.

Postman, Neil (1992). *Technopoly: the Surrender of Culture to Technology*. Vintage: New York.

Pertierra, R., (2005) Mobile Phones, Identity and Discursive Intimacy. Journal of Human Technology1, 23-44

Plant, S. (2000) On the Mobile: The effects of mobile telephones on social and individual life. Accessed 20/11/10 http://www.motorola.com.mot/doc/0,1028,333,00pdf.

Porteous, D. (2006) *The enabling environment for mobile banking in Africa*. London: DfID.

Puro, J. (2002) Finland: a mobile culture. In J.E. Katz and M.A. Aakhus (eds.) *Perpetual contact: Mobile communications, rivate talk, public performance* (19-29). Cambridge. Cambridge University Press.

Radway, J. (1984) *Reading Romance: Feminism and the Representation of Women in Popular Culture*. Chapel Hill, NC: University of North Carolina Press.

Rafael, V.L. (2003) The cell phone and the crowd: Messianic politics in the contemporary Philippines. *Public Culture*, 15(3): 399-425.

Rainee, L. (2001) Technology and the Social World of American Teens. Presentation at the workshop, Domesticating the Internet, Commercialising the Family: Comparative Look at Families, the Internet and Issues of Privacy, Haifa, Israel, 4-6 June.

Rakow, L., and Navarro, V. (1993) Remote mothering and the parallel shift. Women meet the cellular phone. *Critical Studies in Mass Communication*, 10(2): 144-154.

Rheingold, H. (2002) *Smart mobs*. Cambridge. MA: Persius.

Rogers, E.R. (1962) *The Diffusion of Innovations*. Glencoe, Il: The Free Press.

Safaricom (2011) M-PESA customer an agent numbers. Http://www.safaricom.co.ke/fileadmin/M-PESA_Statistics_Jan 2011.pdf.

Sahay, S. (2001) Introduction to the special issue on "IT and Health Care in Developing Countries." *Electronic Journal on Information Systems in Developing Countries 5*(0): 1–6.

Salime, Z. (2010) Securing the Market, Pacifying Civil Society, Empowering Women: The Middle East Partership Initiative. *Sociological Forum,* 25(4): 725-745.

Samuel. J., Shah, N., and Hadingham, W. (2005) Mobile Communication in South Africa, Tanzania and Egypt: results from community and business surveys. In *Africa: The Impact of Mobile Phones*(44-52). Vodafone Policy Paper Series 2 http://www.vodafone.com/assets/files/en/AIMP_09032005.pdf.

Sander, C. (2003) *Migrant Remittances to Developing Countries - A Scoping Study: Overview and Introduction to Issues for Pro-Poor Financial Services.* London: DfID.

Schiller, H.I. (1991) Not yet the post-imperialist era. *Critical Studies in Mass Communication*, 8(1): 13-28.

Schwanen . T. and Mei-Po. K., (2008) The Internet, Mobile Phone and Space- Time Constraints. *Geoforum*, 39(3): 1362-1377.

Silverman, D. (1994) *Interpreting Qualitative Data - Methods for Analysing Talk, Text and Interaction*. London: Sage.

Silverstone, R., Hirsch, E. and Morley, D. (1992) 'Information and communication technologies and the moral economy of household.' In R. Silverstone, and E. Hirsch (eds.) *Consuming Technologies: Media and Information in Domestic Spaces* (15-31). London: Routledge.

Simonsen, J., and Kensing. F. (1997) Using Ethnography in Contextual Design. *Communication of the ACM*, vol 40: 82-88.

Sinha, C. (2005) Effect of Mobile Telephony on Empowering Rural Communities in Developing countries. International Research Foundation for Development (IRFD) Conference on Digital Divide, Global Development/Information Society. 14-16 November.

Smith, D., (2006) 'Cell phones, social inequality and contemporary culture in Nigeria' CJAS/RCEA, 40(3) 496-523

Smith, M.R. and M. Leo (eds.) (1994) *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge: MIT Press.

Smoreda, Z. and Thomas, F. (2001) Social networks and residential ICT adoption and use. Paper presented at the EURESCOM Summit 2001 3G Technologies and Applications conference, November 12-15. Heidelberg.

Soar, M. (2000) Encoding advertisements: Ideology and meaning in advertising p[roduction. *Journal of Mass Communication and Society*, 3: 415-437.

Sorensen, K. (1994) 'Technology in use: two essays in the domestication of artefacts. STS working paper 2/94. Trondheim, Norway.

Sorensen, K. H. Aune, M. and M. Hatling (1996) 'Against linearity. On the cultural appropriation of science and technology. STS Working Paper, 8/96. Trondheim, Norway.

Spence, N. (2010). Gender, ICTs, Human Development, and Prosperity. *Information Technologies and International Development*, 6(SE): 69-73.

Spradley, J. (1979) *The ethnographic interview*. New York: Holt, Rinehart and Winston.

Taylor, A. (2005) Phone-talk and local forms of subversion. In R. Ling and P. Pedersen (eds.) *Mobile Communications: The Re-negotiation of the Social Sphere* (149-66). London: Springer.

Taylor, S, J., and Bogdan, R. (1984) *Introduction to Qualitative Research Methods. The Search for Meanings*. New York: John Wiley and Sons.

Taylor, A., and Harper, R. (2001) 'Talking Activity': Young People and Mobile Phones.' Paper presented at the CHI 2001 Conference on Human Factors in Computing Systems, Seattle. 31 March-5 April.

Taylor, S. (2002) *Ethnographic Research: A Reader*. London: Sage.
Thompson, K, (1997) *Media and Cultural Regulation*. London: Sage.

Turkle, S. (1996) *Life in the Screen: Identity in the Age of the Internet*. New York: Simon and Schuter.

Ureta, S. (2004) The immobile mobility. Paper presented at the Fifth Wireless World Conference, University of Guildford, UK, 15-16 July.

Urry, J. (2007) *Mobilities*. Cambridge: Polity.

Van Maanen, J. (1988) *Tales of the Field. On Writing Ethnography*. Chicago: The University of Chicago Press.

Van Maanen, J. (1990) *Researching lived experience human science for an action sensitive pedagogy*. NY: State University of New York Press.

Wade, R. (2002) Bridging the digital divide: New route to development or new form of dependency? *Global Governance,* 8: 365–388.

Waverman, L., Meschi, M., and Fuss, M. (2005) The impact of telecoms on economic growth in developing countries. In *Africa: The Economic Impact of Mobile Phones,* Vodafone Policy Paper Series, Number 3. Newbury, UK.

Wallis, C. (2013) *Technomobility in China: Young Migrant Women and Mobile Phones*. NY: New York University Press.

Walsham, G., Robey, D., and Sahay, S. (2007) Special issue on information systems in developing countries. *MIS Quarterly,* 31(2): 317–326.

Wei, R.,and Leung, L. (1999) Blurring public and private behaviours in public space; Policy changes in the use of cell phone. *Telematics and Informatics*, 16: 11-26.
Wei, R., and Lo, V. (2006) Staying connected while on the move: cell phone use and social connectedness. *New Media and Society*, 8(1): 53-72.

Weilenmann, A and Larsson, C. (2002) Local use and Sharing of Mobile phones. In B. Brown, N. Green and R. Harper (eds.) *Wireless World: social and interaction aspects of the mobile Age* (92-107). London: Sage.

Whyte, W. F. (1981) *Street Corner Society*. Chicago: Chicago Universiry Press.

William, R. (1974) *Television: Technology and Cultural Forms*. London: Fontana.

Williams, H., and Torma, M. (2007) Trust and Fidelity: From "under the mattress" to the mobile phone. In *The Transformational potential of m-transcation*s, Vol 6: (10-20). London: Vodafone.

Wise, J.M. (2012) Attention and ssemblage in the clikable world. In J. Packer, J and S.B. Wiley (eds.) *Communication Matters: Materialist Approaches to Media, Mobility and Netwroks*. London and New York: Routledge.

Wong, C..,and Hiew, P. (2005) Factors influencing the adoption of mobile entertainment: Empirical evidence from Malaysian survey. In W. Brookes, E. Lawrence, R. Steele and E. Chand (eds.) *Proceedings' of the International Conference on Mobile Business* (682-685). CA. IEEE Computer Society.

Yung, V. (2005) Brand names, nicknames and numbers: Reconstructing layers of Identity for mobile phones in Hong Kong. In Ling and Pedersons (eds.) *Mobile Communication Re-negotiation of the Social Sphere*. London: Springer-Verlag.

APPENDIX A: GUIDELINES FOR TRANSLATORS

To be read and signed by all translators

Objective
Your translation will be read and used by many people in the academic circles, often going up to the highest authorities. A poor translation is a hindrance to the presentation of the true picture of things and can cause a great deal of damage to this study. Your objective is to supply an accurate, clear and well-presented translation. The guidelines that follow have been drawn up to make your work conform to the highest standards of quality possible.

Expectations/tasks

a) Before starting work, ensure that you dress up appropriately, be time conscious and talk to people with respect. Use polite words at all times and do not interrupt a speaker until they have finished their thoughts.
b) Make sure that you have pen and paper and any other material that may have been supplied to you by the researcher.
c) The material/documents must not leave your secure location. It is your legal obligation to guarantee their confidentiality and safety at all times.
d) Before starting the actual translation, the first step is to listen to the entire interview to the end and ensure that you understand every word. In case you don't understand any bits of the interview please replay it and discuss among yourselves to ensure that a proper translation is achieved. You are free to contact the researcher, if necessary. Actual typing or writing must start only after you are sure you have mastered the whole interview. Doing a first listening through the interview will allow you to do a better and faster translation.
e) Translation must be done in the order of the interview. Your objective is to provide translation and not to alter the remarks or thoughts of the participants to improve them. Please translate word for word, pauses, exclamations, etc.
f) Proofread your completed work and hand over to the researcher.
g) Hand over all drafts, copies, documents and tapes to the researcher who will then decide what to do with them. No document/material should be left lying around.
h) Remain available for any changes or corrections that may be suggested by the researcher.

Translator's Name_____

Signature_____

Date_____

APPENDIX B: CONSENT FORM

My name is Leah Komen. I am a research student at University of East London. I am here to carry out a study on mobile phone use and any social changes that can be attributed to it. I kindly ask you to be honest and candid as you tell your experience with the mobile phone. The time spent will range between 45 minutes and one hour.
You are entitled to your opinion and are free to express yourself even if your opinion differs from others. Your contribution will be respected and your name will not be quoted or mentioned, instead for the purposes of accounting for the data and with your permission, I will use pseudonyms (nicknames or names that are not necessarily yours).The outcome of this study will be made available to you when it is fitting to do so.

You are free to give your consent or withhold it. You could also withdraw at any phase of the study if you so wish. If you agree and are willing to voluntarily participate in this research, please sign in the space below

I..... (name optional) do agree to participate in this research on my own volition.

Signature.....

Date……....

Researcher's name: Leah Komen

Signature…….

Date…….