

# **Towards a Critical Social Theory of Landscape**

Perceptions and Experiences of Land-use Change  
in Chepareria, Kenya

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## Abstract

Increasing human pressure on ecological systems has triggered a need to understand the complexities of human-environment dynamics. Using land-use as an example this thesis asks, how do individuals belonging to different social strata perceive and experience land-use? As well as, what do these perceptions and experiences say about the relationships between the post-structurally defined concepts agency, knowledge and landscape in the land-use dynamics? Perceptions and experiences are analyzed together with the post-structural concepts in order to understand the conscious and unconscious human and non-human forces that affect human-environment dynamics. This is applied on a case study in Kenya, West Pokot, Chepareria where a land-use change has taken place. Data was collected through one to two hour-long semi-structured interviews with respondents in Chepareria on their individual perceptions and experiences of land-use change. The concepts agency, knowledge and landscape are used to encourage analyses into; power as a multidimensional, dynamic and decentralised force; the effect of social structures and institutions; and the contextualisation and social construction of time and space.

Through the analysis of land-use change in Chepareria, interesting themes emerge on land-use dynamics. Subjectivity is found to have an important effect on land-use decisions and outcomes, which is seen for instance clearly in gender structures. Power saturates these structures of subjectivity, affecting agency and knowledge in their multiple forms for groups and individuals. Individual perspectives and experiences of the agency individual's hold, and the forms of knowledge individual's possess, constrains and creates opportunities, ultimately materialising and manifesting in the landscape. This can be seen in the politics of land-use where social orders can be including and excluding. Individual land-use perceptions and experiences are thus affected by a multitude of factors such as, but not limited to, different social structures and institutions, access to information, land-use constraints and opportunities, external and internal pressures, and future and past expectations and fears. Finally, all these aspects are affected by global, national and local levels that co-produce structures within the Cheparerian context. The findings show that post-structural social theory can contribute by highlighting the important, but often overlooked, human and non-human factors affecting human-environment dynamics.

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Thank you Per Knutsson for your support and belief in me.

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## Abbreviations

CIG	Common interest group
FGM	Female genital mutilation, or female circumcision
GDP	Gross domestic product
IPCC	Intergovernmental Panel on Climate Change
NGO	Non-governmental organisations
Sida	Swedish International Development Aid

## Translations

Baraza	Public meeting place
Elder	Respected person chosen by the community to give advice
Hotels	Restaurants/cafés
Mzungo	White person

## 1. Introduction

We stand in an anthropocene era – a time when Earth as we know it is changing at a previously unseen pace due to human activity (IPCC 2013). Increasing human pressure on ecological systems at global as well as local levels (Rockström et al. 2009, Plumwood 2006, Millennium Ecosystem Assessment 2005) has triggered an increasing need for research on human-environment dynamics. For a long time we have turned to natural scientists for an understanding of these dynamics. However today, it has become increasingly evident that the experts of natural science have a hard time explaining how humans interact with and change their environment and how the environment interacts with and changes humans. The last few years has witnessed a growing critique of the mainstream, primarily natural science-based, research on human-environment dynamics, claiming that potentially highly relevant contributions from social science research have been neglected. Knowledge about the many social processes is imperative if we are to rise to the challenges facing us today.

In response to a call from a range of researchers both from the natural and social sphere, I attempt to contribute to filling this gap with a post-structural social theory contribution to the study of a land-use change, as an example of human-environment dynamics. I will argue that post-structural social analysis on perceptions and experiences can give an insightful appreciation of the social structures affecting human-environment dynamics.

This research endeavour takes the form of a case study in an area in Kenya called Chepareria (see Appendix 10.1 and 10.2). This choice of location is owed to a researcher who worked in this area on land rehabilitation in the 1980s and recently returned to the area after 30 years, finding it transformed (Nyberg, Öborn et al. 2013) (see Appendix 10.3). His findings initiated communication between several researchers from different research institutions and disciplines (see reference Nyberg, Öborn et al.), which in turn resulted in a cross-disciplinary research initiative on land, livestock and livelihoods called the Triple-L initiative. Choosing to conduct my research in Chepareria meant conducting the first of a number of planned studies on

land-use change in West Pokot. By investigating the social aspects of a land-use change, I can provide an initial foundation on which to situate the natural science contributions (Sarewitz 2004) and analyse the many, and at times conflicting, social processes in human-environment interaction. Thus, not only can I provide an empirically based argument for the importance of critical social theory for research on land-use change dynamics in general, but also directly contribute to an initiative aimed at understanding such dynamics.

## **1.2. Problem, aim and research question**

This study attempts to make a social science contribution to research aimed at understanding human-environment dynamics by using a post-structural social theoretical point of departure. The study investigates interactions and dynamics between humans and their environment in an area where a land-use change has happened in a relatively short period of time.

The importance of analysing human and non-human contexts, social structures, power, knowledge, complexity, and cross-scale and level dynamics, to understand and explain land-use (Ostrom 2010, Adger, et al. 2009, Berkes 2008, Görg 2007, Lambin and et al. 2001, Peluso and Lund 2011, Cote and Nightingale 2012, Widgren 2012a), suggests that the post-structural social theoretical concepts of knowledge, agency and landscape, stressing the importance of perceptions and experiences, can be especially helpful in identifying important dynamics. Thus, I aim to explore the dynamics of human-environment relations entailed in a local land-use change in Chepareria division by qualitatively uncovering group and individual experiences and perceptions of the land-use.

The research questions are:

- How do individuals belonging to different social strata in Chepareria perceive and experience land-use change?
- What do the perceptions and experiences say about the relationships between knowledge, agency and landscape in the land-use dynamics?

## 2. Previous research

In the 1990s, land-use research was dominated by the natural sciences. As Adger et al. note, many perspectives dealing with human-environment dynamics have narrowly focused on ecological economic, physical, or technical aspects (Adger, et al. 2009, 336, Williams and Schirmer 2012). When faced with the incorporation of social science research to offer a holistic approach to the study of human-environment systems, natural science researchers were, and still are, hesitant. The social science findings, by definition, do not lead to the same conclusions as those valued in natural science, such as objectivity, predictability, generalizability, preciseness and spatial congruency, and so, fit uneasily into the natural science research (Meyer and Turner 1992, Bryman 2012, Turner II, Meyer and Skole 1994). Additionally, when incorporating social science factors one finds that they are rarely absolute, objective or quantifiable (Nassauer 2005, 275). Thus, while natural sciences allow for identification of exogenous “absolute and objective” factors, the endogeneity found in the organisation of society tends to be ignored (Adger, et al. 2009, 337-338, Mitchell and Parkins 2011).

The previously dominant natural science investigations on land-use have lead to important findings, but generally, when faced with the challenges of social sciences, the method of integration becomes more sequential. The research begins with one perspective, based in natural science, and thereafter adds the social dimensions. This creates an artificial limitation imposed by a predetermined terminology that is not adequate in dealing with the multitude of social varieties in human-environment dynamics (see research such as Spies, Ripple and Bradshaw 1994, Meyer and Turner 1992). More importantly, these attempts at understanding human-environment systems do not generally question the division between social and ecological, physical or biological, ultimately reducing important complexity in land-use research (Forman 1995, 136, Widgren 2012b).

Nevertheless, there is a growing understanding from both the natural and social sciences that disciplinary divisions are artificial and limit understanding (Haraway 1991, Morton 2007). Land-use research requires attention to both human and

environment dynamics and thus an opening of the epistemological and ontological perspectives. Overbridging might be achieved by using a common case, such as the Triple-L, and/or by engaging in a philosophical discussion into knowledge and how to communicate past the divisions, an introduction to which might be found here (Koizumi 2001). In the precarious anthropocene era, overlooking the complex human dimension, or overlooking the human dependency on the physical, ecological and biological, imply questionable abilities to adequately contribute to understanding human-environment dynamics in land-use (Simons 2013, Holmgren 2013, Smith 2013).

## **2.1. Social science adds to land-use research**

Having understood that their colleagues were struggling to understand the social science dynamics connected to land-use, a growing number of social scientists mobilised to understand the interconnected area of human-environment systems. Dominant contributions involved those investigating the role of governance and management and those investigating the role of politics and power structures.

### **2.1.1. Governance and management**

Governance and management of natural resources such as land-use is undoubtedly an important area of study to understand the human-environment dynamics. With this research came a focus on complexity, but also a desire to systematise this complexity, while allowing for contextualisation. Land-use change is complex both at the physically temporal and spatial level but also at the interrelating and interacting social level. Human-environment systems within which land-use change takes place are “diverse, complex, dynamic and vulnerable” (Jentoft 2007). As Berkes writes, complexity means that interconnections between dimensions cannot be described by a few rules (Berkes 2008). For example, Ostrom’s work on governance systems, underlines localised systems, while systematically dividing elements of influence into a large number of categories and subcategories (Ostrom 2010, Ostrom 2007, Ostrom 2009). Her work led to important findings that empirically undermined previously dominant solutions and understandings of problems of the commons in natural

resource management and governance (Boissière, et al. 2009, Agrawal, Chhatre and Hardin 2008).

Another important finding from governance and management researchers is the importance of scales and levels for complex human-environment systems (Cash, et al. 2006, Brondizio, Ostrom and Young 2009, Gupta and Ferguson 1997a, Berkes, Colding and Folke 2003). In governance and management research it is evident that attention to the workings of decision-making at several scales and levels is necessary to accommodate for the multitude of actors, institutional formations and networks affecting governance (Berkes 2008, Agrawal 2001, Berkes 2010, Lambin, Geist and Lepers 2003, Brondizio, Ostrom and Young 2009, 254). For clarity, scales are defined here as the dimension measuring or studying a phenomenon<sup>1</sup>, while levels are defined as the unit of analysis at different positions on a scale (Cash, et al. 2006, Brondizio, Ostrom and Young 2009). These scales dynamically interact at different levels, producing cross-scale, cross-level, multi-scale and multi-level interactions in various forms (Cash, et.al. 2006). While the study of scales and levels is difficult since one phenomenon can cross many different scales and levels, this also prescribes that complex interactions of scales and levels should be grasped in their entity (Görg 2007, 690), which had led to great steps forward in the social science contribution to understanding human-environment dynamics.

### **2.1.2. Politics and power structures**

Many of the topics analysed by the governance and management oriented researchers were also approached and analysed by researchers with greater expertise in politics and power. Thus, while they acknowledge the multitude of actors across scales and levels, it is the interest in the power instilled in these relationships that has led to some of the most important points from researchers of the politics of land-use and human-environment dynamics.

Some of the dimensions that political ecology adds to research on human-environment dynamics are through input from political economy and development studies that recognise how the social economy is embedded in the environment (Barry

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<sup>1</sup> Observe that scales does not necessarily mean social hierarchies in social science, although there are some misguided assumptions that this is the case (Olson, et al. 2004).

2007). Political ecology has helped bring forth larger structural economic processes at work in the local through globalisation via global markets, politics, economics, media, etc. (Durham Peters 1997). Political economists have for example long studied the relationship between humans and the environment from an economic perspective. For example, Polanyi described the Western transformation of land from “an element of nature”, in a cultural and social context to the isolation of it in order to artificially construct a market through the promotion of enclosures and privatisation (Polanyi 1944, 178). This construct still dominates much thinking and policy-making around land-use today all over the world, despite the work of, for example, Ostrom and others (Lambin and Meyfroidt 2010). Another form of embeddedness can be seen in the work of eco-feminist political economists who highlight that the sphere of production, or the formal economy, such as production for the market, rests on the sphere of reproduction, or informal economy, such as domestic work and childcare, which in turn rests on natural resources (Barry 2007, 192). This highlights the structural systems of inequalities that “assume” women as well as the environment will provide certain basic necessities of reproductive calibre.

As political ecologist Widgren notes, “(i)n the concept of social-ecological systems, the nature of society and of the power relations that govern natural resource management are seldom problematized” (Widgren 2012a, 101-102). Through analyses into power, much focus has been on inequality and social conflict over land resulting in beneficiaries and losers of land conflicts occurring within broader political, social and economic contexts (Peters 2004, Smith and Stirling 2010, Peluso and Lund 2011). This includes careful analysis into social forms of access and control over, for example land-use, as well as the workings of politics at different scales and levels in the face of social, economic and political changes (Peet and Watts 2004). This means that environments are politicized and can through unequal power relations produce, strengthen or undermine power relations (Bryant 1998). What this means in land-use can be seen for example in Ribot and Peluso’s work on access and ability. Access to land and people and ability to affect land and people becomes important in land-use change (Ribot and Peluso 2003, 155-156). As Ribot and Peluso write, “Different people and institutions hold and can draw on different “bundles of powers” located and constituted within “webs of powers””, which in turn are positioned in



different ways through historical and geographical scales (Ribot and Peluso 2003, 154).

Considering these forms of broad structural inequalities, representatives of political ecology generally ask for specific research into situations and processes as well as identifications of groups that are included and excluded to speed up analyses (Peters 2004, 271, Hornborg, Clark and Hermele 2012b). This is deemed important despite risks of overemphasising predetermined classes or methods according to economic or historical structures (Bryant 1998). The importance of making social contextual analyses in land-use is illustrated in a multitude development-oriented work. For example, from Kenya, the World Banks support of development ended up, according to themselves, worsening conflicts over resources as policies fed into already existing structures and power relations, worsening institutional inequalities (Bruce and Mearns 2002, 15, 18). Nonetheless, predetermined classes or methods might overlook other contextual complex processes and force social experiences and perceptions into compartments that are too rigid (Bryant 1998).

In the last years, the expanding understanding of the concept of globalisation has led several social scientists, particularly political scientists, to study globalisation processes in land-use (Lambin, Geist and Lepers 2003, Widgren 2012a, Grau, et al. 2003, Hecht, et al. 2006, Lambin et al. 2001, Kooster 2003, Rudel 2002, Hornborg, Clark and Hermele 2012a). While globalisation has affected most social science research, it is perhaps the political ecologists that have taken the processes it entails most seriously. The work has highlighted the deficiency that arises when research is limited to a specific area of study. Localised and isolated systems research found in land-use stands in contrast to the increasingly glocalised<sup>2</sup> and globalised world with multi-level and multi-scale interactions (Widgren 2012a, 103). The social change in the global has been identified as accelerating, widening and intensifying interconnectedness between people, and as such, it is important in terms of contextualising an area (Hylland Eriksen 2007, Young, et al. 2006). Undoubtedly, we are becoming an interconnected world where ground breaking, or rather as in this

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<sup>2</sup> Glocalisation is here used as a term describing interconnected scales and levels from local to global (Leslie 2007). Local remote areas are increasingly taking charge of the information flows in the world and taking part in the creation of knowledge (ibid.). Glocalisation fills the gap describing the bottom-to-bottom information flows that do not follow traditional hierarchical information movement.

case, land-changing information is spreading via mobiles, computers, internet, etc. to places as (previously) remote as Chepareria. A global political focus consequently informs us that the perspectives and experiences relayed locally can be formed by international mass media and global capitalism as much as it can be formed by individual experiences of the immediate proximate environment

## **2.2. Natural science approaching social science and vice versa**

With a wide array of input from social science, new approaches started forming in natural science land-use research. Most influential is the work on resilience.

The resilience perspective places human actions centrally in ecological ecosystem dynamics as opposed to the mainstream exclusion or externalization of humans in ecology (Folke 2006, 262, Rockström 2013). The past decade has seen an increasing amount of attempts from resilience and other natural science based approaches to include social processes inspired from a variety of different fields (Folke 2006, 253, Lambin 2005, DeFries, Foley and Asner 2004). The findings mainly speak to their natural science colleagues, underlining the non-linearity of the world (Gunderson 2000), something that the previously mentioned social scientist contributors might not find surprising. A positive aspect of resilience is the problem-orientated approach used to increase understanding and the embracing of the complex interactions and interdependencies between humans and their environment (Moberg, et al. 2011). Much of the previously mentioned research from social science on human-environment dynamics has been incorporated into land-use research more or less successfully.

However, while resilience has been working to add new social science points of view, a revival of post-structural social theory has swept over many disciplines researching human-environment dynamics, particularly among critical geographers. The critique that is currently being raised can be seen as highly relevant to resilience work as well as other human-environment research.

Critical geography builds on and criticizes work from cultural and human geography. Supported by environmental psychologists, cultural geographers, design behaviourists

and environmental historians (Nassauer 2005), it looks at interactions with culture in feed-back loops through perception, cognition, values, cultural conventions and concepts, physical manifestations of culture in landscape, and differences between scientific and cultural concepts of landscape (Nassauer 1995). Land has been identified to attract people and consequently also to attract people to change them in order to afford perceived opportunities in the form of; showing of pride; restoration of psyche; creation of safety; expansion of movement and information; and to seek refuge and prospects (Nassauer 2005). Yet, much of the research on cultural expressions and representations visible in the physical place, is criticised as being too 'fixed' (Bender 1993, Cresswell 2009). Thus, post-structural social theory has become an important tool going beyond these culturally relative surroundings and engages with questions of philosophy and knowledge at a deeper level, opening up human-environment dichotomies (Koizumi 2001).

Those acquainted with the work of post-structuralism will know how it questions conventional norms and knowledge, and can in the same way affect research on human-environment dynamics. For example, Bennett has recently expressed the need to focus on the non-human forces in political science due to the effect they have on the human-environment dynamics (Bennett 2010), while Latour asks if there is even anything that can be called natural or social (Latour 1993, Latour 2005), breaking down or blurring the divide with relational ontology. The practicalities of this in empirical work are not easy. Latour and Bennett, for example, ask that researchers connect themselves to the philosophical and metaphysical innovations that blur disciplinary lines to understand respondents and how actors fill the world with infinite forms of agency resulting from human and non-human forces (Latour 2005, 51, Bennett 2010).

This philosophical questioning has been embraced by critical geography. Here, scales and levels, social processes and power relations are again important (Harding 2009, Forsyth 2008, Lawhorn and Murphy 2012, Cresswell 2009). However, there is also a need to critically examine how knowledge and agency is constructed and engage with different and diverse contexts (Lawhorn and Murphy 2012). This has led researchers to look closer at systematic disempowerment, structures, embodiment of practice, exclusion and norms (Cresswell 2009, Murdoch 2006, Head and Gibson 2012).

Importantly, knowledge and agency construction connects closely to the points made by several previously mentioned researchers on human-environment dynamics. When seeing knowledge as a construct and process and agency in multiple forms, the importance given by governance and management researchers to networks, scales and levels, contexts and governance; and the importance given by politics and power researchers to politics, power relations, access and control, is seen as an entity.

### **2.3. Moving into empirics and theory**

Regarding the capacity to produce empirical results from this relatively new input from post-structuralism, I have already indicated certain difficulties. I intend to overcome this by delimiting my study to using data from individual perceptions and experiences collected in a case study in Chepareria but also by delimiting the theoretical contribution to useful analytical concepts.

Generally, one of the most evident contributions of post-structural social theory is that it embraces complexity through qualitative data, for example, through long interviews investigating perceptions and experiences, in which many social phenomena connected to social theoretical concepts can be found. Perceptions and experiences are important since philosophical and social systems of ideas tend to control human action (Hughes 2005, 130), and formal and informal institutional structures are in turn created for their respective contexts in order to deal with specific problems or situations. These systems of ideas and institutions, in turn, are reflected and materialised, co-produced and co-emerged in the concrete/physical world.

Paradoxically, few research papers have dealt specifically with local perceptions and experiences in land-use (Gilg 2009, S77, Williams and Schirmer 2012, Adger, et al. 2009). Yet, without inquiring into the way people experience and perceive human-environment dynamics it can prove difficult to understand why and how changes in the dynamics have taken place. Despite post-structural social theory generating an overwhelming nebulosity, several researchers have pointed to the importance of taking this step. For example, Lambin, Geist and Lepers find an academic gap that needs to be filled with “integrated, place-based research on land-use [...combining...] agent-based systems and narrative perspectives of understanding” (Lambin, Geist and

Lepers 2003, 205), looking not just at natural variability but also the highly variable economic, technological, demographic, institutional<sup>3</sup> and cultural factors (Lambin, Geist and Lepers 2003, 216-222). Adger et al. take this further and argue that “an insightful appreciation of individual and social actions (...) needs to be discussed and understood in terms of the characteristics of individuals and the societies that they compose” (Adger, et al. 2009, 345). Taking yet another step further, Nightingale, borrowing from Foucault, describes how the power relations in society and individuals become materially manifest (Nightingale 2011a, 154), demanding in-depth studies into “the recursive relationship between *knowledge*, *agency* and *context*” (emphasis added. Cote and Nightingale 2012, 484). Personal or societal judgements of what is valuable and/or important in life frame the development of institutions, which translate into action and regulate behaviour (Adger, et al. 2009, 338). Thus, individual and group perceptions of reality are not only a fundament to determining action, but it is also a fundament to social constructions (Jentoft 2007, 361, Downs and Meyer 1978, Adger, et al. 2009).

To underline the connection from perceptions and experiences to the surrounding world, I have chosen to use a theoretical concept used by both natural and social scientists, albeit in different ways, namely landscapes. I will use a social science definition incorporating post-structural elements. As a short background, the theoretical concept of landscapes in social science finds its roots, among other areas, in perceptual geography where “the belief that human behaviour is, in large part, a function of the perceived world, and that satisfying explanations of behaviour must take into account the perceived world” (Downs and Meyer 1978, 60). In this context, I use landscape as a way to acknowledge the importance of the perceived and experienced world, as well as the complexities that these can uncover about construction and reconstruction in the physical and non-physical (Jerneck and Olsson 2008, Görg 2007, Simmons 1994, 168, Bryman 2012, 33-34). Landscapes are thus a place where Foucault’s theoretical triad of knowledge, power and subjectivity are in constant flux (Pollock-Ellwand 2005).

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<sup>3</sup>The definition of institutions provided by Lambin Geist and Lepers is comparable to the one applied here. See Chapter 3. Theoretical approach.

Considering the earlier stated need to consider the non-human in human-environment dynamics, it is important to underline that fundamental to landscape is the idea that *place* matters, whether it is a socially constructed space or a concrete place, and that the *scales* and *levels* of place are not politically or socially neutral but involve aspects of power (Görg 2007, 958). The social production of space interacts with and reacts to the conditions of the concrete place, modifying each other (Görg 2007, 958-959, Adger, et al. 2009, 348). Thus, while allowing for investigation into the social and cultural complexity and plurality, landscape maintains the intrinsic link to the non-human factors (Görg 2007, 960-961, Fahrig 2005), which is particularly appealing considering my focus on land-use.

### **3. Theoretical approach**

The theoretical approach builds on the last part of the literature review. I will introduce post-structural social theory before developing the concepts knowledge, agency and landscape, within the post-structural approach.

#### **3.1. Post-structural social theory**

Generally, social theory, on which post-structural social theory build on, can be defined as “the systematic study of human society, including the process of social change and transformation” (Barry 2007, 9). Post-structural social theory, however, adds a critical dimension to examining the everyday structuring of life (Del Casino 2006). As such it fits well into investigations into land-use change, particularly with the assumption that perceptions and experiences have implications for the dynamics between human society and the environment.

When changes occur in an interconnected space and when the point of incision for research in that sphere is human perception and experience, post-structural social theory can highlight what might need particular analytical attention. Bourdieu develops this by discussing the logic of practice, namely that each agent lives in a multidimensional social time and space where practice in everyday life tend to reproduce dominant social dispositions and affect agency (Bourdieu 1980, Bourdieu

1972). This happens according to Wegner, since what we call conscious will is an experience that is portrayed by the mind, not necessarily a cause of behaviour (Wegner 2002). In fact unconsciousness is the main processor of information and reason for behaviours in most cases, while behavioural change according to conscious will is much rarer (Wegner 2002). This means that we need to understand what affects the unconscious as well as the perceived conscious. In cases such as interviews about land-use change, this moreover implies that asking people what and why they chose to do something is not sufficient, but the broader social structures that reproduce relationships of power and identities are also important.

This philosophical contribution also helps override the divide between the natural and social disciplines needed to reach philosophical innovation (Latour 2005). If the human mind is a place wherein a multitude of processes are at work at a quantum physical level, where perceptions and experiences in the form of electric pulses combine with the physical limits and constraints of our individual mind, it is no different from any other aspect in bio-physical science limited by the laws of quantum physics. Thus, when faced with such a complex interconnected construct as the human mind, how we approach understanding a land-use change can be infinitely complicated at a quantum physical level or, by using the complexity of the human mind to our advantage, relatively simple. In this case the latter is pursued, assuming that what people experience and perceive about a land-use change can aid understanding, and certainly say enough to help contribute to understanding, social structures in human-environment dynamics.

With this introduction, I will develop the concepts that are used to analyse the results from the respondents, namely knowledge, agency and landscape. The combination of these covers much, if not all, of the critique from the social sciences on what is lacking in land-use research, but in particular, ties the analysis to the philosophical innovations from post-structural social theory, as described by Latour and Bennett. Combining these with landscape's conviction of the possibilities of experiences and perceptions will enable me to extract information regarding the dynamics between humans and their environment with a critical awareness of post-structural social theoretical phenomena.

### 3.1.1. Knowledge

Following post-structural critique, knowledge about the human and non-human world is seen here as a process that is “plural, partial, contingent, situated and contested” (Mehta, et al. 1999). Knowledge can be both individual knowledge and collective or shared knowledge. Common knowledge in a community or collective knowledge and memories can be understood as guiding a community, but can change over time depending on interactions with power, social structures, context and agency. Collective memory both reflects experiences as well as values in complex relationships (Berkes, Colding and Folke 2003, 20-21). Because collective memory is distributed between active agents in a community as well as materialised in the resources they use (Wertsch 2002), collective knowledge can affect both the actions of groups of people as well as individuals through socialisation and customs (Assman and Czaplicka 1995).

Determining which or whose knowledge counts, as well as who has access to knowledge, can be helped by looking at social institutions, structures and power. Here, institutions are seen as processual and dynamic structures of social practices regulating, enabling and constraining human relationships with other humans and/or their surroundings (Mehta, et al. 1999, 5, 13). The benefits of taking this perspective is that social practices and structures can be seen in their context that go beyond fixed divisions, investigating not only what people do, but also what they know or believe<sup>4</sup> (Mehta, et al. 1999, 6).

### 3.1.2. Agency

Agency concerns the capacity for individuals to make their own individual free choices. While there is a debate on whether agency or structures have primacy over human behaviour (Bourdieu 1972), with the presupposition that asking people about their perceptions and experiences of land-use change is a way into finding common structures, I find it most appropriate to see agency and structures as complementary.

Here, agency is a form of solution to the problem of attaining and maintaining control to carry out resolves (White 1985, 188). Agency consequently links behaviour to

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<sup>4</sup> Note: this line of thinking can be further explored through Foucault.



social structures such as those involving “norms, networks, authority, organisation, social control, regulation, trust, social cognition, and so on” (Shapiro 2005, 275), which links to the human and non-human aspects of context and the power relationships imbued in these<sup>5</sup>. Agency relationships can be seen in for example divisions of labour, issues related to social capital, access to knowledge, collective efforts, asymmetric information, adverse selection, compliance, trust, moral hazard, conflicting goals, opportunism, and so on (Shapiro 2005, 275). Importantly, and connected to land-use change, agency has been noted to foster “the alteration of large-scale drivers of change at the local level” (Bieling, Plieninger and Schaich 2013, 201).

Agency also connects to issues of intersectionality and/or the identities in society. Identity here is seen as a social construct in constant change rather than something biologically determined, and thus systems of power can affect the construction of identity through dichotomizing and hierarchizing groups, constraining subjectivities. Nightingale writes about the importance of intersectionality, which incorporates the complex interaction between various forms of subjection that add up to produce inequality or differences in abilities internalised in subjects through relations of power (Nightingale 2011a, 153). Subjectivity is frequently understood in post-structuralism as co-produced and as co-emerging with the human and non-human through power and power relations, where power is a multidimensional force, producing the subject,

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<sup>5</sup> The concept of agency also has a strong tradition in economics, where relationships are analysed by identifying the agent and principal, where the agent acts for the principal that guides and corrects the agents’ actions (Shapiro 2005, 275). However, as is made clear by Shapiro, actors are generally not just a principal or an agent, but are in fact frequently both agent and principal to varying extents over time and in different situations (Shapiro 2005, 267).

Agency has not only been connected to human relationships. In fact there are researchers currently trying to decipher how to recognise agency of the service provider generally called “the environment” or more romantically (Morton 2007) “nature” (Plumwood 2006, 116). Globally, there is an overwhelmingly problematic relationship to the *ecosystem* agent, instigated and driven by the principal *society*. Of course, as agency theory in its extended interdisciplinary definition as described by Shapiro makes clear, these relationships are not simply one or the other. This is important to note, because the distinction humans tend to make placing themselves outside nature and create two separate spheres between which power relations play out, is a global problem of attitude in solving sustainability. For example, it is repeatedly stated that poorer countries are more dependent on natural resources than rich countries, an odd statement insinuating that for example computers in the rich countries are made from something else than what the ecosystem provides. This kind of rhetoric evokes the old suppressive rhetoric used against the most oppressed or vulnerable groups, claiming that these people are “closer to nature”, less rational, less creative, etc. This global example shows the agent-principal and principal-principal relationship complexities and power struggles, “nature” being repeatedly described as the ultimate agent. In this sense, “land-use” alone constitutes a reproduction of the power relations between ecosystems and society, since land-use is defined by how *societies* use land, ignoring the ecosystem side.

and giving or taking away the subjects ability to act (Nightingale 2011b, 123, Allen 2002, 135).

Specifically, power is seen as a something “which categorizes the individual, marks him by his own individuality, attaches him to his own identity”<sup>6</sup> (Foucault 1983, 212). Power is thus dynamic and can be strategically, or randomly rearranged with the consequence of new social structures and institutions emerging. Importantly, power is seen here as something that is always present, decentralised in both the oppressor and oppressed and exercised through normative discourse that is disciplining and constitutive, and materialises and manifests itself at all levels (Fincher 2007, 22-23). For example, gender identities can be seen in several academic studies as limiting individuals to certain gendered spaces in the community, such as domestic spaces, with the power manifesting in the gendered division of labour, access, possibilities and opportunities (Massey 1992, Jerneck and Olsson 2012, Barry 2007, 185, Buckingham-Hatfield 2000).

### **3.1.3. Landscape**

Landscape is here defined with the help of Adger et al. as “dynamic social constructions which reflect process and change through historical and contextual experience” (Adger, et al. 2009, 348). The importance of contextualisation is established in all land-use research, however, with the inclusion of post-structural social theory into the concept of landscape, the context changes from physical and static, to include the non-physical and dynamic. Landscape can root the study physically, for example when noting materialisations in time, space and territory (Solon 2005), but also root it to the non-physical, for example by investigating place as a conceptualisation of culture and politics and the changing relationships of power in a world that is becoming increasingly deterritorialised (Gupta and Ferguson 1997a). This means landscape can mean both a personally subjective experience as well as a shared collective symbol and/or a physical or geographical entity indicating strong implications for the individuals and societies interacting and defining

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<sup>6</sup> Michel Foucault’s work is used liberally for a few concepts in this thesis. Foucault has been criticised to have inconsistent theoretical and conceptual ideas. However, he himself claimed that he wanted his “books to be a kind of tool box which others can rummage through to find a tool which they can use however they wish in their own area” (O’Farrell 2005). I have taken him up on his offer and thus have incorporated those ”tools” that will take me further in this research to expand understanding.

themselves according to it (Adger, et al. 2009, 349). Thus, landscapes can help identify dynamics between the human and non-human contextualisations and territorialisations, acknowledging the complex and contestable contingent results of both physical and non-physical processes (Gupta and Ferguson 1997b, 4-5). With this definition, *landscape* can include the social theoretical aspects I wish to include in the data analysis that connects to knowledge and agency, such as power, politics, institutions, social structures, decision-making, governance, conflicts, etc. (Jerneck and Olsson 2008, 175, Görg 2007, Chesworth 2010).

As was clarified earlier, landscape underlines the importance of perceptions and experiences. Since I am focusing on perceptions and experiences it is important to note that experiences and perceptions are always a form of fiction, since they are constructed (Foucault 1991). While the perceptions and experiences can be based on surroundings – human and non-human – the construction itself does not exist before it is made. This rather non-concrete data is weighed against the more concrete overarching goal of this research – to better understand land-use change. Nevertheless, land-use is per definition a concept that places humans at centre stage: *land-use* is defined “by the purposes for which humans exploit the land cover” (Lambin, Geist and Lepers 2003, 216). Thus, perceptions and experiences that form these actions are important and a landscape definition embracing perceptions and experiences will contribute to the aim of understanding human-environmental dynamics by showing how people engage with the world around them at a certain time and place.

#### **4. Case study background**

This background of Chepareria Division is mainly collected from the local representatives of the Ministry of Agriculture and the Ministry of Livestock at the local office in Chepareria.

Chepareria is located in West Pokot, a district in the Rift Valley Province in East Kenya, bordering Uganda. The Division has six administrative Locations; Kipkomo, Senetwo, Ywalateke, Pserum, Chepkopegh and Shalpogh, and 15 administrative

subdivisions (Rotokwo 2013) (see **Appendix 10.2**). Chepareria Division covers an area of almost 500 km<sup>2</sup> and can be divided into two areas with different climatic conditions affecting what can be grown: an upper area, 1700-2000m above sea-level, and a lower area, 1600-1700m above sea-level (ibid). Under favourable conditions the area receives rainfall that ranges, in the upper altitude area, between 1000 to 1500 mm per annum, and in the lower altitude area, between 750 to 1000 mm per annum (ibid.). Temperatures range from 10 °C to 26 °C depending on altitudes (ibid.). The soils of the division vary significantly (ibid.)<sup>7</sup>. Generally, much of Chepareria, particularly the lower more semi-arid areas, are characterised by fragile infertile soils (FAO 2006). 70% of the land is arable while 30% is forest, shrub area or wastelands with a lot of gully development (Rotokwo 2013).

Most of the Rift Valley, including Chepareria, has seen environmental stress, such as drought, sedentarisation, and demographic changes that have exacerbated land allocation conflicts (Boone 2012)<sup>8</sup>. The Chepareria Division borders Sook towards the North; Kapenguria and Kongelai to the South-West; Lelan to the South; and Batei to the East (Rotokwo 2013). Cattle rustling and inter-ethnic conflicts are connected to these borders and there are still problems around the South-East, the West towards the Ugandan border, and to a lesser extent, the border towards the Turkana people in the North (Rotokwo 2013, Simotwo 2013).

There is a total population of around 41 600 people living in 7 640 households (Rotokwo 2013). Most inhabitants in Chepareria Division are part of the Pokot people (Libusi 2013). The growth rate of the population is 2.8-3% and the male-female ratio for households is approximately 1:1 (Rotokwo 2013). The area is primarily agropastoral with 90% of the population being agropastoralists (ibid.). Almost all

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<sup>7</sup> Here, soils varied from loam silt soils and regosols to sand loam soils. More information on soils, soil classification and what they mean for possibilities in land-use can be found at the Food and Agriculture Organisation, FAO (Sposito 2013, FAO 2006), while more information specific to Chepareria will be found in coming research.

<sup>8</sup> Regarding the broader context, Kenyans recently saw the first post-independence comprehensive land reform policy aimed at democratizing land tenure policy through procedural and deliberative democracy (Harbeson 2012). At the same time Kenya's economic and political inequality together with a divided population make accountability and the disciplining of politicians difficult (wa Githinji and Holmquist 2012). Land policies in Kenya have a conflict-filled history that has influenced land-use transitions. Land politics and policy has distributed and redistributed land and rights to land in a way that exposes the political contestability over the allocation of land (Boone 2012, 75). This kind of knowledge can be important for coming researchers with a different scope. Here, however, I do not intend to systematically triangulate or "check" the perspectives and experiences with external sources.

households use firewood as fuel for cooking and there are around 20 small-scale tree nurseries driven individually or through common interest groups, and one government large-scale tree nursery (ibid.). The upper area has adopted improved breeds of livestock to a greater extent than the lower areas (Simotwo 2013)<sup>9</sup>. Keeping donkeys for transportation on rough roads and bees for beekeeping is widespread throughout (ibid.).

In Chepareria, as a reaction to erosion and land degradation, a project was introduced that primarily recommended enclosing land to rehabilitate the soil and prevent further erosion (Kitalyi, et al. 2002, 1). The project was a collaboration between Vi Agroforestry supported by Sida, and the community of Chepareria Division (Kitalyi, et al. 2002, 1). When Vi Agroforestry arrived in the 1980s and started working in Chepareria, their aim was to work in the lower areas that were especially dry (Vi Skogen 2012). The method Vi Agroforestry used was based on creating tangible examples through enclosure systems, thus convincing participants of the benefits of land rehabilitation and regeneration (Barklund 2004, Makokha, et al. 1999). Initially Vi Agroforestry focused on establishing tree plantations and tree planting on farms, which later evolved into assisting communities living at subsistence level (Makokha, et al. 1999).

In January 2013, a group of experts from a range of land-based natural and social science research disciplines gathered for a workshop in Chepareria. The immediate conclusion was that there is a clear researchable change in the land-use that can be analysed in a larger cross-disciplinary research project (Knutsson 2013, Nyberg and Wangari Muthuri 2012). From previously having been physically undivided land in

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<sup>9</sup> Currently, new breeds are slowly being introduced by the Ministry of Livestock and the non-profit Livestock Improvement Centre to the lower areas, however there are difficulties in the livestock introduction programmes related to the dry conditions (Simotwo 2013). Improved breeds of livestock include (ibid.);

- For cattle - Friesian, Asia and Zaiwal cattle breeds, with the traditional being Zebus.
- For sheep - Doppa sheep breed (white with black head). Currently, the Doppa sheep is mainly found in the transition zone between the upper and lower zones, however there is a high demand and this breed is spreading.
- For goats – Galla goats (white). Currently, galla goats are mainly found in the lower areas. The traditional east African goats is being replaced by the galla goats. While few keep dairy goats, there is potential for them here – particularly for helping women, according to the Ministry of Livestock.
- For poultry – new breeds were introduced in the 80s by the government. This breed is primarily the one found and it does well in Chepareria.

1987, a clear land division through enclosures is now apparent in the area (see [Appendix 10.3](#)). The local Ministry of Agriculture representative also notes that in Ywalatek, Mangoriot, Pserum, Chepareria and Korelach (Senetwo), areas are enclosed, people have planted trees and rehabilitated the land, rainfall has increased and the people who agreed to have trees planted on their farm have benefitted, leading to the spreading of the techniques (Rotokwo 2013). This transition is also supported by socio-economic and environmental research in the area conducted by Vi Agroforestry and Sida (Mukoya, Kephass and Njuguna 2005, Mukoya, Kephass, et al. 2006a, Mukoya, Kephass, et al. 2006b, Nagendra 2007, Aholo, Mukoya and Nemali 2001, Nyberg and Wangari Muthuri 2012, Makokha, et al. 1999). This socio-economic data is important for monitoring the land-use change, but it does not cover the social aspects of “the place-based, human-environment conditions that direct land-use and land-cover change” (Lambin et al. 2001, 267). Questions about the experiences and perceptions in relation to the land-use change have never been asked (Libusi 2013).

## 5. Method

The objective of the chosen method is to allow for an exploration into social aspects of land-use through a case study. The method is roughly divided into five parts: the first is a preparatory stage where preparations for method structures were made; the second is an exploratory stage with preliminary unstructured interviews and observations; overlapping with the second period, the third period consisting of periods of reflection, semi-structured interviews and further observations was made; in the fourth period, that overlaps with the third, the material was transcribed and summarised; the fifth period was a thematic analysis to boil down the material into the emerging themes and linking these to the theory and previous research.

### 5.1. Preparatory stage

Before leaving, I prepared the general data collection method. I concluded that a sequential research design (Creswell 2009, 211) would be appropriate because of the emphasis on context – human and non-human, beginning with unstructured,

explorative interviews and observations before moving on to semi-structured interviews. This strategy was chosen to help gain a deeper insight into the emerging themes of land-use change since I would be able to, after the exploratory stage, adapt to the respondents in my semi-structured interviews. This would focus the inquiry on the respondents' discourses, rather than forcing onto the respondents an inquiry based on a discourse from outside Chepareria.

Overall, the data collection was conducted between 10<sup>th</sup> April and the 31<sup>st</sup> May, with four periods of emersion into the area being studied in Chepareria Division, punctuated by periods of contemplation in the near-by city Kitale.

## 5.2. Exploratory stage

I arrived at the Vi Agroforestry office in Kitale on the 8<sup>th</sup> April 2013 and travelled shortly thereafter to Chepareria. I met with my translator and received an introduction of Chepareria and Vi Agroforestry's previous work there, observing areas where land-use changes had occurred and areas where changes had not occurred. I also visited and conducted a first explorative interview with a farmer who had changed land-use methods. A few days later I returned to conduct additional exploratory interviews and make observations.

The purpose of the exploratory phase was to achieve a better understanding of how people discuss the themes of my research in their daily life (Goldbart and Hustler 2005), as well as to learn how to encourage participants to open up and describe their perspectives and experiences. I followed a rough plan and a few chosen themes framed in open ways, but maintained the connection to the tangible base line in the interviews, namely the land-use change. A good deal of time and thought was also dedicated to formulating and understanding the questions and themes, and making sure my translator also understood what I was asking. Already after the first visit to Chepareria and after discussions with the Vi Agroforestry officers who had previously worked in the area could I draw some preliminary conclusions from which I could rework my interview guide, incorporate these.

I concluded that I needed to encourage individual narratives to understand the process of change. As Eastmond writes, “Narratives are not transparent renditions of ‘truth’ but reflect a dynamic interplay between life, experience and story” and when placed in a context they can give researchers insights into “the meanings people, individually or collectively, ascribe to lived experience” (Eastmond 2007, 248). Narratives, of course, have their limits – life as told is different from life as lived or life as experienced (Eastmond 2007) – and a narrative needs to fit a logical structure. For example, usually in a narrative, there will be a beginning, middle and end, including minor narratives. Since narrative uses a socially agreed-on logic, it is part of social structure. Social structures in fact become the base from which peoples’ relationships to the narrative transpire. Narratives thus, as an inherent part of the cultural process of communication, can bring insight into the less tangible human-environment dynamics.

Slowly, I moved into a semi-structured interview method with the two phases not clearly divided, but rather gradually opening up through exploration, understanding and structure into the more delicate themes and topics.

### **5.3. Semi-structured interviews**

The gradual development into a more semi-structured interview method was coupled with more detailed observations. Observations were conducted in order to improve the quality of the research and provide a context for the interviews (De Walt and De Walt 2011, 110). Observations, clarifications, contextual information and informal information, as well as my own reflections, plans and analyses (Altrichter and Holly 2005) were recorded in a research journal throughout the stay in Chepareria and Kitale. Observation is often unavoidable in submersion, however, I tried to couple the observation with questions that I showered on people all around me while I ate, waited, shopped, walked around, after and before interviews, and, when relevant, during the interviews. Notably, however, the bulk of the data still comes from the actual interviews.



### 5.3.1 Sampling

After the first part of the explorative phase in the study, I felt confident enough to identify the groups that would be important to interview based on the needs dictated by theory (Bryman 2012, 420). Based on perceived and experienced changes in opportunities and constraints, I felt it was possible to identify groups that would have different insights and thus aimed at interviewing:

- respondents that could represent different types of leaders in the community,
- respondents of different genders and ages,
- respondents in different areas in relation to how dry the area was and how far away they lived from information centres,
- respondents that could represent important meeting points for communities,
- respondents that were known in the area as having knowledge on new land-use techniques, and
- respondents that were struggling or vulnerable.

To find these respondents I relied on my translator and guide Benjamin Lokorwa. Lokorwa is an educated social worker and educator in land management who has previously worked with VI Agroforestry as an officer, informing participants in the project of different techniques with good reviews. Lokorwa also proved to be a man well respected in the community, and had detailed local knowledge about the inhabitants of Chepareria. I ended up interviewing 28 people from Senetwo, Ywalateke, Pserum, and Chepkopegh. Each interview lasted one to two hours, and six were translated from vernacular while the rest were conducted in English.

The majority of my respondents were farmers with and without additional occupations. I also interviewed one former Vi Agroforestry officer and one other NGO representative. I identified four types of leaders and consequently interviewed three school deputies/principles/heads, one self-identified elder, four chiefs, and two ministry representatives. These people represented both explicit leaders in the community as well as meeting points, particularly the schools and ministries. Regarding age, six respondents were aged 20-30, eight respondents 31-40, eight respondents 41-50, and six respondents 51-60.

In terms of gender, only six women were interviewed, which is a clear limitation. Many women, and to a lesser extent men, from more vulnerable social situations, wanted money for the interviews. I decided that this was not possible, first due to the association I had with Vi Agroforestry, secondly for my own academic validity, thirdly, for the reputation in the area in case I, or any other researchers, should return. Thus, one limitation is that I possibly did not interview enough people who were very vulnerable and had no access to land. Instead, I primarily interviewed people with access to land, possibly slanting the results. However, a mitigating factor is that access to land in the respondents varied from ownership, to renting, to implied ownership through marriage, to very low access. Moreover, perceptions and experiences of landless people was gained from those with land, which also brings a certain analytical value as views of others can simultaneously reveal views of the community as well as the respondent him or herself.

### **5.3.2. Semi-structured interviews**

The semi-structured interview method was chosen since it accommodates for factors that interviewers cannot control (Bryman 2012, 469-476), such as, in my case, perceptions and experiences. Structured interviews would have been far too confining for the participants while only having unstructured interviews might have made it difficult for myself to retain the link to land-use change. Thus semi-structured interviews provided a compromise.

The interviews began with me explaining my aim and explaining that the interviews were anonymous. I asked if it was ok to record the interview, underlining that the record would exist only to aid my own memory and would not be accessible to others.

The first questions asked were limited to the identification of name, sex, age, number of children and occupation. While I could have gone on to ask about number of wives, cows, acres of land etc., these questions might have made the interviewees uncomfortable since I found out early on that people in Chepareria do not tend to talk about items that can indicate social strata, in fact, even the number of children is an indicator that was sensitive. I was forced to weigh this problem against my need to include respondents of different vulnerability, which can be easily, but not exclusively, indicated by financial wealth. Since social status is mainly important to

understand how the collective narrative is experienced by different groups of people, my decision ended up prioritising the ease of the respondents and I asked only about financial indicators when it felt natural. Backing this choice was also the common problem that domestic economic figures are often inaccurate, as seen in multiple previous research in similar areas (Nyberg 2013), thus there is little to gain in asking such questions in a study like this one. Hence, further identification of, for example, economic status was excluded to instead encourage the respondents' to answer freely in the more delicate matters. Instead, to identify different social strata, I depended on my translator's rich knowledge of the area and inhabitants and my own informed observation to guide me.

In most cases, the interviews conducted began by walking around the farms and homesteads of the respondents and understanding the respondents situation today, then asking questions of how the respondents' situations had been before. I listened actively and tried to interrupt as little as possible, encouraging people to describe their experiences and perspectives, making clear that I was interested in the respondent's personal experiences and perspectives. The interviews lasted around one to two hours. They were guided based on the narrative of the land-use. Initially I did not assume any experienced or perceived land-use change, but as each interview supported the general collective narrative, I quickly moved into themes of what was perceived and experienced as having changed, causes to why some people changed and others did not, why some places had changed and others had not, and what had changed within people and within the community as a consequence of the land-use change ([see Appendix 10.4](#)).

When I began working with the data between my visits to Chepareria some problems with my interviews became more apparent. Whose perspective was being reproduced? To what extent were people answering according to what they thought I wanted to hear? How do I decide what is meaningful and not? Can I generalise anything? Who *is* this respondent I have spoken to, and does the respondent have an ulterior motive? Asking these questions seems endemic to the particular form of method I have used and are difficult to deal with. Nevertheless, this choice of method was made with a belief that understanding perceptions and experiences can lead to an expanded ability to understand land-use.

In my two final visits to Chepareria I felt I was able to ask questions regarding more delicate and controversial issues. The reason for this depended, in my opinion, on the simultaneous processes where on the one hand I was getting a better understanding of Chepareria and the land-use change, and on the other hand, the Cheparerian community was getting a better understanding of me, resulting in a growing level of trust. This was imperative to respondents opening up.

The necessity to reflect on my role and actions in the community is consequently particularly important for the validity as well as reliability of the study. Notably, there is a need to consider my role in the interpretations, perceptions and experiences (Barbour and Schostak 2005). Since the experiences and perceptions are constructed as we speak, they are dependent on the new context in which they arise. It therefore becomes very important to reflect on the situation and interview roles. The choice of interview context was mainly at the homesteads or the work places of the respondents, depending on the group they represented, in order to put the respondents at ease. However, what is more unusual in this context is that a 26-year-old unmarried mzungu female arriving on a motorbike without children or land from Sweden is suddenly part of the construction of perceptions and experience of place (see chapter 6. Limitations).

#### **5.4. Transcription**

The transcriptions overlapped with the interviews since after each visit to Chepareria, I returned to transcribe what I had recorded as soon as possible. This also supported reflections, tentative analyses and initial thoughts on themes.

Once the transcriptions were finished, I reread everything and slowly began summarizing. This was a very time consuming task since I was afraid of restricting the open analysis, however, summarising was necessary to see the overarching themes at all.

## 5.5. Analysis

Before describing the analysis, I wish to avoid the confusion that tends to surround contextual analyses into local communities that the local or traditional should be conceived as a form of natural, authentic, or untouched by external, unauthentic or global forces (Gupta and Ferguson 1997b, 7). Even though the *idea* of culture, community and identity can still be strong in the perspective and experience of groups and individuals as well as in the production of difference (Gupta and Ferguson 1997a, 39, 43), like all other places in the world, there are ever-changing power relations and contexts.

To analyse the data I used a variety of grounded theory (Bryman 2012, 567-575). This choice was made to quickly lead me beyond establishing a general collective narrative, to the identification of several interesting themes emerging from the richness of the individual narratives and connected social structural changes. It is in these themes that the connection to the theoretical concepts could be made. I moved back and forth several times between the coding, the emerging theoretical themes and concepts, and the relationships between the themes and concepts. This was done to ensure I had not missed important themes, trying each time to read the data with new eyes. Once the themes were established, I returned to the original data to saturate the themes and double-check the themes identified.

The method used to identify themes worked mainly from the interview summaries. The large document was spread out and a webbing method connecting different dimensions through the broad social theoretical concepts was used. The results were then relayed with the corresponding references to individual interviews. Due to anonymity, the references were later removed before the analysis was reworked. I returned to the original interviews once the analysis felt well-organised according to themes to make sure that the arguments made were robust.

I have avoided using quotations and rather retold the interviews. I made this choice due to the limited space available, the need to accommodate for contradictory

answers, together with my promise of anonymity. Should future researchers wish to use the interviews or quotations from the interviews, I will of course look into the possibility, after consulting the respondents. I have, however, tried to make distinctions in the text to show what comes from the respondents and what comes from my analysis. I have also used the words “one”, “a couple”, “several”, “around half”, “a majority”, “almost all” and “all” when writing the results. Yet, notably, if I have included a statement supported only by “one” to “several” it should not be discounted due to the lack of large consensus. Finding consensus is not the objective here, instead the method is used to enable the differences and similarities in the creation of responses to find interesting themes. The statements are very dependent on the course the interview took of the respondent’s own accord. Semi-structured interviews allow for respondents to engage in topics they are interested in or find more important, thus the topics and themes were addressed to very varying extents in the interviews. Consequently, it must be noted, not all topics or themes were addressed or discussed by all respondents, rather the opposite it true. Thus, due to the nature of the study, which allows contradictions within individuals as well as communities, I have not attempted to be representational or generalise but rather see trends and contextualise the findings.

## **6. Limitations**

All research has limitations and where there is awareness, there is often, as is the case here, motivation to minimise them their implications. There are a few limits connected to method, and a few connected to the theoretical choices that affect the validity of the results. This is not an exhaustive list, but some of the more important points.

First, since there are no “correct” ways to look at and understand the world, research into perceptions and experiences is particularly pernicious. A week or year from now, answers might be different. On the other hand, I have not suggested that a study such as this one only needs to be done once. To the contrary, the work suggests that repeated explorations into perspectives and experiences are necessary. Exploration

into social dynamics needs to acknowledge that the research subject is in constant flux.

Second, there is the problem of discourses. I am undoubtedly attached to a western discourse. Attentive readers will already have noticed the difficulties and pedagogical obstacles of discussing human-environment dynamics that reflect the post-enlightenment discourse we are so emerged in (Morton 2007). To try to solve this problem, I consistently listened, read and observed with a genuine intent of understanding throughout, returning repeatedly to a reflexive and reflective state of mind. Notably, in Chepareria I was an outsider to the local discourse, not just in terms of language, but also in terms of the contextual social behaviour. The problem of being an outsider with limited contextual information also limited whom I had access to. I only had Lokorwa to help me find the respondents, which is a limitation. Getting hold of certain groups was difficult – much due to the social orders in the context that I was trying to understand.

Third, prejudice is a problem since it can be blinding. Prejudice is an insidious problem that necessitates reflexivity and a form of continuous institutionalised doubt and uncertainty on my own thoughts, feelings and assumptions (Gibbons, et al. 1994, Goldbart and Hustler 2005, 18). Before I even left for Kenya I was cautious only to read and critically examine what I felt would be most necessary to know before hand about the area. In retrospect I am glad I made that choice. Regarding my respondents prejudice, I cannot know for certain what they felt, nevertheless, due to my unusually long duration of stay, the specific role I received was not immediately clear. Other outsiders who visited the area have been generally perceived as behaving differently, or so I eventually understood. The last days in Chepareria, as I was talking to the owner of the shop next door, he told me that people had decided I was “one of the good ones”, which was an overwhelmingly positive experience.

## **7. Results and Analysis**

The analysis will begin with a short overall collective narrative that emerged of the land-use change. Despite a generally positive narrative, I do not intend to write any

form of fairy-tale, but a description of complex contradictory processes that do not necessarily go from positive to negative or negative to positive. My intention is to build up the complex picture that allows for an analysis into the dynamics of land-use change. I will analyse and discuss topics within four broad thematic subheadings that arose from the data analysis, namely: the changes in boundaries, both human and non-human; learning and communication flux; new pressures imposed on, and emerging from within, Chepareria; and social orders and institutions.

### **7.1. The Narrative**

In broad brushstrokes the experiences and perspectives of the land-use change in Chepareria produce a collective narrative. In short, the narrative that emerges from the respondents tells a story that begins 30 years ago of a tough life in a dry, unproductive environment with old traditions. When describing the land before the 1980s, respondents exemplify by stating the land was very bare or dry, without trees or grass, with problems such as desertification, soil erosion, and gullies. In terms of common knowledge, most of the older respondents also noted that it had previously been unimaginable that trees and grass could grow in the area. To this some respondents added that the people in Chepareria had been quite isolated, both before and during the colonial period, speaking only vernacular and having few schools and health facilities.

In the middle of the narrative, a positive twist arises: new land-use techniques are introduced and this leads to a development and change into an easier life, where hunger can be alleviated more effectively through land management, where children are going to school and where the area is taking part in modern development. This land-use change is also experienced as having changed the lives of the inhabitants mainly to the positive, for example through increased milk production from four cups a day to five litres and higher market prices for livestock at the weekly market. Many perceived the new methods as better suiting the contemporary contextual demands. So generally, the collective story is a positive one. However, throughout the narrative, all the respondents pointed out strong connections between the land-use change and social changes occurring simultaneously.



## 7.2. Landscape Boundaries

### *Boundaries of land possibilities*

Life in Chepareria before the change began was to a high degree organised around cattle. Cattle were seen as the main source of survival, and still today cattle are an important source of security. Cattle were generally allowed to walk randomly across the landscape when feeding, watched over by men. This made it important to find pasture to ensure milk production. Thus, frequently, when describing rehabilitation of areas, grass germination and milk production is used as an indicator. The organisation of life around the common knowledge of survival at the time, led inhabitants to deal with the lack of pasture by expanding or migrating into other territories and contexts during seasonal changes as well as during reoccurring years of drought. Traditional drought management meant that the older men sent older boys and young men to find pasture; a chaotic and dangerous process in which many animals were lost to cattle rustling, disease and starvation. Yet, since having cattle was previously also the only way to get married and gain a level of respect in the community, young men would learn how to herd animals and cattle rustle. Pokot men are even named after the appearance of their cattle. The connection to this form of life is still strong and inhabitants return to migration methods during particularly harsh droughts. The latest such migration was in 2008.

Almost all respondents noted that they got new knowledge on land-use from outside Chepareria, either by outsiders visiting Chepareria, or by Cheparerians going to other places and returning with new ideas. The first chronological mention of external forces affecting land-use came from the older respondents description of the colonial period<sup>10</sup>. This was the first attempt at creating large-scale enclosures and paddocking in Chepareria. Some look back at the period and note that this was an attempt at land rehabilitation, while others look back and see it as a source to why people distrusted outsiders when Vi Agroforestry arrived. The colonial techniques were not embraced and the older respondents recall feelings of coercion in the community. People had

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<sup>10</sup> Kenya's interior was colonised by the British in 1902 when the British extended their protectorate to the Ugandan border. West Pokot, together with the rest of Kenya, became a crown colony in 1920.

felt unwillingly forced into a new context with group ranches, paddocking, rotating grazing schemes, and closer community living conditions. While the colonial period brought some schooling for some inhabitants, this was also a period during which a few respondents felt Chepareria had been left behind in development compared to the rest of Kenya.

Instead, most of the knowledge older and mid-aged respondents connect to the land-use change today in the form of fencing, soil rehabilitation and germination of grass and trees came from Vi Agroforestry. Initially, the information from Vi Agroforestry was solely ecologically based land management in the driest area of Chepareria and limited to what inhabitants allowed. Vi Agroforestry started by fencing off an area, at times even guarding the area to protect from grazing livestock. After one to two years, vegetation started growing, trees could be planted and the enclosed area was rehabilitated. The number of livestock was then reduced to a number the land could sustain. This also limited the movement of livestock within smaller enclosed boundaries. Vi Agroforestry started withdrawing from the areas in 1994-5 and by 2001 they had stopped completely, keeping in touch only with a few individual farmers. Since then, the Vi Agroforestry land-use information has been communicated largely outside the influence of the organisation, which is confirmed by the younger respondents' descriptions of the land-use information sources excluding Vi Agroforestry.

The change in perceived opportunities and constraints has materialised and altered the boundaries of possibilities, co-emerged in the dynamics between human and non-human dimensions. As the understanding of the new possibilities spread, so did fencing and land rehabilitation. Fencing turned into demarcation as the number of livestock was accommodated to the size of the land. As more land was demarcated, the ability to let livestock wander even within Chepareria diminished and more people felt they needed to demarcate, fence and rehabilitate, as well as, to varying extents, privatise land into more individual plots. Fewer cattle and improved breeds made the moving of men, boys and cattle into other grazing areas no longer necessary and the knowledge of how to cattle rustle and/or migrate is currently slowly disappearing.

*Boundaries between Chepareria and the global*

The fact that the knowledge that made the change possible is perceived and experienced as coming largely from organisations originating from outside Chepareria also has an effect on the idea of landscape boundaries in relation to globalisation. Vi Agroforestry have not been alone in representing the global level for the respondents, but have been accompanied by other NGOs working with a wide range of issues, for example livestock breed improvement, agriculture, women's empowerment, FGM, organic farming, education and religion. Many respondents felt affected by the global through for example distant wars, oil prices and global warming which they saw as affecting land-use. Generally respondents had positive reactions to several of the NGOs working in Chepareria. Some respondents even stated that these NGOs were helping Chepareria fit into a modern world. A high level of trust in outsider's knowledge was shown and almost all respondents wanted to extend their networks globally. This indicates how the global levels interact with land-use dynamics at an individual level.

While so many positive responses to global organisations indicated work well done in the area, there is also some indication of unequal global power structures. Primarily, this was felt in my observations during the interviews, but several respondents also noted the necessity of outsiders from the global context with more knowledge to come to Chepareria and lead development. There was to an extent a tendency to make Cheparerians the receivers and the outsiders the givers of important information, indicating a form of passivity in development discussions. The unequal relationship was further underlined by the fact that very few respondents felt that they themselves were affecting the rest of the world, and if mentioned, it was in a very small way. Finally, there was some harsh criticism from several respondents of old traditions and customs that were "useless", with two respondents unequivocally looking on old ways of life as "uncivilised". In fact, only one of the respondents problematized the loss of traditional drought management knowledge, such as food conservation, noting that these methods may be important in the future.

*Boundaries between ethnic groups*

There was a powerlessness relayed by several respondents regarding the media image of the Pokot people. This image is primarily produced at the national scale, and affects inter-ethnic relations across neighbouring borders. The portrayal of the Pokot people was raised as problematic since it was seen as representing the people in Chepareria as something they no longer were, i.e. violent cattle rustlers. Consequently, when the issue of cattle rustling was raised, there was a strong sense of fatigue over the media's misconceptions as well as frustration over the difficulty of changing the portrayal. The image and medial identity construction has reinforced the boundaries between Chepareria and other groups. This is problematic since agribusiness has become more common (see following sections). Moreover, with growing amounts of agricultural produce, Cheparerians today encourage outsiders to visit and participate, for example, in agribusiness conducted at the market. This can be seen particularly at the weekly market in the town of Chepareria where people from, for example, neighbouring Turkana come to buy agricultural produce and livestock. Notably, there is a conflict-filled history between the Turkana and the Pokot making this development remarkable in terms of altering physical and social boundaries of movement. However, nobody seemed to stay longer at the market than necessary, limiting the exchange mainly to agribusiness.

*Boundaries of identity within Chepareria*

All respondents addressed the implications of the land-use change for the changing individual and collective identity construction. This dynamic can be seen particularly clearly in the respondents' descriptions of Cheparerian women. The change in opportunities and constraints defining female identities is experienced as drastic and was highlighted repeatedly. Consequently, I have dedicated a significant amount of analytical space to this dynamic.

For example, one rather clear observation from several respondents regarding the changing identity in relation to land-use was how the increasing demarcation and reducing bush-land has reduced the capability to perform certain rituals requiring

bush-land. While this is a direct effect from the land-use on agency and the capacity to perform certain traditions, it is important not to relax the analytical gaze and stop here. The lack of bush is hardly the sole reason traditions like FGM are decreasing<sup>11</sup>, rather the physical constraints add to other simultaneous processes. For example, as some respondents noted, the new possibilities that an educated girl could provide for her family is combined with the fact that NGOs have and are sponsoring school fees for girls with their genitals “intact” (so to speak). Identity creation, for example, on what it means to be a woman, are ultimately affected by both the human and non-human and can be contested, reformulated or reiterated in manifestations and materialisations.

A significant change for many women and girls in Chepareria is that they can go to school. While education is a relatively new opportunity for both men and women, allowing girls to finish their education before marriage has been perceived as a more radical change. Several respondents noted that Cheparerian girls were today performing well academically, with a few even going to Nairobi University. Education of girls has been supported at various levels: globally through NGOs and international declarations/programs/initiatives; nationally through schools and laws on the right to education; and locally through the local schools, the local chiefs and through female role models who have shown the benefits of having educated women both in the family as well as in the community. The education of women might seem analytically distant from the practice of land-use, however, this is hardly the case.

Women in Chepareria traditionally, and in many cases today, have the role of cultivating land as well as often being ascribed the role of caretaker in the family. This entails, among other things, collecting firewood, cooking, planting, weeding, watching over livestock, and caring for children, tasks which men traditionally are said to “delegate” to women. Women are also frequently described as being “inside the community” and many respondents noted that women consequently know and understand the problems faced by the family and community better than men who move both within and outside the community. The role “inside” meant that it took

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<sup>11</sup> Female circumcision or genital mutilation and the materialisation of social structures this represents is a complex a discussion particularly in comparison to male circumcision, and will not be dealt with here. However, there is an interesting debate surrounding this in academia for those interested.

some time before information that came from outside on land-use could reach women. In particular, visitors with knowledge could only initially contact men in the community. However, once new land-use methods came that could improve food security, women with their unique view “inside the community” and responsibility for household food subsistence proved more willing to try the untraditional techniques than men. Kitchen gardens are a good example of this. Several women saw the benefits of cultivating small plots with diverse crops and, after convincing their husbands to allow them to try, cultivated a small parcel of land into producing food. Gradually the men also understood the benefits of the kitchen gardens and started to follow the example set by women. Thus, for many respondents, teaching and educating women meant that land-use methods improving food security spread faster and eventually many educational field trips were gender sensitized. However, while educating and reaching out to women was an effective way to improve wellbeing in the whole community, the new role also collides with the traditional roles where men know best.

The many colliding social hierarchies were evident throughout the landscape, particularly regarding the changing boundaries of “inside” and “outside” certain areas. If women’s place has previously been in the home, this boundary is breaking down. One of the most apparent ways was the change in movement outside the home through business. Women in Chepareria have traditionally not been allowed to do business; even walking to the market with the husband was not allowed. Today, most of the people at the market conducting business are women selling off excess from their kitchen gardens or farms, selling at the local government market, and working in small canteens. Money, several male and female respondents noted, was not affected by the gender of the earner – it still contributed to the household. However, when walking over to the separate cattle market that was conducted on the same day as the regular market, it was evident that men conducting business far outnumbered women. Cattle, the livestock that produces the largest monetary sale, is evidently still a male space, even though most male respondents also noted sharing information and decisions on cattle sales with their wives, seeing the contemporary family unit as a team. Many men noted that women could also sell cattle, should they need to.

Similar to the ownership of cattle, the ownership of land is traditionally and to an unofficial extent also today, owned by men. This is despite a national constitutional change that has dictated that both men and women have the right to inherit land and that the names of both husband and wife need to be on the title deed. However, the constitution is new and many title deeds still only have the name of a man on them. A large number of respondents noted that they only worry about land for their sons, while the daughters are expected to leave home to live on their future husband's land when they marry. This was also reflected in the answers to the question, who decides over the farm? Many answered that the husband was responsible, but many also answered that both the husband and wife decided together, and nobody mentioned the wife alone being responsible. These social structures have effects on the decisions taken on land-use. A couple of respondents also noted that the dynamics of group work and decisions were affected when women were included, in turn, affecting the outcome of those decision-making processes. Several respondents noted that men and women have different preferences on how to use land – the women prioritize long-term food security for the family and the men prioritize large short-term projects that produce money.

The role of women “inside the community” might also produce a contradictory phenomenon. Since Chepareria women are seen as having a unique prescribed role inside the community and a unique perspective and experience, it is not surprising that many NGOs and national organisations support the empowerment of women to deal with problems of poverty and organisation of community cooperation. Consequently, many women have formed women's groups in Chepareria to reach this targeted support. Women have through targeted knowledge created a new role for themselves in the community. However, while women's role as “inside the community” is what is allowing them to be the target for empowering support that will alleviate poverty, taking on a role moving inside *and* outside the community, the borders that are crossed mainly by men in Chepareria becomes partially counteracted. If a woman chooses to redefine her subjectivity and creates agency for herself “outside”, for example in the form of a politician, she can also lose the identity she might have had “inside” and the support found therein. Ironically, both at a national and a global scale, forces can be used to maintain the gendered space of women

“inside the community”, possibly limiting the personal agency of individual women through others’ expectations at multiple levels.

Being “inside the community” is further strengthened by a local institution that almost all girls and women experience in their lives, namely marriage. The connection of marriage to land-use comes most evidently in the Cheparerian practice of dowry. Dowry is a source of wealth, mainly in the form of livestock, not only for the girls’ closest relatives but also her extended family, such as aunts and uncles. The husband has to pay for “ownership” of the girl or woman to the community. Thus, the entire community surrounding the girl or woman has a vested interest in seeing her married. The community thus also sees the daughters of the community as belonging to the community and the community as having a responsibility for the daughters. This also helps explain much of the worry parents felt surrounding the wealth of their sons – without wealth, the son cannot have a wife. Marriage is also something that a woman only experiences once – divorce is “not done” –, while men can take more wives as long as, a couple respondents noted, he can support them or provide land for them to cultivate. Multiple wives is today unusual due to the higher cost of living, however, for some men, this is still a desired show of wealth and importance, explaining some men’s perceived preference for money-making ventures. In cases I have come across where men have more than one wife, men are generally not able to share the burden on the farms as much as before since he divides his time between the wives. Consequently, the women are left “inside” the homestead to a greater extent with more tasks and potentially less access to knowledge and networks “outside”.

Another interesting development is that the empowerment of women “outside the community” in Chepareria has led women to experience something that evokes the same problems women globally are facing. While women now can do anything that is profitable in the monetary economy and are consulted in the household economy, they are still the primary source of labour when it comes to the many unpaid reproductive tasks often found within the confines of the household. All women I met in Chepareria were very busy, especially when I visited them at home. This, of course, affects agency to a very high degree. As an example, one female respondent said she preferred selling her produce at a low price so that she could sell quicker and get back to the work waiting for her at home. Ironically, empowerment has led to a greater



labour burden since today women are not only expected to contribute through the monetary economy, but continue to work in the sector that is never recorded in national GDP – housework. Thus, while the boundaries of gendered space and the politics and social processes of space making are changing constraints and opportunities, the strength of traditional institutions defining subjectivity and agency are still strong.

### **7.3. Landscape learning and communication**

I have already mentioned some aspects of the land-use change where communication has changed in Chepareria, and generally the attitude towards education and learning have changed into something people see as providing opportunities to adapt to the demands of a rapidly changing world. Today, illiteracy is looked down on, while education is largely seen as the key to a better future.

#### *Information and early adapters*

Many respondents explained that field trips and visiting other peoples' farms and learning what was possible to do differently with the land was the most influential on their land-use decisions, opening possibilities and changing landscape perspectives. These trips were often financed by NGOs and the Ministry of Agriculture, and the first to go were role models (see next paragraph) and elders (see section 6.5). However, today there are fewer funds for these kinds of trips, increasing the importance to mouth-to-mouth communication and shorter trips within Chepareria.

When asked how information was spread, several respondents replied by saying they were role models, which implies a specific role in communication in Chepareria. Role models are important for the movement of information in Chepareria. A role model, both traditionally and today, tests new techniques and then communicates the experience to others. Thus, role models can be seen as early adapters. Due to the delicacy of the task of communication on land-use, a role model needs to be a trusted person in the community. Role models may risk a lot in testing methods and some experienced many difficulties when working against the grain of traditional

institutions, materialising in for example, goats jumping through fences and eating up their attempts. However, in some areas when the change began, the role models also received a lot more help from the surrounding community in the form of labour than what is possible for the latecomers today. Thus being a role model clearly has two sides to it – there is a possible risk, but there is also a possible gain.

However, as several respondents emphasised, the communication of information is not straightforward, particularly since each person decides what to do on his own farm. The difficulty of spreading experiences and information was described by both role models and those that did not identify as role models. The respondents underlined that the owner of land should not be overrun and the owner has the final say, which needs to be respected, even when giving sound advice. Most respondents that were teaching others noted that first and foremost, the recipient of the information needs to be interested. Secondly, the communicator needs to understand the recipients interests and “sensitise” people to ideas, rather than dictate what ought to be done. A few respondents reinforced this by underlining that delicacy is a prerequisite in the communication involving intimate issues such as land-use on individuals’ farms. A couple of respondents also noted that this was why Vi Agroforestry was so successful – they were personal, respectful and delicate in their contact and so project participants did not want to disappoint the Vi Agroforestry officers.

In some areas where certain land-use ideas are still new, communication is especially precarious and demands more innovative methods. For example, one female respondent showed other people’s children the benefits of having a kitchen garden by giving them mangoes when they visited her farm. This makes information on possibilities spread through the visiting children to their respective mothers and fathers. However, this form of communication demands that the person with the knowledge of a kitchen garden is respected not only by the community in his or her surrounding, but also that their company is treasured by the children in the surrounding farms, and that the person is willing to share his or her knowledge. In this example, the respondent could use her status and covert support to improve her surroundings, making the entire area more resistant to drought as more trees were planted. Thus, while undoubtedly there are individuals that decide to exclude others from information on land-use possibilities and while there are undoubtedly those that

do not wish to listen to others advice, there are undoubtedly also small nodes of knowledge on individual farms that are emitting information.

### *The flux of knowledge*

Knowledge and information is not static, but rather is constantly changing. While most respondents said that they used techniques and methods they had learnt both from government organisations as well as NGOs, what emerged from the respondents experiences and perspectives was that today much of the knowledge about the possibilities in land-use was considered common<sup>12</sup>. Most people had been taught agriculture and land-use in primary and secondary school, but how useful this had been was a subject of controversy. Some though school was a great place to introduce farming, other respondents noted that being taught at school did not help since, as children, they had little interest in farming and had forgotten it by the time they had their own land. Additionally, several respondents made it clear that their parents' farms belonged to their parents alone and they were and are not involved, while others even described an active turning away from their parents' lifestyles.

However, while a lot of knowledge surrounding opportunities of land-use is common it can hardly be said that everybody had the information surrounding technical details that might mean a great deal in the long run<sup>13</sup>. This could be seen in particulars such as which direction the field was ploughed, the choice of distance between gullies and erosion-stopping techniques, the depth of holes dug for trees, all of which involved mere degrees, meters and centimetres. Another visualisation in the land of how the knowledge is moving is whether whole patches in the landscape, or communities, have changed or whether changes had occurred only in one farm. This was a concern for several respondents. They noted that the capacity to cope with dry periods was improved if more people in the community had for example planted trees. Nevertheless, even with this knowledge and proximate visualised examples, it was in

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<sup>12</sup> Some techniques that are mentioned are: soil conservation, composting, digging ditches, terracing, paddocking, crop rotation, animal rotation, planting, timing, soil management, insect management, tree planting, tree management, planting, pruning, protecting, digging, time management, harvesting honey, horticulture, taking soil to soil technicians, building greenhouses, building and using technical equipment such as sprinklers, the economic aspects of management.

<sup>13</sup> Lacking expertise on this, I relied on Lokorwa's expertise as a former Vi Agroforestry officer on these details.

some places clearly difficult to spread information on land-use techniques and possibilities.

Maize planting is a good example of knowledge distortion. Interest in farming grew in Chepareria as land was rehabilitated and people migrating less with cattle. A variety of different plants that could grow in the rehabilitated ground were introduced, but maize was by far the most popular. Maize is an important staple in many areas of Kenya, with the national school curriculum including maize planting in secondary school. Maize planting conveniently coincides with national school holidays, implying an influence from national level to adopt maize as a staple. Today, maize is a staple food also in Chepareria and almost all respondents had planted maize on their land at least for household use. The respect for planted maize surpassed that of, for example kitchen gardens, even in areas where fencing is not widespread. During the planting of maize, everybody guards their livestock in order to avoid trespassing on others land. Thereby, the planting of maize has instigated cooperation even in areas where there is little cooperation, as well as also strengthened farm boundaries.

While maize can improve food security as well as support the creation of social capital in a community, a couple of the respondents noted that planting the same crop across a wide area, year after year, without attending to the risks of maize disease, pests, as well as erosion, is a problem. The expansion of maize has not necessarily been coupled with contextual demands of soil conservation. For example, in a couple of areas respondents opened up the fences in the dry season to let the animals graze on the leftover crop, uncovering the soil and exposing it to wind, sun and rain, risking erosion. Again the difficulty of communicating, even on a topic everybody supposedly has a stake in, manifests itself in the landscape. This shows how power over an actor's agency manifests itself in gaps in networks and gaps between knowledge sources and land managers.

#### *Access to knowledge nodes*

One way for individuals to insure against these information gaps created through knowledge distortion is by being physically and/or socially close to information nodes or meeting points. Notably, the importance of the physical might change soon as

Internet and electricity becomes more accessible and dependable in Chepareria. However, as of yet, YouTube and Google searches on 'how-to's to deal with for example soil erosion in places like Chepareria do not produce any particularly relevant results, and the physical knowledge nodes thus remain relevant. Generally, access to knowledge nodes has improved through increasing infrastructure, such as roads and hospitals, and improved quality of housing using techniques such as iron sheet roofing. Physical institutions such as schools, the Ministry of Livestock and the Ministry of Agriculture, NGOs like the Livestock Improvement Centre, churches and hotels<sup>14</sup> are also mentioned by respondents as places in which barazas, or public meetings, are conducted and information is spread on land-use.

First and foremost however, networks play an important part in land-use particularly regarding the social dynamics affecting individual people. Here it is not only important to know the right people, belong to the right family or have the right neighbours, but also have a certain respect or a certain role that enables partaking in the information flows. To improve access to information and possibilities, some respondents have joined or formed common interest groups, CIGs, in order to improve quicker. Yet, these groups demand a high level of social trust, and at least one unfortunate example was described and indicated where members had disappeared with the money collected for large-scale investments in the area.

Another important node is schools. The number of schools in Chepareria has increased significantly, and while this kind of development-related infrastructure is placing pressure on the environment, schools are in many cases important knowledge nodes as well as meeting points. Schools have increased in number and have simultaneously spread across Chepareria and are increasingly proximate to inhabitants' homes. This, coupled with the fact that sending children to school is seen as very important, has made schools an important meeting point. Schools are also the basis for several land-use based projects, as well as information barazas on many forms of land-use methods inviting important members of the community such as teachers, role models, NGOs, politicians, elders and representatives from the Ministry of Agriculture and Livestock. Thus, schools are not only important meeting points,

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<sup>14</sup> Restaurants where inhabitants drink tea, or "chai", and eat lunch.

but also information transmitters and places for cooperation and collaboration. Simultaneously there are some concerns from respondents of overburdening the school system. There are also risks of politicisation of school venues and a difficulty of reaching those that perhaps most needed to hear information on land-use (see section 6.5).

Similarly, the church was mentioned as a source of knowledge regarding how to live and manage life. Church and church attendance is seen as an advantage by several respondents who felt they had succeeded in land-use. The church thus has a role as a meeting point, but is also furthering a message of what it means to be a good person and how to avoid “traps” in the route to “improving”, as many respondents said, by promoting absolutism, abstinence, planning, education, common interest groups, and husbands and wives working as a team. Since there are quite a lot of different churches in Chepareria and I only visited one, I will not go into any deeper analysis of the specific effect the Church has had on land-use, however, as a meeting point and social regulator, its effect is clear.

Another important both physical and administrative knowledge node affecting land-use is the Ministry of Agriculture and the Ministry of Livestock. The Ministry is represented physically just outside of the town of Chepareria and is a trusted source of information regarding land-use and agribusiness advice according to most respondents. Several respondents noted that they would turn to the Ministry if they needed advice or noted that they had been on educational field days with the Ministry to learn about land-use. However, unfortunately today the Ministry has few resources, according to themselves, and increasingly little possibility to spread knowledge, relying instead on mouth-to-mouth communication. The effect of this is that the choices the Ministry makes on where to focus becomes very important. In fact the Ministry increasingly depends on people taking the initiative and reaching out to them, rather than identifying areas that are falling behind in development and are struggling to adapt to new demands of society. This highlights perhaps most of all the importance of access to knowledge and networks. With the Ministry’s capacity to reach out dwindling, the importance of independently getting access to knowledge increases, but also creates an obstacle for those wishing to “catch up”.

#### 7.4. Landscape Pressures

This sections looks into two pressures that were present in almost all respondents' experiences of land-use, namely the pressure to produce money and population growth. Both were identified through perceived problems today and in the future, however, the pressure to produce money saturated many other responses too and had a stronger presence in the individual narratives than population growth.

##### *Absorption into monetary economy*

From the respondents it became increasingly clear that the social context has altered in Chepareria, dominated by the increasing inclusion of Chepareria into the monetary economy and the pressure to produce money. This was particularly important for the respondents faced with school fees, which are required at all levels of education. Attending school is compulsory at national level and a growing number of parents also perceive educating children as imperative for a secure future for the children and consequently also themselves. As a result, having a monetary income is increasingly important.

As children age and advance through the educational system, school fees increase. Most fees are collected from within the family agribusiness by selling livestock, agricultural produce and/or renting land, and for those employed, through salaries. Additionally, a few respondents noted that in some areas, there are community efforts to help each other raise the money needed for books, pens, shoes and, in a few cases, also the actual fees. Nevertheless, the burden of school fees falls primarily on the parents and thus today it is much more important to produce money. This also produces a few effects on land-use.

The introduction of agriculture and farming has already been mentioned, however, with the pressure of producing money, the goal is not just to produce food and rear livestock for the household and for food security, but to produce excess to sell. Borrowing labour or food is increasingly rare as men and women prefer selling their

labour or setting up canteens to sell basic food supplies. Thus money in return for help is becoming the norm, instead of the previously more common method of helping in return for help, chai/tea or a meal. As a result, many respondents felt they were working much harder today to improve within the boundaries of the homestead. For example, there is today an increased emphasis on the business of owning a farm, planning according to seasons, market fluctuations, school terms, and improving over time to get the most out of the land and time available. Furthermore, it is clear that planning for a monetary economy as opposed to the previously prevalent planning for drought, might not always produce the same plan. Planting to preserve food for the dry seasons and drought places different demands than planting to preserve money for the periods of financial pressure, particularly if resources are limited and priorities need to be made. This can be seen from the drastic fluctuation of prices on cattle at the weekly market and who has chosen to sell when. The importance of planning for the economy is further materialised in the land. For example, a farm adapted to the monetary economy will produce with a greater focus on excess on goods that fetch the best prices on the market. Consequently, the choices of how to deal with the pressure of the monetary economy is materialised in the landscape through the choices of livestock, agriculture, fencing and other land-use factors.

While the absorption into the monetary economy can be seen to come from a more global and national level, it is manifested at the local level through the Chepareria market in the town of Chepareria. For example, only a couple of farmers mentioned looking at national or global price fluctuations, instead those conducting agribusiness used the prices at the local market to set the prices for their goods. Still, the *effect* of the global markets and national price development and political stability has a strong presence. The global and national unreliable effect on price development in agribusiness is seen by some as problematic, and consequently most respondents felt that an additional regular employment on top of working on the farm was a better way to secure the monetary demands in the current context.

### *Fears of population growth*

Since the cost of having children has risen drastically in comparison to before, and because of the increasing demarcation of land, population growth has also become a



rising concern that approximately half of all respondents spontaneously identified as a serious problem. Population growth has on the one hand led to positive developments such as new school buildings, homes, health care facilities and businesses. However, as several respondents noted, this is also putting pressure on the land, clearing land and potentially making it more vulnerable if inadequate methods are used. With smaller parcels of land, several respondents experienced that people are again cutting down trees unsustainably to make room for growing crops, keeping livestock, building homes and making firewood.

The number of children a family has was previously closely connected to the level of security that would be provided by the children in the future, as well as a sign that wife and husband are truly united. Today, the only contraceptive method “readily available” – from what I understood between the lines – was abstinence. The tradition to have many children within a family still exists, although the numbers have in many cases been reduced to two or three children, with many still preferably having at least one boy. Population growth, as many respondents noted, means more money needs to be produced from smaller parcels of land. This problem led several respondents to perceive added pressure to acquire more land for their sons, while others noted the importance that their children go on to advance in school to become something other than farmers.

Since so many are looking to buy land and since land can be rehabilitated, the land also becomes more valuable. This means knowledge on how to manage land well according to demands and context can produce winners and losers, for example by buying and rehabilitating land and thereby increasing the value significantly. This also means that more land is under pressure to be made into a commodity so it can be sold and bought. The growing pressure economically and demographically on land and land-use, and the higher value and growing possibilities and opportunities offered by new, albeit unequally spread, knowledge, together with the race to improve to gain an advantage, has in some cases led to conflict. Changes in context has thus not only reorganised power structures, opportunities and constraints but produced cleavages in the local society. The land-use conflicts are materialised to a greater and lesser extent in the upper and lower areas depending on the dominant organisations of land-use. To deal with these conflicts, there are ranges of formal and informal institutions in

Chepareria that are called on to manage complex situations. These institutions will be discussed in the next section.

## 7.5. Landscape and social order

### *Conflict management – new and old institutions*

One important durable institution that has had a very important role in the changing land-use and for solving land conflict is elders. Elders are chosen by smaller communities within Chepareria based on the respect they hold and today they have a relatively strong role and influence regarding land disputes and conflicts. Previously only men could be elders, however today women also hold the position. Elders were approached by Vi Agroforestry in order to commence the fencing and land rehabilitation and it was due to the elders that the first changes using new techniques were allowed to happen.

Although fencing spread, the process was not necessarily even. A fenced farm can border an open farm and similarly, across Chepareria division, the situation is varied. There are several forms of land ownership in Chepareria. There are a couple of areas, such as areas close to the town of Chepareria and Ywalateke, that are clearly demarcated and fenced where title deeds were allocated from the government in the mid-90s for a relatively small sum. These areas have private tenure, even though there is still some involvement of the community during the selling and buying of land. In these areas there is a high acceptance for demarcation and fencing. In other areas customary demarcation has occurred, other areas are still negotiating ownership, and in yet other areas there is no official or customary demarcation or ownership. One example given by two respondents of customary demarcations is Chepkopegh. In the 90s, some inhabitants of Chepkopegh had heard of the demarcation that had occurred in Ywalateke and Chepareria town and approached the government representatives to request official demarcation in Chepkopegh too. However, the government decided to maintain the area's official status as a group ranch and instead called in elders with more local knowledge, or "land elders", to mark out the areas of ownership through markings in the physical landscape such as trees and rocks in particular places. In

these areas the role of the elders in relation to land-use is particularly strong. In other areas such as Segor and areas beyond Chepkopegh, no government or customary demarcation has taken place and the area is still maintains a status as a group ranch.

Consequently, in areas such as Chepareria town and Ywalateke there is more acceptance for demarcation and fencing, while in areas where there are only a few individuals who have fenced and/or rehabilitated land, there are more problems for people who want to attempt to change land-use. For example, the problem of livestock crossing demarcations and fencing differs from place to place, not only in how often livestock cross into a fenced area, but also how the conflict manifests itself. In some areas such as in Ywalateke there are very few conflicts since animals do not intrude at all, and if they did, this would be solved quickly since acceptance and respect for farm demarcation and fencing is strong. In other areas livestock are continuously crossing into fenced areas, however, a conflict does not emerge unless it has occurred repeatedly over a long period and instead the respondent who has fenced off the land spends more time (usually of *her* time, since it is often the wife's responsibility) guarding the fences and guiding out any livestock that has wandered or jumped in. In yet other areas, more serious problems can occur if the expectations of each individual diverges too much.

Thus, emergence of conflicts in land and land-use can be understood as the manifestation of partially diverging perceptions of land-use, as well as the increasing pressures mentioned above. However, there are also institutions in place to help solve these conflicts or differences. First and foremost there are the elders, or land elders as they are called in some cases. When a land conflict arises that cannot be solved via discussions between the complainant and the problem-maker, an elder is often called upon to solve the issue. The respect they hold is strong and it is often enough with just one meeting, however, occasionally, after the failure of a series of meetings, the elders can call on location chiefs or administrators. Through the chiefs/administrators other legal institutions can be brought in such as the police, the Ministry of Agriculture or Livestock and the higher levels of decision-making in the district and in Kenya. While the elders that deal with these conflicts do not get a salary, the area chiefs/administrators as government officials and representatives of government policy and national law, receive a government salary. Yet, the chiefs/administrators

will often ask the elders for advice and to investigate situations. The elders, as citizens, need to abide by national laws, and in their particular role they become an extension of the national laws. Thus, there is a strong dominance of national government law on how to organise the land-use and manage conflicts, but there is still a lot of room for elders in smaller communities to affect both those in the community as well as the chief he or she answers to. Looking at how conflicts are managed makes it possible to analyse the politics of who's judgement prevails and is respected, and which social structures are recreated and strengthened, having effects on the outcome of larger land-use issues.

### *Politics and corruption*

Submerged in these judgements over land-use at different levels, this analysis into social ordering and conflict managing institutions cannot be complete without mentioning corruption and politics. This raises more questions of whose system counts and whose voice is heard and where power is accumulated. Notably, the ways corruption is experienced and described by several respondents is as something closely connected to politics. For example, several respondents recalled politicians cutting off payments to schools and CIGs that supported their opponents in elections. Other respondents described the politicising of development work, which circumvented regulating ministries as well as long-term perspectives that might have made land-use more sustainable rather than being used as a political pawn. Today, school representatives, CIG members and other institutions that depend on government support are wary of displaying any preferences in elections since they might risk future support, indirectly inhibiting critical discussions about controversies in land-use that might be perceived as too political. This fear is problematic since, without the critical discussions on which institutions are recreated or resisted or whether knowledge and agency is distorted through politics and corruption, it can become difficult to affect the larger district of Chepareria. Large-scale choices that need to be made in the future in the face of large-scale pressures and problems will plausibly be more effective if they include several different perspectives from different community members. Yet, with some opinions excluded through corruption, as well as through other forms of power relations mentioned above, the sustainability of the decisions might be risked.

Another problem is the gendered nature politics, which belongs to the “outside” male domain. Most, but not all, female respondents I spoke to felt that a problem with politics was that men disappeared from the farm to attend political barazas during election time, leaving the women on the farm. Very few women claimed to be involved in politics at all, while men generally seemed more interested in discussing politics. This reflects the gendered separation of space – the women “inside” at home and on the farm and the men “outside” accessing national and global information.

Generally many respondents see politics as a potential source of violence and as a disruptive force on development. This was particularly evident since the 2013 election had just come to an end. Despite it having been relatively calm, the 2007 election is still fresh in many people's minds and the effect it had, impeding the movement of goods and funds necessary to sustain a decent well-being, which was tough on many people. The election violence in 2007 stopped agribusiness as people from neighbouring areas feared travelling into Chepareria. Travelling and transporting necessities for wellbeing and agriculture became very difficult. Even with this year's election being a great deal calmer than the previous election, people from other ethnic groups avoided coming to Chepareria and there were some problems with the movement of government goods and funds.

The election process in general also returns attention to the global, not only in terms of development activity through NGOs, but also how respondents perceive the global opinions on Kenyan national politics. Many respondents that I talked to about corruption problematized what they saw as power hungry politicians that led to corruption, ethnic and clan politics, and politicisation of development activities, which scared away NGOs and investments. This also affected the outcome of development related work regarding changes in land-use. For these reasons, couple respondents feared government take-over of NGO activities due to corruption.

*Social structures and exclusion*

Before I end this part I will discuss social exclusion. Both regarding people who have land but have not changed land-use methods, and people who do not have land to invest in.

Many of the reasons people gave for not having changed were connected explicitly and implicitly to the higher intensity of labour demanded in comparison to previous methods. When new pressures come relatively quickly and new management techniques to cope demand so much labour, some groups might find themselves at a disadvantage, particularly if situations of limited access to labour are mixed with certain attitudes, bad timing, and restricted access to knowledge and networks – all of which were reasons respondents gave for people not changing. Particularly today, with many NGOs working with land-use having left or been privatised and with the Ministry having limited funds for outreach work to individuals in need of help, access to networks in particular builds a fairly strong structure for inequality as those who are excluded, or for some reason exclude themselves, quickly get left behind.

Who or what respondents can depend on for labour had a strong affect on agency. For those with access to money, machine ploughs and contractors are used. Those who cannot afford this plough by hand or use oxen, and primarily use the homestead family as the main source of labour. Family is very important when it comes to farm labour and most respondents noted they had help from their close family<sup>15</sup> to manage land-use. In a few areas there was some cooperation between the farms to do farm-related jobs such as planting, weeding, digging ditches, accessing water sources, and more, in return for labour, chai/tea or a meal rather than labouring for money.

Connected to the issue of labour is poverty and the problems that are co-emerging from the unequal structures of exclusion and inclusion. Poverty is not just a financial situation, but also a question of how institutional power structures are recreated through networks and agency. Poverty and inequality illuminates how structural problems can recreate positions of disadvantage and advantage within a community.

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<sup>15</sup> Notably, the wives of a man and their respective children do not cooperate – each group of children works on the respective wife's farm/plot.

For example, for those trapped in poverty, focusing each day on basic needs, there is little possibility for long-term investments, and increasingly so if there is no land you can call your own to invest in. If a person, on top of this situation, is physically or socially far away from people or institutions who can provide support or information, the ability to change becomes more difficult. Thus, what can be seen in Chepareria is a new power formation regarding those who saw opportunities in the land first and changed first. This is likely to enhance over time, unless some form of individual or collective resistance is initiated and followed through.

These inequalities have combined with new social expectations and structures to materialise in the land. For those falling outside the community, the social networks, protection and redistribution previously part of community organisation of life has seemingly not been replaced by state systems to ensure inequalities do not become enhanced. With increased expectation to sustain oneself within the boundaries or enclosures of one's own farm, people losing land are particularly vulnerable. These landless and/or poor people are perceived by several respondents as having to resort to cutting down trees for charcoal and timber to sell. This form of logging was described by a few respondents as occurring in ecologically vulnerable areas, such as around government owned riverbanks, leading to rivers drying up affecting areas downstream. Thus, while a new social expectation has pushed respondents to rehabilitate land to make it productive, the same expectations have led to exclusion that is again creating unsustainable livelihood approaches. According to one respondent, attempts were being made to deal with this; however, the attempts described were mainly focused on the symptoms, rather than on the source of the problem.

Another group that does not have access to labour as readily as others are those too old to change when the information arrives. First, because they are physically weaker and their children are grown up with their own land, they do not have the same access to labour required by the new methods. Second, since they have not participated earlier in the monetary economy it is unlikely the funds exist to pay for labour. Third, since school fees are the greatest pressure to contribute to the monetary economy, if there are no school-aged children, changing is not as important. With that said, the respondents' observation that older people were not changing is not surprising, even

though the younger generation might find them stubborn, as some respondents noted. As a tentative future prediction, the soon-to-be implemented tax system described by one respondent, might force also these people into the monetary system and then, the fact that they have waited so long to alter as well as their age and labour limitations might mean that they have fallen behind and will continue to do so.

Young people newly out of school are a group with high unemployment and are also potentially a vulnerable group. With a growing population, there is a need for many to get other kinds of employment than farming, however there are also problems for those who choose to farm. There are problems in particular with children born into poverty today in the area and any benefits can be quickly lost with school fees increasing and land-use information on opportunities relating so closely on access to money, networks, information, etc. For example, there are people who have sold their land before it was rehabilitated without knowledge on land management and the subsequent potential economic power, which might create future problems. One respondent, for instance, noted that he was fearful that the children of those he had bought land from would return in the future to ask for a piece of land since it had been sold before they knew what having land meant.

Consequently, since the beginning of the land-use change, as the techniques spread that enabled adaptation to new demands, it has become a situation suggestive of a race to change on several scales and levels. Here the choice of NGOs and the ministries to focus on informing those with the most respect in the community – the elders – has had a side effect of recreating a power structure in the community, regardless of whether the elders were successful in communicating to their communities or not. Many elders and the sons of elders held advantageous positions in the community during the initial land-use changes and received a lot of help from the surrounding communities. This was further strengthened as the organisations that were previously working with land-use issues pulled out or reduced their information spreading capacity, leading to an even greater benefit for the early adapters and an even greater disadvantage of the late adapters that do not have access to readily available sources of knowledge, labour and support. Undoubtedly, however, there are admirable attempts from people all across Chepareria to help others in their community, something that many respondents also claimed was for their own benefit. In a



vulnerable context such as Chepareria, and in particular lower Chepareria, if drought strikes, one farm or niche on its own will not resist the effects. Only if a larger area in the landscape has adopted techniques that can resist the side-effects of drought can the area maintain what has been gained.

## **7.6. Concluding analysis**

The first part of the analysis was the organisation of the material in themes, as presented in the previous section. The next step is using this thematic organisation to identify contrasts and complexities that illuminate the dynamics in this land-use change. While I have identified some of these already, I will here return to the theoretical approach and concepts explicitly.

This analysis has used perceptions and experiences to understand land-use change. Perceptions and experiences are formed by the conscious and unconscious of individuals, which in turn also affect behaviour and changes in behaviour. In connection to the concepts agency and knowledge, perceptions and experiences are formed by knowledge, and behaviour and behavioural change is formed by agency. However, the opposite can also be the case as we have seen here. For example, when connected to identity and power relations, agency can place an individual in a point of view that in turn forms their perspective and experience. Similarly, knowledge, for example, can show new possibilities in land-use, making individuals question the limits of their behaviour. The interconnections between agency and knowledge are in turn submerged in a human and non-human landscape leading to complex dynamic processes.

The boundaries of landscape have stretched, through the globalisation of perspectives and experiences, to include the national and global through NGOs and markets. However, external support to Chepareria can be understood as being enveloped in explicit or implicit discourses. For example, in Chepareria the issue of individualisations or privatisation stands alongside the collective and social, with multiple forms of tenure including both or just one. Smaller narratives have shown implicit or explicit support for these various forms. For example, maize planting has both strengthened individual boundaries and strengthened community collaboration to

highly varying degrees across Chepareria. However, the co-existence of different tenure systems may create future problems when some land is a private commodity sold and bought, and other land is communal demanding community decisions.

The pressure of earning money and population growth puts the agropastoral ways of life into question. As a vulnerable semi-arid area Cheparerian geography provides limits and many pressures quickly become serious. Thus, timing is very important, as well as innovative solutions. Already there is a wish for a few to have alternate employment other than farming due to the insecurity of farming. What will be done in terms of employment for the growing population is a serious problem, and the solutions vary from obtaining more land, education, alternate forms of earning, better land management, etc. depending on the different individuals perspectives and experiences that are in turn affected by the human and non-human structures and affecting discourses.

Choices on how to manage the future can be seen in individual perceived rational and/or emotional, conscious and/or unconscious choices, based on perceptions and experiences of the landscape in its non-human and/or human form, in turn affected by collective and individual knowledge and agency. Many choices need to be made regarding land-use. Short-term and/or long-term? Monetary and/or climate planning? Livestock and/or farming? Large-scale and/or small-scale? Looking at limits and possibilities can increase understandings of land-use regarding more conscious choices, but social structures and power need to be acknowledged to understand the more unconscious choices. Identities are an important example of these structures. Identity is internalised in groups and individuals. It is formed by inside and outside involvement at multiple levels, for example, national media images, internal changes, government and NGO involvement, etc. Power structures are then materialised in for example, the names on title deeds, the division of labour, access to networks, etc. affecting choices. This also brings in issues of politics and the problems of identity and subjugation that might exclude some groups from participating actively in such decision-making. Politics involves investigating the multiple solutions to problems facing Cheparerians. However, fears of violence and corruption inhibits effective open discussion in some of the places political discussions might occur, such as in schools and CIG.

When land-use changes there is a co-production of change where interconnectedness between the concepts described in this thesis is key. Looking at social structural dimensions can illuminate what forms behaviour as well as dynamics that co-produce a land-use change. Yet, dimensions of land-use are unpredictable in their interaction. Instead, the surest way forward is to consistently touch base with the context – human and non-human – and embrace complexity.

## 8. Conclusion

In conclusion, post-structural social theory can help illuminate dynamics in human-environment research, particularly those relating to the factors that unconsciously affect individuals and communities and their behaviour. Complexities that emerge in land-use from individual perspectives and experiences both at a collective level, as well as at an individual level, can be analysed to show a host of complex themes. These include, dynamics of social and physical boundaries; changing identities and subjectivities; different forms of agency; social structures dealing with different internal and external pressures and change; future and past expectations and fears; constraints and opportunities; power of exclusion and inclusion; power of timing and networks; levels of resistance; and levels of politics.

What a study like this brings is an analysis into the function of social structures in the interaction between humans and their environment. Perspectives and experiences on land-use can give insight into a wide range of themes. What emerges is a situation where people are embedded in their surroundings, but also where the surroundings are embedded in society. Thus, regarding the academic gap mentioned in the literature review, post-structural social theory, even when limited to three main concepts, has certainly shown insightful appreciation and illumined recursive relationships in land-use.

Regarding future recommendations, the identified themes can surely be taken up in future research, not only from social science disciplines but from also natural science disciplines, the extent to which remains to be seen in the reactions from the Triple-L

research community. All of the themes identified can be developed and so I invite such contributions. The theoretical approach and philosophical discussion used also invites the contributions of other disciplines. I will go so far as to challenge my colleagues to pick up parts of this research or all of it, so that it can contribute to trans-disciplinary research in West Pokot. Embracing the complexities of land-use is a fulfilling task and I hope more researchers feel up to the challenge.

At an academic level, I hope that this work encourages other researchers to continue to explore the complexities in human-environment dynamics. In the anthropocene we cannot withdraw as soon as complicating issues of power at multiple and intersecting levels and scales emerge. This is what human and non-human human-environment dynamics is composed of and contributing to understandings of this is what can help solve the problems the anthropocene has placed in front of us.

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### 9.1. Source critique

When searching for literature I primarily searched in well-respected academic journals, well-respected organisations and library books by known authors. I avoided making arguments from a single author, and made sure the argument was well grounded, either within the article used, or through my own collection of sources. Through the literature review I became increasingly aware of what the specific authors perspectives were and organised the different contributions accordingly. This also meant an increasing awareness of whom the authors were directing their respective contributions towards. While the tone can be bitter between the different

perspectives, I purposely muted this and instead focused on the contributions and gaps from and within the respective perspectives.

I have used several recognised experts throughout the thesis to strengthen the argumentation through their respective long dedication and specialisation. However, in post-structural social theory, there are wide ranges of contributions springing forth into academia for very different reasons. Thus, the choice of contributions was not always straightforward. In some situations, due to the difficulty of explaining a concept, I prioritised clarifying rather than diving into the post-structural discussions, given they could still be used in coherence with the theoretical approach.

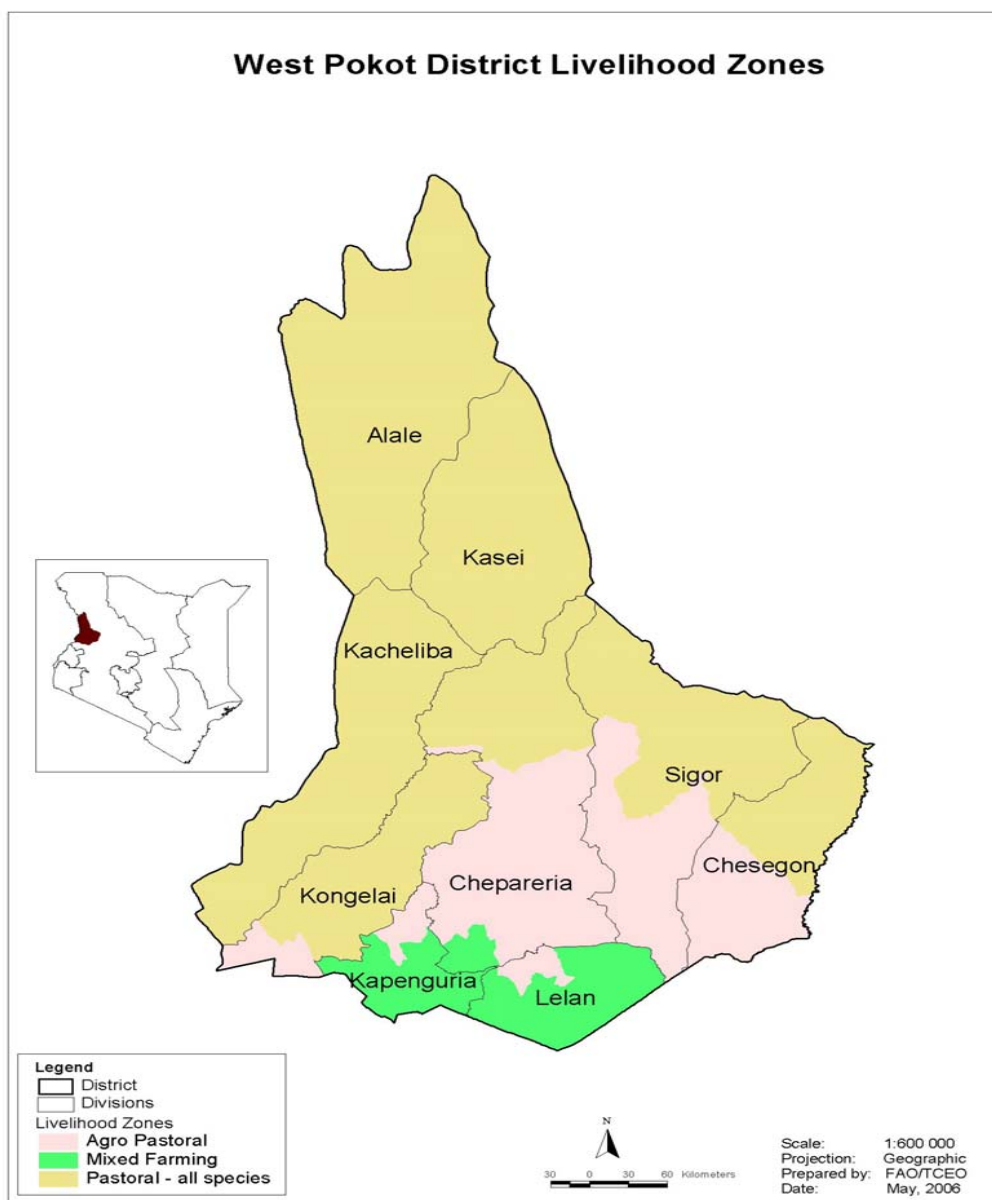
## 10. Appendix

### 10.1. Map of Kenya



Map of Kenya: West Pokot is on the left (Kenya Open Data n.d.).

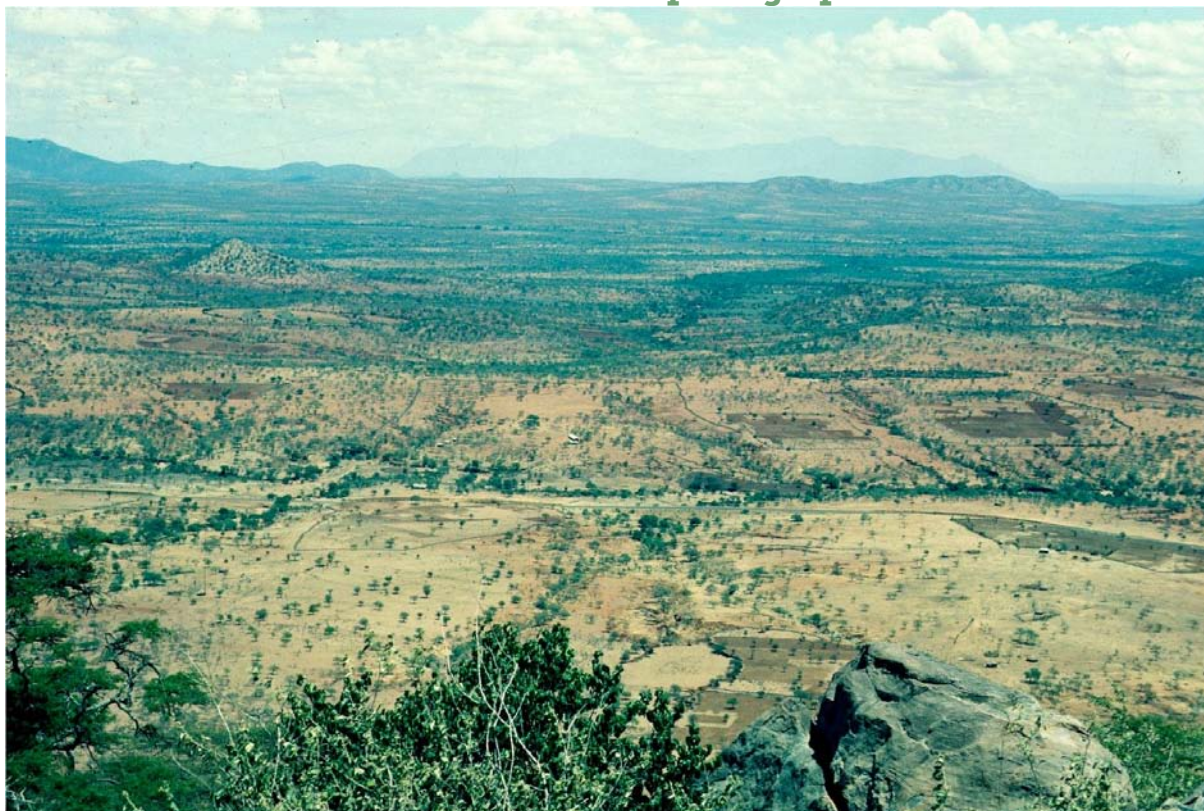
## 10.2. Map of West Pokot



See Chepareria in the centre (Ityeng, et al. 2008).



### 10.3. Transformation visualised in two photographs



Chepareria 1987 (Nyberg and Wangari Muthuri 2012).



Chepareria 2013 (Knutsson 2013).

Comparing the images, the clearest noticeable change is the demarcations.



## 10.4. Interview guide

Julia Wernersson

12 April 2013

### COLLECTING DATA

*the land is definitely perceived to have changed.*

#### Research questions:

1. *How do individuals belonging to different social strata in Chepareria perceive and experience the land-use change (if there is one)? How are these perceptions and experiences different and/or similar in time and from each other?*
- (2. *When filtered through the social theory critique of socio-ecological systems research, what do the perceptions and experiences say about the relationships between knowledge, agency and context as mediated by power, culture, and history?)*

Of the research questions, the first is the focus of the interviews and observations, i.e. land-use and land-use change and how it is perceived and experienced by respondents to come about. This will create a concrete focus in the interviews to support answers giving an "I do"-perspective, rather than revolving too much around a "one does/we do"-perspective. The second question is used to extract themes that can be asked to focus and elaborate the answers.

#### Explorative stage:

- Find key words/events that people can relate to regarding land use and land use change.
  - o Eg. Land tenure, animals, plants, seasons, places, organisation, institutions, methods, ...
- Learn and take notes on local frames of reference.
- Test the interview guide on translator, ViAgroforestry, friends, etc. Is it ok to ask...

#### Interview guide:

Begin with general questions on the **perceptions** and **experiences** of land-use and land-use change.

- **Follow-ups** throughout the interview:
  - o How/why did you decide that?
  - o Why not another way?
  - o Why the change?
  - o Is this different from before?
  - o How do you know that?
  - o **PIN-POINT:** ex. when the respondent says 'a lot', understand exactly what that means! What is 'close'? What does 'far away' mean?
  - o What happened then?
  - o How did that happen?
  - o How did you feel then?
  - o How did you experience that?
  - o Can you *describe* that in more detail?
  - o Can you give an example?
  - o Can you give an example of more occasions when you felt that way?
  - o Just be quiet a while...
  - o Towards the end: Have I understood you correctly when you say...?
- I want to make sure people use their **individual perspective, perception and experience**. Avoid steering the interviews towards general answers. Photograph and record when ok. Identify GPS coordinates.

Julia Wernersson

12 April 2013

**Explaining the purpose of the study for respondents:**

*My name is Julia and I'm a master student from Sweden. I heard that there has been a change in how many people in Chepareria use their land, so I wanted to learn more about why people change their using of land.*

*The goal of this study is to understand your points of view and experiences of the land use change. What the situation was before, what is it now, and why it is different.*

*'Land use' is broad and includes many things, such as farming, planting, animal keeping, collecting wood, collecting water, group/ community/individual activity with land use, and more.*

*It is important that you tell me what YOU do and think. This is information for my study and will give me a picture of the land use in Chepareria (I do not have the resources to meet and talk to all the farmers). I am very grateful to hear your thoughts.*

*I will ask you some basic questions first, then start asking about land use and the change. It will take some time, are you available. If you have to do something, let me know, I can join you in your work.*

*I would like to record the interview - just for me, so I remember what you say. RECORD!*

**Identification:**

1. Name?
2. Male/Female?
3. Age (approximate/exact)?
4. Profession/Identify primarily as...?
5. Children?

*Can I take a photo of your farm? Of you?*

**General questions:**

1. Tell me about yourself... (identify the gaps)
2. *(Warm-up. Preferably walk around)* How do you use the land today?
  - a. What do you farm? In different seasons?
    - i. What crops do you grow?
    - ii. What animals do you keep?
  - b. (For an indication of social strata):
    - i. Do you have access to land? And what land do you have access to? Do others also have access to it?
    - ii. Do you have access to animals? Which animals do you have access to? Do others also have access to them?
    - iii. (Might lead to... (Do you perceive yourself as rich/poor?)?? obs I'm Mzungu)
      1. "Access" and "control" over land - gender issue.
    - iv. Do you have other land?
  - c. How do you use other land than the land that is yours?
  - d. Do you live of only what you farm?
3. *(Change?)* From what you have told me, is this different from the way you used to use your land before?
  - a. What was your situation before? *How did you experience it?*
    - What problems did you have? Erosion? Cattle Rattling? Wars?

Julia Wernersson

12 April 2013

- b. Which techniques/technology/methods are **new** of those you described above?
- c. How did you use your/other land before?
- d. Why did you change?
  - i. What determined how you changed your use of land?  
(Potentially create a list that can be referred to)
  - ii. What attracted you?
  - iii. What has influenced you most to adopt what others do on their farms?
  - iv. What surprised you the most about the new techniques?

(Describe? How did you experience!?)

Apart from the follow-up questions, try different themes to develop the answers above.

#### THEME 1 Other people:

- Who decides about how to use the land?
- Who tries to tell you what to do?
- Whose opinion matters for your land use?
- Who gives you information on land use? How? From Where? Trust?
- Do you feel like you cannot do everything you would like to do by others? Or by your situation? (Connected to the choices you make with how you use your land).
- Would you do anything differently with your land?
  - o What? Why are you not doing it?
  - o Do you have dreams for what you want to do with the land?
- What do you say others should do with their land?
- Do you feel you work more/less now? How does that make you feel?
- What is the source of your labour on your farm?
- How do you cooperate? And about what do you cooperate? Examples?
- Where and how do you meet and talk about land use?
- How do you deal with problems of land use in the community?
- What is your role in problems in the community related to land use?
- How do you work with others to overcome these problems?
- Who helps you with land use? And how?
- Social change? Due to land use change?

#### THEME 2 Connection to the land/Identity:

- How is the land important to you?
  - o Does it make you happy? • What makes a good farmer?
  - o Does it make you feel proud?
  - o Do others give you more respect?
  - o Do people come and learn from your farm?
    - What attracts the farmers most to visit your farm?
  - o New ways of meeting people?
- CULTURE
- SOCIAL CHANGE
- o New cultures? What do you uphold/value most in your culture? Explain?
- o Has it changed? How is it connected to land use?
- o Does it empower you knowing you created the change yourself?

#### THEME 3 Knowledge and information:

- o The people who have not change methods, have they changed culture?
- o Do you want the culture to change more?

3

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- Do you see risks/problems that might come in the future that can affect you?
  - o Climate/weather change, Kenyan politics, market change?
  - o Conflicts in Chepareria, politics in Chepareria?
- Who/what gives you information that changes your land-use?
  - o Did you get the information alone or in a group with others?
  - o How does this happen? word.
  - o Where does it come from?
  - o (Who do you believe and trust? Why?)
- Have you lived through any hardships/difficulties/periods of problems in your life? Have you heard stories of these problems from others that you fear/are scared of? What problems do you expect in the future?
- What stories about farming and animal keeping (land use) do you remember from when you were a child? Do you tell the same stories to your children?
  - o From these stories, how should land be treated and used?
- How do you think the rest of the world outside Kenya affects you? Why?
- (World views – how do you think about your role in the world? How do you think the world affects you?)

**Final questions:**

- Do you want to add anything that you think I should know?
- Do you have a question for me?
- Do you think, based on these questions, that I should interview someone in particular?

*My mobile number is 0717 915 131 if you want to reach me.*

**Observations:**

*Think about:*

- *Who is doing what and why?*
- *In what way are they doing it?*
- *Who participates? Who is excluded?*

This is the interview support guide used and reworked in Chepareria. Towards the end, I used the interview support guide to a lesser extent (Wernersson 2013).