

New Opportunities and New Constraints

Understanding Changes in Land Tenure and Livelihoods among the Pastoral Maasai in Southern Kenya



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Cover Page: Pictures (taken by the author) from top left to bottom right: 1. Symbolic picture of a Maasai man walking towards the sunset and an uncertain future. 2. Maasai cattle. 3. Small-scale irrigation on a Maasai farm. 4. Sign with plot offered for sale. 5. Field of a non-Maasai farm in the research area, where land is irrigated and cultivated on a large-scale level. 6. Maasai sheep. 7. Fenced land. 8. Dried-out 'dam' during dry season. 9. Landmark after land has been sold to non-Maasai (Rd = future Road; 872 and 875 = future plots No. 872 and 875).

Executive Summary

Pastoral communities in Africa are characterized by a high reliance on strategic migration and livestock keeping as a source of social and economic wellbeing. However, over the past decades pastoral livelihoods were exposed to various pressures like increased privatization of land. The experiences of the Maasai in southern Kenya provide an illustrative example for livelihood changes due to land privatization. During the 1970s, a transformation from land held in trust to individual 'group ranches', as land communally owned and managed, took place in the Maasailand. During the 1980s, title deeds were privatized and group ranches subdivided into smaller, individually owned ranches. Focusing on Maasai households this research analyzes - with specific regards to impacts and implications on food (in)security - how these changes in land tenure shape the livelihoods of Maasai pastoralists in southern Kenya.

The research shows that current livelihood strategies of Maasai in the research area consist of combinations of two or more of the components livestock keeping, cultivation and wage labor/off-farm employment. Although Maasai households rely economically (and partly socially and culturally) to a large extent on the traditional pastoral production system of livestock keeping, especially cultivation is gaining in importance. Expanded cultivation, as a long-term investment in land, is facilitated by a stable and secure land tenure system which emerged with the individualization of title deeds after the subdivision. It is this increased agricultural production in combination with livestock keeping that contributes to a household's food security. But as both practices rely to a large extent on the seasonal cycle, some households remain vulnerable to seasonal food and feed shortages, making droughts and dry seasons the main natural drivers of Maasai livelihoods. In order to overcome these shortages, Maasai households draw on a wide range of different coping strategies which are partly facilitated, changed or constrained by the privatization of title deeds and its accompanying phenomena of increased fencing and land sales. An analysis of drought management strategies at the household level shows that Maasai increasingly focus on localized drought management strategies trying to postpone or avoid long-distance migration. Where new individual land tenure rights and claims come incompatible together with customary practices of free cattle movement, conflicts between neighboring farms can occur. These conflicts might in practice only be solved by a reification of land claims and tenure rights through fencing. Both fencing and land sales shape and change the accessibility of land for pastoral Maasai, reduce their strategic mobility, impact current cultural and social norms, practices and habits, but also provide new investment opportunities contributing to the establishment and development of new livelihood strategies.

Agricultural and pastoral intensification and extensification as well as generally livelihood diversifications seem to be trends which might increasingly gain in importance for the investigated Maasai households in the future. Their capacity, knowledgeability and willingness to further adapt to and make use of the recent land tenure changes might become crucial for future agro-pastoral livelihoods. The research suggests that Maasai actively adapt their livelihoods to these changes and beyond that use(d) the new land tenure system to develop new livelihood strategies. However, these new or changed livelihood strategies impact Maasai pastoralism as both a production system and as a traditional socio-cultural way of life.

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Asante sana.

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Abstract

Land privatization, commercialization and commodification have shaped and changed pastoral Maasai livelihoods in southern Kenya. Analyzing Maasai households, this research investigates how Maasai pastoralism, both as a production system and as a way of life, has changed due to these changes in land tenure. The research suggests that the individualization of title deeds provides new livelihood opportunities for Maasai and increases a household's food security, while on the other hand it impacts pastoral lifestyles and Maasai culture.

Keywords: Livelihood, land tenure, food (in)security, drought management, pastoralism, actor-oriented approach, Maasai, Kenya

List of abbreviations

acc.	According to
AU	African Union
ANT	Actor-network theory
AOA	Actor-oriented approach
CAADP	Comprehensive Africa Agricultural Development Programme
CIFOR	Center for International Forestry Research
comp.	Compare
DFID	Department for International Development
ECA	Economic Commission for Africa
FAO	Food and Agriculture Organization of the United Nations
HH	Household
IDS	Institute for Development Studies
IFC	International Financial Corporation
IFPRI	International Food Policy Research Institute
Int.	Interviewee
KMS	Kenya Meteorological Service
KNBS	Kenya National Bureau of Statistics
KSh	Kenyan Shilling
KWS	Kenyan Wildlife Service
NGO	Non-Governmental Organization
RoK	Republic of Kenya
UN Stats	United Nations Statistics Division
WB	World Bank
WHO	World Health Organization
WTTC	World Travel & Tourism Council

1 Introduction

Pastoralism is a socio-cultural and economic way of life sustained through strategic migration and mobility to access natural resources in areas of high rainfall variability. Pastoral communities in Africa are characterized by a high reliance on livestock as a source of social and economic wellbeing (African Union [AU], 2010). Over the past decades, pastoral livelihoods have increasingly been exposed to various pressures (AU, 2010; Fraktin and Mearns, 2003) such as demographic development (AU, 2010), increased commercialization and privatization of land (Fraktin, 2001) or a spread of nature reserves and game parks (Fraktin and Mearns, 2003). While on the one hand these developments can constrain livelihoods, they might on the other hand provide new livelihood opportunities (BurnSilver, 2009, Thompson et al, 2009; McPeak and Little, 2005; Little et al, 2002). The experiences of the Maasai in south Kenya provide an illustrative example for livelihood changes due to land privatization (Rutten, 1998). During the 1970s, a transformation from land held in trust to individual 'group ranches', as land communally owned and managed, took place in the Maasailand. During the 1980s, these group ranches were subdivided into individually owned ranches. This process of privatization of title deeds and land is the starting point of this research. Analyzing Maasai households, the thesis sheds light on the question if and how Maasai livelihoods have changed due to these processes. To reveal how current livelihoods, drought management and food (in)security of Maasai households emerge and to understand how they have changed since the subdivision of the group ranches and how they might develop in the future are objectives this thesis will address.

Chapter 2 outlines the problem statement, the research objectives and the main research questions of this thesis. Based on the main objectives, Chapter 3 develops a theoretical and conceptual framework, embracing and defining the main theoretical concepts applied in this research, such as the actor-oriented approach (3.1.1) and actor-network theory (3.1.2), (pastoral) livelihood (3.2), Maasai households (3.3), vulnerability and resilience (3.4), land tenure (3.5) and food (in)security (3.6) in a Maasai pastoral context. In Chapter 4, the methodological approach, the field access and ethical considerations are outlined and discussed. After briefly describing the study area (Chapter 5), the results of this research are presented and interpreted. Following an identification and discussion of the main components of current Maasai livelihood strategies and important livelihood assets (Chapter 6), drought, as the main ('natural') driver of and its impacts on Maasai livelihoods (Chapter 7), is addressed. Afterwards, this research identifies the most important determinants of a Maasai household's food (in)security and describes applied coping strategies in times of food shortages or droughts (Chapter 8). Chapter 9 focuses on Maasai drought management and corresponding coping strategies in times of feed insecurity. Two essential cattle management strategies, long-distance migration and mutual grazing arrangements with neighboring Maasai farms as well as their current appearance and main drivers of change are extensively discussed in this section. Furthermore, three different examples of household decision making processes in times of drought are described and analyzed by means of 'decision making trees'. Chapter 10 discusses long-term household strategies and potential future developments of Maasai livelihoods in the research area, while Chapter 11 briefly reflects on new forms of land transfers, land divisions and intra-household land inheritance practices from a gender perspective. Chapter 12 presents a critical reflection on the research, depicts some of its limitations and suggests future research. Finally, Chapter 13 summarizes the main findings.

2 Problem statement, research objectives and research questions

Pastoralism is rapidly changing all over Africa. Privatization and commercialization of common pastures and water resources, changes in land tenure, population growth, climate changes and conservation programs are some of the factors shaping, changing and threatening pastoral livelihoods. However, little is still known about what and how well Maasai households and livelihoods are doing under these current changes and developments (Radeny et al, 2007, p. 31). In southern Kenya, the pastoral Maasai faced and still are facing significant changes in land tenure, where formerly commonly owned and used land is increasingly privatized and commercialized. Pastoral livelihoods are inevitably linked to secure access to land in order to maintain a livelihood, but the individualization of title deeds and the commodification of land might change pastoral accesses to land. These changes in land tenure and land access (security) can shape, change and diversify pastoral livelihoods. However, theory and research on diversification in rural populations of sub-Saharan Africa has tended to focus on farmers rather than on pastoralists (Homewood et al, 2009, p. 29). If and how Maasai pastoral livelihoods at a household level are shaped and adapt to these changes in land tenure, are therefore the central research interests of this thesis.

Derived from this problem statement, the main research question for this thesis is:

With specific regards to implications and impacts on food (in)security, (how) do recent changes in land tenure shape the livelihoods of Maasai pastoralists in southern Kenya?

In order to answer this research question, two main research objectives and corresponding sub-research questions will guide this thesis:

- *Objective 1:* Identifying current Maasai livelihood strategies and underlying motives and reasons for changes or continuation of these strategies at a household level.

Research questions:

- What range of livelihood strategies do Maasai households possess in the research area?
- How have perceptions of livelihood components and livelihood assets changed over time?
- How do changes in land tenure and trends of privatization and commercialization of land impact Maasai livelihoods and pastoral practices?
- What are households' underlying motives to change or maintain livelihood strategies?
- How might livelihood strategies of Maasai develop in the future?

- *Objective 2:* Understating changes in perceptions of food (in)security, its relation to (changes in) land tenure and identifying coping strategies in times of food and feed (in)security.

Research questions:

- What role does food (in)security play in order to maintain a livelihood?
- What are the main drivers shaping food (in)security of a Maasai household?
- What coping strategies are applied by Maasai households in order to overcome food and feed shortages?
- How do changes in land tenure shape a household's food and feed (in)security?

In order to address these research objectives and answer the research questions, a theoretical and conceptual framework needs to be introduced and developed in the next chapters.

3 Theoretical and conceptual framework

In this chapter the theoretical and conceptual framework for this research will be developed, outlined and discussed. It starts with an introduction of Long's actor-oriented approach (AOA) complemented by Latour's actor-network (ANT) theory, which will provide the main theoretical views for the research. Afterwards, the concepts of (pastoral) 'livelihood', which will be one of the two main concepts in this thesis, and 'household', the unit of analysis, will be qualified. After a brief discussion of 'vulnerability' and 'resilience', the second main concept '(pastoral) land tenure' is outlined. Finally, the concept 'food (in)security' is discussed and further developed. All concepts taken into account in this research will be introduced and reflected upon broadly and subsequently narrowed down and applied to a Maasai and/or pastoral context.

3.1 Actors and actants

3.1.1 Actors are 'powerful' - The actor-oriented approach

In order to understand changes in pastoral land tenure, livelihoods and food (in)security, it is essential to analyze how local actors interact and how or if their livelihoods are (perceived to be) shaped and influenced by or adapt to changes in land tenure. In order to understand socioeconomic processes and cultural perceptions, one has to recognize locals' agency and locals' perceptions of their lifeworld(s)¹. How different local actors interact to confront and cope with problems and opportunities of land tenure changes is hereby the central question. Norman Long's *actor-oriented approach* provides a useful framework to approach this question within a (sociological) development context.

Long's (1997) notion of an actor-oriented approach² stretches back to Max Weber's (1922) notion and characterization of *social action*, as social action concurrently implying both meanings and practices. Building upon symbolic interactionism and the phenomenological perspective of the 1960s, an actor-oriented approach can be located in line with criticisms of structural theories of social change (Long, 2004) and as "a kind of counterpoint to structural analysis in development sociology" (Long, 2001, p. 13). In fact the AOA questions positivism (Long, 2001, p. 13) and is more oriented towards a constructivist or post-structuralist perspective, since it acknowledges "the existence of 'multiple social realities'" (Long, 2001, p. 15). Long's approach is therefore a

more dynamic approach to the understanding of social change...which stresses the interplay and mutual determination of 'internal' and 'external' factors and relationships, and which recognizes the central role played by human action and consciousness (Long, 2001, p. 13).

¹ Lifeworld will in this research be understood as Schutz' interpretation of the intersubjective "everyday life-world...which...the normal adult simply takes for granted in the attitude of common sense" (Schutz and Luckman, 1973, p. 3).

² For cornerstones of the actor-oriented approach compare Long, 1997, p. 3.

From an actor-oriented approach, the acknowledgement and recognition of local actors' agency and their knowledge is inevitable. Social actors are regarded as "active participants who process information and strategies in their dealings with various local actors as well as with outside institutions and personal" (Long, 2001, p. 13) and not simply as passive recipients of change and as "disembodied social categories" (Long, 2001, p. 13). In other words: actors are (assumed to be) 'powerful'.

The actor-oriented approach is a way to recognize different lifeworlds of actors and to acknowledge the different agencies of stakeholders. It is an approach to interpret how different actors interact to confront problems and to understand how and why change might be adopted or not. The notion of *human agency* is a central concept to the approach. According to Long (2001, p. 16), the notion of agency "attributes to the individual actor the capacity to process social experience and to devise ways of coping with life, even under the most extreme forms of coercion". Although certain - for instance physical and socio-economic - constraints, limits and framework conditions exist, social actors possess 'knowledgeability' and 'capability' (Long, 1999, 1997) and each actor - individual or collective - incorporates and commands different types and scales of resources, interests, values and institutional capacities (Long, 1997, p. 2). Hence, pastoralists are not regarded deterministically as the ones being increasingly disempowered in the local arena, instead (their) human agency needs be taken into account as part of the analysis. It is assumed that

individuals or groups [are] developing social strategies on the basis of existing knowledge, resources and capabilities, and that...organizational forms...enable and constrain action (Long and van der Ploeg, 1989, p. 241).

The crucial point of analysis is where these different social strategies or different lifeworlds - partly incompatible - come together and encounter each other. These hubs of different lifeworlds, these arenas of social negotiation and conflict, are - according to Long - *social interfaces*.

Social interfaces are critical points of intersection between different fields or levels of social organization, where "discrepancies and discontinuities of value, interest, knowledge and power are clearly revealed" (Long, 2004, p. 16). These social interfaces are 'places' where "contests over issues, resources, values, and representations take place" (Long, 1997, p. 6) and where "actors confront each other, mobilize social relations and deploy discursive and cultural means for the attainment of specific ends" (Long, 1997, p. 6). In other words: Social interfaces are places where the acknowledgment of multiple social realities becomes meaningful in practice, since "images, identities and social practices are shared, contested, negotiated and sometimes rejected" (Long, 2004, p. 16) by "the ongoing social and political struggles that take place between the social actors involved" (Long and van der Ploeg, 1989, p. 226). Interfaces occur in all kind of social situations and arenas "in which interactions become oriented around problems bridging, accommodating, segregating or contesting social, evaluative and cognitive standpoints" (Long, 1999, p. 1). Long suggests (1999, p. 1) an analysis of these interfaces in order to "elucidate the types and sources of social discontinuity and linkage present in such situations". However, social interfaces need always be regarded in a wider context of institutional, organizational, cultural and knowledge/power domains (Long, 1999). Crucial is *how* different ongoing interfaces, encounters and segregations are (re-)constructing different responses and knowledge frames of actors, and how different actors are (re-)constituted in the settings/arena

and in every day practice (Long, 1999). Although and probably due to the fact that the actor-oriented approach acknowledges multiple social realities, it is essential - especially for the identification of social interfaces - to investigate particularly the questions of how and why some interpretations and models of local actors prevail in certain interfaces, arenas and social settings (Long, 1999) and others not.

The actor-oriented approach provides an analytical framework that acknowledges multiple social realities, human agency and the intersection of different lifeworlds at critical points. Actors are regarded as powerful with certain capabilities and knowledgeabilities to enforce their practices to a certain extent and to construct a lifeworld. Where different lifeworlds encounter each other, social interfaces might occur. These social interfaces underpin the lifeworlds of different actors and their daily interactions, since different actors incorporate and possess different powers, perceptions, meanings and strategies which shape and construct daily life. The actor-oriented approach “illustrates these interactions between different actors, and the interfaces between actors and their institutions” (Maiga, 2010, p. 61). Therefore, the actor-oriented approach and the concept of social interfaces provide a main theoretical view for the research.

3.1.2 Actants are ‘powerful’ - Actor-network theory

Actor-network theory in Bruno Latour’s depiction provides a useful extension to the actor-oriented approach by Long, as ANT tries to break the differentiation between society and nature, technology and society, respectively (Schulz-Schaeffer, 2000). Latour’s post-structuralist ANT “does not limit itself to human individual actors, but extends the word of actor - or actant - to non-human, non-individual entities” (Latour, 1996, p. 2). Accordingly, society is regarded as more than the myriad of human (or social) entities, but as a diversity of connections or relations embedded in networks (Latour, 1996) between human and non-human entities which interact. These diverse connections and relations need to be investigated (Latour, 2010). Accordingly, an ‘actant’ is regarded as

something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general. An actant can literally be anything provided it is granted to be source of action (Latour, 1996, p. 8).

Or, as Callon (1991, p. 140) states, actors or actants are “any entity that more or less successfully defines and builds a world filled by other entities with histories, identities and interrelations of their own”. Based on these assumptions derived from the actor-network theory, it will be crucial for this research to broaden its research focus from the social or individual human actor towards non-human entities in order to specifically identify actants’ (ascribed) ‘agency’ and their roles within a Maasai context. Following Law (2008, p. 141) this analysis will be “descriptive rather than foundational in explanatory terms...[as] it tells stories about ‘how’ relations assemble or don’t”.

The complement of Long’s actor-oriented approach with Latour’s actor-network theory facilitates a more comprehensive view on the research objective, since it regards human agency as interactively embedded in a wider network of and co-determined by non-human entities. Assuming that in a Maasai context land and livestock might play a crucial role in developing and maintaining livelihood strategies and that they might be co-determinants of human agency, the theoretical complement with the AOA introduced in this chapter seems useful and necessary.

3.2 Pastoral Livelihoods

3.2.1 The way in which a living is obtained - The concept of livelihood

The notion *livelihood*, in its most basic construction, can probably be regarded as means of (gaining a) living. Chambers and Conway (1991, p. 6) define livelihood as “the capabilities, assets (stores, resources, claims and access) and activities required for a means of living”. This definition of livelihood “comprise[s] people, their capabilities and their means of living, including food, income and assets” (Long and Conway, 1991, p. i). *Assets* are differentiated in tangible and intangible assets. *Tangible assets* are “stores and resources” (Chambers, 1995, p. 192) such as land, livestock, farming equipment, whereas *intangible assets* are “claims and access” (Chambers, 1995, p. 192) for example labor power, skills or membership in an organization. *Capabilities* are rather broadly defined the abilities of people “to perform basic functions, to what a person is capable of doing or being” (Chambers and Conway, 1991, p. 4). *Human capability* is therefore the “ability of human beings to lead lives they have reason to value and to enhance the substantive choices they have” (Sen, 1997, p. 1959). Long (1997, p.11) similarly explains livelihood as the idea

of individuals and groups striving to make a living, attempting to meet their various consumption and economic necessities, coping with uncertainties, responding to new opportunities, and choosing between different value positions.

According to Ellis (2000, p. 6), it is crucial for the understanding of livelihood as a concept “to direct attention to the links between assets and the options people possess in practice to pursue alternatives that can generate the income level required for survival”. But livelihood means more than the “net results in terms of income received or consumption obtained” (Ellis, 2000, p. 7), it is about the ‘*how*’ and ‘*the way*’ in which a living is obtained (Ellis, 2000) or gained (Chambers and Conway, 1991). Livelihood comprises accordingly the “assets (natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household” (Ellis, 2000, p. 10), or as Long (1997, p. 11) states the “ways and styles of living [including] value choice, status, a sense of identity vis-à-vis other modes and types of social persons”.

In order to understand and apply the livelihood concept in this research several dimensions and layers of this concept need to be taken into account. Therefore, the concepts access and accessibility, capitals and livelihood resources, sustainable livelihood, and livelihood diversification need to be briefly outlined, as these notions are determining and constituting elements of the livelihood concept.

The notion *access* or *accessibility* refers to peoples’ or to a household’s ability to obtain and utilize certain tangible or intangible assets. Access to a resource might not necessarily imply to have the *control* over or the *ownership* of a certain resource, *access* implies simply to have “the possibility to use it” (Food and Agriculture Organization of the United Nations [FAO], 2004, p. 23). It is generally assumed that, depending on institutional arrangements, organizational issues, power, politics or gender (Scoones, 1998), different individuals or households have different forms, possibilities and extents of accesses to different livelihood resources. Therefore, access will in this research be considered as the access (constraints) to different kinds of *capitals*

embedded in a wider institutional, social and cultural context and facilitated by social relations. In this research, the following types of capital are distinguished:

- *Social capital* are social resources (networks, family, associations etc.) upon which individuals or groups can generally draw on “when pursuing different livelihood strategies requiring coordinated actions” (Scoones, 1998, p. 8).
- *Physical capital* is mainly regarded as basic infrastructure which “consists of changes to the physical environment that help people to meet their basic needs and be more productive” (Department for International Development [DFID], 2001, Ch. 2.3.4) and to produce goods, which are “the tools and equipment that people use” (DFID, 2001, Ch. 2.3.4) in order to pursue livelihoods. Hence, physical capital can also be regarded as man-made assets and other forms of physical or hard capital (Odero, 2003).
- *Financial or economic capital* are the financial means (e.g. cash, savings, assets, debts etc.) required to provide or contribute to a livelihood.
- *Human capital* is inherent to individuals for instance knowledge, skills, physical and psychical capabilities, health etc. in order to pursue or change a livelihood.
- *Natural capital* can be regarded as the natural stocks (e.g. cattle, soil and water) and environmental services (e.g. hydrological cycle) “from which resource flows and services...useful for livelihoods are derived” (DFID, 2001, Ch. 2.3.3).
- *Cultural capital* is in this research and in distinction to social and human capital regarded as culturally rooted and embedded practices, habits and norms that individuals or households can use and draw on in order to provide or contribute to a livelihood. As will be outlined in the course of the research such a distinction is useful and necessary in the very particular Maasai cultural context.
- *Information capital* is in this research regarded as “information-as-resource” (Braman, 1989, pp. 239f) that households and individuals require in order to make and contribute to livelihood decisions and choices (comp. Odero, 2003).

In fact, *livelihood resources* can be understood as a combination of (some of) these different types of capitals (Scoones, 1998). The concept of livelihood can further be developed to a concept of *sustainable livelihood*, meaning that a livelihood is sustainable if it

can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the long and short term (Chambers and Conway, 1991, p. 6).

Hence, sustainable livelihoods exist when and if systems of human livelihoods are resilient to external shocks and pressures, not depending on external support (unless this support is sustainable), maintain long-term productivity of natural resources and if they do not restrict or undermine livelihood options of others (DFID, 2001, Ch. 1.4). Referring to the framework for sustainable livelihoods of the Institute for Development Studies [IDS], Scoones (1998, p. 3) identifies a number of basic elements of a sustainable livelihood and summarizes them in one key question that is useful for their analysis:

Given a particular context...what combination of livelihood resources (different types of 'capital') result in the ability to follow what combination of livelihood strategies with what outcomes?

This broad understanding of how to analyze (sustainable) livelihoods will also be the starting point of the livelihood analysis in this research. Of particular interest is hereby how certain livelihoods or *livelihood strategies* are shaped by the specific social and cultural context in which they emerge, and how livelihood strategies may change (or have changed) over time. The assumption for this research is that livelihoods of households and individuals are not simply determined (though shaped) by the context in which they occur, but that certain spaces or possibilities exist for individuals and households to actively shape and change livelihood strategies. Common changes in sub-Saharan rural livelihood strategies are for instance agricultural or pastoral intensification³ and extensification, migration and *livelihood diversification* (Ouma et al, 2011; Wisner et al, 2004; Scoones, 1998).

Ellis (2000, p. 15) defines (rural) livelihood diversification "as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living". For many cultivating smallholders in Africa diversification of income into non-agricultural income sources has been "a key poverty avoidance strategy" (Radeny et al, 2007, p. 31). In their research on mainly agro-pastoral households⁴ in arid to semi-arid regions in Kenya, Barret et al (2005) suggest that between 1994 and 1996 more than 60 % of the investigated Kenyan households earned (additional) money from off-farm agricultural labor and that 29 % the of the analyzed rural households' income was constituted from non-farm income.⁵ Radeny et al (2007) for instance investigated an area close to the metropolitan area of Nairobi and suggest that in this case up to 85 % of the households have access to income sources unrelated to livestock and crops. Despite the mentioned limitations (comp. fn 5), these two examples might substantiate an in research commonly suggested phenomenon that rural or pastoral households tend to increasingly diversify their livelihoods. Diversification of income sources and diversification into off-land-work is hereby of growing importance (BurnSilver, 2009; Thompson et al, 2009; McPeak and Little, 2005; Little et al, 2002). However, diversification of income sources and into off-farm-work does not necessarily mean that pastoral households leave livestock production behind in favor of new activities. The process of diversification might rather be "a question of combining new strategies with livestock production, not abandoning livestock entirely" (BurnSilver, 2009, p. 194). Nonetheless, earnings

³ Intensification can include increasing inputs (e.g. irrigation system construction and maintenance) (Homewood et al, 2009), complex cropping (e.g. seed selection) or a shift to low-mobility (Homewood et al, 2009). According to Galaty and Johnson (1990), pastoral or livestock intensification refers to an increase in the units of livestock products (milk, meat etc.) based on a given level of inputs (water, feed etc.). BurnSilver (2009, p. 194) suggests in her research that pastoral intensification, as the way pastoral households are rearing their livestock, is currently changing and pastoral "efforts are ongoing, as households try to gain more from the livestock they do have".

⁴ Agro-pastoralism is the coexistence of agricultural and herding activities within a household. A commonly used (economic) definition defines agropastoral households as households which derive more than 50 % of their gross revenues from livestock and livestock-related sources and 10-50 % from farming activities (Oxfam 2008).

⁵ These numbers are certainly not representative, especially not for the Maasai community, as the numbers depend on various factors, for instance on the level of education, the geographical closeness to national parks or urban areas and tribal-specific affiliation, livelihood practices or strategies.

from livestock remain the key element in Maasai pastoral households and in Maasai economy (Wren, 2010; Homewood, 2009; Nkedianye, 2009; Thompson et al, 2009; Little et al, 2002). Furthermore, as Little et al (2002, p. 421) rightly remark, livelihood diversification might not simply be regarded as

a risk-averse strategy, especially for poor individuals, because they do not necessarily diversify into several different sources, nor do they do so out of choice. Rather, they replace pastoral activities with other activities in order to survive regardless of the medium- to long-term consequences.

A livelihood is the way in which a household or a person obtains a living. Hereby, assets - a household's or person's access to them, respectively - and capabilities are two decisive elements. In order to analyze livelihoods and different livelihood strategies, access to the seven defined types of capitals are taken into account and also considered within a vulnerability and resilience context (sustainable livelihoods) for instance in times of stresses and shocks. In the following chapter, livelihoods in a Maasai pastoral context will further be outlined.

3.2.2 Maasai pastoral livelihoods - State of the art

African pastoralism is a socio-cultural and economic way of life sustained through strategic migration or mobility to access water and grazing resources in areas of high rainfall variability. African pastoralism is defined by a high economic reliance on livestock as a source of social and economic wellbeing (AU, 2010). Accordingly, pastoral populations are people(s) whose livelihoods depend to a large extent on livestock rearing for milk, meat, wool and hides production, for transport purposes and for trading mainly in arid or semi-arid rangelands (Fraktin and Mearns, 2003, p. 112; Zaal and Dietz, 1999). These arid and semi-arid areas build the natural resource base for livestock production and the pastoral production system. Pastoralism is accordingly both a specific production system and a certain way of life (AU, 2010). However, the notion pastoralism does not represent a single or uniform livelihood; instead pastoralism has a complex, multidimensional and multifarious appearance. Pastoralists rear different amounts, species or combinations of livestock, are engaged with markets in different ways and to different extents (local, cross-border, export or not at all), differ according to access possibilities to resources or apply different livelihood diversification strategies. Accordingly, pastoral livelihoods vary from place to place and over time (CAAPD, 2012).

Maasai practice localized livestock keeping in mainly semi-permanent settlements in the south of Kenya and the north of Tanzania. For the cattle-breeding Maasai, cattle hold - next to their economic meaning - a very specific social and cultural importance, as the number of cattle a man possesses might influence his status within the Maasai community (Homewood et al, 2009). Maasai livelihood strategies used to depend to a large extent on the ability of a herder to keep a mixed and large enough herd of animals for direct milk, meat and blood production for own consumption or as commodities to sell in order to purchase foodstuff, items (equipment) or to save and invest the money.

Pastoral livelihoods and pastoral populations are increasingly exposed to various pressures to their way of life (AU, 2010; Fraktin and Mearns, 2003). Some of these current pressures on pastoral livelihoods and pastoral livestock production especially in East Africa and for the Maasai are: the demographic development (AU, 2010), population growth and relatively less

livestock (Zaal and Dietz, 1999; Rutten, 1998), loss of common property resources to agriculture and national or game parks (Fraktin and Mearns, 2003; Fraktin, 2001), commoditization of livestock economy (Zaal and Dietz, 1999)⁶, droughts (Huho et al, 2011), sedentarization and urban migration (AU, 2010; Fraktin and Mearns, 2003; Fraktin, 2001) and stratification of livestock ownership (Rutten, 1998). These pressures to pastoral livelihoods are partly intensified by international development programs and national or local governments which foster privatization and commercialization of formerly communally held resources (Fraktin, 2001). Although pastoralists in East Africa are generally assumed to become increasingly vulnerable (AU, 2010), “livestock pastoralism has been surprisingly resilient” (Fraktin, 2001, p. 2), as pastoral production systems are “highly adaptive [and] constantly responding to market and climatic trends” (Comprehensive Africa Agricultural Development Programme [CAADP], 2012, p. 1; AU, 2010).

Maasai own cattle individually or by a family, whereas land used to be owned and used commonly in the past, open to all or shared by territorial or kinship groups (Fraktin, 2001). Recent developments in the Maasailand fostered the development of group ranches and subsequently the subdivision of group ranches into individually owned portions of land (comp. Chapter 3.5.2). According to Fraktin (2001), this privatization and commercialization of land as well as increasing commercial activities have led to an increased polarization between rich and poor among the Maasai (comp. Homewood, 2009), with some being able to purchase land titles and cattle, and others pushed into poverty and landlessness, working as herding laborers or migrant workers in urban areas. Due to these (external) livelihood pressures, Maasai pastoral livelihoods are changing, as pastoralists are assumed to partly respond to these economic, social and political changes and challenges with “an increased economic diversification including agro-pastoralism, wage labor, and increased market integration” (Fraktin, 2001, p 1). In the course of this development, the Maasai have (partly) increasingly shifted their livelihoods from subsistence production to commercial production and furthermore increased farm cultivation, leading to a loss of pastures and water resources (Fraktin, 2001). Although cultivation, especially maize farming, is gaining in importance in securing a livelihood “the majority of Maasai pastoralists continues to subsist on traditional pastoral production of their livestock herds” (Fraktin, 2001, p. 20f; Homewood, 2009; Nkedianye, 2009; Thompson et al, 2009). The partial transformation from semi-nomadic subsistence pastoralists to agro-pastoralists, ranchers and urban workers (Fraktin and Mearns, 2003), the commoditization of pastoral economy and the increased sedentariness of Maasai have shaped their livelihoods and the requirements for sustainable livelihoods. Therefore, sustainability for a Maasai livelihood can increasingly mean to have “access to agricultural as well as pastoral resources” (Fraktin and Mearns, 2003, p. 117).

The pastoral livelihood concept plays a role at the household as well as at the individual level. The individual level can be regarded as the livelihood of an individual person. However, the household level and the concept of a household (in a Maasai context) need some deeper explanation and discussion, as the household will be the main unit of analysis of this research.

⁶ In this research commoditization is understood as defined by Zaal and Dietz (1999, p. 164) as “a process whereby assets, goods and services increasingly change from having a use value, to be used for subsistence, into having an exchange value as well, to be sold and acquired on the market”. Commoditization can include the commercialization of livestock production, the acquisition of food and non-food consumption items through the market, an increased purchase of inputs for the production system and the privatization of land and water ownership (Zaal and Dietz, 1999).

3.3 Unit of analysis - The Maasai household

A *household* is often referred to as a human group sharing the same hearth for cooking and/or a human group living under one roof. The concept of a household as ‘common hearth common pot’ emphasizes eating arrangements within a specific group of people. It furthermore implies a certain physical space and includes those who are involved in the process of preparing and securing food irrespective of kinship ties or dwelling place (Roa, 2007). Chambers and Conway (1991, p. 7) define household as “people, activities, assets (tangible and intangible) which provide material and social means, gains or output (of their activities)”. In their definition of a household, the United Nations distinguish between a multi-person household and a one-person household. A *multi-person household* is a group of persons “living together who make common provision for food or other essentials for living” (UN Stats [United Nations Statistics Division], 2013). Different from the concept of *family*, members of a household can, but do not need to be related among each other. Hence, a household is per definition a group of (related, non-related or a combination of both) persons who either “pool their incomes or have a common budget to a greater or lesser extent”⁷ (UN Stats, 2013), or who are “living together in a housing unit”⁸ (UN Stats, 2013). A *one-person household* is accordingly defined as “an arrangement in which one person makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multi-person household” (UN Stats, 2013).

A household can therefore be defined with reference to a physical place, to a cluster of functions and/or as some kind of social organization (Wilk and Netting, 1984; in: Roa, 2007, p. 80). Accordingly, Rudie (1995, p. 228) defines household as “a co-residential unit, usually family-based, which takes care of resource management and primary needs of its members”. *Household resource management* is therefore the decision making processes within a household, “about how to maximize the use of resources” (Engberg, 1990, in: FAO, 2004, p. 24). A specific role within these decision making processes of a household can be ascribed to the *household head*, who is the person responsible for making key decisions and managing the household. His or her key position is recognized as such by the other members of the household. In this research it is assumed that the household is the main driving force in which decisions on livelihood strategies are made (human agency) and put into practice. The household is hereby the ‘place’ where all kind of livelihood driving and shaping internal and external factors come together, are negotiated and become meaningful (in practice), as they are transformed into household and livelihood decisions. However, it may not necessarily be assumed that a household makes livelihood decisions exclusively depending on potential economic payoffs, but that alternative livelihood strategies and land uses are also weighed on a basis of (common) cultural preference in order to safeguard a household’s “standing within the social group and hence...[its] ability to call on a group in possible future times of need” (Homewood et al, 2009, p. 20).

Accordingly, a Maasai household is in this research regarded as a physically constrained place and as a social system where practices and livelihoods of different related and/or non-related persons come together and who contribute and/or depend on the household’s pot (Serneels et al, 2009).

⁷ The so called ‘household-keeping concept’ (UN Stats, 2013).

⁸ The so called ‘household-dwelling concept’ (UN Stats, 2013).

3.4 Vulnerability and resilience - Coping with stresses and shocks

The Maasai taken into account for this research live in a semi-arid area in southern Kenya, which is characterized by high variability of rainfall, seasonal dry periods and occasionally severe droughts (comp. Chapters 5 and 7). As Maasai are assumed to still mainly depend on livestock to secure a livelihood, droughts and rainfall variability might expose their livelihoods to (occasional) pressure (Huho et al, 2011). As discussed in the previous chapters, sustainable livelihoods exist when and if livelihoods are able to cope with and recover from stresses and shocks, or if they are able to adapt to changes. Although this research will not provide an in-depth vulnerability or resilience analysis, it is necessary to theoretically frame both concepts, as Maasai households and individuals are located in a drought-prone area and are occasionally exposed to pressures. Additionally, the following chapter will summarize latest research results on pastoral Maasai coping strategies.

3.4.1 Vulnerability and resilience

Both households and livelihoods can be exposed to stresses and shocks. *Stresses* are “long-term trends that undermine the potential of a given system or process and increase the vulnerability of actors within it” (DFID, 2011, p. 8). Stresses can include natural resource degradation, economic decline, climatic change, insecure accesses to capitals or (seasonal) food insecurity. *Shocks* are “sudden events that impact on the vulnerability of the system and its components” (DFID, 2011, p. 8). Sudden events can include natural hazards and disasters, such as floods, droughts, earthquakes or conflicts⁹. The extent to which households and livelihoods are likely to be exposed to stresses and shocks is determined by their *vulnerability* and *resilience*. Kotze and Holloway (1996, p. 147) define vulnerability as the

extent to which an individual, community, sub-group...or geographic area is likely to be damaged or disrupted by the impact of a particular disaster hazard [or stress].

Hence, it is the livelihood system that determines whether or not and to what extent households or communities are vulnerable and resilient (Economic Commission for Africa [ECA], 2004). Vulnerability is often differentiated in internal and external vulnerability. *External vulnerability* refers to the stresses and shocks to which (social) systems are subject to (IDS, 1989). *Internal vulnerability* is the capacity of a (social) system (e.g. household) to bounce back and to cope with a certain situation (Chambers and Conway, 1997) - also often referred to as the resilience of a system. Broadly speaking, resilient social systems are less vulnerable to stresses and shocks than less resilient social systems (based on Cutter et al., 2008). Hence, vulnerability of livelihoods is the risk of exposure (or defenselessness) to shocks and stresses and the ability to cope with and recover from them (Chambers, 1995)¹⁰, whereas it can be assumed that the poor and marginalized within a certain system are the most vulnerable (Frerks et al, 1999)¹¹.

Resilience is a concept that becomes an increasingly used (Folke, 2006) and rhetoric (Cutter et al, 2008) approach in order to understand how social systems or individuals deal with and under

⁹ Conflicts can also emerge as a stress for instance if conflicts and crises are protracted.

¹⁰ Chambers (1995, p. 175) distinguishes an „external side of exposure to shocks, stress and risk; and [an] internal side of defenselessness meaning a lack of means to cope without damaging loss”.

¹¹ Frerks et al (1999) refer in this specific case to the vulnerability to hazards.

pressures or changes. According to Cutter et al (2008, p. 599), resilience is the “ability of a social system to respond and recover from disasters”, stresses or any change with a minimum impact and damage to the social system.¹² The concept includes abilities and adaptive capacities of both social systems and individuals (Norris et al, 2008), whereas “a collection of resilient individuals does not guarantee a resilient community” (Norris et al. 2008, p. 128). Next to a system’s or individual’s capacity to absorb shocks and stresses and to maintain function, resilience can also refer to the return time a social system requires in order to achieve the state before the change, stress or shock (equilibrium state) (Folke 2006, Holling, 1996)¹³. According to Folke (2006, p. 253), resilience embraces furthermore “the capacity for renewal, reorganization and development”. This complement takes into account different forms of renewal, adaptation capacities and changes of a system after a particular impact and does not limit resilience to the return to the pre-impact state of a system or individual. This type of resilience “allows for many possible desirable states that match the environment” (Norris et al, 2008, p. 130 referring to Gunderson 2000) and is therefore “probably the relevant one for human communities, organizations...societies” (Norris et al., 2008, p. 130) and households. Accordingly, the notion of resilience is not simply about a social system’s stability, but rather about its adaptability, as it

includes those inherent conditions that allow a system to absorb impacts and cope with an event, as well as post-event, adaptive processes that facilitate the ability of the social system to re-organize, change and learn in response to that threat (Cutter et al, 2008, p. 599).

Compared to the concept of vulnerability, resilience is often “viewed as a more proactive and positive expression” (Cutter et al, 2008, p. 598) in which human agency [actor-oriented approach] might play a decisive role. Vulnerability is the “pre-event, inherent characteristics or qualities of social systems that create the potential for harm” (Cutter et al, 2008, p. 599), whereas the concept of resilience facilitates an analysis during and after the impact as well.

Based on this theoretical discussion, resilience is simplified considered as a social system’s (non-)application of a set of coping strategies and (the changed) capacities to access different types of capitals in times of stresses and shocks. Hence, it is one of the research’s foci to analyze (changes in) Maasai pastoral drought management, resilience and coping strategies. Based on recent literature, the following section will therefore briefly summarize ‘typical’ pastoral Maasai coping and resilience strategies in order to deal with stresses and shocks.

3.4.2 Maasai coping and resilience strategies - State of the art

Coping strategies are considered as “short-term measures applied when a household or a community does not have sufficient income or food to meet all its essential needs” (ECA, 2004, p. 5). Coping strategies and capacities to increase the resilience of a (pastoral) household system are a household’s abilities and capacities to draw on new or alternative forms of capital and to access new or different resources in times of pressure to secure and maintain its wellbeing.

¹² Norris et al (2008, p. 129) provide an overview of 21 different definitions of resilience applied for the community, city or individual level for the social, physical or ecological system.

¹³ Resilience as return time to equilibrium is also referred to as ‘engineering resilience’ (Folke 2006, Holling, 1996).

In order to reduce vulnerability and increase resilience, preventive or reactive coping strategies and a variation of livelihood strategies are measures among Maasai pastoralists to ensure and maintain or stabilize for instance food security before, during and after stressful times. Rutten (1998, pp. 192ff) identifies five different important strategies that Maasai pastoral households apply in order to maintain access to food and pasture, as feed for cattle, during stressful phases:

1. Herd management, for instance herd mobility in order to use the heterogeneous environment optimally, or destocking herds before and restocking them after a drought.
2. Resource management, for instance setting aside of certain dry season grey areas or food preservation.
3. Change in food habits, for instance reduced or changed food intake.
4. Change in herd and resource management, for instance elders take over livestock herding while younger Maasai look for distant pastures or changes in milking practices.
5. The acquisition of support networks with family and friends.

Based on research conducted among a Maasai community in a semi-arid area in the north of Kenya, Huho et al (2011, pp. 784ff) identify several short- and long-term strategies Maasai pastoralists apply to cope with droughts.

Among the short-term strategies the authors name:

- Gazing cattle in the morning
- Establishment of feed reserves
- Formation of alliances with neighbors
- Separating livestock to areas of different ecological zones
- Feeding livestock with tree twigs and branches
- Migration
- Hiring of pasture
- Digging shallow wells on the river beds

As long-term adaptive strategies the authors identify:

- Keeping livestock of mixed species
- Increasing the number of goats in the herds
- Keeping indigenous livestock breeds
- Keeping female dominated herds
- Increasing herd sizes during inter-drought periods

These attempts to reduce vulnerability and increase resilience aim to minimize livestock loss as short-term strategies. They depend on the severity and duration of the drought and differ from drought to drought, whereas the long-term adaptive strategies include the spread of risk and are practiced across the entire season, though aimed to reduce the risk during drought (Huho et al, 2011). According to Speranza (2010, p. 639) it has to be considered that these preventive or coping strategies of pastoralists or agro-pastoralists might also be influenced by their “attachment to livestock”. This attachment might “deter agro-pastoralists from divesting livestock in periods of favorable market conditions” (Speranza, 2010, p. 639).

3.5 Land tenure and land acquisition

As Maasai livelihoods still seem to highly rely on livestock keeping, access to land and pastures are assumed to be prerequisites for pastoralists to maintain a livelihood. Hence, this chapter will focus on land tenure (systems) in Africa, land acquisition, and its potential influence on food (in)security within a pastoral context and among the Maasai. Next to livelihood, land tenure will provide the second main concept for this thesis. In the following chapter, some prevailing forms of land tenure in Africa will briefly be introduced.

3.5.1 Land tenure systems

Land tenure is “a derivative of the concept of natural resource tenure, which in essence refers to the terms and conditions under which natural resources are held and used” (ECA, 2004, p. 21). ‘Tenure’ itself can be regarded as a social construct

that defines the relationships between individuals and groups of individuals by which rights and obligations are defined with respect to control and use of land (ECA, 2004, p. 21).

Maxwell and Wiebe (1999, p. 825) define land tenure as “the system of rights and institutions that govern access to and use of land”. Hence, land tenure is often understood as a ‘bundle of rights’ (Maxwell and Wiebe, 1999), which enables and legitimizes groups or individuals to access land. Customary as well as statutory law and institutional practices like marriage and heritage can hereby play an important role. In 2009, the World Bank (WB) estimated that across Africa only between 2 % and 10 % of the land was held under formal land tenure (Cotula et al, 2009).

Generally, four main land tenure concepts are distinguished:

- *Freehold* implies “the absolute right to control, manage, use and dispose of a piece of property” (ECA, 2004, p. 5). Freehold tenure provides absolute ownership and is “a traditionally western concept of individual property ownership” (ECA, 2004, p. 21).
- *Leasehold* is a tenure concept in which land is, by contractual agreement, leased from one entity to another for a fixed period of time (ECA, 2004, p. 5, pp. 21f).
- *Statutory allocations* are “a particular form of state land where land, by virtue of some statutory provision, is allocated for the use of some legally constituted body” (ECA, 2004, p. 5).
- *Customary systems* refer to land “ostensibly controlled and allocated according to traditional practices” (ECA, 2004, p. 5).

In order to comprehend changes in land tenure and their impacts and implications on pastoral livelihoods and on Maasai food (in)security, it is inevitable to describe the traditional land tenure system as well as the recent changes in land tenure and land ownership in Maasailand. These changes from communally owned land towards a privatization and individualization of land (ownership) will be outlined in the following chapter.

3.5.2 From group ranches to individual land ownership in Maasailand - A historic development

As mentioned above, Maasai - as a traditionally pastoral people - used to own cattle individually or by a family, whereas land was owned and used commonly, open to all or shared by territorial or kinship groups (Fraktin, 2001). These territorial sections of communally owned grazing or water resources in the 'traditional' Maasai society were called "*oloshon*" (Frakin and Mearns, 2003, p. 115). Although these openly accessible grasslands might seem rather unspecific in usage rights and were often interpreted by colonial powers as lacking of a legal framework (Homewood et al, 2009), customary land tenure is indeed assumed to be "often quite specific about who may or may not use grazing and water resources, how and at what times" (Frakin and Mearns, 2003, p. 114). At the beginning of the 20th century, the Kenyan Maasai were removed from parts of their originally inhabited northerly rangelands on the Laikipia Plateau and concentrated in the south of the country (Homewood, 2009), covering today's counties of Kajiado and Narok (Maasailand). It is estimated that under colonial rule until 1963 the Maasai were pushed off of around 60 % of their original land (Fraktin, 2001). For the Maasai, today's Maasailand became communal land held as 'trust land' (Homewood, 2009).

After the end of the colonial period in Kenya and the beginning of its independence, discussions on the status of the Maasailand intensified, resulting in the implementation of individual 'group ranches'. The Land Adjudication Act (Republic of Kenya [RoK], 1968a) provided the legal framework for the formation of group ranches and the Land (Group Representatives) Act (RoK, 1968b) regulated their administration and governance (Mwangi, 2007, p. 984). A group ranch is "a livestock production system or enterprise where a group of people jointly own freehold title to land, maintain agreed stocking levels and herd their livestock collectively which they own individually" (Ministry of Agriculture, 1968, in: Ng'ethe, 1993). Accordingly, a group ranch is a certain piece of land communally owned by the people who are registered to legally own the land through membership of a particular group ranch and who live on it (Rutten, 1998). A group ranch is managed by an elected Maasai management committee, which makes decisions on its use and resources (Thompson and Homewood, 2002). These elected management committees compile furthermore membership registers, allocate land at subdivision and can exert control over membership of cooperatives such as farming and wildlife associations (Thompson and Homewood, 2002). A group ranch is always chaired by an elected chairman, who, as a representative of the group ranch members, holds the title deed for the entire group ranch land. The idea of the introduction of the group ranch system was an idea that came partly from the Maasai themselves and was widely accepted among them (Mwangi, 2007, 2005; comp. Ng'ethe, 1993). One of the main reasons behind the acceptance of the group ranch system idea among many Maasai was probably "to secure their land against alienation" (Kimani and Pickard, 1998, p. 210; Ng'ethe, 1993) by the government, non-Maasai and elite Maasai (Mwangi, 2007, p. 896; 2005). In 1969, all Maasai sections accepted the concept of group ranches, which were gradually introduced by the Kenya Livestock Development Project and financed by the World Bank (Rutten, 1998). In 1980, a total number of 51 implemented group ranches covered some 72 % of Kajiado District¹⁴ (Rutten, 1998, p. 198; Kenyan Government [GoK], 1990, in: Ng'ethe, 1993) (comp. Figure 1).

¹⁴ In 2010, districts were renamed and reorganized into counties.



Figure 1: Group ranches in Kajiado District (Rutten, 1998, p. 197)

The introduction of group ranches was an attempt

to transform the semi-nomadic, subsistence-oriented production of the Maasai pastoralists into a sedentary, more commercial system...intended to bring about a destocking of the Maasai pastures while at the same time providing meat for the national and international market (Rutten, 1998, pp. 197f).¹⁵

During the 1960s and 70s, the Maasai and pastoral communities in general moved to the centre of 'developmental' attention of international aid agencies and national governments which created and promoted programs to improve their pastoral livestock production and market integration. Hardin's (1968) 'tragedy-of the commons' thesis became part of "conventional wisdom among environmentalists and within development policy" (Fraktin and Mearns, 2003, p. 113), assuming that 'pastoral mismanagement' of land¹⁶ was one of the key factors contributing to a desiccation of arid lands (Fraktin and Mearns, 2003). Pastoral communities using commonly owned rangelands were regarded as inefficient, with low productivity and as degrading environment (AU, 2010). Therefore, limiting or dismantling common property regimes or collective land tenure was proposed as possible solutions to reform property rights. Privatization and individualization of landholdings were "propagated" (Rutten, 1998, p. 185) - especially by institutions like the World Bank - as a solution to end poverty and reduce environmental degradation among Maasai (Fraktin, 2001) and were subsequently implemented by international development organizations, bureaucratic institutions and the national or local governments

¹⁵ Ng'ethe (1993) names as main objectives of the introduction of the group ranches: to increase pastoral productivity, to improve earning capacities of pastoralists, to avoid landlessness among pastoralists, to avoid environmental degradation due to overstocking of communal land and to establish a livestock production system that allows modernization and modification while preserving traditional practices.

¹⁶ Referring to the land generic model by Moyo (1999, based on Shivji et al), the ECA (2004, p. 6) identifies five analytical constructs of land management: land distribution, land utilization, land tenure security, land administration and land adjudication.

(Fraktin and Mearns, 2003). Although the argument of the 'tragedy of the commons' has widely been neglected by scientists and professionals¹⁷ (AU, 2010; Western, 2009), "modern-day policies continue to allow appropriation of pastoral rangelands, with associated displacement and impoverishment of pastoralists" (AU, 2010, p. 15). Land ownership and sedentariness are still regarded as "prerequisites for improving infrastructure, investment, market access and social services" (Western, 2009, p. V). Already in 1998, Rutten (p. 185) stated that the consequence of this development is that "the frontier of private and individual tenure rights is increasingly creeping into the formerly held communal and public arid and semi-arid lands of Africa". The Maasailand was and is an "illustrative" (Rutten, 1998, p. 185) example for this process.

But also due to the fact that the group ranch system was "an artificial creation" (Rutten, 1998, p. 198) lacking of a firm traditional, sociological and ecological basis, and taking hardly any account to Maasai household needs and their pastoral strategies, problematic consequences emerged. Although the idea of a creation of group ranches was generally supported by the Maasai, the practice and the management of the group ranches caused discrepancies which finally led to a paradigm shift especially among the younger Maasai (Rutten, 1998, p. 196) from a support of group ranches towards a greater support for an individualization of the land by dissolving and dividing the land into smaller individually owned chambers. Mwangi (2007, p. 890) states for instance that the "calmness for subdivision and individualization of the past two decades has emerged from within the Maasai community itself". Although a subdivision of the group ranches into individually owned farms might severely impede (livestock) mobility, which is a vital component of pastoral livestock production systems and pastoral livelihoods (Bruce and Mearns, 2002) under conditions of high rainfall variability (comp. Mwangi, 2007), research about the triggers and motivations of the transformation of property rights show that, in fact, Maasai generally supported and promoted the individualization of the collectively owned group ranches (Mwangi, 2007, 2005). Reasons for this paradigm shift towards a transition into individual title deed rights were probably promises of increased land development and new income opportunities (Mwangi, 2007, 2005), declining land tenure security (Mwangi, 2007; 2005) and the fear of land loss to others (Mwangi, 2007, p. 906; 2005), the refusal of many Maasai to de-stock ranches in practice (Rutten, 1998), a deficient transformation to a market-oriented livestock production (Rutten, 1998), mismanagement within the group ranch committees, such as failures to make collective decisions (Mwangi, 2005, i) and widely spread corruption (Rutten, 1998), or an increased aggregation of individual land holdings by Maasai elite and non-Maasai, who had access to the influential administrative system (Homewood, 2009; Thompson and Homewood, 2002; Rutten, 1998)¹⁸.

As result of these developments, trust among and within the group ranches was eroded and the pressure to subdivide the land and to introduce individual title deeds increased in order not to lose out more land (Galaty, 1999; Rutten, 1992) and to bring the "decision making to the individual land owner rather than leaving it in the hands of an opportunistic management committee" (Mwangi, 2007, p. 907). According to Mwangi (2005), a new individual land title

¹⁷ For arguments supporting the failure of the 'tragedy of the commons' idea, compare AU, 2010, pp. 14f.

¹⁸ Next to the access to the administrative system, Thompson and Homewood (2002, p. 118) name several ways how some local Maasai elites compiled membership registers and allocated land or revenues - to the detriment of other members. Among them the authors name: "social influence, insider knowledge...legal enforcement, control of information and in some cases manipulation of processes or documentation".

did not only represent secure ownership and could be used as collateral to acquire loans for farms and livestock, but many Maasai regarded it also as an additional source of income through leasing out or selling land. The author concludes (2005, p. 1) that the support of most Maasai for individual land tenure rights “represents a rational response anticipated to secure land claims against unauthorized appropriations” and that this decision was a “critical defensive strategy to internal and external threats to Maasai land claims” (Mwangi, 2007, p. 889).

Subsequently, during the 1980s, the Kenyan government with support of the World Bank titled large parts of the common group ranch land to individual owners (Fraktin and Mearns, 2003, p.

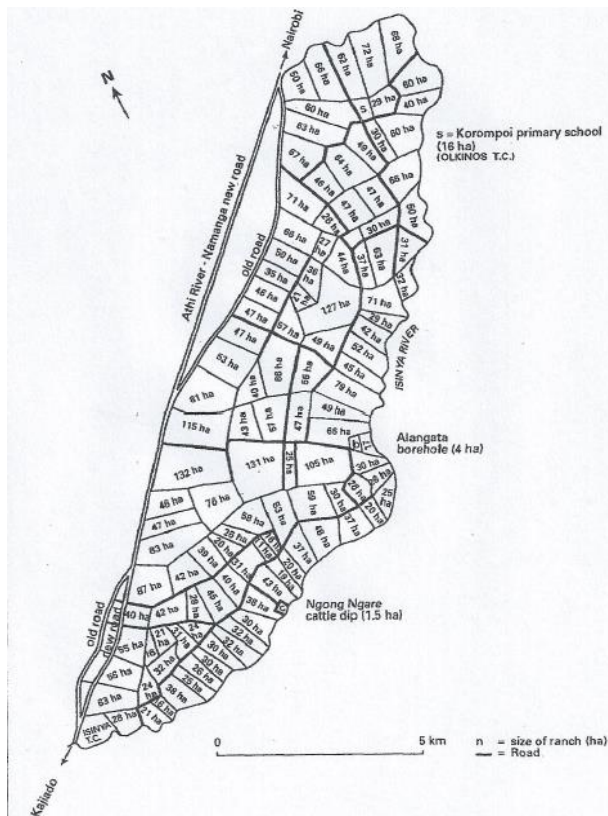


Figure 2: Subdivided Olkinos group ranch (Rutten, 1998, p. 198).

115). Especially in Narok and Kajiado a “virtual stampede for land claims” (Fraktin and Mearns, 2003, p. 115; Fraktin and Wu, 1997) by farmers and Maasai took place in order to secure land entitlements, with currently growing engagements of Maasai pastoral groups to argue land claims on the basis of indigenous rights (Cotula et al, 2006). In the course of this shift towards a support for individualization of land, already in 1990, 78 % of the ranches had ceased to exist or were about to be subdivided (Rutten, 1998) (comp. Figure 2).

In the course of a progressing privatization and commercialization of land, reduced mobility of pastoralists has been identified in Maasailand (Homewood, 2009), for instance through increased fencing of private land (CAADP, 2012; Kimani and Pickard, 1998; Fraktin and Wu, 1997) or increased cultivation of the most fertile land occupied by farmers (Kimani and Pickard, 1998). For pastoralists, reduced

mobility possibilities might magnify their (feed) vulnerability to drought (van den Brink et al., 1995) especially if formal and informal agreements on accessing another’s private land do not exist. In their research on (in)formal access arrangements between pastoralists and non-pastoralist land owners, Lengoiboni et al (2011) conclude that in practice private land owners only very rarely allow herders to access their land. This reduced strategic mobility can increase pastoralists’ vulnerability, as Maasai pastoralists are gradually pushed into more marginal areas (Kimani and Pickard, 1998), where typical coping, risk reduction and resilience increasing strategies might be hampered or not be practicable anymore.

Recent changes in land tenure, land ownership, privatization and commercialization of the Maasailand made land an increasingly important tradable commodity for local, national and foreign investors. The phenomenon of financially powerful actors investing in African land is a recent phenomenon that emerged over the past decades over entire Africa. In order to understand and interpret processes in land acquisition, current developments of land deals and the increasingly recognized phenomenon of ‘land gabbing’ in Africa will briefly be outlined in the next section.

3.5.3 Land acquisition and land grabbing

3.5.3.1 A large-scale phenomenon?

Land acquisitions from African countries by financially potent national and international actors, such as companies and (foreign) governments, play an increasingly important role in international land deals. Driven by the search for profit or food and energy security on the investors' side, the desire for development, innovations and profit prevails on the side of the investments receiving 'host country'. According to the International Food Policy Research Institute (IFPRI), between 2006 and the middle of 2009, between 37 and 49 million acres of farmland have been sought or secured by foreign investors (Shepard and Mitta, 2009, p. 1). A term which frequently emerges in the debate on international land deals is the phenomenon of *land grabbing*. Shepard and Mitta (2009, p. 1) define land grab or land grabbing as the

purchase or lease of vast tracts of land by wealthier, food-secure nations and private investors from mostly poor, developing countries in order to produce crops for export.

According to this definition, land grabs are large-scale land deals between wealthier (foreign) companies and governments on the one side and 'developing' countries on the other side. The notion 'land grab' probably also includes the assumption that land is often given away for a pittance and local or traditional owners are being ignored, betrayed or generally disadvantaged in such deals. In 2012, the international non-governmental organization (NGO) 'Grain' published a list documenting 416 "recent, large-scale land grabs by foreign investors for the production of food crops" (Grain, 2012), covering "nearly 35 million hectares of land in 66 countries" (Grain, 2012)¹⁹. Cotula et al (2009) identify several forms of land acquisition: Through sovereign wealth funds (SWF) and government-to-government deals, through state-owned enterprises, the private sector and government-private joint ventures. The authors (p. 99) state that the majority of the land deals are made by the private sector, "though often with strong financial and other support from government, and significant levels of government-owned investments". Although foreign investments are dominating land acquisitions, "domestic investors are also playing a major role" (p. 99) - a phenomenon that, according to the authors, has received less international attention - neither have tribalism and land acquisitions been taken into account in recent research.

Given this, the above introduced definition of land grabbing might be useful as a point of origin, but it has to be revised and two enhancements need to be taken into account when investigating land acquisitions and land grabbing. First, domestic actors like local companies, the local government and other (financially or politically) powerful local actors (e.g. local elites). Second, the limitation "in order to produce crops" (Shepard and Mitta, 2009, p. 1) seems obsolete, as next to food security, also the production and export of soft commodities as well as energy security (Cotula et al, 2009) increasingly gain in importance.

In order to understand land acquisition, land deals and the phenomenon of land grabbing, it seems useful to briefly mention potential motivations and desired outcomes of stakeholders involved in land deals.

¹⁹ Another list of examples of (media reported) overseas land investments to secure food supply between 2006 and 2009 is compiled by the IFPRI (2009).

3.5.3.2 Potential desires and consequences of land deals

From the point of view of the national government or the local actors positive spillovers of land investments such as the generation of farm and off-farm employment opportunities, (social) infrastructural development in rural areas, new agricultural practices and technologies, an increased production of food crops (Haralambous et al, 2009, p. 8ff) or additional sources of income might be desired from investments in land. Some authors (e.g. Behrman et al, 2012; Braun and Meinzen-Dick, 2009) state that under certain circumstances and prerequisites land acquisition can indeed lead to a win-win situation between the investing and the ‘receiving’ actor, since “investments can provide a key resource for agriculture, including development of needed infrastructure and expansion of livelihood options for local people” (IFPRI, 2009, p. 3). Other authors regard land acquisition critically and question the win-win debate (e.g. Shepard and Mittal, 2009). Stone (2001) for instance states that agribusinesses profit by driving independent farmers or pastoralists off their land, which might displace them (Shepard and Mittal, 2009, p. 13).

Crucial is that land grabbing or land deals do not necessarily have to involve foreign companies or governments, as also national, regional and local actors can play an important role. Land deals can include commitments on investments in infrastructure, agricultural development, employment or provide additional income and thus contribute to improve local people’s welfare and livelihoods. On the other hand, land deals can have severe consequences on for instance pastoral mobility, pasture availability and accessibility, food insecurity and thus constrain livelihoods. But agreeing with Cotula et al. (2009, p. 101) this research also assumes that land deals are “only part of the equation” and land investments must be analyzed and assessed in the greater context in order to assess how land deals shape Maasai pastoral livelihoods.

3.5.3.3 Land acquisition among the Maasai

Beginning with the arrival of European settlers, Maasai pastoralists have experienced a great reduction of available land for making and securing pastoral livelihoods (Rutten, 1998, p. 202) over the past century. Corrupt committees, misuse of group ranch pastures by neighboring individual ranchers, a growing population (Rutten, 1998, p. 202) as well as international and national policies contributed to a process of individualization and privatization of landownership.²⁰ Private land ownership, which can be acquired through land registration processes (Cotula et al, 2009, p. 75) and the ability to transfer land as a commodity is hence a recent phenomenon among the Maasai (Fraktin and Mearns, 2003). According to Galaty (1994), this increased privatization of land has led to a permanent loss of common grazing land, mainly due to sales to non-Maasai investors. In Narok County for instance, more than 320.000 acres of land were sold to land speculators and farmers between 1980 and 1997 only (Fraktin and Wu, 1997). Galaty (1999, p. 68) names the permanent loss of land “the most extreme outcome of the changes in Maasai land tenure”. The subdivision of the group ranches was accompanied by the introduction of a land title deed system, as a new legal framework, which individualized land ownership rights and claims. Title deeds became individualized for certain pieces of land with the right of the title deed holder to sell (parts of) the land. Subsequently, land became financially

²⁰ For an extensive discussion of positive and negative consequences of the individualization of landownership in the Maasailand compare Rutten, 1998, pp. 203ff.

valuable, in the sense that land became a tradable commodity to potentially obtain revenues from sales within an emerging and increasing land market - a new phenomenon in Maasailand after the subdivision.

In Narok and Kajiado the spread of game parks, national reserves, wildlife conservation and wildlife tourism is a further recent phenomenon frequently investigated in latest research (BurnSilver, 2009; Homewood, 2009; Thompson et al, 2009; Coast, 2002; Thompson and Homewood, 2002).

3.5.4 Conservation and wildlife in Maasailand

Wildlife conservation, wildlife tourism and community-based conservation have widely been promoted as the basis for a sustainable development of East African rangelands (Homewood, 2009).²¹ In 2013, tourist and travel revenues accounted around 12.1 % of Kenya's GDP (World Travel and Tourism Council [WTTC], 2014, p. 3).²² However, research suggests that in Maasailand wildlife dividends are generally not a major source of income for Maasai households (Homewood et al, 2009; Coast, 2002), although households around national parks such as the Maasai Mara or Amboseli National Park are able to benefit from tourism-related enterprises (BurnSilver, 2009; Homewood et al, 2009):

“[W]hat is striking about the Mara is the clear importance of wildlife earnings...In Mara, even the most purely pastoral livelihoods cluster has a significant wildlife income” (Thompson et al, 2009, p. 106).

However, a fair or equal distribution of benefits between tourism operators, institutions (like the Kenyan Wildlife Service [KWS]) and (among) local Maasai remains problematic (BurnSilver, 2009). Around the Maasai Mara for instance, mainly elite households are able engage most profitable with wildlife and tourism (Thompson et al, 2009), while the majority of the households is excluded from the main parts of benefits from tourism (Thompson and Homewood, 2002).

Land and wildlife conservation is a multi-dimensional development in Kenya. It might provide opportunities for locals to diversify and generate income for instance by creating or engaging in tourism-related employment opportunities in currently spreading game viewing enterprises and tourist camps throughout national parks and rangelands (Thompson et al, 2009). However, current land privatization trends can impact and constrain wildlife conservation, as fencing, land sales and intensified land use can reduce the availability of land of the formerly free-ranging wildlife-livestock mix (Thompson et al, 2009).

²¹ Nationally, private conservancies hold around 40 % of Kenya's wildlife (Thompson et al, 2009).

²² The WTTC (2013, p. 3) forecasts tourist and travel revenues to contribute to around 11.9 % of Kenya's GDP in 2014.

3.5.5 Land access of Kenyan and Maasai women

Land is a crucial resource for a household's and family's food security in rural Kenya and a secure access to land - either for cultivation or as pasture land - is an essential requirement to maintain a livelihood. In Maasai culture, a traditionally patriarchal society, little attention has been paid to gender in land distribution and land titling (Cotula et al, 2006). Women are often neglected by local power structures and other socio-cultural factors to access land laws and entitlements. Although Kenya's current constitutional framework does not allow any discrimination, it might facilitate discrimination "with respect to the application of customary law on personal matters" (Kenya Land Alliance, 2008, p. 11). This concerns first and foremost widows (International Land Coalition [ILC], 2011), unmarried or divorced women.

Maasai women and children were generally not considered for being registered in group ranches (Homewood, 2009) and only few well-placed women and minors (Galaty, 1999) or widows (Rutten, 1998) were given a title deed after the subdivision. In many Kenyan communities land is inherited down the family's male line and the local value system of some Kenyan communities requires widows to marry their brother-in-law in order to remain on the land (World Bank, 2008). Daughters might not inherit the father's estate to an equal share as the sons do - or they might not be considered at all (World Bank, 2008). Landless women are often marginalized and driven into extreme poverty and although Kenyan women are a significant force in agriculture and provide around 70 % of the labor in this sector, they only hold around 1 % of the registered land titles with around 5-6 % in joint names (IFC [International Financial Corporation] and World Bank, 2006). Generally, women are legally not denied property rights in Kenya (Married Women's Property Act) and are legally allowed to inherit land (The Law of Succession Act), but in practice a different picture seems to emerge:

In reality, judges are often unaware of the [women's] legal position, and their rulings reflect this. Moreover, customary law and exceptions to the Succession Law Act mean that - in practice - women are denied their property rights (IFC and World Bank, 2006, p. 8).

In some Kenyan communities women without children are especially vulnerable to rights violations, as in case the spouse passes away and children are not part of the household, the land customarily goes to the husband's relatives (Gray and Kevane, 1999). According to Rutten (1998, p. 203), Maasai women have for instance limited hereditary rights and resources for acquiring land, whereas non-Maasai women (groups and wealthy individuals) are able to purchase land. Legally, land will not be sold without the consent of the wife, but again, daily practice among the Maasai seems to differ (Rutten, 1998, p. 203), since customary law and informal systems continue to exist alongside the formal titling system (Gray and Kevane, 1999, p. 13) - both women have limited access to (IFC and World Bank, 2006).

Although different customary laws and practices exist among the 42 tribes in Kenya, the deliberations justify a closer consideration of Maasai women and land access, land transfers and land inheritance practices from a gender perspective, as gender-caused constraints in accessing land and the (in)formal rights system might exist.

3.6 Food security and food insecurity

In this research, food (in)security is considered as an inherent and essential part of pastoral livelihood (in)security (Maxwell and Wiebe, 1998) and will therefore be extensively be analyzed. Therefore, the following chapter approaches food (in)security from a theoretical point of view and frames food (in)security as a sociological concept.

3.6.1 Defining and framing food (in)security

Food security is a rather broad concept and embraces a wide range of different definitions, which emerged from and changed during decades-long discourses on the concept. Already in 1992, Smith et al (pp. 139ff) conducted a literature review and provided an annotated bibliography with almost 200 definitions of the concept *household food security* which have only been published during the 1970s and 1980s. Although the range of definition attempts of food security and food insecurity as concepts is wide and changed substantively over time (Clay, 2002), some major corner pillars of the definition discourse need to be taken into account in order to frame and discuss the concept.

The term food security originated in the 1970s focusing on ensuring the availability and price stability of food at the national and international level (FAO, 2006; Clay, 2002). The first ‘official’ concept and definition of the term was provided in the ‘Action Plan’ of the World Food Conference in Rome in 1974, stating that food security is

the availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices (UN, 1975, In: Clay, 2002, p. 2).

After a concept revision during the 1980s, the food security definitions emphasized food access (FAO 2006; FAO, 1983) and began to include the individual and household level as well as temporal dynamics of food insecurity (FAO, 2006; Clay, 2002; World Bank, 1986)²³. According to Maxwell (1996, p. 155), three main paradigm shifts in defining food security since the World Food Conference 1974 can be identified: “[1] from the global and the national level to the household and the individual level; [2] from a food first perspective to a livelihood perspective, and [3] from objective indicators to subjective perception”. In 1996, the World Food Summit defined food security as follows:

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (Paragraph: 1).

This definition has been recognized and widely been used in literature and research (Ecker and Breisinger, 2012; Maiga, 2010; Pinstup-Andersen, 2009; FAO, 2006) as it emphasizes the

²³ A policy study on poverty and hunger conducted by the World Bank (1986, pp. 16, 21) introduced a temporal dimension of food insecurity by distinguishing between “chronic food insecurity” and “transitory food insecurity”.

multidimensionality of food security and as it includes the four commonly accepted pillars of food security: food availability, food access, food use (utilization) and food stability.²⁴

- *Food availability* concerns the availability of sufficient quantities of food on a consistent basis (World Health Organization [WHO], 2014), supplied through domestic production or imports (including food aid) (FAO, 2006).²⁵
- *Food access* refers to having sufficient resources to obtain appropriate foods for a nutritious diet (WHO, 2014). This dimension includes resource entitlements “defined as the set of all commodity bundles over which a person [or household] can establish or command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources)” (FAO, 2006, p. 1).²⁶
- *Food use or food utilization*, implies the appropriate use of food based on knowledge of basic and adequate nutrition (diet) as well as adequate water, sanitation (WHO, 2014) or food storage practices (McLeod Rivera, 2003) in order “to reach a state of nutritional wellbeing where all physiological needs are met” (FAO, 2006, p. 1). In this pillar “the importance of non-food inputs in food security” (FAO, 2006, p. 1) becomes meaningful.
- *Food stability* concerns the time dimension of food security. Food secure individuals, households or populations need to have access to adequate and sufficient food at all times. Access to food should also be ensured during and as a consequence of sudden shocks, such as natural hazards and disasters, and cyclical events, such as seasonal food insecurity (FOA, 2006). Stability “can therefore refer to both the availability and access dimension of food security” (FAO, 2006, p. 1).

Although the aforementioned definition of food security of the World Food Summit seems widely accepted in literature, the FAO further developed the definition of the concept and included a social dimension of food access:

Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2002)²⁷.

Physical access can be both the access to for instance nearby local markets to sell and buy foodstuffs, and the individual's or household's physical ability to plant, harvest and consume food. FAO considers for instance infrastructure, such as paved roads and road density, as part of the physical access dimension to food (FAO, 2013). *Social access* to food is the facilitation of equal access of 'different' (groups of) people to food - social differences can be based on the social status, gender, religion, age, tribal or religious affiliation and membership etc. of an individual or a certain group. If social differences become meaningful in practice for accessing food, for instance by discrimination, marginalization or exclusion of certain (groups of) people

²⁴ At the World Food Summit of Food Security in 2009, the FAO (p. 1 fn 1) reaffirmed the definition and also included the four pillars of food security into the concept.

²⁵ Rukuni and Eicher (1987, p. 5) state that food availability within an African context is determined by three dimensions: “domestic production, storage and/or trade”.

²⁶ Rukuni and Eicher (1987, p. 5) identify furthermore three dimensions which determine food access within an African context: “home production, the market and food transfers”.

²⁷ This definition is still used by FAO in 2013 (comp. The State of Food Insecurity in the World 2013).

from accessing or growing food, or from the food surrounding systems (land tenure, markets, educational training, credit markets etc.), an insufficient social access to food can be assumed. *Economic access* are capacities and possibilities for a household or a person to either financially afford sufficient and appropriate food or to have sufficient financial means to invest in production (e.g. to purchase seeds) in order to produce or consume own food. Hence, the eradication of poverty is regarded as one of the essential requirements (World Food Summit, 1996) to improve access to food and achieve or maintain food security. Generally, the linkage between poverty and food insecurity seems accepted in research (Maxwell and Devereux, 2001).

Current developments in defining food security have emphasized a more rights-based and ethical approach (FAO, 2006), although food has already been included in the Universal Declaration of Human Rights (1948: Article 25 (1)) as the “right to a standard of living adequate for the health and wellbeing of himself and of his family, including food”. The idea of the right to adequate food is accordingly not new, but it was not earlier than in 1996, when a first “milestone” (FAO, 2006, p. 1) in trying to implement or formalize this right was achieved. During the World Food Summit in 1996, the *right to adequate food* was articulated in the declaration as the “right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger” (FAO, 1996).

The right to food is closely related, but still needs to be differentiated from the idea of *food sovereignty*. Food sovereignty as advanced by the Vía Campesina in 1996 (In: Desmarais, 2002, p. 104) has a strong a rights-based focus and approaches more from a producer`s perspective, stating that:

Food is a basic human right. This right can only be realized in a system where food sovereignty is guaranteed. Food sovereignty is the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity. We have the right to produce our own food in our own territory. Food sovereignty is a precondition to genuine food security.

According to Vía Campesina, food sovereignty has to be distinguished from food security, as “it is not only a question of ensuring that a sufficient amount of food is produced nationally and made accessible to everyone. Equally important is the issue of what food is produced, how it is produced and at what scale” (Desmarais, 2002, pp. 104f). The attempt to include a cultural dimension in a food sovereignty definition provides a useful additional aspect to approach food insecurity and to extend the concept for this research with a cultural dimension.

Although FAO`s definition of food insecurity (2002) is probably (one of) the most comprehensive and latest attempts to make the multidimensional and complex concept of food security graspable, some weaknesses occur considering this definition. The discourse on food (in)security is rather technical and does not sufficiently embrace the entire scope of the concept, as food (in)security avoids the discussion on the social control of the food system and as the term is more treated as an apolitical term. In her research on the relation of gender, aids and food security in rural Côte d’Ivoire, Maiga (2010, p. 22) focuses on “socio-cultural dynamics of women’s vulnerability to AIDS and the impacts on food and livelihood security”. Maiga investigates how cultural norms, practices and stigmatization may increase food insecurity and livelihood vulnerability of women. The focus of culture and cultural implications on food security goes beyond the social access dimension mentioned in the food insecurity definition of

the FAO. Certainly, cultural and social accesses or access constraints to food are in parts difficult to distinguish and a clear separation does probably hardly exist, yet, a cultural dimension seems to go beyond a social dimension. In a commentary on Canada's aboriginal people and food security Power (2008, p. 95) states for instance that, up to date, conceptualizations of food security "were developed in non-Aboriginal contexts" and that these conceptualizations do not pay attention to the "unique food security considerations for Aboriginal people", their traditional food practices and food systems, respectively. Power (2008, p. 95) proposes therefore that "'cultural food security' is another level of food security for some Aboriginal people, beyond individual, household and community food security". According to the author, it is therefore crucial to understand the aboriginal perspective. Although Power specifically refers to aboriginal Canadians, her extension of the food security concept to more take into account aboriginal considerations can be applied to a Maasai context as well, in the sense of focusing on the very specific perspectives of Maasai on food (in)security and the particular historic, social and cultural context in which Maasai food (in)security is shaped. Hence, also a cultural dimension of food security needs to be taken into account for this research.²⁸

As a second addition, also a political dimension of food (in)security (Maxwell and Devereux, 2001) needs to be taken into account. Pingali et al (2005, p. 13) state for instance that the "link between starvation and crop failure becomes a thing of the past, [but] food insecurity as a social and political construct is becoming clearer". This does not only concern peaks such as food emergencies or famines and their political dimension²⁹, as in the Ethiopian famine during the mid-1980s (Keller, 1992). It also concerns food (in)security shaped by politically induced (new) land reforms and policies, which might determine land tenure (in)security in sub-Saharan African countries (Clover, 2003).³⁰ As land is assumed to be the fundamental resource for pastoral livelihoods, a political dimension of food security needs to be taken into account as well, as (changes in) land tenure often include a legal or political dimension.

A third additional dimension of food security that seems relevant to be considered, is the emphasis on the local perception or awareness of food (in)security of or within a household. Similar to Power (2008), it is assumed in this research that it is crucial to understand the 'aboriginal' perspective of food insecurity and to consider potential culture-specific implications and perceptions of food (in)security.

Based on the definition provided by the FAO (2002), the three extensions a cultural, a political and a perceptual dimension will additionally be included in the concept of food security for this research.

²⁸ Whether in fact the term "food preferences" (FAO, 2002) in FAO's food security definition embraces or even includes a cultural dimension remains debatable.

²⁹ For instance food emergencies or food insecurity caused by political instabilities such as wars and conflicts (Brinkman and Hendrix, 2011) or famines caused by natural hazards and a lack of (political) institutions or willingness to recover effectively and efficiently from the shock.

³⁰ Accordingly, the ECA (2004, p. 21) claims for instance that the "centrality of land in all dimensions of rural life in the context of Africa means that the analysis of land tenure issues should be broadened from its traditional links...to include all aspects of power/politics and social position".

3.6.2 Land tenure and food (in)security

Pastoral livelihoods are shaped and depend fundamentally on (access to) land and food security. The ECA (2004, p. 4) suggests that “land is central in promoting rural livelihoods in Africa because access to land and security of tenure are the main means through which food security...can be realized”. Land tenure and food security are accordingly linked (ECA, 2004; Maxwell and Wiebe, 1999, 1998). Although the linkage between tenure right and food security at the household level is often regarded as “first and foremost one of agricultural production” (Rutten, 1998, p. 188), tenure security within a (agro-)pastoral context may not be neglected. Pastoralists depend on land access to feed their livestock, which can serve as a direct source for nutrition (meat, milk) or as means to trade in order to purchase food. Hence, entitlement and land policy are also elements to sustainable livelihoods and food insecurity (ECA, 2004).

3.6.3 Pastoral household food (in)security

According to the FAO (2004, p. 24),

households are food secure when they have year-round access to the amount and variety of safe foods their members need to lead active and healthy lives. At the household level, food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household.

According to this definition, a household is food secure if it is either able to produce or purchase enough food. According to Swift and Hamilton (2001, in: Maxwell and Devereux, 2001) the most common triggers of transitory household food insecurity in rural sub-Saharan Africa are drought, disease, fire, animal diseases and conflict. Causes for cyclical household food insecurity, with “a recurring pattern of inadequate access to food” (Hart, 2009, p. 371), can be the seasonality of rainfalls, planting and harvesting, and the corresponding (low) availability of crop and financial means. Causes for chronic household food insecurity, when “people are unable to meet their minimum food requirements over a sustained period of time” (DFID, 2004, p. iii), can be structural deficiencies in the local food system or economy, chronic poverty or low income, a lack of assets (Hart, 2009, p. 371) or insecure land tenure and land entitlements (ECA, 2004, p. 7). Chronically food insecure households might be more vulnerable (Devereux, 2009) to transitory (DFID, 2004) and seasonal food insecurity or to moderate food price changes than transitorily food insecure households.

As outlined above, food security of pastoral households depends highly on their cattle. Either as a direct source for nutritional intake or as secondary source as a means to trade and purchase foodstuffs. Additionally, when focusing on herders, food security involves a third dimension: the feed security for the cattle, namely (access) to pastures, water resources and other feeds. In times of stresses, Maasai pastoralists apply strategies of risk aversion, vulnerability reduction and resilience increase. If these strategies fail or are insufficient, pastoral households and communities might face temporary or transitory feed shortages and feed insecurity for their livestock. Although pastoral livelihoods draw on various (coping) strategies and are generally regarded as adaptive and resilient, human development and food security indicators are for many pastoral areas among the lowest on the African continent (AU, 2010, p. i; CAADP, 2012, p. 2).

3.7 Theoretical and conceptual framework - An overview

Integrating the concepts introduced so far and taken into account for this research into a simplified theoretical and conceptual framework, a schematic depiction emerges as follows:

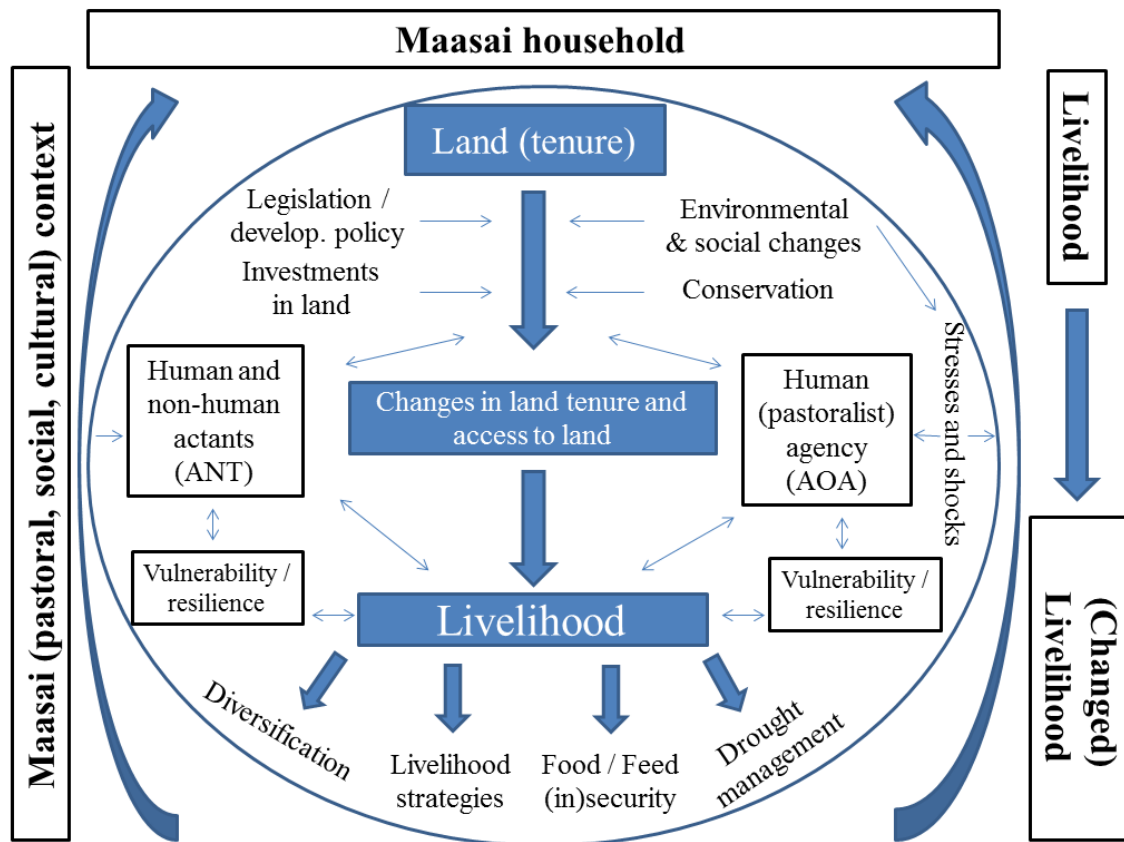


Figure 3: Simplified theoretical and conceptual framework (own depiction)

Embedded in a Maasai (pastoral, social, cultural) context, with the Maasai household as unit of analysis, this research focusses on changes in Maasai livelihoods over time. One key concept for this research is land (tenure), which is assumed to have changed as a concept and as access practices to land, and thus changed Maasai livelihoods, since land is a key determinant of pastoral Maasai livelihoods. Based on the literature review new legislation and development policies (subdivision as the main historical and triggering driver), investments in land (e.g. buying land), environmental (e.g. climatic changes) and social changes (e.g. population increase), and conservation programs (e.g. game reserves) might be key drivers of changes in land tenure and changed accesses to land. However, Maasai are not assumed to be passive recipients of these changes, instead they are assumed to possess agency (AOA) and actively constructing their livelihoods, in which actants (e.g. livestock) (ANT) play a decisive role. Co-shaped by changes in land tenure, (new) livelihood components (e.g. diversification) and strategies might occur, and food/feed (in)security as well as drought management or coping strategies change. In turn, food/feed (in)security and drought management strategies are co-determined by a livelihood's or household's vulnerability and resilience, which is shaped in a Maasai context especially by environmental changes like stresses (e.g. seasonality) or shocks (e.g. droughts). This depiction needs to be regarded as a cyclical and not as a linear top-down process as for instance changed livelihood strategies might redefine land (tenure) etc.

This depiction is certainly incomplete and simplified, but it illustrates the complexity and intertwingularity of the concepts and thus justifies the more holistic approach of this research.

4 Methodological approach and field access

This research aims to *reconstruct* and *analyze* practices, developments and livelihoods of Maasai households and to collect accounts, discourses and perceptions of *how* changes in land tenure and pastoral livelihoods emerge within this Maasai pastoral context. However, the research does not simply reconstruct subjective views, but rather tries to uncover social phenomena, patterns and changes underlying these subjective views and practices. Therefore, the research process and the research's main methodological approach are based on a constructivist approach drawing on *grounded theory* (Glaser and Strauss, 1967). Hereby, it is crucial to understand that this research aims to "represent the *research participant's truth* [italics in original], [to] describing their life worlds - their situation as they see it" (Ashworth, 1997, p. 219) in order to understand "the participants' view of the situation being studied" (Creswell, 2003, p. 8) and not to describe or dismantle an allegedly objectively observable 'truth' (positivism). Accordingly, this research applies an inductive approach using various qualitative social scientific and ethnographic research methods in order to collect, analyze and interpret relevant data.³¹

4.1 Methodology

4.1.1 In-depth expert interviews

Derived from *grounded theory*, which provides the main 'methodological view' and from the concept of *theoretical sampling* (Glaser and Strauss, 1967) 26 in-depth, face-to-face interviews with relevant persons and stakeholders in the field were conducted (for an overview comp. Appendix p. III).³² Interviewees were not chosen according to their "statistical representativity but according to...their perspective typicality" (Honer, 1994, p. 626). Eligible interviewees were those "whose testimony seems to be likely to develop and test emerging analytic ideas" (Hammersley and Atkinson, 2007, p. 107). These interviewees were regarded as 'experts', who, according to Meuser and Nagel (1994, pp. 188ff), either ascribe themselves the status of an 'expert' or who are ascribed being an 'expert' by the researcher. The status of an 'expert' can hereby be based on specific knowledge and experiences or a certain "Lebenswelt" (lifeworld) (in the sense of Schütz, 1988) which a person has or is assumed to have and which is relevant for the research. Hence, this research aims to understand "the world of human experience" (Cohen and Manion, 1994, p. 36), where in a constructivist sense "reality is socially constructed" (Mertens, 2005, p. 12). The strategic selection of 'suitable' cases and interviewees is particularly important in order to create a scientific storyline and increase the chance of new scientific insights with a relatively low number of investigated cases or selected interviewees. To achieve this, Glaser and Strauss (1967) recommend to minimize and/or to maximize the differences between the selected cases (or interviewees)³³.

³¹ Applying an inductive approach, the data collection process consisted of several re-entries into the field with analyzed data (comp. Appendix I).

³² With several interviewees follow-up interviews as well as clarification and background conversations were additionally conducted.

³³ Differences were derived from the research interest and objectives (comparable to a 'deductive' approach) and/or from features that emerged in the field (comparable to an 'inductive' approach).

The face-to-face interviews were conducted as guideline semi-structured interviews where main questions led the interview. Initially, questions were developed based on the theoretical, conceptual and contextual knowledge derived from the literature review. When entering the field, a continuous process of revising and further developing the guideline questions based on analyzed data took place. During the interviews, which were conducted more as casual conversations than conventional interviews, it was one of the main goals to motivate the interviewee and to concede him or her enough space during the interview to set own foci of what the interviewee considered as being important and 'worth talking about' concerning the research topic. Hence, in some cases interviews were partly more conducted as problem-centered interviews and therefore less structured than guideline interviews. Although these less structured interviews might result in a lower comparability of different interviews and cases, it was useful to draw on problem-centered interviews as well, in order to continuously rethink and open up the research problem and to discover and follow new insights or topics. Despite methodological limitations and biases from interviewing such as social desirability of answers, influence of order and type of questions on answers, subjectivity of answers, lack of verification or falsification possibilities through the researcher, the social and artificial character of the interview situation or language barriers interviews were one of main methods of data collection, as interviews facilitate to make opinions, explanations, justifications and preferences of people graspable - a prerequisite and requirement to enter another's lifeworld.

Interviewees who were considered for in-depth interviews or whose households were analyzed more detailed, were furthermore asked to fill in a household overview form (comp. Appendix p. VIII) in order to provide a solid background of the interviewee and the corresponding household as well as to make the households comparable (comp. Appendix p. III).

4.1.2 Participant observation

(Participant) Observation³⁴ is a commonly used social scientific and ethnographic research method in order to "collecting data about people, processes, and cultures in qualitative research" (Kawulich, 2005). Marshall and Rossman (1989, p. 79) define observation as "the systematic description of events, behaviors, and artefacts in the social setting chosen for study". Participant observation is the process that enables researchers to study people and their activities in their 'natural' setting³⁵ while observing and participating in the same. Hence, the researcher observes people in a "process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the research setting" (Schensul et al, 1999, p. 91). In literature four

³⁴ For a discussion on the history of participant observation, its advantages and disadvantages compare Kawulich (2005).

³⁵ Every setting a researcher chooses to observe, is - to a certain extent - a constructed setting and its interpretation and description is shaped by the researcher's scientific, cultural and social background and by his or her "biographical and theoretical perspectives" (Long, 2004, p. 16). Hence, chosen settings are neither natural per se nor naturally observable: "Settings are not naturally occurring phenomena, they are constituted and maintained through cultural definition and social strategies...A setting is a named context in which phenomena occur that might be studied from any number of angles; a case is those phenomena seen from one particular angle" (Hammersely and Atkinson, 2007, p. 32). Hence, a setting or case should be chosen according to whether they seem appropriate to test emerging analytical ideas occurring during the research (comp. Glaser and Strauss, 1967).

main observer types and their degree of participation in the observed setting are distinguished (Hammersley and Atkinson, 2007 based on Gold, 1958 and Junker, 1960; Kawulich, 2005):

- The *complete participant*, “who is member of the group being studied and who conceals his/her researcher role from the group to avoid disrupting normal activity” (Kawulich, 2005). In this case, the researcher tries to “‘pass’ as an ordinary participant in the scene...or will covertly join an organization or group” (Hammersley and Aktinson, 2007, p. 82).
- The *participant as observer* role, in which the researcher is a member of the group being studied and the group is aware of/informed about the research activity (Kawulich, 2005).
- The *observer as participant* is an observer role, when the researcher participates in group activities to the extent he or she desires, though the researcher is not a member of the group. The main role of the researcher is to collect data and the group being studied is aware of/informed about the research activity (Kawulich, 2005).
- The *complete observer*, is an observer, “who has no contact at all with all those he or she is observing” (Hammersley and Atkinson, 2007, p. 84). In this case, the researcher and his or her role are “completely hidden from view while observing” (Kawulich, 2005).

For this research the ‘observer as participant’ role has been applied, in which the researcher’s role is known by the group being observed and the main purpose of the observation is the collection of data. Participant observations were mainly conducted during farm and ranch visits and whenever the possibility emerged to live for some time on a Maasai ranch. Although a setting’s observation, interpretation and description depends on the researcher and despite the fact that the presence of a stranger might influence or change a household’s routines, participant observation was applied, as it is the most practical method to become - to some extent - ‘part of a household’ and practically investigate another’s lifeworld. Settings which were observed and practices participated in were hence normal daily ranch activities (e.g. herding, farming and cooking activities) of different Maasai households, household members and/or families as an attempt to understand and describe the actors’ lifeworlds, but also special occasions such as ceremonies or meetings. Reflective and analytical notes were taken from these participant observations, collected in a research diary and memos consecutively developed.

4.1.3 Ethnographic interviews

Ethnographic interviews are regarded as (research-related) unstructured, informal conversations. They were used as an additional method to collect data and were conducted whenever possible, appropriate and justifiable. The main aim of this method was to get a more dense understanding of the research field and the cultural as well as social environment in the setting. Ethnographic interviews were for instance conducted during ranch and farm visits, on the local market or during gatherings of local Maasai. Reflective and analytical notes from these informal conversations were collected in a research diary and memos developed based on these notes.

All three aforementioned methods (in-depths interviews, participant observation and ethnographic interviews) are in line with and fulfill the requirements of applying Long’s actor-oriented approach, in which the researcher “enters the lifeworlds of the other social actors” (Long, 2004, p. 16) for some time and to some extent. In order to identify and analyze social interface situations, a methodology is needed “that counterpoises the voices, experiences and

practices of all the relevant social actors involved” (Long, 2004, p. 28). The applied qualitative research methods, a generally constructivist approach and a focus on lifeworlds facilitated the identification and analysis of these situations. Social interfaces were identified as situations where discrepancies, contradictions or discontinuities of perceptions, statements, discourses or opinions of interviewees or generally people in the research area emerged.

The set of applied methods and the qualitative research approach introduced so far is useful in order to approach new, not yet researched issues in a wider broadness, than a quantitative approach would facilitate. Approaching qualitatively for the research interest at hand provides tools to collect and analyze deep information through a variety of methods, which facilitate a holistic perspective on the research objective (based on Lamnek, 1995, p. 8). A quantitative approach would possibly contribute to a higher objectivity, quantification, generalization and representativeness of the results, but facilitate a limited, more particularistic perspective (based on Lamnek, 1995, p. 8). As this research aims to reveal holistically a complex phenomenon in its wider broadness (comp. theoretical framework Chapter 3.7), focusing on accounts, narratives and discourses within an ethnographic setting a qualitative approach is justifiable and beyond that necessary.

4.1.4 Literature review

An extensive literature review and a critical discussion and reflection on key concepts such as livelihood, household, land tenure and food (in)security - with specific regard to a Maasai and East African pastoral context - was conducted in order to frame the topic, identify the research interest and to develop the theoretical framework applied in this research. Additionally, state of the art research on the Maasai in general and specifically in the research area were included and discussed in the concept review. In the sense of grounded theory, these general concepts served as “points of departure” (Charmaz, 1996, p. 32) from which the researcher “look[s] at data, listen[s] to interviews and think[s] analytically about the data” (Charmaz, 1996, p. 32). In order to identify relevant literature, recent researches on the topic and the geographical area were reviewed. Based on this review concepts were identified and served as starting points to approach further literature on the concepts in general and with a specific regard to a Maasai context. Although the research has a sociological focus, literature was reviewed interdisciplinary and different fields and disciplines were considered such as agricultural, peasant and development studies, ethnographic, ecological and environmental researches and literature from African studies as well as policy and legal documents. Hence, literature was identified according to its topical, geographical, methodological and disciplinary suitability for the research interest and included academic literature in professional journals and publications as well as articles, policy documents, fact sheets and publications of relevant organizations and institutions (e.g. FAO, WFP, AU, IDS and ECA). Additional literature was taken into account during (to a limited extent) and after the data collection process based on the emerging analytical ideas and topics derived from the collected data and results.

4.1.5 Rating and ranking

As this research also aims to reconstruct and analyze perceptions of Maasai on the changing importance of livelihood components and livelihood assets over time, 'rating' and 'ranking' were additionally applied as methodological approaches.

In order to estimate the changing relative importance of inductively identified livelihood components 'rating' was conducted. Rating requires interviewees to assign a relative percentage score between 0 and 100 adding up to 100 per column to each given category (livelihood component) according to their perceived relative importance. Interviewees were asked to rate livelihood components referring them to three different points in time: the past, the present and the future. 'Past' referred to the time prior to the subdivision of the group ranch, 25 years ago, 'Present' to their current importance and 'Future' to a fictive time 25 years in the future. Accordingly, this method facilitates insights in the (changing) relative weight (Center for International Forestry Research [CIFOR], 1999) of the perceived importance of each category over time.

In order to estimate the changing relative importance of livelihood assets 'ranking' was conducted. Ranking requires interviewees to assign each inductively identified category (livelihood asset) a rank that reflects its perceived degree of (relative) importance by the participant (CIFOR, 1999). Based on different pre-identified categories (or inductively identified assets), Maasai interviewees were asked to rank these assets, comparing their ranked relative importance in the past, the present and the future - again, referring to a 25 years interval.

Non-Maasai were neither considered for rating nor for ranking, as this approach specifically aimed to reveal the changing perceptions of the relative importance of livelihood components and assets of and by Maasai.

A major limitation of this method is certainly that after having inductively identified livelihood assets or components as a researcher, all potential livelihood assets or components of interviewees were 'forced' into these predetermined categories or not considered. Although the livelihood asset 'Anything else' gave some space to take into account further assets, this category might have caused a distortion of the results. Interviewees who named something specific under 'Anything else', like access to water (Int. 02, HH 02³⁶; Int.03, HH 03; Int. 07, HH 01) ranked 'anything else' probably higher than interviewees, who did not concretely name anything under this category. Furthermore, the predetermined categories prevented the identification of new or other potential components or assets once the process of conducting rating and ranking has begun during the second field stay.

All in all, ranking and rating were rather difficult methods, as they required abstract thinking by the interviewees - as both thinking of the past and imagining a potential future. Nonetheless, the methods were applied, as they facilitate the identification of general trends and changes in the perceptions of the importance of livelihood components and assets over time.

³⁶ Interviewee 02, Household 02 (comp. Appendix p. III).

4.1.6 Data analysis

Recorded interviews and field notes were transcribed according to predetermined transcription rules and analyzed using MS office package. Graphs were designed with MS Excel. The transcribed interviews and protocols were coded drawing on grounded theory where “coding...is the process of analyzing the data” (Walker and Myrick, 2006, p. 550). Codes were identified either inductively, meaning that codes were created from the data themselves (Charmaz, 1996, p. 37), or deductively, based on assumed codes derived from the conceptual literature review and confirmed (or not) in the course of the data analysis. The process of coding included in a first step open, initial line-by-line coding of the transcribed material, followed by focused coding in a second step, where mainly “earlier codes that continually reappear in [the] initial coding” (Charmaz, 1996, p. 40) were considered. Focused coding is “less open-ended and more directed than line-by-line coding. It is also considerably more selective and more conceptual” (Charmaz, 1996, p. 40). Based on selective coding, categories were developed, by selecting or combining codes “having overriding significance in explicating events or processes in the data” (Charmaz, 1996, p. 40). A category is part of an emerging analytic framework and may subsume common themes and patterns (Charmaz, 1996). Similar data are therefore combined in similar categories, and different data in new categories (Walker and Myrick, 2006, p. 549). Categories can either be “in vivo codes” (Charmaz, 1996, p. 41), which are directly taken from the interviewees’ accounts or discourses, or they “may represent...[the researcher’s] theoretical or substantive definition of what is happening in the data” (Charmaz, 1996, p. 41). Memo writing took furthermore place throughout the entire research process. Data analysis based on grounded theory needs to be regarded more as a cyclical process, in which data is re-analyzed multiple times. Applying this cyclical processes of data analysis in order to create rich descriptions and to understand social life includes methodological challenges as “empirical data as texts...have multiple meaning, at both the individual and the social levels” (Walker and Myrick, 2006, p. 550). It furthermore requires the awareness of the researcher that “data analysis involves the researcher as an actor in the process” of data analysis itself (Walker and Myrick, 2006, p. 550). In order to deal with the amount of collected data, qualitative content analysis, as a systematic text analysis in which categories were inductively developed and deductively applied (comp. Mayring, 2000) was conducted.

4.2 Field access

This research was conducted independently, in the sense that no specific local organization or institution was contracting authority. Hence, field access was organized independently, drawing on Wageningen University’s network which provided a first contact of a local Maasai in the research area. From this local Maasai, from his ranch, respectively, nearby farms and ranches were approached during the first field stay in order to get a broad overview of the field. After a first analysis of the collected data, the research area was adjudged as ‘appropriate’ and ‘interesting’ for the research interest and its objectives. In the course of the research process, farms and potential interviewees were approached according to their geographical adequacy, their suitability for the research interest (comp. Chapter 4.1.1) and by employing *snowball sampling*. Although most of the approached Maasai households were open-minded towards the research, gaining trust was generally a major challenge and issue in the research area - especially

when approaching Maasai women and Kikuyu³⁷ homesteads. Drawing on local gatekeepers, living occasionally on Maasai farms, official research permissions (comp. Appendix p. XXII) from different local, regional and national Kenyan authorities, prepared research documents (e.g. research summary and consent form (comp. Appendix p. X and p. XVI)), the assurance of excluding `sensitive` questions such as political, financial or private questions³⁸ as well as working with local and non-local Maasai interpreters³⁹ helped gaining trust.

Potential interviewees were usually approached several times before the actual interview was conducted. Commonly, members of a household were contacted and introduced to the research topic during a first visit, in which they furthermore received the *research summary for interviewees* form (comp. Appendix p. X and p. XII) and were given the opportunity to ask questions on the research. Not earlier than during a second or third visit when interviewees had the chance to reflect on the research and decide on their participation, the actual interview was conducted and interviewees were asked fill in a *consent form* (comp. Appendix p. XVI and p. XIX) in order to ensure that interviewees were aware of and did agree with the research, the data collection procedures and their `rights` during and after the interviews.

4.3 Ethical considerations and reflection on the research process

According to Schütz' *'Analogy of a Stranger'* (1964), a stranger entering a new or unknown cultural environment has a certain objectivity that members of this particular cultural context do usually not have, as members who live within this cultural context "tend to see it [culture] as simply a reflection of `how the world is`" (Hammersely and Atkinson, 2007, p. 9). Temporarily, a researcher takes over the role of the stranger when entering a research area and can - through his or her position as an outsider or stranger - investigate `unknown` environments. Lofland's (1971) concept of a researcher's *'acceptable incompetence'* plays a crucial role in practice here, as the outsider or stranger is `allowed` and `accepted` to scrutinize cultural `obviousnesses` and practices within the unknown context. However, especially due to this position as a temporal stranger, as the one who will leave the area again, ethical considerations on the research process and the researcher's role are crucial to be taken into account in order not to `spoil` the research area or endanger interviewees, contact persons, research assistants or interpreters. Some of the main ethical issues which might occur during a research process are outlined by Hammersley and Atkinson (2007, pp. 209ff).

- *Informed consent* refers to the (ethical) requirement that all research participants being researched (on) need to be informed about the research, it's objectives and the planned use of the research's results. Furthermore, participants need to be informed about and agree on the fact that they are part of a scientific research and that the collected data are

³⁷ Kikuyu are the numerically and politically dominating community (ethnic or tribal group) in Kenya and one of the - maybe the - numerically dominating non-Maasai community in the research area.

³⁸ The assurance of excluding these topics did not necessarily mean that these topics were not approached at all during the conversation, but only on the interviewee's initiative.

³⁹ Before entering the field for the first time, the interpreters were given a three days intensive training on how to conduct social scientific and ethnographic research. The training was given by the researcher and included for instance research methods, field relations, ethical considerations and transcription rules.

used for the research's purpose. With the (signed) consent forms (comp. Appendix p. XVI and p. XVI), the research summary forms (comp. Appendix p. X, p. XII and p. XIV), detailed explanations and deliberations on the research, the researcher's and interpreter's background informed consent of the research participants was achieved.

- *Privacy* claims to respect the privacy of the research participants, interviewees as well as observed persons. No private or 'sensitive topics' were approached as the focus of the conversations lay on household decisions, unless the interviewee him- or herself approached more sensitive topics. Furthermore, all potentially identifying information was anonymized.
- *Harm* refers to the unnegotiable claim that the research may not harm the people being studied during or after the research or people who are involved in the research process (e.g. gate keepers or interpreters). A generally cautious approach of the research area and behavior within it, the exclusion of sensitive topics and the anonymization of research participants were attempts to minimize potential harmful consequences of the research.
- *Exploitation* refers to the fact that "people supply the information which is used by the researcher and yet get little or nothing in return" (Hammersley and Atkinson, 2007, p. 217). Studied people or communities should therefore somehow benefit from the conducted research, otherwise issues such as *research fatigue* within communities might occur (Way, 2013). Due to the independent conduct of the research, the benefit from this research for its participants and locals is marginal and was communicated as such to (potential) research participants. However, (preliminary) research results were and the final results will be shared with interested participants and third parties.
- *Consequences for future research* concern the fact that researchers rely on the permission of gatekeepers or the people being studied to enter and move within the field. Inappropriate behavior might restrict or exacerbate access for other researchers and needs to be avoided. An overall 'appropriate' behavior as a researcher, the acquisition of a formal research permission (comp. Appendix p. XXII) and the notification of all relevant local and regional 'key persons' and representatives (e.g. local and regional administration) on the purpose of the stay and the research were therefore essential steps undertaken in order to limit potential negative consequences for future research.

These ethical considerations were taken into account during the research process. Generally, this research followed hereby an approach that Hammersley and Atkinson (2007, p. 219) name *ethical absolutism* stating that "there are certain sorts of research strategy that are simply illegitimate, and should never be employed by researchers"⁴⁰. For the research at hand, this meant a strict peruse and compliance of the above mentioned ethical considerations, the acquisition of a formal research permission and a general openness and communicativity on the stay's purpose, the research and its general interest.

⁴⁰ According to Hammersley and Atkinson (2007, p. 219f) other ethical perspectives are *ethical situationalism* in which the ethical judgment depends on the context and "on assessments of the relative benefits and costs of pursuing research"; *ethical relativism*, implying that "there is never a single determinant answer to the question of what is and is not legitimate behavior on the part of the researcher"; and *Machiavellianism*, where "ethical considerations are not given any priority, at least when carrying out certain sorts of research" for instance in conflict settings.

5 Study area profile

Kajiado County (comp. Figure 4) in the south of Kenya is a semi-arid area with wide bushlands in the north of the county and bush- and grasslands to its south (Thornton et al, 2005). The southern county boarder marks the Kenyan boarder to Tanzania, with Mount Kilimanjaro and

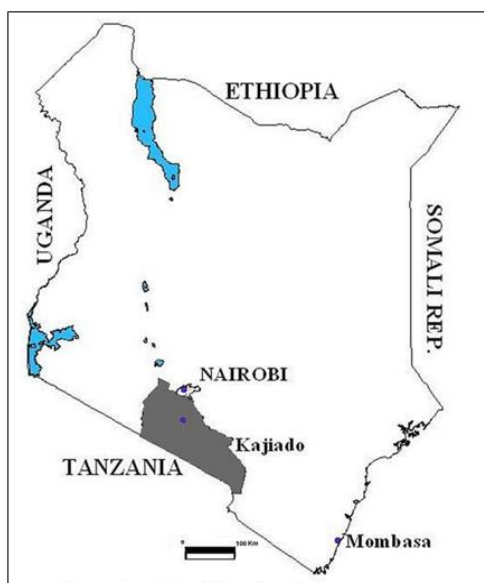


Figure 4: Kajiado County (Wairimu and Hebnick, 2013, p. 7 (unpublished))

Amboseli National Park being located there. In the north, the county borders to the outskirts of Nairobi and in the east to Narok County - the second part of the Maasailand. Kajiado is crossed by two major highways, the Nairobi-Mombasa road and the Nairobi-Arusha (Namanga) highway. The research site is located on the Nairobi-Arusha (Namanga) highway, around 60 km south of Nairobi and 20 km north of Kajiado - the county's capital city. The site is a semi-arid area characterized by bushed grassland and high rainfall variability over year, with normally two rain seasons per year: 'short rains' between October and December and 'long rains' between June and August (Kenya Meteorological Service [KMS], 2014). The research area lies in close proximity to Isinya town and a currently constructed new city named 'Konza City' (comp.

www.konzacity.go.ke). Although Kajiado's human population has increased over the past decades (comp. Table 1), the county is, with statistically 31 persons per square kilometer (Kenya National Bureau of Statistics [KNBS], 2014, p. 8) rather sparsely populated. The research was mainly conducted in the former Group Ranch "Embolioi" (comp. Figure 5) which was subdivided in 1987⁴¹. However, occasional field visits were conducted in two further former group ranches (Olkinos and Endonya Narok), which also border Isinya town.

Population Census	Population Kajiado	Inter-census growth (%)
1969	85.093	
1979	149.005	75.1
1989	258.659	73.6
1999	405.000	56.6
2009	687.312	69.7

Table 1: Population of Kajiado district/county 1969-2009. Own, extended depiction (based on Campbell, 2000, p. 399 and KNBS, 2014, p. 8).

The rural research area is accordingly mainly characterized by Maasai owned ranches with wide rangelands⁴² on which cattle are reared and some land is cultivated. Several large-scale flower and chicken farms, which are owned by foreigners, are located in the area. In these farms, mainly non-Maasai (probably especially Kisiis, Kikuyu and Luhya) are working. Therefore, it can (with reservation) be assumed, that the number of non-

⁴¹ A close consideration of the subdivision and land distribution processes when the group ranch was subdivided was beyond the scope of this research and therefore not specifically taken into account. The subdivision and the corresponding land distribution was therefore taken as a given.

⁴² The interviewed Maasai stated to own between 2 and 350 acres of land per household. On average, the 12 investigated Maasai households, which provided information on the size of their land, owned around 105 acers per household. The three investigated Kikuyu households 0.3 acres on average. An independent verification of these numbers, as for all numbers collected for this research (e.g. numbers of cattle, or size of cultivated land), was not feasible.

6 Livelihood strategies of Maasai households: Livestock, cultivation and wage labor

Investigating Maasai livelihoods requires a rather complex analysis, since Maasai livelihoods depend on and are shaped by various components, contexts, assets and accesses to different forms of capitals. This research will step-by-step reveal these components and analyze changing Maasai livelihoods by investigating these changing components. An analysis of Maasai households in the research area revealed that Maasai livelihoods generally consist of a combination of two or more of the three major components livestock keeping, cultivation and wage labor/off-farm employment.

6.1 Livestock keeping - What it is all about?!

All 16 analyzed Maasai households keep livestock (for a table of households, comp. Appendix p. III). Cattle, sheep and goats are the most common animals reared in the research area, whereas cattle are kept by all investigated Maasai households. The number of livestock differs strongly among the households and ranges from 13 cattle and 7 sheep and goats to 100 cattle and 300 sheep and goats for a household. On average, the 12 Maasai households, which provided information on the numbers of livestock, own 53 cattle and 133 sheep and goats⁴³. As will be outlined in the course of this research, the numbers of cattle can vary strongly according to the season and the amount of rainfall. Hence, these numbers are more a snapshot in time, when the data were collected, than a perennial average. 14 analyzed households use livestock and its products for both, the household's own consumption and for sale in order to generate a household income. Generally, herding requires by far the largest space of the ranch land compared to other land utilization practices like cultivation, housing and working facilities, water holes, dams and horticulture etc. 11 out of 15 Maasai interviewees stated that livestock is the most important source of income and economic asset for the household.⁴⁴ Therefore, a detailed analysis on the importance of livestock to maintain a livelihood will be conducted in the next chapters.

6.2 The Economic, social and cultural importance of keeping livestock

For Maasai in the research area, livestock serves as two main forms of capital: economic and social/cultural capital. The following chapter will first describe and discuss the economic, financial and monetary meaning and importance of keeping livestock while the subsequent chapter will address the social and cultural capital dimension of livestock, first and foremost cattle.

⁴³ Other Maasai households keep additionally donkeys or poultry.

⁴⁴ Others stated business (2) and rental houses (2).

6.2.1 The economic importance of livestock

In order to analyze the economic importance and meaning of cattle for the Maasai, households were investigated according to their financial and economic motivation to keep livestock.

Livestock as source of household income and family nutrition

Selling livestock and its products has an important economic function for many Maasai households in order to generate income (HH 09, HH 10) and cover day-to-day expenses, especially purchasing foodstuffs (HH 01, HH 03, HH 05, HH 09). Some households do therefore regularly sell goats or sheep (HH 04, HH 05, HH 13), while others also occasionally sell a cow to buy foodstuffs (HH 01, HH 03, HH 07, HH 09). The importance of selling livestock and its products for foodstuffs varies hereby according to the seasons and the corresponding availability, accessibility and prize of food on the local markets and the amount of food produced on own cultivated fields. Money obtained from selling livestock (goats and sheep) is furthermore used to invest in cultivation (HH 03, HH 07) and generally to cover all kind of smaller expenses of a household (HH 13).

Livestock as insurance

Next to covering day-to-day expenses, selling livestock - especially cattle - takes place in case of sickness of family and household members in order to pay hospital bills and purchase medicine (Int. 06, HH 05; Int. 09, HH 07; Int. 10, HH 08; Int. 13, HH 10, Int. 14, HH 11). Although health insurances exist in Kenya, all investigated households stated to use their own financial means to pay for medical treatment of family members or themselves, as they are not health insured. Since medical treatments or hospital stays emerge rather unexpected and require big amounts of money, commonly cattle are sold, as for some households selling cattle “is the only way we can actually raise...financial support” (Int. 16, HH 09, l. 19f). Beyond the importance of keeping cattle as a form of health insurance cattle fulfill generally an insurance-like financial back-up function for some of the investigated Maasai households (HH 04, HH 13). Cattle are sold when a household faces any kind of (bigger) financial problem or challenge (Int. 13, HH 10), e.g. temporary unemployment (Int. 04, HH 04), which requires a bigger amount of money within a short time and when “there is not enough money to cater for that problem. So that is when the idea of selling a cow comes in. To help” (Int. 13, HH 10, l. 101-103)⁴⁵. As will be discussed in the course of this research, selling cattle and livestock fulfills beyond these insurance functions an essential financial role for a household's drought management.

Selling cattle for paying school fees

Cattle are often sold when households need to pay school or university fees for the family's children (HH 01, HH 03, HH 05, HHs 07-10). As most of the analyzed Maasai households still depend on rearing cattle as the main source of household income, some children depend on cattle being reared and sold in order to attend school or university. As the regular school fees are a

⁴⁵ Int. 44, a driver, states for instance that keeping or selling a cow might even serve as automobile insurance: “The reason as to why we still keep cattle is that...if for instance I cause an accident on the road, I will use the cows. We can sell cows to solve many problems” (Int. 04, HH 04, 28-30).

rather high expenditure for a Maasai household, commonly cattle are sold in order to raise the financial means as for instance “if you have a child at the university where you are supposed to pay 100.000 Kenyan Shilling [KSh], you can only sell two cows and you raise this amount” (Int. 05, HH 03, l. 128-130).

“Our cows are like our banks”⁴⁶ - The monetary importance of keeping livestock

As outlined by means of the previous points, keeping and selling livestock and its products embraces various economic dimensions within a Maasai household and serves as an important form of economic capital. It functions as a day-to-day source of income, as an insurance-like reserve for exceptional stresses like medical bills or hospital stays, as a source to cover major expenses like school fees and nonetheless as an important (economic) resource to sustain a household during drought times (comp. Chapters 8.5.3, 9.1.1 and 9.8). Livestock and especially cattle are hereby an important monetary value inherent:

Even if you don't have a single cent in your pocket you are still comfortable [if you have livestock]. Our cows are like our banks. If you sell a cow or a sheep, you will pocket a good amount (Int. 05, HH 03, l. 125-127).

Livestock, differently than its products, is mainly sold when money is actually needed. The economic importance of sheep and goats on the one hand and cattle on the other hand obviously differs. Higher expenses such as schools fees are commonly covered with selling more lucrative cattle “because we will be forced to sell a lot of sheep to recover that money [for school fees]” (Int. 17, HH 13, l. 26-27; Int. 18, HH 14). Cattle serve hereby as economic means to raise larger sums (Int. 19, HH 15; Int. 22, HH 18) within a short time (Int. 11, HH 09; Int. 22, HH 18). Goats and sheep on the other hand are more considered as a substitute to cover smaller and more regular expenses (Int. 17, HH 13; Int. 22, HH 18), as Int. 17 outlines exemplarily:

Sheep and goats, because it is easy to sell them, we call them ‘Maasai ATMs’... You can even sell ten of them at a go and you don't feel it. But it is very difficult to sell a cow, because it is a big - you don't want to sell it. So, mostly we sell sheep...and fetch good money. You buy foodstuffs and you eat it and when it is over you sell another one. And it maintains the family (HH 13, l. 7-14).

Many Maasai keep sheep because of economic benefits, as sheep are rather cheap and fast to rear, since they are very reproductive and rather drought resistant.⁴⁷ It is probably this financial benefit and the drought resistance that makes many Maasai keep (large amounts of) sheep, although their uprooting way of grazing might contribute to a reduced availability of grass on a household's ranchland (Int. 17, HH 13).

The economic importance of keeping livestock is high among the investigated households. Livestock embraces various economic functions and dimensions and serves for many investigated Maasai households as the main economic pillar to maintain their livelihood. Selling livestock, especially cattle, is therefore an important (economic) decision within a household.

⁴⁶ Int. 05, HH 03, l. 126.

⁴⁷ Differently than the less reproductive (but also drought resistant) goats, disease resistant sheep reproduce themselves very quickly. If a sheep gives birth to a lamb, it is possible to sell the new-born already after around 6 months for around 3.000 KSh - 25 Euro. A goat can normally earliest be sold after around 18 months for 3.000-3.500 KSh - 25-29 Euro (Int. 26).

The process of selecting an animal to be sold (culling) as well as negotiating the prize of livestock requires knowledge, experience and skills from both the seller and the buyer, as the prize of cattle is for instance determined among other factors by its breed, age, size, health, weight, sex and whether it is lactating or not. Among the investigated Maasai households, which were exclusively multi-person households, the decision which cattle or livestock are sold (household resource management), is either made by the male household head alone (HH 09, HH 13) or by the household head in consultation with other household members (HH 01, HH 07, HH 08, HH 15). Except in the case of Maasai widow-households, as female headed households, the actual practice of selling and negotiating over livestock is generally conducted by Maasai men.

Conclusion

Livestock fulfills an important economic role and is an essential form of economic capital for the investigated Maasai households. Although the degree to which a Maasai household is economically depending on or is benefiting from rearing livestock differs among the households, access to livestock - as a form of economic capital - does play a crucial role in maintaining a livelihood. The investigated households are characterized by a high reliance on livestock as a source of economic wellbeing, as livestock (and its products) serves as both a source of regular income and as an insurance-like reserve for exceptional or higher expenses. Therefore, livestock has an important economic harm-prevention and security function as well. Pastoralism approached from this angle, emphasizes pastoralism as a specific production system rather than as a particular way of life (AU, 2010). The findings correspond with current research findings, suggesting that earnings from livestock are still the key element in the pastoral households and in Maasai economy (Wren, 2010; Homewood, 2009; Nkedianye, 2009; Thompson et al, 2009; Little et al, 2002). Furthermore, as will be analyzed in the course of this thesis, livestock contributes to a household's food security and (co-)facilitates and (co-)finances drought management strategies.

Beyond the economic importance of livestock, livestock and specifically cattle need to be analyzed within a Maasai social and cultural context.

6.2.2 The social and cultural importance of livestock

After the economic capital dimension of keeping livestock has been outlined in the previous chapter, this section will focus on the meaning of livestock as a form of social and cultural capital. In the sense of how socially and culturally important or not it is for Maasai (households) to own livestock, especially cattle, and whether the status of a Maasai within the Maasai community is co-shaped or even determined by the ownership of cattle.

Generally, Maasai have a very specific relation or "love" (Int. 09, HH 07, l. 48) to their livestock, first and foremost their cattle. Keeping cattle is regarded as inherent to Maasai "culture" (Int. 01, HH 01, l. 7; Int. 07, HH 01, l. 12; Int. 14, HH 11, l. 48) and "history" (Int. 07, HH 01, l. 12):

Cattle to a Maasai are something that is in-born. And all over above it is in the blood of the Maasai...There is that total attachment. So, it is in the blood (Int. 17, HH 13, l. 144-147).

Cattle keeping in this sense is accordingly not only a (economic) production system, but a very specific or distinguishable Maasai “way of life” (Int. 16, HH 09, l. 9), a decisive traditional “mark” (Int. 22, HH 18, l. 24) or simply “our culture” (Int. 01, HH 01, l. 7). Having no cattle as a Maasai might culturally even be regarded as something “very bad...like a curse” (Int. 04, HH 04, l. 43).⁴⁸ A Maasai, who does not keep livestock, might “even not [be] accounted as a Maasai” (Int. 01, HH 01, l. 11f), since “to be a Maasai, you must have livestock. You must have livestock” (Int. 01, HH 01, l. 10f). Many interviewed Maasai consider cattle furthermore as a (traditionally) inherited practice or profession they learned from childhood on:

I am keeping livestock because this is what I found my parents doing. This is what I found and I have seen that, all my hope is in this activity, and that is why I can't leave it (Int. 05, HH 03, l. 6f).

This inherited tradition of keeping cattle (Int. 11, HH 09) made some interviewees “born pastoralist[s]” (Int. 01, HH 01, l. 6) and it traditionally unimaginable to live without cattle (Int. 05, HH 03). Therefore, livestock keeping needs also to be regarded in a context of (inherited) tradition, practice or profession. Keeping cattle certainly serves as a crucial self-identification criterion or characteristic of being a Maasai:

This [rearing cattle] is our original heritage. We are brought up from our parents, our grandparents we grew, it is...our common way of living to rear cattle (Int. 11, HH 09, l. 51-53).

Accompanied by this cultural importance of keeping cattle is a high cultural or emotional attachment to cattle. This attachment to cattle, reflects itself also in a partly rather low willingness of some Maasai to sell cattle (Int. 01, HH 01; Int. 06, HH 05; Int. 12, HH 05), so that “if there is any other avenue to get money you go to that avenue rather than selling [cattle]” (Int. 17, HH 13, l. 151f).

Cattle are a form of cultural capital, in the sense that owning cattle or livestock is culturally inevitable for a Maasai and although a diversification of livelihoods can be observed in the research area (comp. Chapters 6.5, 8 and 10), keeping cattle is still the crucial cultural (self-)characteristic for being a Maasai. However, the fact that cattle can be regarded as an important form of cultural capital does not directly reflect or necessarily impact the number of cattle being kept (comp. Chapter 9.7). This chapter simply reveals that cattle keeping is culturally important and a form of cultural capital. Derived from this cultural importance, the question emerges, whether rearing cattle also shapes the social position of a Maasai within a Maasai community. Certainly it is difficult to draw clear boundaries between the social, cultural and economic meaning of cattle, as all these forms of capital need to be regarded as overlapping, intertwined and mutually shaping each other within a Maasai context. But beyond its cultural dimension livestock rearing, especially cattle, seems to be a form of social capital:

⁴⁸ During the entire research period, one Maasai household was identified which did not keep cattle, though sheep and goats on the neighbor's land. This household was not accessible for this research.

Any man without cattle in our society is...I don't know what word I can use in English...You are not a man...You are not a man in a sense that if for example any meeting is there, you can't stand up that meeting and talk. If any other forum, nobody hears you, because you are not a man. You don't have cows. It is cows in Maasai [community] which make a man a man. And you get total respect in the community. Total respect (Int. 17, HH 13, l. 137-141).

In order to estimate the social importance of cattle, this research draws back on and uses the concept and notion of 'prestige'. Some Maasai state to keep cattle also for prestige purposes (Int. 01, HH 01; Int. 03, HH 03; Int. 09, HH 07) and that the number of cattle a Maasai man owns, determines traditionally (Int. 06, HH 05; Int. 12, HH 05) his richness (Int. 04, HH 04) and thus co-shapes his position within a Maasai community⁴⁹, as the "the more [cattle] you have, the more a man you are" (Int. 17, HH 13, l. 156f).⁵⁰ Richness in this sense refers probably mainly to an economic capital dimension which - combined with other assets - determines the social status of a Maasai. A Maasai man with no cattle might "not [be] taken seriously" (Int. 15, HH 12, l. 5) within the community. In this sense cattle, as economic capital, reflects on cattle as a form of social capital, which shapes the reputation of a Maasai and his social access opportunities within a community. This "'symbolic' function" (Mwangi, 2007, p. 39) created incentives for herders in traditional Maasai society to accumulate livestock (Mwangi, 2007, p. 39). However, these practices or underlying motives seem to change, as other Maasai regard rearing cattle and the number of cattle a Maasai owns as less or not anymore related to prestige (Int. 12, HH 05; Int. 13, HH 10; Int. 15, HH 12; Int. 22, HH 18) and "investments in new things" (Int. 13, HH 10, 458f), like commercials, becomes more important (Int. 15, HH 12) for prestige: "Now we keep cattle for our own uses, but not for just to be seen that you have" (Int. 14, HH 11, l. 71).

Conclusion

Keeping cattle is both a form of cultural and social capital. Although it is impossible to clearly differentiate between rearing cattle as economic, cultural and social capital, the practice of keeping cattle serves as a culturally distinctive feature for Maasai. Pastoralism approached from this cultural and social angle emphasizes pastoralism as a socio-cultural way of life rather than a particular production system (AU, 2010). The fact that keeping cattle is a form of cultural capital does not necessarily reflect on the number of cattle being kept per household. The social status and access to social capital of a Maasai might indeed in some cases be shaped by the practice of rearing cattle. That some Maasai assign the tangible asset cattle a rather high social importance (e.g. prestige), while others don't and instead emphasize new assets, like real estates, is not a contradiction per se, it is rather a hint for the existence of multiple social realities (Long, 2001). In fact it is a social interface (Long, 2004) that reveals "discrepancies...of value" (Long, 2004, p.

⁴⁹ Next to for instance age.

⁵⁰ In Maasai culture cattle are (traditionally) owned by men - not women (Int. 22, HH 18). However, widows are exceptions, as cattle within female-headed widow households are owned and possessed by women. Women are rather marginalized within a generally patrimonial Maasai community, in which they are traditionally not supposed to own cattle. But the social and cultural importance of cattle is that high that widows are more respected by Maasai men "because you [as a widow] own property [cattle]" (Int. 19, HH 15, l. 178) than non-widows. However, when it comes to trading with cattle, a typical task of Maasai men, widows might face problems, as some lack of knowledge and power to determine and negotiate prices and might therefore be disadvantaged (Int. 19, HH 15). This power discrepancy is probably based on views that "most men think a woman has no say" (Int. 22, HH 18, l. 428-430).

16) - in this case the social 'value' of cattle. This interface indicates probably a current change in the perception of the social importance of cattle as a Maasai livelihood asset. Nonetheless, keeping cattle is still an important form of cultural capital and remains a source of social- and cultural wellbeing.

After livestock, as a first component of current Maasai livelihood components, has been outlined in this chapter, the following chapter will address cultivation as the second main component.

6.3 Cultivation

Cultivation is practiced by all 16 investigated Maasai households in the research area. Maize, beans, potatoes and (local) vegetables are the most common crops grown, averagely on roughly 3 acres per household. The yields are either entirely used for the household's own consumption (8 households) or in parts consumed and sold (8 households). Accordingly, through the production and consumption of home-grown foodstuffs, cultivation is a vital component of a household's food security (comp. Chapter 8.2) and an additional source of household income. Due to the fact that most Maasai households cultivate without irrigation, farming is practiced seasonally. Crops are often grown around May and October, but depend on the amount and the time of seasonal rainfalls. Drought and lack of rains are therefore considered to be the most severe threats to cultivation (Int. 10, HH 08; Int.12, HH 09; Int. 13, HH 10; Int. 14, HH 11; Int. 16, HH 09; Int. 20, HH 16). A reduced dependency on seasonal rains by securing access to water sources (e.g. by drilling boreholes or constructing dams) is furthermore considered as requirement to start with irrigation in order to de-seasonalize cultivation from rains and cultivate throughout the year (Int. 02, HH 02; Int. 11, HH 09; Int. 13, HH 10). While some households practice cultivation for several years or decades already (HH 09, HH 11, HH 12), others began recently (HH 04). The households' knowledge on farming comes hereby from the own family (Int. 11, HH 09; Int. 17, HH 13), school education (Int. 11, HH 09; Int. 13, HH 10), local or regional agricultural institutions and NGOs (Int. 14, HH 11) or neighboring farms (Int. 04, HH 04). Cultivation is a practice that is probably predominantly conducted by Maasai women. Whether cultivation is a niche for women to engage in new forms of labor and if or how it changes the role of Maasai women with a household requires further research, but for some considered (especially Kikuyu) women, cultivation and sales of cultivated products could be a practice in order to and/or result in the generation of an individual income and reduce the financial dependency on the spouse (Int. 11, HH 09; Int. 21, HH 17; Int. 23, HH 19). To what extent cultivation has already played a role before the subdivision of the group ranches is difficult to assess, but probably on a rather "small-scale [level]" (Int. 02, HH 02, l. 36) (comp. Chapter 6.5). With the privatization of title deeds, as a "guaranteed possession of the land" (Int. 02, HH 02, l. 36f) (land tenure security), and a de facto sedentarization of Maasai households cultivation certainly gained in importance after the subdivision - both as a source of food security and as a source of income. The motivations to start with cultivation (comp. Chapter 8.2), its impacts and implications on a household's food security (comp. Chapter 8.2) as well as future developments of cultivation (comp. Chapter 10.2) will be discussed in the course of this thesis.

The following chapter will briefly focus on wage labor and off-farm employment as a third component of current Maasai livelihood strategies.

6.4 Wage labor and off-farm employment

10 out of 18 interviewed Maasai state that wage labor or off-farm employment does not at all contribute to the household's income. 3 interviewees ascribe it a rather marginal importance with an estimated proportion to the household's overall income of 2 to 10 %. For 4 households off-farm employment does play an important role and is estimated to contribute to the overall household income between 20 and 50 %. Wage labor will furthermore be discussed in a context of food (in)security, but will not be a major focus of this research, as its importance as a driver of the investigated Maasai livelihoods is rather marginal compared to livestock keeping and cultivation.⁵¹ Tourism- and conservation-related sources of income (e.g. sales of handcrafts to tourists) play a subordinate role among the investigated households as well. 4 out of 14 Maasai households benefit financially from businesses with tourists, contributing to the overall household income between estimated 1 (HH 01) and 25 % (HH 18). However, for women selling handcrafts (Int. 07, HH 01; Int. 09, HH 07; Int. 10, HH 08; Int. 11, HH 09) might generally play a more important role in case they command independently over the income generated from the sales (Int. 09, HH 07). To what extent, (in)formal employment or income generated from these businesses shape the role of women within a Maasai household, requires further research.

The analysis of these three livelihood components suggest that the investigated Maasai households continue to subsist on the traditional pastoral production system of livestock keeping, however, enhanced through cultivation and marginally off-farm employment. The results are in accord with latest research (Homewood, 2009; Nkedianye, 2009; Thompson et al, 2009; Fraktin, 2001), however, they require a more differentiated analysis in the course of this research. How Maasai perceive the importance of these components in order to maintain a livelihood and whether the perceived importance have changed over time, will be addressed in the following section.

6.5 From livestock keeping to farming - Perception changes of the importance of Maasai livelihood components

An inductive identification of current and past important livelihood components of Maasai households revealed the above analyzed components livestock keeping, cultivation and off-farm employment⁵². Having applied 'rating', the results (comp. Figure 6 and Figure 7)⁵³ suggest that livestock keeping is currently assumed to be the most important livelihood component, followed by farming/cultivation and wage labor. Regarded over time, livestock keeping is considerably decreasing in perceived importance, while farming/cultivation is clearly increasing in importance over time. Furthermore, the participants assign off-farm employment/wage labor an increased importance from the past to the present, but stagnation from the present to the future.

⁵¹ The fact that mainly elder, land owning and cattle keeping Maasai were interviewed, probably caused or contributed to this estimation.

⁵² A fourth category e.g. revenues from real-estates was not considered.

⁵³ Compare Appendix p. II for raw data.

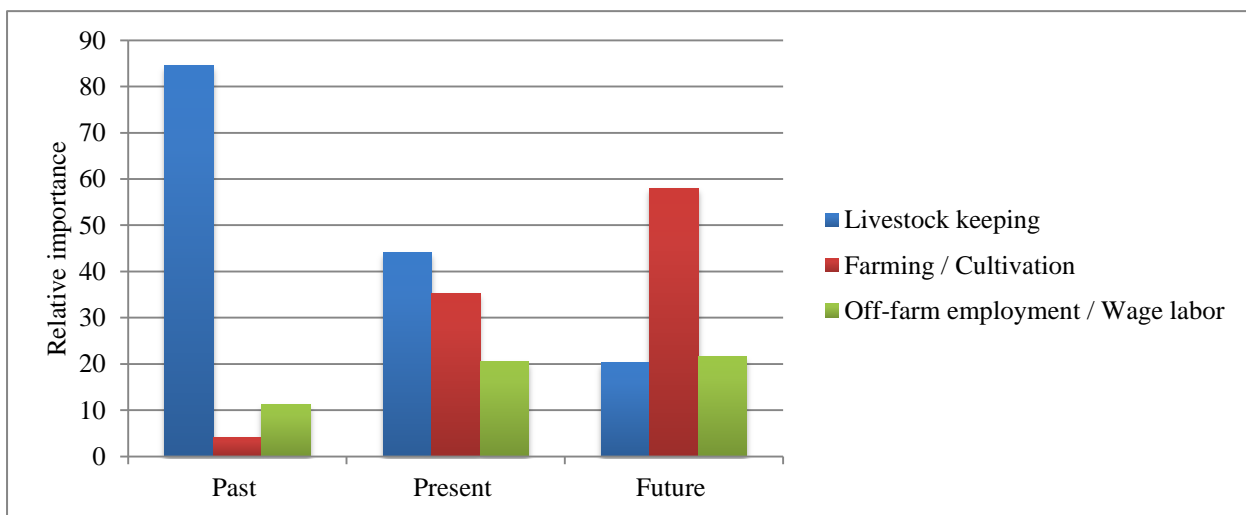


Figure 6: Rated relative importance of livelihood components over time (n=13)

The results of the perception changes indicate a clear diversification of livelihood strategies from a focus on cattle keeping before the subdivision, to a mix of livestock keeping and cultivation in the present. In the long-run, a change of emphasis from livestock keeping in the past to cultivation in the future is assumed to take place, which might indicate a decreasing economic reliance on rearing cattle as a source of economic wellbeing.

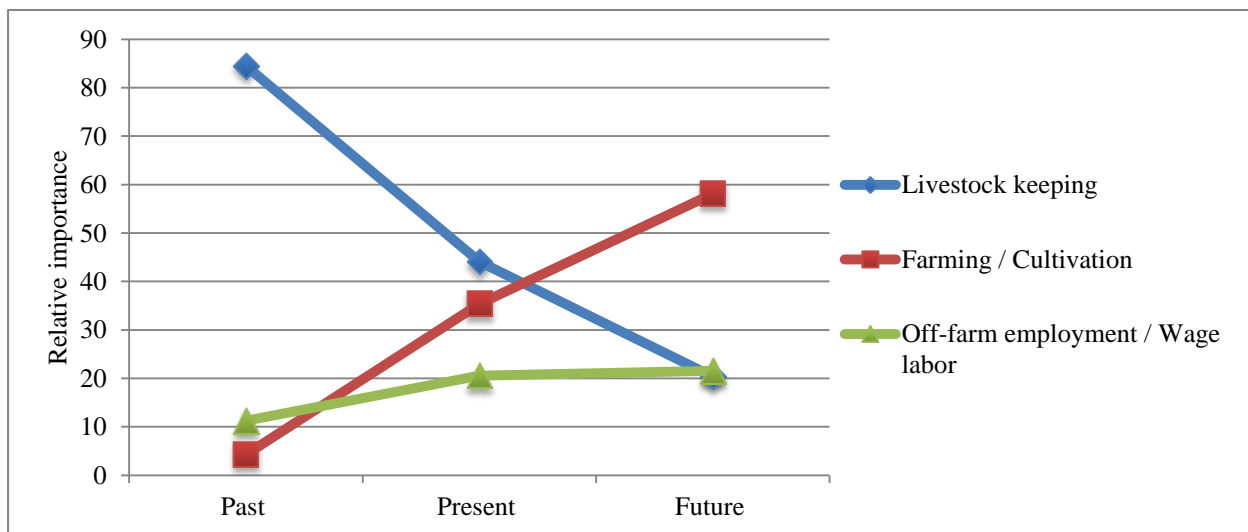


Figure 7: Changing relative importance of livelihood components over time (n=13)

Considering the fact that half of the analyzed Maasai households do not sell cultivated foodstuffs at all and for other - partly foodstuffs selling - households current revenues from selling foodstuffs can assumed to be rather marginal, as well as taking the identified economic importance of cattle into account (comp. Chapter 6.2.1), it is remarkable to see, how close farming and livestock keeping are currently weighted. Therefore, it is unlikely that only economic or financial considerations were taken into account by the participants and that financial considerations are crucial for this closeness. It is more probable that other features for instance each component's contribution to a household's food security played an important role in the assessment as well. Potential reasons and causes for the perceived importance decrease of livestock and the increase of cultivation over time are a reduction of pasture land for livestock (comp. Chapters 9.2, 9.5 and 10), changing drought and cattle management strategies (comp.

Chapter 10.1) and new forms of investments based on and brought forth by new a rather new land tenure system (comp. Chapter 10.3).

The next section focuses on perception changes of the importance of livelihood assets over time.

6.6 From livestock to education - Perception changes of the importance of Maasai livelihood assets

An inductive identification of current and past important livelihood assets of Maasai households has revealed six prevailing assets: *Amount of livestock/cattle*, *Amount of land*, *Education*, *Money*, *Number of wives* and *Number of children*. Asked about important household or livelihood assets some Maasai interviewees furthermore named assets such as ‘car’, ‘rental house’, ‘religion’, ‘(access to) water’ or ‘migration’. These rather household-specific assets were not frequently mentioned and hence summarized under the category *Anything else*.⁵⁴ Having applied ranking, the results (comp. Figure 8 and Figure 9)⁵⁵ show an interesting change in the perceived ranked relative importance of livelihood assets over time.⁵⁶

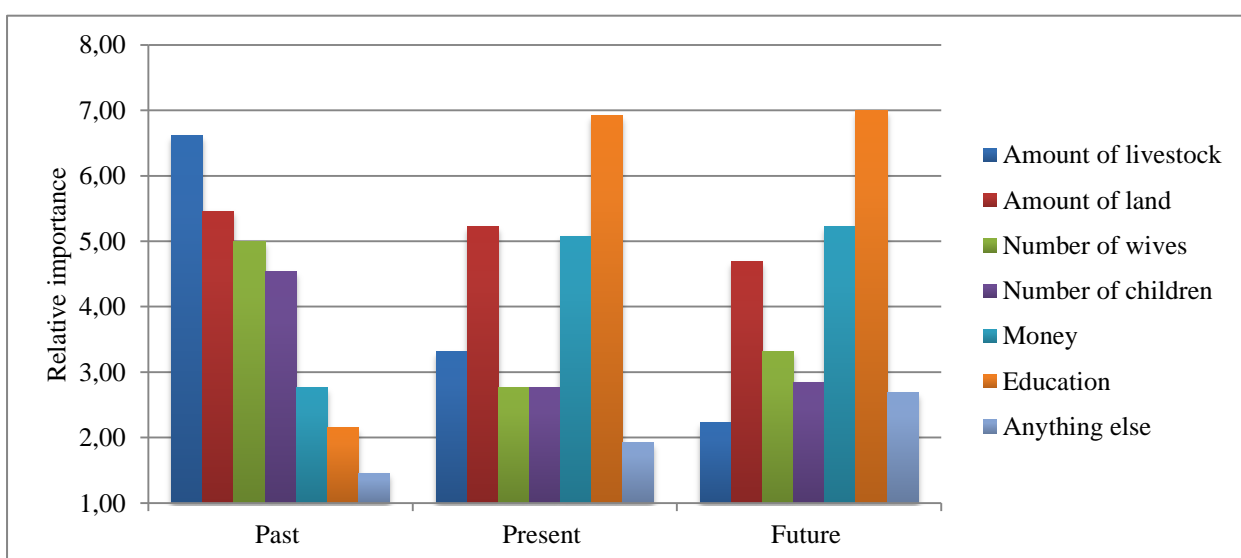


Figure 8: Ranked relative importance of livelihood assets over time (n=13)

The importance of the ‘Amount of livestock’ kept per household decreased and is assumed to further decrease in importance in the future (comp. Chapter 9.7) - economically (comp. Chapter 10) as well as culturally or socially (comp. Chapter 6.2.2). New cattle management strategies (comp. Chapter 10.1), a decreasing availability and accessibility of pastureland (comp. Chapters 9.4, 9.5, 9.6 and 10.1) and new livelihood strategies (comp. Chapter 10) are probably both cause and consequence of this perception change.

⁵⁴ As the assets were identified during the first field trip, ranking and rating were conducted during field stays 2 and 3. Depending on the length of the conducted interview and the interview process, ranking and rating were occasionally conducted during follow-up interviews. Not all interviewees were accessible for further meetings or follow-up interviews. Accordingly, the number of participants in the ranking and rating is lower than the number of interviewees.

⁵⁵ Compare Appendix p. II for raw data.

⁵⁶ Each rank was assigned a numeric, ordinal value from 1 = lowest rank, to 7 = highest rank. Accordingly, the numbers in the graph are average values.

The rather low 'Present' estimation of 'Amount of livestock' might surprise due to the dominating economic importance of cattle for current Maasai livelihoods (comp. Chapter 6.2.1), but might be explained by the fact that Maasai were not asked to rank their own current livelihoods, but rather to think *generally* of Maasai livelihoods and to rank according to what they think might currently be the most/least important asset of a Maasai household. Education is strongly increasing in importance, being currently already assumed to be the most important livelihood asset.

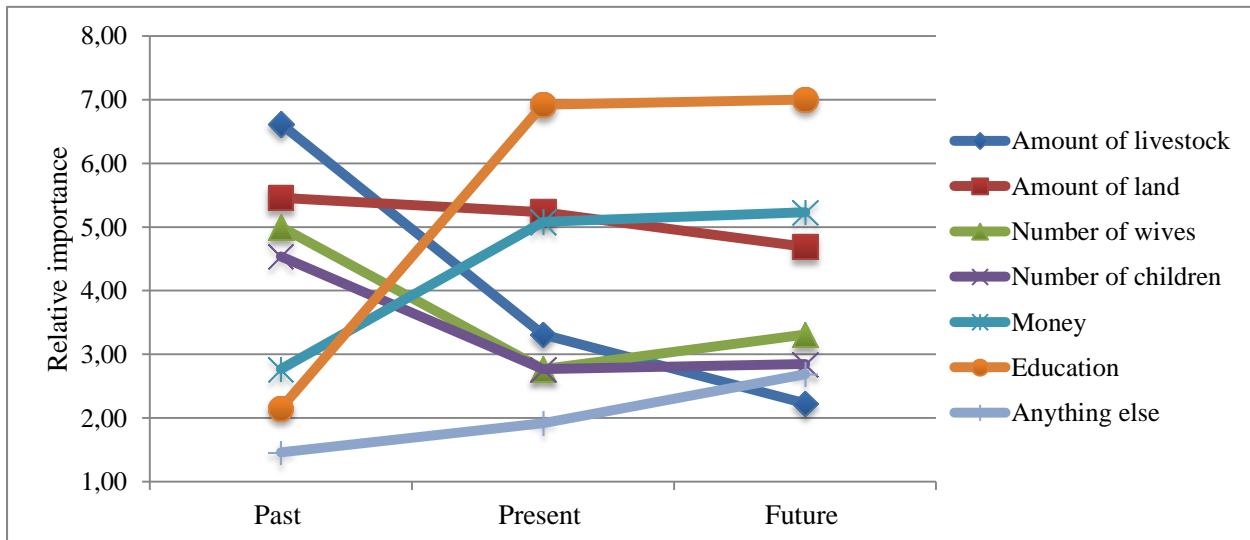


Figure 9: Changing relative importance of livelihood assets over time (n=13)

Traditionally, Maasai men were polygamists with high numbers of wives and children - both a traditional signs of 'wealth'. Both assets are decreasing in perceived importance. Money increases strongly in importance, which might be a result of new forms of income and newly emerging forms of financial investments opportunities (e.g. real estates, dams, boreholes and cultivation) which require larger amounts of money and are partly a result of the privatization of title deeds. The importance of the amount of land decreases slightly, but remains high, as land is probably still assumed to be the requirement for cattle keeping and cultivation. However, the focus of land utilization (cultivation is increasing in importance (comp. Chapter 6.5)) and current practices might further change (comp. Chapter 10) in the future. The increase of 'Anything else' can probably be explained by concrete investment plans by the households such as drilling water or constructing a dam.

As livestock and cultivation are to a large extent depending on seasonal rainfalls, the most influential (natural) determinant of Maasai livelihoods and livelihood practices is the seasonal cycle with its recurring rains, dry spells and occasional droughts. The following chapter will therefore focus on dry seasons and droughts and their specific influence on Maasai livelihoods in the research area.

7 Determinant of Maasai livelihoods - Dry season, drought and their outcomes

Drought or dry seasons were revealed as one of the most important and influential drivers of Maasai livelihoods, especially concerning the livelihood components livestock keeping and cultivation. Drought can be regarded as an actant (Latour 1996), as a non-human entity, which causes and contributes to human action or agency (Long, 2001), such as drought-caused coping strategies. Before deepening these considerations, it is necessary to briefly outline some main features and outcomes of droughts and dry seasons in the research area.

7.1 Searching for changing patterns: The unpredictability and irregularity of the seasonal cycle

The seasonal cycle with its recurring dry spells and rain seasons is one of most, maybe the most important natural determinant shaping pastoral Maasai livelihoods in the research area. Rain seasons are hereby both shaping cattle keeping (e.g. drought management, availability of grass and water, time of migration) and determining cultivation practices (e.g. time of seeding and harvesting, co-determining the quantity and quality of a harvest). Farms without irrigation practices and own access to water sources are completely depending on the seasonal rains for crop cultivation (Int. 02, HH 02; Int. 04, HH 04). Challenging for livelihoods in the research area is the locals' assumption that rains, droughts or dry spells are partly "not predictable" (Int. 16, HH 09, l. 71; Int. 20, HH 16). Accordingly, household heads were expecting the next rains after the data collection to arrive in September (Int. 16, HH 09), October (Int. 17, HH 13; Int. 23, HH 19; KMS, 2014) or November (Int. 12, HH 05; Int. 17, HH 13; Int. 18, HH 14). The fact that the actual duration, intensity, the beginning and the end of a dry season or drought can differ from year to year, makes it difficult for households to estimate the dry seasons (Int. 20, HH 16) and accordingly plan cultivation and livestock drought management (comp. Chapter 9.8.2.2). Some Maasai household heads (Int. 12, HH 05; Int. 16, HH 08; Int. 17, HH 13) try to draw on certain (assumed) 'drought patterns' in order to estimate the arrival of the rains: "When the rain normally delays, it can come early in the following season. Say September, October" (Int. 16, HH 08, 39f). Similarly, Interviewee 12 expects "long rain in March, April...if it fails raining in November" (Int. 12, HH 05, l. 327f) or Interviewee 17 expecting a severe drought "any year ending with a 4, then there is a drought" (Int. 17, HH 13, l. 289).

Not assessing the reliability, preciseness, origin or validity of these 'constructed' patterns, it is interesting to see that at least some Maasai households try to reduce their vulnerability by constructing and drawing on these 'predictive' patterns. Undoubtedly, however, is the fact that many Maasai perceive that "the seasons have changed" (Int. 22, HH 18, l. 141) with new or changing patterns over the past decades (Int. 17, HH 13, Int. 22, HH 18). A (perceived) climatic change (Int. 11, HH 14; Int. 13, HH 10; Int. 20, HH 16) exacerbates hereby the prediction of rains and droughts (Int. 23, HH 19): "Now the climate has changed, so we don't predict which month the rains come and the time we expect it, there is no rain" (Int. 11, HH 14, l. 75-77). Whether global climatic changes cause or contribute to these changes cannot be answered, but climatic change certainly gains in importance as a stress to Maasai livelihoods, since a reduction

of rain over the past decades is perceived to have occurred (Int. 17, HH 13; Int. 20, HH 16). This perceived unpredictability and the changing patterns of rain furthermore shape Maasai drought management strategies, as will be discussed in Chapter 9.8.2.2.

7.2 “The drought is a killer in this area”⁵⁷ - Drought-related challenges

7.2.1 Water scarcity

Droughts or dry seasons are defined as a temporary lack of rainfalls and an insufficient availability or accessibility of water resources. A lack of water/rains is a major factor increasing the vulnerability of Maasai livelihoods (Int. 04, HH 04, Int. 06, HH 05), as cultivation depends on seasonal rains and cattle on being watered in constructed dams in the area. Since most investigated households cultivate without irrigation, their fields depend on the seasonal rains. A shortage of rain can therefore threaten the yields, to the extent that if “there is a drought...and I have cultivated, I end up harvesting nothing” (Int. 21, HH 17, l. 84f) - this concerns the food use or food utilization as well as the food availability pillar of food security. Depending on the size and deepness of a dam, it might sooner or later dry out during a dry season. In this case, coping strategies, like approaching farer away located water points (Int. 06, HH 05; Int. 08, HH 06; Int. 04, HH 04), which might be owned by other Maasai, who restrict its access (Int. 06, HH 05), need to be applied in order to ensure the cattle’s survival. Furthermore, due to a lack of rain, the availability of pastureland reduces, since grass cannot regrow or becomes too dry to nourish cattle (Int. 03, HH 03), which will face feed shortages during the dry spell (Int. 08, HH 06; Int. 13, HH 10). These pressures increase with the perpetuation of the dry period (Int. 06, HH 05).

7.2.2 Market prices during drought

Increasing market prices for foodstuffs and decreasing market prices for cattle during droughts are two further drivers pressurizing Maasai households and livelihoods during dry seasons (Int. 06, HH 05). During a drought, revenues from selling cattle (Int. 14, HH 11) and the demand for livestock (Int. 13, HH 10) can decrease on the local market, “since the weight of the cattle has reduced...So, when you take your cattle to the market, when they are weak, prices are down” (Int. 06, HH 05, l. 237-241; Int. 12, HH 05; Int. 18, HH 14)⁵⁸. If cattle become very weak, they need to be sold for “throw away prices” (Int. 16, HH 09, l. 126; Int. 22, HH 18)⁵⁹, so that it partly becomes more economical to let cattle starve and sell their skin, instead of selling cattle to local butcheries. Decreasing prices for cattle are hereby less an outcome of the drought per se, but, as will be discussed in Chapter 9.8.2.2, more an outcome of Maasai-specific drought management practices. Next to decreasing cattle prices, prices for foodstuffs, like vegetables and maize, on local markets increase (Int. 04, HH 04; Int. 22, HH 18) (food stability), as their availability (food

⁵⁷ Int. 04, HH 04, l. 276.

⁵⁸ A reason for Maasai to try to avoid selling cattle for foodstuffs during drought times.

⁵⁹ Depending on various factors, selling a healthy and strong cow on the local markets can bring a Maasai around 20.000-50.000 KSh - around 165-413 Euro (Int. 02, HH 02; Int. 05, HH 03; Int. 14, HH 11). During past droughts the local market prices are said to have been decreased down to 1.000 KSh - around 8.30 Euro - or even 500 KSh (Int. 14, HH 11; Int. 16, HH 09) - around 5.15 Euro - for malnourished, weak cattle.

availability) and accessibility (food accessibility) might reduce for a household during a dry spell, which can then increase a household's food insecurity (comp. Chapter 8).

7.2.3 Food scarcity

Accompanied by a lack of water and increasing prices for foodstuffs, food scarcity, as a lack of food availability and/or accessibility and/or a lack of food price stability (food stability), can be a further essential outcome of a dry season or drought, as yields from cultivated fields might fail (Int. 21, HH 17) and the (nutritional) productivity of animals (amount of milk produced) reduce (Int. 01, HH 01; Int. 03, HH 03, Rutten 1998). Therefore, food (in)security, as a vital component of Maasai livelihoods, will extensively be analyzed in following chapters.

8 Determinants of food (in)security of Maasai households

As discussed, food security is a rather complex and eclectic phenomenon, but an inevitable component of Maasai livelihoods. This research analyzes perceptions of local Maasai on food security and food insecurity. Some households state to face occasionally or regularly food insecurity (acc. Int. 02, HH 02; HH 04, HH 06, HH 15, HH 16), with food shortages especially appearing during dry seasons (stresses) or droughts (shocks) (Int. 04, HH 04; Int. 10, HH 05), when vegetables and maize are not or to a lesser extent available or accessible (Int. 04, HH 04). Other households stated not to face any food shortages over the entire year (HH 5, HH 07, HH 09, HHs 10-12, HH 17, HH 18). Food insecurity in a Maasai context can therefore be regarded as a recurrent stress for some households, while it does hardly play a role for other households.

This chapter will therefore address the question how food security is maintained and which coping strategies are applied by the investigated households in times of food shortages. Again, (access to) three main 'pillars' are essentially determining a household's food (in)security: Livestock, cultivation and employment.

8.1 Livestock and household food (in)security

For many of the investigated Maasai households keeping livestock and food security are inherently linked to each other. Livestock does hereby fulfill two decisive functions in contributing or securing a household's food security:

1. As a source of foodstuffs for direct household consumption e.g. recurring animal products like milk and eggs or non-recurring animal products like meat (e.g. HHs 01-13).
2. As a source of income supplementing the household's nutrition e.g. when recurring or non-recurring animal products are sold and generated income is used to purchase foodstuffs for the household (e.g. HH 01, HH 03, HH 05).

Hereby, it is crucial that secure access to land is provided in order to nutritionally maintain the livestock. Maasai food security in this sense does to a high degree depend on access to pastoral resources, the seasonal cycle and the number of livestock kept (livestock-land-ratio). During dry seasons, the lack of rains reduces the availability of pasture land, which in turn deteriorates the nutrition of the cattle. As cattle consequently lose weight, cows will produce less milk (Int. 01, HH 01; Int. 03, HH 03; Int. 05, HH 03), which in turn decreases the availability of milk for the household's own consumption and increases market prices for milk (and meat). Increased sales of more drought resistant sheep and goats on the local market might then be required in order to (nutritionally) maintain the household. Mixed herding (comp. Huho et al, 2011) can therefore be an essential strategy to increase the food security of a Maasai household in the sense that especially sheep and goats sales can finance feed purchase (e.g. hay) for cattle and foodstuffs for the household during dry seasons and droughts. However, a reduced availability of foodstuffs obtained from cattle due to malnutrition and weight loss, a reduced accessibility to foodstuffs due to higher food prices as well decreasing prices for livestock sales, can determine a household's vulnerability and shape the application and order of coping strategies drawn on by

households in order to maintain their food security. Therefore, a lack of livestock might contribute to increase a household's food insecurity and vice versa, a sufficient amount of livestock might contribute to increase a household's food security, especially as sheep and goats can supplement the purchase of foodstuffs (Rutten 1998) and feeds in stressful times. Livestock does certainly not only refer to food security as source of nutrition and as tradable commodity to finance purchasing foodstuffs, but needs to be regarded within a cultural dimension of food security in mainly two ways, as well: First, that Maasai are able to maintain and secure cultural preferences of specific food consumption, such as milk and meat. Second, that Maasai food security strategies might not only be determined by their assumed contribution to increase or stabilize food security, but also by cultural preferences of livelihood strategies, which determine food security. For instance the continuation and maintenance of practices and strategies due to their cultural and social importance, although alternative strategies might increase food security more, than these continued practices. These reflections refer to a cultural dimension of food security and the unique food security considerations and perceptions of 'Aboriginal people' (Power, 2008).

8.2 Cultivation and household food (in)security

All investigated households practice - to some extent - seasonal farming and crop cultivation. Cultivation is hereby inherently linked to food security for many of these households. Since the privatization of land tenure, the individualization of title deeds and the accompanying increased or de facto sedentariness of the Maasai⁶⁰, cultivation has increased in the area, as farming is considered as a long-term investment in land and food security. This specific form of long-term investment did not exist (to this extent) before the subdivision of the group ranches on communally owned land, but became feasible and increased in importance with the privatization of title deeds and an increased land tenure security. Cultivation can hereby increase a household's food security in several direct and indirect ways:

1. Own consumption of yields and planted crops (HHs 01-05, HH 07, HH 12, HH 19).
2. Storing parts of the yields for later consumption during stressful times (HHs 3-6, HH 11, HH 12, HH 15, HH 18) (comp. Chapter 8.5.1).
3. Generating an additional source of income and revenues from selling cultivated products (HH 03, HH 05, HHs 07-09, HH 11, HH 13), which might serve as financial means to purchase (other) foodstuffs or as financial reserves to purchase foodstuffs in stressful times.
4. Reducing expenses on buying foodstuffs in good (and bad) times (HH 18, HH 17) (and possibly building financial reserves for stressful times).
5. Avoiding or postponing selling livestock to purchase foodstuffs during normal or stressful times (HH 03, HH 05).

⁶⁰ 15 out of 18 Maasai interviewees stated to live in semi-permanent homesteads. 3 indicated to live in permanent houses.

6. Livestock can furthermore access fields after harvesting and be nourished there for some time (HH 6, HH 09, HH 13, HH 18, HH 19) (comp. Chapter 9.1.7) - even if fields depend on seasonal rain. Livestock can therefore be longer sustained before being migrated, destocked or nourished by purchased feeds. Thus, it can indirectly contribute to increase a household's food security as cattle can remain longer on the ranchland and be nourished by its products.

Accordingly, the motivations for households or interviewees to start cultivating were mainly to increase the food security of the household (Int. 01, HH 01; Int. 02, HH 02; Int. 04, HH 04; Int. 05, HH 03; Int. 06, HH 05; Int. 07, HH 01; Int. 08, HH 06; Int. 12, HH 05; Int. 22, HH 12), to decrease expenses on foodstuffs (Int. 09, HH 07; Int. 13, HH 10, Int. 21, HH 17), to increase or ensure a nutritionally (more) balanced diet (Int. 09, HH 07), to 'relieve' livestock (Int. 06, HH 05; Int. 12, HH 05) or to "support cattle" (Int. 05, HH 03, l. 25) and to generate an additional source of income (Int. 03, HH 03; Int. 21, HH 17, Int. 22, HH 18). Assuming a good harvest, cultivation does in fact increase a household's food security (HH 02, HH 03; Int. 12, HH 05, Int. 17, HH 13) and no or little cultivation or harvest failures can contribute or increase a household's food insecurity (Int. 02, HH 02; Int. 20, HH 16), since cultivation can increase the food accessibility, food availability and, through storing practices (comp. Chapter 8.5.1), the food stability for a household. Food security of a Maasai household depends accordingly to a high extent also on access to agricultural resources. However, farming is primarily *supporting* the households' nutritional intake, but the investigated households do not nutritionally depend on cultivation. As cultivation is depending on seasonal rains and due to the ubiquitous possibility of droughts and harvest failures, Maasai households cannot 'risk' to nutritionally rely and depend entirely on cultivation. Due to seasonal dry seasons and water shortages, food stability remains therefore one of the main challenges of current cultivation practices and food security. However, cultivation certainly reduces the 'pressure' on livestock as a source of direct or indirect household nutrition and reduces a household's vulnerability to suffer from hunger, as cultivation can ensure the basic nutritional intake for many households for some time. Livestock, as an indirect source of nutrition, gains especially in importance during stressful times, when the supply with harvested (and stored) foodstuffs decreases or is exhausted and livestock needs to be sold. In the end, it is the current combinations of livestock (products) and cultivation that increases a household's nutritional resilience.

Referring to the perceived importance of cultivation (comp. Chapter 6.5), its importance for a household's food security as outlined in this chapter, as well as its distribution in the research area (comp. Chapter 6.3), Oxfam's economic definition of agro-pastoralism⁶¹, seems too limited, as it neglects for instance the importance of a household's own consumption of cultivated food stuffs. Not considering the economic importance of cultivation, but cultivation as a livelihood component (e.g. as a contributor to a household's food security and its estimated relative importance) the investigated Maasai households need to be regarded as agro-pastoral households rather than pure pastoralists.

The importance of cultivation for a household's nutrition will probably further increase in the future, as many households intent to increase the cultivated areas and to provide perennial, stable

⁶¹ Agro-pastoralists and agro-pastoral households are those people or households who derive more than 50 % of their gross revenues from livestock and livestock-related sources and 10-50 % from farming activities (Oxfam 2008).

supply of water for irrigation purposes. Accordingly, changes of traditional land use practices and a further conversion of traditional grazing areas to crop and cultivated lands in order to alleviate food insecurity (Munyasi et al, 2012) seem likely in the future. A durable and stable access to land and a stable land tenure system are and were essential requirements for this conversion, as cultivation is a long-term engagement and investment in land. So far, the secure land tenure system and a secure land entitlement might therefore have increased the general food security of households entitled to land (ECA, 2004; Maxwell and Wiebe, 1999, 1998) in the research area. Cultivation facilitated by a secure tenure system, with legal boundaries and enforcement mechanisms refers certainly to a political dimension of food security.

8.3 Employment and household food (in)security

Employment of one or several household members can increase a household's food security (Int. 02, HH 02; Int. 06, HH 05; Int. 15, HH 12; Int. 21, HH 17; Int. 23, HH 19), as the (season-independent) income contributes to or facilitates a perennial financial access to foodstuffs (food accessibility), even if prices for foodstuffs on local markets increase during dry spells (HH 05) (food stability). Not only formal employment, but (regular) income in general, generated from (season-independent) business activities (Int. 11, HH 09), such as selling bead work (Int. 07, HH 01) or revenues from rented real estates (Int. 03, HH 03; Int. 16, HH 09), can contribute to and increase a household's food security.

8.4 Conclusion - Determinants of food (in)security of Maasai households

Livestock and cultivation (supplemented with employment) are essential pillars for the investigated households to maintain their nutrition, whereby the importance of each of these pillars differs among the households. Especially a diversification of potential food supply strategies increases a household's resilience to stress-caused or -triggered food shortages. Cultivation and livestock keeping are certainly dominating as strategies to nourish a household and to define its food (in)security. However, both strategies are determined by the seasonal cycle and depend on access to water and rains. Due to the seasonality of cultivation and the seasons' impact on livestock keeping, several Maasai households are characterized by cyclical or seasonal food insecurity⁶², as recurring patterns of inadequate access to (Hart, 2009) or availability of food. Furthermore, droughts might cause transitory food insecurity (WB, 1986) for some Maasai households as well. Droughts and dry seasons are hereby the main triggers (Swift and Hamilton, 2001), though not necessarily causes for food scarcity. Within this (agro-)pastoral context, land tenure security and ownership rights safety, which can both be regarded as rather high in the investigated setting (comp. Chapter 11), are essential requirements for agricultural production (Rutten, 1998), a potential future increase, intensification and extensification, as well as keeping livestock as a production system. Food security in the context of land tenure security embraces once again also a political dimension of food security. The increased combination of cultivation and livestock keeping has increased the resilience of many investigated Maasai households and

⁶² Chronic food insecurity does probably not exist among the investigated Maasai households.

improved their food security. However, as both practices are predominantly still depending on seasonal rains, some Maasai households remain generally vulnerable to droughts and dry seasons. Due to its season-independent income, employment can partly de-seasonalize food security, reduce the dependency on land and therefore be a main contributor, especially during dry seasons, to secure a household's nutrition. In order to increase and ensure a household's (nutritional) resilience and stability, a variety of coping strategies are applied by the investigated households, which will briefly be described in the following section.

8.5 Household food insecurity - applied coping strategies

Households, which stated to face food shortages in the course of a year and those households which apply or change household practices in the course of a year in order to cope with potential or actual food shortages and/or in order to maintain food security also during stressful times, were investigated more detailed to identify different main coping strategies. Although framework conditions (e.g. drought, water scarcity, land etc.) exist, Maasai, as social actors, possess 'knowledgeability' and 'capability' (Long, 1999, 1997) based on which specific sets of coping strategies are accessed and applied in order to deal with cyclical or transitory food shortages (human agency). Hence, this chapter identifies and discusses a range of applied coping strategies placing them within a 'capital' and 'food security pillars' context (comp. Chapter 3.6.1).

8.5.1 Storing (cultivated) food

Storing harvested food from the cultivated fields for bad times, is an essential strategy for many Maasai households to increase food security during stressful drought times (HHs 3-6, HH 11, HH 12, HH 15, HH 18). Commonly, maize and beans are stored for up to two to six months in huts on the ranch land. Whether food is stored, depends primarily on two factors:

- 1) Whether a (rain-dependent) harvest is profit-yielding enough.

This dimension refers mainly to an ecological or natural context with the amount of rainfall, cultivation practices and knowledge etc. co-determining the quality and quantity of yields.

- 2) Whether a household can afford storing harvested yields and postpone consumption.

This dimension refers to the household level. If food can be stored depends on factors such as the household size (in proportion to the harvested yields), the extent to which a household is nutritionally and financially depending on the consumption or sale of the harvested yields, or the availability and accessibility of alternative food contributors.

Storing food is therefore a coping strategy applied in order to increase especially the availability⁶³ of a household's foodstuffs by first and foremost increasing the physical access to (stored) foodstuffs in stressful times. Food utilization, as the knowledge on how to store food, is furthermore essential.

8.5.2 Buying food and water

Buying foodstuffs and water during stressful times, when their availability and accessibility decreases, is another important coping strategy of Maasai households. While buying food and water might be regarded as a day-to-day activity for some analyzed households (HH 01; HH 03; HH 05; HH 09), it is a necessary strategy for other households to cope with food shortages (e.g. HH 01; HH 06). Cultivating households consume mostly their own harvested and stored food, before purchasing food at the local market. Not only the increasing prices (food price stability, (economic) food accessibility), but also the limited availability of food does challenge some Maasai households: "When we lack food completely, we go as far as Isinya⁶⁴ town to get food" (Int. 07, HH 01, l. 126). Buying food as a coping strategy requires access to economic capital in order to increase a household's accessibility to food. The most common way among the investigated Maasai households to increase access to economic capital in order to purchase foodstuffs, is through sales strategies of a household's most important tangible assets: livestock.

8.5.3 Selling livestock

Selling tangible assets, especially livestock, in times of or in order to avoid food shortages is applied by several of the investigated Maasai households (e.g. HH 01, HH 03, HH 06, HH 13). Having not enough or insufficient livestock can accordingly increase a household's food insecurity - especially during stressful times - since an important, probably still the most important trade commodity and source of income is not sufficiently available for the household. Selling livestock is accordingly a measure to increase the economic or financial capital (resources) of a household in order to increase access to foodstuffs (food accessibility).

8.5.4 Inter-household food transfers and contributions

How far and to what extent inter-household or intra-family food or money transfers, distribution practices or contributions during stressful times emerge, change or do play a role, has not been investigated in detail for each household and is accordingly difficult to estimate. For some Maasai households financial contributions from employed family members for purchasing food (HH 05) and direct food transfers from the (wider) family (HH 18) secure the household's food security during stressful times. How spread these practices are is not to estimate. Crucial is that these practices are depending on and require accessing a household's social capital in order to increase food security by increasing a household's accessibility to and availability of foodstuffs.

⁶³ A household's accessibility to and availability of foodstuffs is often intertwined, however, it seems that for some of these coping strategies one component is dominating. Hence, referring to an increased availability of foodstuffs through storing practices, does not mean that it does not contribute to an increased accessibility, too, but that first and foremost storing is element to increase a household's food availability.

⁶⁴ Around 10 Kilometers.

8.5.5 Changes in nutrition

Due to a decreased availability (food availability), increased prices (food accessibility) and storing practices (food utilization) of foodstuffs, the nutritional intake of some households changes during stressful times and might periodically become less balanced (HH 01, HH 04, HH 05). Times of drought can then be the time, in which some households mainly consume maize and beans, but less meat, milk and vegetables (HH 01, HH 04, HH 05, HH 19). This might rather be a result or an outcome of storing practices, decreased availability, accessibility and affordability of certain foodstuffs. Only few households (HH 08, HH 15) change the nutritional behavior as a purposely applied strategy prior to the appearance of the dry season, in the sense of that some households “use food sparingly” (Int. 10, HH 08, l. 97) in order to “have some [foodstuffs] left when the draught approaches” (Int. 10, HH 08, l. 97f). However, this coping strategy is rather exceptional among the investigated households. Nonetheless, nutritional changes during dry seasons and droughts do play an important role for some ‘food insecure’-prone households during stressful times.

Changes in nutrition can be a sign of a food insecure household and an unsustainable livelihood, especially if the nutrition during stressful times becomes less balanced, as a person’s or household’s capabilities and the set of capitals are partly not sufficient in order to ensure “sufficient, safe and nutritious food that meets their [the household members’] dietary needs and food preferences for an active and healthy life” (FAO, 2002). Nonetheless, households are in this stage still able to facilitate access to such an extent that a household’s nutritional survival based on the household’s own capabilities is facilitated. While the first three described coping strategies might suggest sustainable households or livelihoods, in the sense that households or livelihoods are able to cope with stresses, the coping strategy of changing nutritional behavior might indicate a decreased sustainability. Although households and livelihoods are still able to adapt to changes, they partly need to adapt at costs of balanced diet or food preferences.

8.5.6 Food relief

Drawing on food relief in times of drought plays a subordinate role in the set of coping strategies among the investigated households. Still, in times of severe drought (shock), some households are forced to seek food aid (acc. HH 01, acc. HH 02, acc. HH 12). Generally, the investigated households do not seem to depend on external food relief. This strategy is possibly ‘applied’, when and if other forms of accessing a household’s capital are exhausted or assumed to be less promising than seeking food aid. Drawing on food relief is a sign of a household’s incapability to secure access to and availability of adequate food, either from its own production, through purchase or the application of a household’s coping strategies. The dependence on external support to maintain food security makes the household or livelihood unsustainable.

8.5.7 Decreasing meal frequency and suffering from hunger

Although nutritional changes during the drought commonly take place among many Maasai households and several households state to face food shortages when the drought impacts (Int. 08, HH 06; Int. 10, HH 08; Int. 20, HH 16), a decrease in the meal frequency, as a coping strategy, was hardly mentioned by any of the interviewees. In fact, only HH 06 and HH 16 have

to decrease as a last option, when all other strategies are exhausted, the number of meals to such an extent that the family even faces hunger in times of drought. Decreasing meal frequency and suffering from hunger is certainly a sign for a household's incapability to nourish the household as access practices are exhausted and coping strategies failed or are exhausted. Accordingly, the household and livelihood are not sustainable.

8.5.8 Conclusion - Food security strategies

In order to maintain or increase food security (during stressful times), Maasai households apply - based on and constrained by their knowledgeability and capability - a wide range of coping strategies. These coping strategies are a sign of human agency. Except of storing (cultivated) food, most of the applied coping strategies are rather reactive to emerged food shortages than preventive. Seasonal stresses like recurring dry seasons (or droughts) and cyclical food insecurity pressurize occasionally some of the investigated Maasai households and livelihoods. Food instability is accordingly the main challenge for the food insecure households. Coping strategies are applied in order increase the reduced availability and accessibility of foodstuffs. Whether a household is food sustainable depends hereby on the livelihood resources and the set of coping strategies of each household. Depending on the applied coping strategy, the fact that households apply some of these strategies can be a sign of both, a household's sustainability or a household's unsustainability. The first three coping strategies (storing food, buying food and water, and selling livestock) suggest an increased or high resilience and a circular or seasonal adaptivity to recurring stresses without necessarily deteriorating the household's food security or nutritional intake. Food relief and a decreasing meal frequency are rather signs for a household's unsustainability, low resilience and high vulnerability in times of stresses, as households depend on external support and have to reduce nutritional intake to the extent that some households might suffer from hunger. Changes in nutrition and inter-household food transfers can be a sign of sustainability, in the sense that diet is seasonally adopted to changes and social capital is accessed in order to increase food availability and accessibility, or, it can be a sign of unsustainability, as the household's nutritional diet decreases or depends on household-external (but possibly intra-family) support. Referring to food security, the sustainability for most investigated Maasai households is inevitably linked to access to agricultural resources.

But Maasai livelihoods are not only shaped to a large extent by their own food security and food insecurity, but by livestock's feed security and feed insecurity as well. How current drought management in a Maasai context emerges, how it is changing and what drivers are changing it with which implications for Maasai livelihoods will therefore be addressed in the following chapter.

9 Drought management - Livestock feed (in)security

Maasai households rely to a large extent on livestock for their economic and cultural wellbeing. For the analyzed households, livestock does play a crucial role in maintaining and securing a livelihood as well as food security. However, recurring dry spells, droughts and lacks of rain pose periodical threats especially to Maasai cattle, since water and grass become scarce (transitory/seasonal feed insecurity). How Maasai households are dealing with these stresses of feed shortages, which strategies they currently apply in order to cope with them and what components are shaping these strategies will be described and discussed in this chapter. The next chapter identifies the most common applied coping strategies of Maasai households in times of feed shortages in order to maintain feed security.

9.1 Cattle feed insecurity - applied coping strategies

9.1.1 De- and restocking cattle

Several households destock cattle in times of or just before a drought or dry season when pastures reduce (HHs 04-06, HHs 10-12) by selling parts of the stock on the local market. Which cattle are sold depends probably on conditions like the individual household system, the household's set of drought management strategies, the time of destocking and the amount of cattle being sold⁶⁵. Some households rather sell 'weak cattle', so cattle which supposedly would not survive the dry spell (HH 04, HH 05, HH 18), while other households preferably sell 'healthy' or 'strong cattle'⁶⁶, so not lactating cattle (HH 06, HH 10, HH 11). Again other households sell invariably (physically) strong cattle in order to obtain better prices at the local markets, before cattle become malnourished during the drought and their monetary value decreases (HH 11, HH 14). Generally, cattle are sold in order to reduce the numbers of animals to be fed on the ranch land (HH 03)⁶⁷, to (partly) finance migration (HH 02, HH 05), to purchase food and feeds (HH 04, HH 09) and to deposit revenues in the bank in order to reinvest in restocking cattle after the drought (HH 03, HH 04, HH 09, HH 11, HH 13).

De- and restocking need to be regarded as a cyclical herd management strategy: After the drought some households invest the savings from the cattle sales in new cattle, brought from other regions to the local markets (HH 03, HH 05, HH 18).⁶⁸ Cattle are then fed and eventually sold for higher prices after having gained in weight (Int. 12, HH 05). Destocking cattle is a strategy applied to increase the accessibility of feeds by increasing a household's economic capital and financial access to feeds, and in order to increase (indirectly) the household's availability of feeds by reducing the amount of cattle to be fed.

⁶⁵ Estimated percentage of cattle destocked in times of drought by household: 66 % (HH 11), 50 % (HH 12), 5 % (HH 09).

⁶⁶ 'Strong' and 'weak' can either refer to whether a cow is lactating or not (also named 'healthy' or 'not healthy'), or whether cattle are physically strong or weak.

⁶⁷ The amount of cattle on the farm during a dry spell is normally determined by the capacities and possibilities of the household to sustain a certain amount of cattle.

⁶⁸ Depending on the amount of cattle being sold, some households let cattle reproduce themselves without purchasing additional cattle after the drought (HH 09, HH 14).

9.1.2 Migration

Strategic migration is widely applied by and an essential coping strategy for many Maasai households (HHs 02-08, HHs 10-15) in the research area to maintain feed security for their cattle. Cattle are generally migrated from places, where grass is exhausted to places, where pastures are still available and accessible. While some households sell part of their cattle herd before migrating and leave some cattle behind on the farm (HH 03, HH 06, HH 12, HH 14), other households migrate the entire stock (HH 08). Physically stronger cattle are able to move longer distances than weaker cattle, such as lactating cows, calves and elder animals, which are particularly vulnerable and usually remain on the farm land or are sold. Drought and a lack of feeds are the main drivers for migration. The decision whether to migrate cattle or not depends for some households on the (assumed) intensity of the dry spell or drought (HH 04, HH 13), while other households migrate their cattle regularly (HH 08). In order to finance migration, some cattle are sold (HH 06, HH 14). Other households have stopped strategic migration completely and maintain cattle on the own farmland over the entire year (HH 01, HH 09, HH 18). Migration, as a form of herd management to increase a household's accessibility to pastureland, depends on the access to a wide range of different forms of capital (physical, social, economic, cultural, natural and information), as will be outlined in Chapter 9.3.1.

9.1.3 Accessing neighbor's land

Several Maasai households have arrangements with neighboring households to mutually access and graze cattle on each other's land during stressful times (HH 07; HH 14; acc. Int. 06, HH 05; acc. Int. 12, HH 05). Accessing the neighbor's land (herd management) can either be a specifically applied coping strategy in order to compensate a household's shortage of grass or water by extending a household's pasture land, or it can be a perennial practice (comp. Chapter 9.4) (feed accessibility). Also for accessing neighbor's land access to a wide range of different forms of capital plays a decisive role. Migration and accessing the neighbor's land are primarily intangible assets (access and claims) (Chambers, 1995) a household needs to draw on, while the rest of these enumerated coping strategies rather refer to tangible assets.

9.1.4 Buying hay, water and other feeds

Purchasing hay (HH 1, HHs 03-05, HH 07, HH 9, HH 10, HH 12, HHs 14-16, HH 18)⁶⁹, water (HH 01, HH 03, HH 04, HH 09) and other feeds (HH 16) are resource management strategies to secure the nourishment of cattle. Access to economic capital is the requirement for purchasing additional feeds in order to increase their availability. It is mainly financed by livestock sales, savings or the normal household income.

9.1.5 Keeping land aside

Keeping fenced land aside (resource management) (HHs 05-07, HH 09, HH 14, HH 16, HH 18) is a practice to reserve some area of grassland from being accessed by cattle until the drought progresses. Once the grass on the unfenced ranchland is exhausted, cattle will access the fenced

⁶⁹ A bale of hay costs between 200 (Int. 17, HH 13), 250 (Int. 11, HH 09; Int. 17, HH 13) and 300 KSh (Int. 14, HH 11) - 1.65, 2.07, 2.48 Euro -, excluding transportation costs.

part⁷⁰. This practice can make buying hay unnecessary (HH 07) and avoid or prolong the beginning of migration (HH 09). Whether some land is set aside for bad times, depends on two main factors. First, whether the household is able to financially afford the costly construction of a fence (investment costs/economic capital). Second, whether the available and accessible unfenced land is big enough to feed a household's cattle during normal times and a household can 'afford' setting some land aside (land-cattle-ratio/natural capital). Keeping land aside is supposed to increase feed availability.

9.1.6 Producing hay

Some households fence parts of their land, where grass is grown, hay produced from it and stored in order to sustain cattle during dry seasons (HH 11, HH 14). Reasons for having started producing own hay (resource management) were probably the high prices for hay on the local markets and the new knowledge obtained on this practice (Int. 11, HH 09; Int. 14, HH 11). Main impediments to produce own hay are an 'insufficient' size of available land (livestock-land ratio/natural capital), investment costs (building fence/financial capital) or a lack of knowledge on how to produce hay (human capital). Feed utilization and feed availability are the dominating dimensions of this strategy.

9.1.7 Field access after harvest

Households which cultivate some plots of land let cattle access the fields after harvest (HH 06, HH 09, HH 13, HH 18, HH 19) (feed availability). The remaining maize stalks can nourish cattle for some time and relief or postpone other coping strategies. Although the specific (nutritional) effects of accessing harvested fields have not been investigated for this research, this strategy needs to be regarded as a supplement or secondary coping strategy.

9.1.8 Conclusion - Feed security strategies

Drought management or coping strategies in order to increase or maintain feed security for cattle is a rather applicable example where both Long's actor-oriented approach and Latour's actor-network theory become meaningful in practice. Cattle and drought, as non-human, non-individual actants (Latour 1996) become "a source of action" (Latour, 1996, p. 8) for Maasai, the actors, applying and drawing on a set of coping strategies, which are developed, based on and constrained by the actors' existing knowledge, resources, capabilities and assets (Long and van der Ploeg, 1989). That fact that Maasai are able to apply and develop these coping strategies is a sign of (human) agency and social or human action (Long, 2001, p. 13). In order to cope with feed insecurity, Maasai draw on a wide range of different coping strategies. Except of 'Producing hay' and 'Keeping land aside', which can be considered as rather preventive coping strategies, most coping strategies are reactive to the drought - probably also caused by the (perceived) unpredictability and irregularity of the seasonal cycle (comp. Chapter 7.1). If some of these drought management strategies are sustainable or not, will be discussed in the following chapters. But so far it can be stated that feeding cattle in general as well as the applied coping strategies to feed cattle require a secure access to pastoral resources. Taking into account a

⁷⁰ How long cattle can be fed by there, depends among other factors on the size of the land, the amount of grass and the amount of cattle.

household's food security as well (comp. Chapter 8.5.8), sustainability for a Maasai household and livelihood means and requires to a large extent to have access to both agricultural and pastoral resources.

For the application of some of these coping strategies, fencing of land is partly both a prerequisite and a constraint and therefore an important component of Maasai livelihoods and a household's current drought management.

9.2 Fencing and selling of land as outcome of land privatization and land commodification

The individualization and privatization of land title deeds included a transition of property regimes from communal to individual land ownership. Accompanied by a privatization of title deeds was a commodification of land, as a new, tradable commodity within an emerging and establishing land market. This transition included a negotiation and establishment of new actors and roles (e.g. land sellers, buyers and brokers), new practices (e.g. land buying, selling and fencing) and new regulating authorities or new responsibilities of established institutions (e.g. courts, local and regional administration) within a new system or arena (land market). The new property regimes and the new meaning of land need to be discussed within the context of land access, as one of the key requirements for agro-pastoral livelihoods. To comprehend changing Maasai livelihoods within a changed or changing land tenure system, it is unenviable to have a brief look at two major phenomena, which increasingly emerged since the privatization of title deeds: Fencing of land and land sales. This chapter provides a brief overview of both phenomena and first focus on motivations of Maasai to fence (parts of) their land. In a later stage of the thesis, fencing will be analyzed in context of Maasai livelihoods and changing pastoral practices.

9.2.1 Protecting private property - The phenomenon of fencing after the subdivision

The majority of the investigated households has fenced parts of their land (HH 03, HH 05, HHs 07-09, HH 11, HH 15, HH 18), one household has entirely fenced its land, some have not yet fenced any parts of the land (HH 02, HH 04, HH 12, HH 13) and all investigated Kikuyu households have fenced their entire land (HH 16, HH 17, HH 19). Among the households, the main underlying motivations and reasons for fencing were:

1. Preventing other cattle from accessing own pastures

Land is fenced to prevent neighbors' cattle from accessing (parts of the) own pastures (without permission) (Int. 03, HH 03; Int. 06, HH 05; Int. 08, HH 06; Int. 17, HH 13)⁷¹.

⁷¹ "When land is open, even if you warn a neighbor against herding in your land because you have not enough for your animals, they don't listen and will always come when you are not around. So to avoid conflict, we fence so that when they need to feed their animals, they will have to ask for permission from us" (Int. 07, HH 01, l. 101-104; Int. 17, HH 13).

2. Improving drought management

Households fence land in order to set parts of it aside and to preserve pastures for cattle in bad times (HHs 05-07, HH 09, HH 14, HH 16, HH 18), in order to produce hay (HH 11, HH 14) and thereby to postpone or avoid (expensive) migration (HH 01, HH 09).

3. Preventing wild animals from entering the ranch land

Keeping wild animals like zebras and wildebeest away from the own grassland and livestock refers to two dimensions: First, wild animals - especially herds of zebras - can enter the ranchland in large numbers and eat the farm's grass that was supposed to nourish the household's cattle (Int. 01, HH 01; Int. 08, HH 06; Int. 17, HH 13). Second, some wild animals, like wildebeest (Int. 01, HH 01; Int. 06, HH 05), can transmit mortal diseases to cattle. Preventing these wild animals from accessing the ranchland through fences can therefore also be an attempt to control diseases (Int. 01, HH 01).

4. Protecting cultivated fields

Both Maasai and the spatially smaller and more agriculturally or horticulturally shaped Kikuyu households build fences to prevent roaming, grass seeking cattle from entering cultivated fields or gardens (Int. 04, HH 04; Int. 06, HH 05; Int. 21, HH 17; Int. 21, HH 17; Int. 23, HH 19).

Crucial is that fencing is an outcome of the new private property regime and emerged after the subdivision of the group ranches. The implications and impacts of (increased) fencing on Maasai grazing and migration practices will be outlined and discussed in Chapter 9.5. The next section will briefly focus on a second major trend that emerged with the privatization of title deeds and the commodification of land after the subdivision of the group ranches: land sales.

9.2.2 “We are selling land to buy poverty”⁷² - The phenomenon of land sales after the subdivision

Probably the most significant outcome of the subdivision of the group ranches is the privatization and individualization of title deeds. Since the subdivision, particular pieces of land (plots) are legally owned by individual Maasai⁷³. This ownership is guaranteed and protected by law. “Even the president cannot stop me from selling my land. I am selling my property” (Int. 01, HH 01, l. 290f). The privatization of title deeds needs to be regarded against the background that before the subdivision, land itself was a financially valueless construct for Maasai. Therefore, the sudden valorization of land led to a commodification and commercialization of the same, which posed several challenges to Maasai “because people who buy land value it very much. But because we were just given land we didn't know the meaning of that land” (Int. 17, HH 13, l. 549f; Int. 11, HH 09). Land sales to non-Maasai, which emerged since the subdivision

⁷² Int. 01, HH 01, l. 225f

⁷³ Title deeds are usually under the household head's name (HH 01, HH 8, HH 09, HH 19). However, women are legally allowed to hold a title deed (Int. 10, HH 8) or to purchase own land (Int. 11, HH 09) if they have the financial means to purchase it. Few households currently hold joint title deeds (e.g. HH 07).

(acc. Int. 01, HH 01; acc. Int. 12, HH 05), are therefore regarded as the most negative outcome of the individualization of title deeds (Int. 01, HH 01; Int. 04, HH 04; Int. 05, HH 03; Int. 11, HH 09; Int. 14, HH 11; Int. 15, HH 12; Int. 17, HH 13; nt. 19, HH 15; Int. 22, HH 18). Land was commodified and became a tradable asset to gain revenues in an emerging and increasing land market. For some households selling land became an additional (Mwangi, 2005) or main source of income, partly leading to an increasing dependency on selling land (Int. 17, HH 13), as a finite, unrecoverable resource - especially if revenues from land sales were not reinvested (Int. 24, NGO, l. 12-13; Int. 17, HH 13), but spent on “luxury...[with]in two or three years” (Int. 11, HH 09, l. 197f). Some Maasai have disposed their land to the extent that some families became “homeless” (Int. 07, HH 01, l. 50) or “squatters” (Int. 17, HH 13, l. 567; Int. 25, P 1). While in the short-run, households might financially benefit from revenues from land sales, they might in the long-run rather be driven into poverty (Int. 11, HH 09), especially if no investments are made: “[Now] people have money, but no land. So we are selling to buy poverty” (Int. 01, HH 01, l. 225f; Int. 17, HH 13). Other households sold land in order to make long-term investments such as purchasing real estates, invest in secure water access or to increase cultivation.

In the research area, two groups of land buyers prevail: Foreign investors maintaining large-scale farms for the production and export of flowers, poultry and vegetables, and private investors, especially other communities, like Kikuyu (Int. 01, HH 01, Int. 04, HH 04). While some consider land sales to non-Maasai “a very big problem” (Int. 22, HH 18, l. 290; Int. 01, HH 01; Int. 07, HH 01; Int. 10, HH 80; Int. 12, HH 05), others regard it as less an issue, as long as a willing buyer has the financial means to pay a willing seller (Int. 09, HH 07; Int. 11, HH 09; Int. 15, HH 12). While large-scale land transfers between Maasai and the foreign investors might be considered as potential examples of land grabbing, small-scale land transfers between Maasai and Kikuyu seem not to fit under this category. However, the role of large-scale land deals between Maasai and foreign investors, as well as an analysis of the (economic, environmental, social and cultural) impacts of the commercial farms on the area and the local markets were beyond the scope of this thesis and need further research.

The next section will analyze current migration practices in a context of fencing and land sales.

9.3 Migration practices

9.3.1 A matter of access to ‘capital’ - Migration practices and access determinants

Migration has been mentioned as one of most important coping strategies of Maasai households to maintain feed security for cattle. Once a Maasai household decides to migrate, the household head investigates potential areas, whether there is enough pasture available to migrate cattle there (Int. 03, HH 03; Int. 08, HH 06), and seeks the permission of the private land owner (Int. 03, HH 03; Int. 04, HH 04; Int. 12, HH 05) to graze his cattle there (Int. 03, HH 03; Int. 10, HH 08, Int. 14, HH 11). Non-Maasai are usually not approached by migrating Maasai. Therefore, the following analysis focusses on Maasai-to-Maasai migrations. The decision where to migrate to and whether the receiving Maasai is granting access permission to the migrating Maasai, depends on six main factors or forms of capital both actors need to draw on:

1. The availability of grass (natural capital)⁷⁴
2. Financial resources to finance migration and stay (economic/financial capital)⁷⁵
3. The information where grass and rain are available and where not (information capital)⁷⁶
4. Availability of unfenced land (physical capital)⁷⁷
5. The individual social network (social capital)
6. Cultural-social practices, habits and norms (cultural and social capital).

While the first four forms of capital are - in this case - rather self-explaining and therefore neglected in this chapter, the focus will lie on the importance of drawing on forms of social and cultural capital to organize migration. Most of the migrating interviewees state to know the people whose land they approach for migration (Int. 03, HH 03; Int. 06, HH 05; Int. 08, 06; Int. 09, HH 07; Int. 10, HH 08), like family members (Int. 06, HH 05; Int. 13, HH 10; Int. 14, HH 11) or friends and acquaintances (Int. 04, HH 04). Family members and friends are hereby more likely to be granted access to a household's pastureland than complete strangers (social capital). Others (occasionally) approach land owned by people, they are not familiar with, but which are either 'age mates'⁷⁸ or 'clan members'⁷⁹ (Int. 15, HH 12; Int. 17, HH 13). Migrating age mates and clan members might generally more easily be given permission to access a household's land than strangers, or members of other clans or age-groups (Int. 17, HH 13; Int. 19, HH 15)⁸⁰ (social-cultural capital). Depending on whether and to what extent a migrating Maasai can access the aforementioned forms of capital or not, some households also access alien Maasai (Int. 06, HH 05; Int. 09, HH 07; Int. 14, HH 11; Int. 17, HH 13) - Maasai who are neither related or acquainted, nor age mates or clan members - or exceptionally non-Maasai (Int. 09, HH 07)⁸¹.

⁷⁴ This form of capital refers to the assumption that a receiving household might only grant permission his land to be accessed, if the household has sufficient pastureland and grass for both herds available.

⁷⁵ Costs incurred for the migration and the stay include, but are not limited to: hiring herdsmen, purchasing medicine, hiring land (access fees) and regular travel costs (e.g. fuel, bus tickets) of the household head visiting his herd.

⁷⁶ It is crucial for a Maasai to know if, where, when and how much it has rained or not in order to decide where to migrate to or which areas to approach. Maasai obtain this information either from their social networks, via other migrating Maasai or the 'bush drums'.

⁷⁷ Differently than for accessing a neighbor's unfenced land in normal times, where physical capital, in the sense of accessibility to unfenced land is crucial, physical capital does play a subordinate role for migration practices. Migrating to and accessing someone's land without permission (social, cultural, economic capital) is not possible for a migrating Maasai and not depending on whether land is fenced or not. The permission is accordingly a requirement for accessing a household's land and therefore indirectly marginalizing physical capital. On the other hand, physical access does play a role as fenced land might not be accessed or trespassed by migrants and fences change or determine migration routes. Or, if a receiving household generally only grants permission to access the household's unfenced pastures.

⁷⁸ Maasai distinguish themselves in groups of 'age mates' consisting of several age groups (e.g. currently 58-63 year old Maasai are part of one age group). In Maasai culture, members of an age group are "people you are circumcised with" (Int. 17, HH 13, l. 90).

⁷⁹ Maasai differentiate themselves in clans which are geographically widely spread. Being age mates or clan members includes a wide range of social and cultural practices, responsibilities and implications.

⁸⁰ "It is only people from my clan who can allow me to graze over their fields" (Int. 19, HH 15, l. 52).

⁸¹ Accessing a non-Maasai's land will be neglected in this research, as the spread of this practice was marginal among the investigated migrating Maasai.

Also alien Maasai might grant permission their land to be accessed, if enough pastureland is available and the land has not yet been accessed by other Maasai or is reserved for others in the future: “When there is grass and the Maasai people there are still maintaining their culture, you can’t be refused to [to access their pastureland], you can take [the cattle] to where the rain has fallen” (Int. 16, HH 09, l. 73f). In this case, cultural capital, as practices (claiming and granting permission) derived from, rooted in and justified with the identification of being a Maasai, of having common practices rooted in a Maasai tradition and of practicing a culturally common way of life, is the crucial form of capital Maasai draw on in order to access another Maasai’s land. Access to the practice of migration (access to pastureland of others) is accordingly to a large extent mediated by social relations (Ellis, 2010) and cultural practices. Hence, the practice of migration needs to be regarded as an intangible asset, as claims and access (Chambers, 1995, p. 192) of Maasai households.

Although there might be differences in granting permission for family members, friends (social capital), age mates or clan members (socio-cultural capital) or strangers (cultural capital), the motivation to grant permission is similar and can be summarized as follows:

A Maasai might grant permission “because he is always afraid not to give you because one thing what we say is that ‘I have today. You have tomorrow’. That is in every famer’s [pastoralist’s] head. That means ‘Today I have rain. Tomorrow you have rain’. So if I come there and you refuse me and it rains tomorrow, you might just come unknowingly [another time] and the home you have come, is mine. And you refused me just the other time (Int. 17, HH 13, l. 398-402).

It is this way of ‘reciprocity’, so the chance or assumption that “others [I migrated to] might access my land one day” (Int. 06, HH 05, l. 270f) that is the decisive factor determining current access permission practices. It can co-determine where Maasai are migrating to (Int. 05, HH 03)⁸² and co-shape access regulations, practices and arrangements. Whether these practices and the motivations of granting mutual access are rooted in culture and social relations^{83,84}, if they are a sign of mutual dependency or a cultural and social remedy of former practices of communally owned land is difficult to estimate⁸⁵. It might be a combination of all of them. Crucial is that migration is an intangible asset, which requires access to a wide range of different forms of capital and which is used by Maasai to maintain a livelihood. However, due to land privatization and an individualization of title deeds, the face of migration has changed over past decades. The main changes are summarized in the following chapter.

⁸² “Sometimes the people I approach are those who also come to our area when we have enough grass” (Int. 05, HH 03, l. 57f).

⁸³ “It [accessing field in the area migrated to] is just a way of helping others, because we agreed to stay together as a community. That is why” (Int. 13, HH 10, l. 309f). Mutual support or helping does play an important role in Maasai communities. ‘Rambi’ (Kiswahili for ‘funeral contributions’) for instance is a practice where community or clan members collect money to support another member of the same community or clan for instance to finance a funeral, school fees, start a business etc.

⁸⁴ Only few Maasai state to have to pay for accessing another Maasai’s land.

⁸⁵ The fact that some interviewees do not pay for accessing other Maasai pastureland (Int. 03, HH 03; Int. 13, HH 10; Int. 19, HH 15) might be a sign of kinship (HH 10, HH 15) between migrant and land owner or a sign of mutual dependency among the Maasai: “I go and borrow for a place to graze, and when there is rain here and not in their place, they also come here asking me to allow them to graze their cattle in my land. So due to this kind of exchange, we don’t charge one another for grass” (Int. 05, HH 03, l. 73-75). However, occasionally migrating Maasai need to pay when accessing another Maasai’s land (Int. 03, HH 03; Int. 04, HH 04; Int. 15, HH 12). Access to economic capital becomes crucial in these cases.

9.3.2 The changing face of migration after the subdivision

But due to the privatization of land, the practice of strategic migration has changed “drastically” (Int. 05, HH 03, 1. 53; Int. 02, HH 02) since the subdivision of the group ranches. Some major changes identified are:

1. It is rarely the entire household (homestead) anymore, which is migrating, but either only parts of it (men) or hired people (herdsmen) migrate the household's cattle and watch over it (HH 03, HH 12).
2. While some households (still) migrate with the entire stock of cattle (HHs 06-08), others only migrate parts of it (HH 05, HH 11), as they are able to maintain some cattle over the entire year on the own ranchland.
3. The actual practices of migration have changed e.g. a new bilateralism of access regulations and migration arrangements between migrating and receiving Maasai due to a privatization of land, which renders the consideration of and coordination with other Maasai obsolete.
4. The general importance and extent of migration has probably changed or decreased. Migration is currently one out of a set of coping strategies and will further decrease in importance in the future (comp. Chapters 9.5, 9.6 and 10.1), as the amount of pastureland potentially accessible and available for migrating Maasai has and probably will further decrease(d) in the future due to land sales to non-Maasai and increasing fencing.

The main drivers of these changes and of a reduced importance of migration since the subdivision of the group ranch are probably:

1. The de facto sedentariness of Maasai in the research area, including the (semi-)permanent homesteads which make a ‘homestead’ migration unnecessary, as well as the privatization of land ownership, which facilitates long-term investments in land (e.g. cultivation and boreholes). Hence, (parts of) the household's cattle, but not the entire household is migrating anymore.
2. The privatization of the title deeds in areas Maasai migrate to changed access regulations and land availability due to land sales and fencing.
3. New, re-arranged and localized drought management strategies (e.g. keeping land aside, producing hay, accessing neighbor's land) reduce the need for long-distance migration and enable some households to maintain parts of the cattle on the farm throughout drought times. Hence, most households migrate only parts of the stock or stopped expensive migration (HH 01, HH 09, HH 18).

Next to migration, a second main practice shaping Maasai livelihoods and cattle management, namely mutual grazing arrangements, will be analyzed more detailed in the context of changed land tenure and emerging social interfaces.

9.4 Mutual grazing arrangements

9.4.1 A renegotiation of space - Mutual grazing arrangements between neighboring Maasai farms

‘Accessing neighbor’s land’ as a coping strategy has been mentioned as the practice of temporarily expanding a household’s pasture land with the neighbor’s land in times of feed shortages. Therefore, some households access unfenced land of their direct neighbors in times of drought with a limited amount of cattle after having been granted permission (acc. Int. 06, HH 05; Int. 09, HH 07; acc. Int. 12, HH 05; Int. 18, HH 14). Fenced parts might occasionally be accessed (Int. 18, HH 14) by a limited number of a neighbor’s cattle, however, this practice is not too common, as grass within fenced land is generally reserved for the household’s own cattle in stressful times.

Other households keep unfenced land mutually open together with and for direct neighbors over the entire year and no restricting arrangements (such as a limited amount of cattle or a limited amount of access time) exist (HH 03, HH 09, HH 11, HH 12, HH 15). In this case, cattle are perennially “entirely free to move” (Int. 06, HH 05, l. 115) on the unfenced grazing land of several directly neighboring farms. This amalgamation or “re-aggregation” (Wairimu and Hebnick, 2013, p. 13) of land can either be organized by mutual informal agreements *with permission* (Int. 09, HH 07; Int. 14, HH 11) or by *accepted practice*, with the latter meaning that the direct neighbors “can access the area that is not fenced, always, even without permission” (Int. 18, HH 14, 37f). Crucial is hereby the possibility to physically access the unfenced pasture land (physical capital). For most of the investigated households which apply this practice, the motivation to grant permission to mutually access each other’s land temporarily (as a coping strategy) or even to amalgamate land in the long-run, is similar to the motivation for granting access permission to long-distance migrating Maasai. Access is granted due to two ostensible dimensions or reasons:

1. A cultural and social reciprocity

Some Maasai regard an unlimited access to land (amalgamation) as a sign of “good neighborhood” (Int. 11, HH 09, l. 89; Int. 18, HH 14) which “creates unity or good relationships in the neighborhood” (Int. 11, HH 09, l. 95f; Int. 18, HH 14). Permission to access one’s land is granted because “we see neighbors as our own brothers” (Int. 18, HH 14, l. 32; Int. 23, HH 19). Whether access is granted or not, can be determined by the social relations (social capital) among the neighbors (Int. 16, HH 09). It might indeed be the case that this social and cultural reciprocity contributes to or even induces the (temporary) permission for neighbors to access the own land. However, there is certainly a crucial - maybe determining - further underlying motive, which shapes this practice.

2. A mutual dependency

Permission is furthermore granted “because I do also graze at other people’s land” (Int. 11, HH 09, l. 83) and if a Maasai does not “allow you to come to my place then you don’t have a place for me to come” (Int. 04, HH 04, l. 405f; Int. 14, HH 11). In other words, many households access each other’s land and grant permission, because they (mutually)

depend on the resources (water (Int. 18, HH 14) or grass) in the neighboring ranchland (natural capital).

This practice of amalgamating land might furthermore be a remnant and customary practice of formerly common grazing practices, which can only be constrained by a reification of land, land tenure rights and ownership claims through fencing, since fenced land may not be accessed. In case of maintaining customary practices from before the subdivision of the group ranch, unfenced land is amalgamated as accepted practice and no explicit permission to access the neighbor's land is required: "So just in the Maasai way of life [from the past when] the animals were just grazing everywhere [cultural capital]...up to now...unless somebody has fenced out his land" (Int. 16, HH 09, l. 181-183). The practice that "direct neighbors cannot restrict you to graze on their [unfenced] lands" (Int. 14, HH 11, l. 168) even not, if the approach through neighboring livestock might contribute to a household's own feed shortages (Int. 17, HH 13), is partly spread. If there are "no fences [land is] like common grazing land" (Int. 16, HH 09, l. 173f), but once land is fenced, only the household's own cattle are allowed to graze there (Int. 14, HH 11; Int. 16, HH 09; Int. 22, HH 18). Again, fencing seems to practically individualize or privatize land, land tenure and ownership claims - in this case fencing serves as a necessary reification of legal claims and rights. But not all those who graze on unfenced private land do so against the will of the title deed holder (Int. 07, HH 01; Int. 16, HH 09)⁸⁶. Instead, these actions are partly accepted by the land owner - likely due to customary common and still accepted grazing practices. Tensions might arise when the land owner does not accept or recognize customary tenure systems. In this case two land tenure concepts, as a bundle of rights (Maxwell and Wiebe, 1999, p. 825), need to be renegotiated in practice: On the one hand the concept of *freehold*, with the title deed owner having the absolute and formal right to determine access regulations and having absolute ownership over his land, as his individual property (ECA, 2004). On the other hand *customary systems*, where access is informally determined based on the traditional tenure rights and practices (ECA, 2004) of free cattle movement. In practice, these negotiations of formal and informal tenure systems come in the lifeworlds of different Maasai partly incompatible together, especially if customarily founded access practices contradict the land owner's will, if for instance the accessed household experiences grass shortages itself:

I always tell them 'Please don't do this' [accessing his land and graze cattle there], but I still see them coming and, you know, as a good neighborhood, we normally don't want to have a quarrel, because they are neighbors...So normally [they come] until I fence it. Because if I fence it, where will they pass? (Int. 17, HH 13, l. 218-229).

This social interface of requiring permission on the one hand and accessing land as a customary practice without permission⁸⁷ (Int. 07, HH 01), might cause tensions or discrepancies between or within households (HH 01, HH 05, HH 13), which might in practice mainly be solved by the reification of ownership claims and the practical enforcement of legal rights through fencing. The existence of multiple social realities (Long, 2001) or lifeworlds (Schütz, 1988), which in this case come incompatible together, becomes practically meaningful. Again, this social interface

⁸⁶ Four Maasai households have stated to have experienced or experience that.

⁸⁷ Accessing a household's land against the owner's will can furthermore be an accidental incident, when roaming cattle are temporarily not watched and, in the search for grass, enter the unfenced neighboring farm (Int. 05, HH 05; Int. 22, HH 18).

(Long, 2004) could be an indicator of change, as customary grazing practices (accessing each other's land as accepted practice) are supplemented or replaced by new access regulations (permissions) and access constraints (fencing).

In the case of a perennial amalgamation of land of several neighboring farms, a de facto renegotiation of land, access and utilization regulations and practices takes place. Whether the perennial amalgamations of land are attempts to keep up pastoral livelihoods for its own sake, is in the light of the identified reciprocity and mutual dependency questionable. Essential is that accessing each other's land is an intangible asset, which is crucial for some Maasai households to possess in order to maintain current livelihoods. The practice of mutually accessing each other's land in the long-run and not only as an exceptionally applied short-term coping strategy, while drawing on a variety of other coping strategies at the same time, like de- and restocking or migration, suggests furthermore that some Maasai households currently tend overstock and overgraze their own land. This assumption will be investigated in following section.

9.4.2 Mutual grazing arrangements as practiced overgrazing and overstocking

Several households state to keep more cattle than their own land can actually sustain (Int. 14, HH 11; Int. 15, HH 12; acc. Int. 16, HH 09; Int. 20, HH 16; Int. 22, HH 18): "The number of cattle I own now, cannot be satisfied by my own land. I am depending on the neighbor's lands" (Int. 18, HH 14, l. 61f). Reciprocity and especially a mutual dependency might be the main reasons why households still grant permission to mutually access each other's land, as "no one has enough grass for himself. So we have to assist each other" (Int. 14, HH 11, l. 175f). Considering an amalgamation of land, the number of cattle some households keep is therefore not entirely determined by the household's own land, but by the assumed amalgamated or accessible land:

We don't have any maximum [of cattle we keep]. Because we Maasai now, as long as your brother or your brother-in-law has a land, you can just keep cattle and also he will help you to graze (Int. 14, HH 11, l.63-65; Int. 17, HH 13).

Although land might be the limiting factor concerning the amount of cattle a household can keep, it is not necessarily only the household's own land, but partly a renegotiated space, including non-owned land, that seems to be point of reference. If this practice is applied by several neighboring households, one might assume that overgrazing and overstocking is rather common (Int. 01, HH 01; Int. 07, HH 01) - as long as land is not (entirely) fenced and access practically restricted. Several households state, they would keep fewer cattle, if they would not have access to the neighbors' land - so, if land would be fenced (HH 03, HH 09, HH 12, HH 16). It is this practice of overgrazing and overstocking due to the amalgamation of land that makes some Maasai increasingly fence their land. Households which are depending on accessing the neighbor's land cannot be regarded as sustainable, as they might undermine livelihood opportunities (DFID, 2001) of the accessed households, if the accessing household's cattle contribute for instance to a lack of grass for the accessed household (comp. social interface Chapter 9.4.1). However, this seems to change, once the land is fenced. Thus, the following section will bring together the discussed mutual grazing and migration practices and their restrictions or changes through increased fencing in the research area.

9.5 Mutual grazing and migration constraints through fencing

This section aims to briefly explore more detailed the ‘role’ of fencing in changing Maasai livelihoods in the research area. Fencing is a rather new and increasing phenomenon in the investigated area that emerged with the individualization of title deeds. Fencing has two faces in the Maasai context: On the one hand, it serves as a measure to protect and reify a household’s ownership claims, rights and private property, to improve its drought management and to change own livelihood strategies; on the other hand, due to the reciprocity and mutual dependence of grazing practices, cattle or drought management strategies of many Maasai households, it also shapes and constraints livelihoods of other Maasai. It is this mutuality, which renders multiple social realities of Maasai in the research area meaningful in practice, in the sense that multiple social realities are and need to be synchronized to some extent as a requirement for mutual grazing or commonly used resources. If augmented fencing takes place, social realities might increasingly come incompatible together, through reduced access possibilities and discrepancies between (customary) access claims and new access practices. Social interfaces might become meaningful and insecure access to land might become a new stress to Maasai livelihoods, requiring an adaptation or change of practices and livelihood strategies in order to maintain or increase a household’s sustainability. This is where a reification of ownership claims and land tenure rights through fencing becomes meaningful in practice, since fencing solves the (re)negotiation of the two competing land tenure concepts ‘freehold’ and ‘customary system’.

Through expanded fencing practices strategic migration is assumed to become more complex, as the accessibility of potential pastureland and migration routes might decrease (Int. 15, HH 12; Int. 16, HH 09). Increased fencing can therefore require the identification of new (longer) migration routes, since migrating cattle might not be allowed to trespass fenced areas (Int. 04, HH 04; Int. 06, HH 05; Int. 11, HH 09). Fencing constraints of mutual grazing practices and strategic migration do not only induce practical access implications, but could furthermore - in the long run - impact or change cultural and social norms, habits and practices among Maasai as well, since - as outlined above - mutual grazing and migration depends to high extent also on access to social and cultural capital. The aforementioned socio-cultural construct of ‘reciprocity’⁸⁸ among neighbors, which is a requirement and a consequence of mutual access agreements and practices, might change due to a possible further individualization of grazing practices through increased fencing:

I am saying this Maasai culture is lost and Maasai are becoming now enemies of their own. I fence my own chamber, so that you cannot get in with your cattle (Int. 04, HH 04, l. 132-134).

Inherent to these constraints in migration and accessing neighbors’ land through fencing are the assumptions that cattle are free(er) to move or trespass if land is not fenced (Int. 04, HH 04; Int. 06, HH 05; Int. 11, HH 09; Int. 19, HH 15; Int. 20, HH 16; Int. 22, HH 18), that cattle are not allowed to enter fenced areas as well as that Maasai tend to increase fencing in the future (comp. Chapter 10.1). Currently, fenced land is mainly kept for a household’s own cattle (Int. 02, HH

⁸⁸ To which interviewees referred to as “good neighborhood” (Int. 11, HH 09, l. 89; Int. 18, HH 14), “unity or good relationships” (Int. 11, HH 09, l. 95f; Int. 18, HH 14) or brotherhood (Int. 18, HH 14, Int. 23, HH 19).

02; Int. 22, HH 18) for stressful times (‘Keeping land aside’) and generally not accessible by others (HH 02, HH 05, HH 09, HH 18) unless exceptions exist (Int. 11, HH 09; Int. 22, HH 18).

The reciprocity between some households is furthermore the reason why increased fencing of a household will constrain its access to other household’s grasslands as well, since “after you fence your land here, no one will allow you to move into their land to grass, since yours is already fenced” (Int. 06, HH 05, l. 223-225; Int. 11, HH 09).

Fencing as a rather new phenomenon has two faces: On the one hand it serves as a measure to reify and protect legal ownership claims, rights and individual property in order to develop and improve for instance drought management. On the other hand it reduces the accessibility of pasture land, deteriorates migration and impacts cultural norms, habits and customary practices. Fencing is not only a practice of Maasai, but a phenomenon that emerges with land sales to non-Maasai as well. The following section will therefore outline the main impacts and implications of land sales to non-Maasai on Maasai livelihoods.

9.6 Impacts and implications of land sales to Maasai livelihoods

Access to land, as a pastoral and agricultural resource, is a key requirement for Maasai (agro-)pastoral livelihoods. The commodification of land, the establishment of a land market and the transition of property regimes has contributed to increased land sales to financially potent non-Maasai investors in the research area. Although no recent numbers on land sales were accessible, some numbers shall briefly be mentioned: According to a survey conducted by the Kenyan NGO Dupoto-e-Maa (1999, p. 2), Maasai sold around 9 % of the land of the former Emboloi group ranch, the research area, by 1999⁸⁹ after it had been subdivided in 1987. How numbers developed since then requires further research, but it can be assumed that the percentage is a multiple of the 1999 number. How land sales to other Kenyan communities and foreigners might shape Maasai livelihoods, will briefly be outlined in this chapter. The research results suggest that at least five consequences of land sales need to be taken into account for Maasai livelihoods:

1. A permanent loss of accessible and available pasture land and water resources (Galaty, 1994), as access arrangements between non-Maasai land owners and Maasai do hardly exist (Int. 02, HH 02; Int. 04, HH 04; Int. 06, HH 05; Int. 07, HH 01; Int. 11, HH 09).
2. A change of pastoralism as a production system and as a way of life, since practices such as migration change(d) or lost/will lose in importance and new forms of investments, assets as well as cattle management strategies emerge due to a reduction of land. A reduced mobility might furthermore “over the longer run, undermine the reproduction of pastoral culture” (Mwangi, 2007, p. 890; Kituyi, 1990; Doherty, 1987).
3. A change of culture. Next to changes in (agro-)pastoralism, the number of non-Maasai entering the area (due to employment opportunities in the large-scale farms and land purchase opportunities in the area), Maasai culture is assumed to further change, e.g.

⁸⁹ According to the survey, Maasai sold 20 % of land of the former group ranch Olkinos, 9 % of the group ranch Empuyiankat and 60 % of the former group ranch Kisaju by 1999 (p. 2).

through intermarriages between different communities (Int. 02, HH 02; Int. 04, HH 04), a loss of Maasai language (Int. 06, HH 05), adaption and adoption of new cultures, habits and views by young Maasai (Int. 03, HH 03; Int. 17, HH 13; Int. 22, HH 18) or the transformation of Maasai-specific cultural practices, lifestyles, norms and habits, such as ‘mutuality’ (Int. 12, HH 05).⁹⁰

4. A change in the ethnic composition and political power structures in the area. A numeric influx⁹¹ of other communities into some parts of the Maasailand (comp. Munyasi, 2012) and a new ethnic composition (Campbell et al, 2000) of some areas might change current political power structures and intuitions.
5. New investment and livelihood opportunities emerge. Selling land can serve as a source of income and as insurance for stressful times, or as a way to raise financial means to finance investments. While some households state to never have sold land (HH 01, HH 06, HH 15, HH 18), others sold land in times of stresses (HH 02, HH 09), for the children’s education (HH 02, HH 04, HH 05, HH 09), for investments like a stable access to water (HH 02, HH 04, HH 05, HH 08, HH 11), to invest in real estates (HH 04, HH 08, HH 09, HH 10, HH 11) or to increase cultivation (HH 05, HH 09). These investments are facilitated by an established land market with willing buyers and willing sellers.

Land sales can be a constraint of current livelihood strategies, a ‘threat’ to culture and current ways of living, or an opportunity to develop new livelihood strategies. How these changes affect a household’s amount of cattle and its livelihood strategies will be addressed in the following.

9.7 Changing numbers of cattle and their implications on Maasai households

Although it seems that overgrazing and overstocking partly takes place in the research area and research suggest that some group ranches failed to destock after the subdivision (Rutten, 1998, p. 198), the results of this research show that the number of livestock individually owned by Maasai have probably decreased over the past decades and are assumed to further decrease in the future (Int. 01, HH 01; Int. 06, HH 05; Int. 07, HH 01; Int. 12, HH 05; Int. 14, HH 11; Int. 15, HH 12; Int. 16, HH 09; Int. 18, HH 14; Int. 22, HH 18). Due to the privatization of land and the thereby arising reduced mobility of livestock (e.g. through fencing and land sales), the amount of cattle a household can keep is currently depending on the capacity and the size of land, which is available or accessible for a household (Int. 01, HH 01; Int. 04, HH 04; Int. 07, HH 01; Int. 12, HH 05; Int. 13, HH 10; Int. 14, HH 11; Int. 17, HH 13). Temporal or permanent strategies to expand a household’s accessible pasture land, like accessing neighbor’s land or migration, are progressively under pressure due to increasing fencing practices and land sales, which might

⁹⁰ These changes are often perceived as a ‘threat’ to Maasai culture (Int. 03, HH 03; Int. 05, HH 03; Int. 14, HH 11, Int. 25, P 2), as due to land sales, Maasai culture is assumed to “definitely...disappear” (Int. 01, HH 01, l. 173), to be “adulterated” (Int. 05, HH 03, l. 81), “disrupted” (Int. 17, HH 13, l. 634), “eroded” (Int. 06, HH 05, l. 315; Int. 14, HH 11, l. 349), “terribly affected” (Int. 19, HH 15, l. 260) or “changing” (Int. 02, HH 02, l. 108).

⁹¹ Kikuyu for instance buy land in organized groups (so called SACCOs). Each member of a SACCO pays regularly a certain amount of money into a fond, until the entire amount for buying a certain piece of land is raised. The title deed is bought and divided among the members (Int. 20, HH 16; Int. 21, HH 17).

decrease the number of cattle a Maasai household will keep in the future (Int. 02, HH 02; Int. 05, HH 03): “Some will even keep as few as ten cows...The Maasai will finally own very few animals” (Int. 02, HH 02, l. 122f). Although Homewood et al. (1999) state that the number of cattle owned by a Maasai might still influence his status within the community, the results of this research suggest that the social or cultural importance of keeping as many cattle as possible is decreasing (Int. 06, HH 05; Int. 07, HH 01) - though not rearing cattle as a practice per se. Nevertheless, the current economic importance of cattle is still of substantial significance. In this way, a reduction of the amount of cattle a Maasai household owns might have economic impacts and implications on the households (Thornton et al, 2005):

[In the future] We might be forced to choose poverty. I am trying to imagine of a time when I can only be able to keep one dairy cattle. It will not be enough for food, school fees and so on (Int. 05, HH 03, l. 136-138).

It is this economic importance that renders some households to still strive for keeping as many cattle as possible (Int. 09, HH 11; Int. 13, HH 10). Although these livelihood strategies seem to be rather exceptional, the economic importance of cattle and an assumed future numeric reduction, forces Maasai to change current and look for alternative livelihood strategies such as making investments (e.g. real estates, education), developing new forms of cattle management (e.g. new breeds, new rearing practices) and new or non-traditional land-use practices (e.g. beekeeping, fishing, poultry (comp. Munyasi et al., 2012)) and to diversify livelihoods (e.g. cultivation, employment), in the sense of “increasingly diversify[ing the] portfolio of activities and assets” (Ellis 2000, p. 15) in the future. Land use intensification strategies (making hay, planting (Napier) grass, partition (comp. Chapter 9.79.8.6), cultivation, an independent and secure access to water etc.) are current tendencies in the research area and strategies applied by the analyzed Maasai households in order to cope with a reduction of accessible land and owned number of cattle. Accordingly, the productivity of cattle and its increase might become more important (livestock intensification (comp. BurnSilver, 2009; Galaty and Johnson, 1990; comp. Chapter 3.2.1)) (e.g. through dairy farming) than the quantity of cattle a household owns. The “need to maximize family welfare” (Mwangi, 2007, p. 39), which created incentives for herders in traditional Maasai society to accumulate livestock (Mwangi, 2007, p. 39) is becoming more and more obsolete, as family welfare is not simply depending anymore on the number of livestock, but increasingly on the diversification of livelihood strategies, the intensification of land use and new forms of cattle management (comp. Chapter 10). It are these strategies that do not render Maasai to be increasingly disempowered in the local arena and to be “disembodied social categories” (Long, 2001, p. 13) or passive recipients of change, but capably and knowledgeably to confront problems and adopt to changes.

All the developments and changing components described in the previous chapters like livestock feed insecurity, migration, mutual grazing arrangements, increased fencing and land sales and their impacts and implications on the Maasai livestock production system and Maasai livelihoods shape household drought management strategies. While general coping strategies and some of the current drivers of change have been described, analyzed and interpreted so far, the following section will focus more on the household perspective, exemplarily describing and analyzing three types of Maasai drought management strategies, which might exemplify the impacts of some of these changing components on drought management at a household level.

9.8 Current drought management strategies - Three examples

The described coping strategies in Chapter 9.1 need to be considered more as an enumeration of various practices identified in the research area. Crucial is the combination and order of these practices into individual household drought management strategies in order to reduce a household's vulnerability and increase its resilience in facing stresses and seasonal feed insecurity. Which strategy a particular Maasai household is applying, depends on various factors, assets and capitals which are - to different extents - accessible (or not) for the individual households. Although Maasai drought management strategies differ individually, it is possible to identify some rather broad main types of household drought managers by juxtaposing the most important identified drought management practices: migration – no migration, grazing on own land – grazing on (amalgamated) 'common land', selling cattle – not selling cattle. Taking these six practices into account it is possible to exemplarily identify three main types of drought managers:

- *The migrating, individually grazing, cattle seller:* This household type migrates with (part of) its cattle, has no mutual grazing arrangements with the neighboring farms and sells part of the cattle during the drought.
- *The migrating, commonly grazing, cattle seller:* This household type migrates with (part of) its cattle, has mutual grazing arrangements with the neighboring farms and sells part of the cattle during the drought.
- *The non-migrating, commonly grazing, cattle keeper:* This household type does not migrate with (part of) its cattle, has mutual grazing arrangements with the neighboring farms and does not sell cattle during drought.

These types are certainly neither comprehensive nor complete, but they serve as three examples of how Maasai households differently combine and apply various coping practices into drought management strategies and how they might develop in the future. Based on these three drought management types, it is the aim to identify, analyze and interpret current decision making processes of Maasai households during drought times.

9.8.1 Household 05: The migrating, individually grazing, cattle seller

Household 05 is a household which is migrating, grazing entirely on the own ranch land and destocking parts of the cattle in stressful times. The decision making processes before, during and after the drought of the migrating, individually grazing, cattle selling Household 05 look as follows⁹²:

⁹² These drought management strategies focus on cattle and do not take other livestock such as goats or sheep into account.

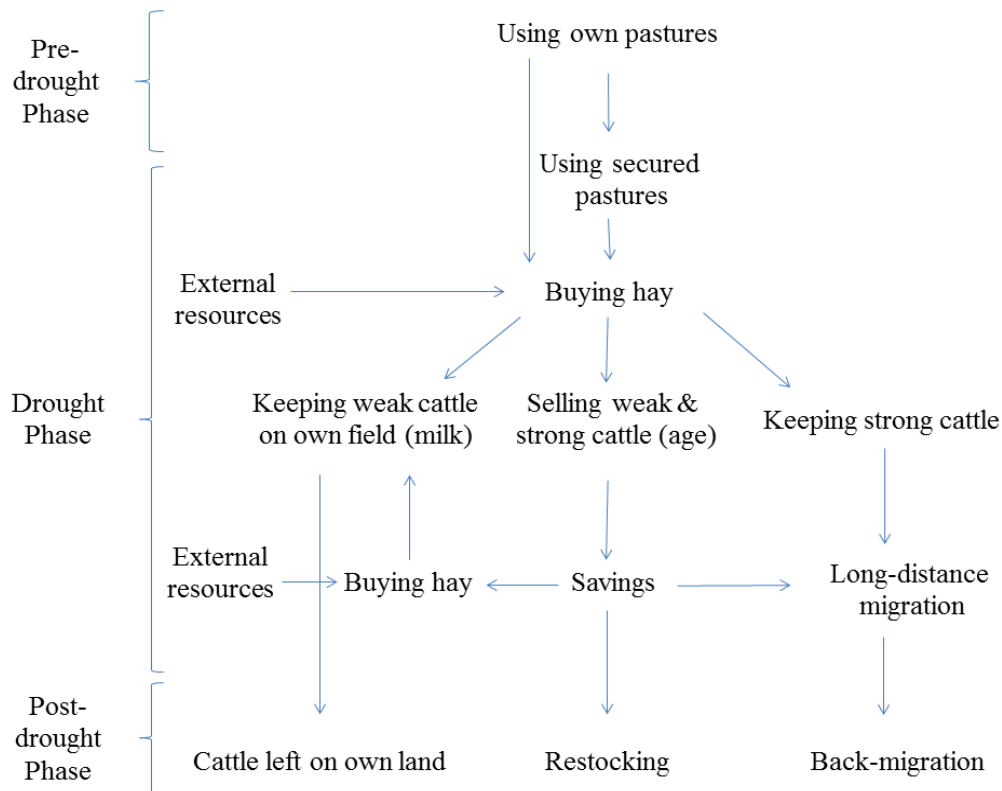


Figure 10: Drought management of HH 05: Decision making tree

During stress-less times, when the drought or dry season has not yet begun (Pre-drought Phase), Household 05 grazes cattle on the own farm land where still sufficient grass is available (Using own pastures). Once the grass dwindles and rain falls fail (Drought Phase), the household opens a fenced part, where grass has been preserved and can now be accessed by the cattle (Using secured pastures). Hereby, cattle only access the grass within the fenced part for some hours a day and remains the rest of the day on the unfenced part in order to save grass in the fenced area as long as possible. Already at this point cattle cannot satisfyingly be fed anymore. The household's main aim from this point on is to simply sustain the cattle. Once the grass on the ranch is (more or less) exhausted, the household starts buying hay (Buying hay) financed for some time through the normal household income (External resources)⁹³. Once it is not possible anymore for Household 05 to finance hay for the entire amount of cattle, the household sells some of it (Selling weak & strong cattle), keeps the lactating cattle and calves on the farm land for selling and/or consuming milk (Keeping weak cattle on own field) and migrates with the some of the strong, not lactating cattle (Keeping strong cattle). The kept strong cattle will then migrate to faraway places (Long-distance migration), graze there and return (Back-migration), once the drought is over (Post-drought Phase)⁹⁴. The financial means which are gained from selling part of the cattle (Savings) are reinvested in buying new cattle after the drought (Restocking), in sustaining the lactating cattle, which is left on the own ranch land, with hay

⁹³ Financing hay through external resources can generally be based on four types of income: 1) From the general season-independent household income such as rental revenues, wage labor etc. 2) From the general season-dependent household-income such as selling milk or vegetables (with progressing duration and intensity of the drought, this branch certainly decreases in importance and might not even play any role). 3) From selling livestock such as sheep in order to purchase hay. 4) From savings.

⁹⁴ Post-drought Phase and Pre-drought Phase certainly blend into each other and include the rain reasons and a recovery of pastures.

(Buying hay) and in financing migration. Money from the household's external resources (External resources) co-finance purchasing hay for the few remaining cattle. After the drought, the household's cattle stock consists accordingly of cattle which remained on the own land, cattle which is migrating back and new cattle purchased after the drought.

9.8.2 Discussion

9.8.2.1 Simplification of decision making processes

This graph shows a simplification of drought management-related decisions and main choices a Maasai household of this particular category will (probably) face in the course of a year. Neither can all possible decisions and alternative choices be taken into account in such a graph, nor were factors, like the amount and type of livestock, detailed economic considerations, motivations and consequences of these decisions investigated in detail. A household does not necessarily has to face each of these decisions and paths every year, as for instance the severity of a dry season (or drought) can differ each year. Nonetheless, by using this and the following simplified decision making trees, it is possible to identify and analyze some specific factors of Maasai drought management and livelihood strategies.

9.8.2.2 Selling cattle - When the hope for rain and attachment to cattle dominate economic considerations

Noticeable in the case of the drought management of HH 05 is the point of time when cattle are sold as a coping strategy, namely when the financial means to purchase hay are exhausted. As hay cannot nutritionally satisfy cattle, but only sustain it, cattle will lose weight and accordingly in (monetary) value progressively with the dry season's or drought's duration. Accordingly, late sales limit and constrain revenues from cattle sales and means for purchasing (new) hay for the remaining cattle, the migration and future restocking. Despite these financial losses, several Maasai households sell cattle as late as possible (e.g. HH 05, HH 18) and only when there is "no other option but only to sell the cattle" (Int. 06, HH 05, l. 267). Probably two prevailing reasons explain why some of the investigated Maasai households sell cattle as late as possible:

1. The (perceived) unpredictability of the dry season and its features

As the dry seasons or droughts are assumed to be hardly predictable, a continuous hope for rains to arrive in time, postpones the decision to destock: "You keep giving yourself hope that it will rain, it will rain until sometimes you have to lift that cow literally up by the tail [because it is too weak to stand up by itself]. Then you decide 'I have no other choice' [but to sell]" (Int. 22, HH 18, l. 146-148).

2. The Maasai-specific attachment to cattle

The cultural, economic and social importance of cattle and the corresponding attachment (Int. 17, HH 13; Int. 16, HH 09) to cattle can additionally explain the late point of disposing cattle. "Having a cow in your own bommer [Maasai homestead], is like having a young kid or child. You would not want to dispose it and even not at a very low price" (Int. 12, HH 05, l. 413-414). This attachment can therefore explain why cattle are not necessarily sold in times of favorable market conditions (comp. Speranza, 2010).

Both reasons exemplify a further time the essential roles of drought and livestock as actants shaping human agency, in this case, the time or procrastination of selling cattle. Although it depends on the individual Maasai household and on various factors when or if cattle are sold⁹⁵, the perceived unpredictability of rains as well as cultural habits and the Maasai-specific attachment to cattle co-determine and postpone the time of selling cattle as an applied coping strategy. The ‘power’ of cattle, as an actant, in assembling the relation between Maasai and cattle becomes apparent in this context (Law, 2008). However, this does not mean that economic considerations like market developments and prices do not play a role at all. Furthermore, keeping cattle until as late as possible does by far not mean that cattle are kept under any circumstances, although it seems rather common that livestock is dying or expected to die during (severe) droughts, when expected rains fail to fall (Int. 01, HH 01; Int. 04, HH 04; Int. 11, HH 09; Int.12, HH 05).

9.8.3 Household 11: The migrating, commonly grazing, cattle seller

Household 11 is a household which migrates with (part of) its cattle, has mutual grazing arrangements with the neighboring farms in times of drought and destocks parts of the cattle. A decision making tree with the decision making processes before, during and after the drought of the migrating, commonly grazing, cattle selling Household 11, look as follows:

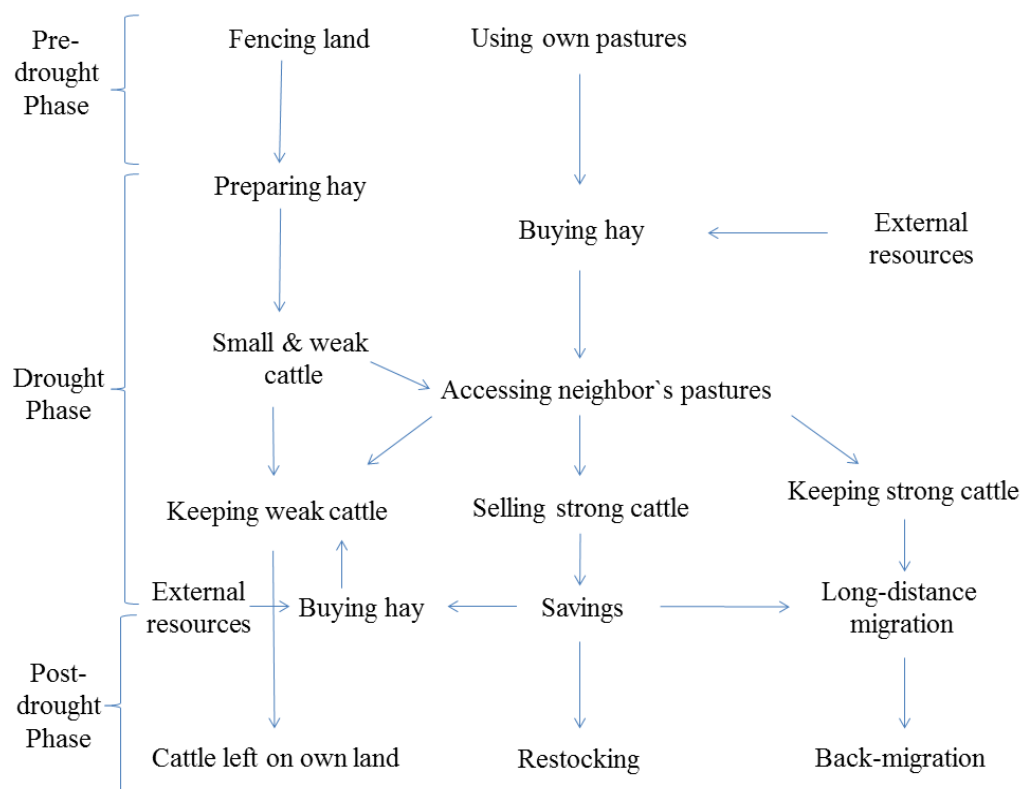


Figure 11: Drought management of HH 11: Decision making tree

Household 11 uses its own pasture land (Using own pastures) before purchasing hay for its cattle (Buying hay), which is financed by ‘external resources’ - the normal household income or

⁹⁵ E.g. alternative coping strategies and the household’s economic and nutritional dependency on cattle.

savings (External resources). At the same time, Household 11 fenced some part of its land (Fencing land) in order to prepare hay (Preparing hay) and sustain some cattle (Small & weak cattle) during the drought (Keeping weak cattle). Once, the household cannot afford purchasing hay anymore, the neighbor's land is accessed (Accessing neighbor's pastures), before parts of the cattle stock is sold (Selling strong cattle). Differently than the drought management strategy of Household 05 (120 acres, 49 cattle), Household 11 (20 acres, 15 cattle) is relying on and depending on accessing the neighbor's land in order to postpone or avoid migration. Next to 'External resources', revenues from selling parts of the cattle (Savings) are invested in buying hay for the cattle (Buying hay), which is left on the ranch (Keeping weak cattle), reinvested in purchasing new cattle after the drought (Restocking) and in financing migration (Long-distance migration) for some of the non-sold cattle (Keeping strong cattle). After the drought, the herd includes returned (Back-migration) and restocked (Restocking) cattle as well as cattle, which was sustained on the own ranch (Cattle left on own land).

9.8.4 Discussion

Household 11 is an example for households which are depending on 'expanding' their gaze lands at least twice during the drought management: when accessing the neighbors' land and when accessing far away pastures (Long-distance migration). This strategy is probably an outcome the household's size of land, the cattle-land ratio and the portfolio of (alternative) coping strategies. Regarding the current development of increased fencing and land sales, this household type might be 'challenged' in the future to change its drought management strategy and to become more 'sustainable' - in the sense of that the household becomes less dependent on other Maasai's land to sustain its cattle during stressful times.

Two further patterns of current Maasai drought management strategies are exemplified by this household.

1. A diversification of risk. In both outlined household drought management strategies a diversification of risk at the end of the drought management process can be observed, as the stock is divided into three different groups (cattle left on the ranch, newly bought cattle (de- and restocking) and back-migrated cattle) in order to increase the chance of (part of) its survival and therefore increase the household's resilience.
2. Late migration. Noticeable is furthermore that migration is avoided as long as possible and only applied if all other 'local' coping strategies are exhausted. Reasons for late or possibly avoided migration have been mentioned and are among others the high financial costs, a reduced accessibility and availability of pasture land and the unpredictability of the seasonal cycle.

The last analyzed household is an example of a purely 'localized' drought management strategy, which - as a model - will probably increasingly gain in importance in the future.

9.8.5 Household 09: The non-migrating, commonly grazing, cattle keeper

Household 09 is a household which does not migrate anymore, has perennial, mutual grazing arrangements with the neighboring farms and does not sell part of the cattle. The decision making tree before, during and after the drought phase of the non-migrating, commonly grazing, cattle keeping Household 09 looks as follows:

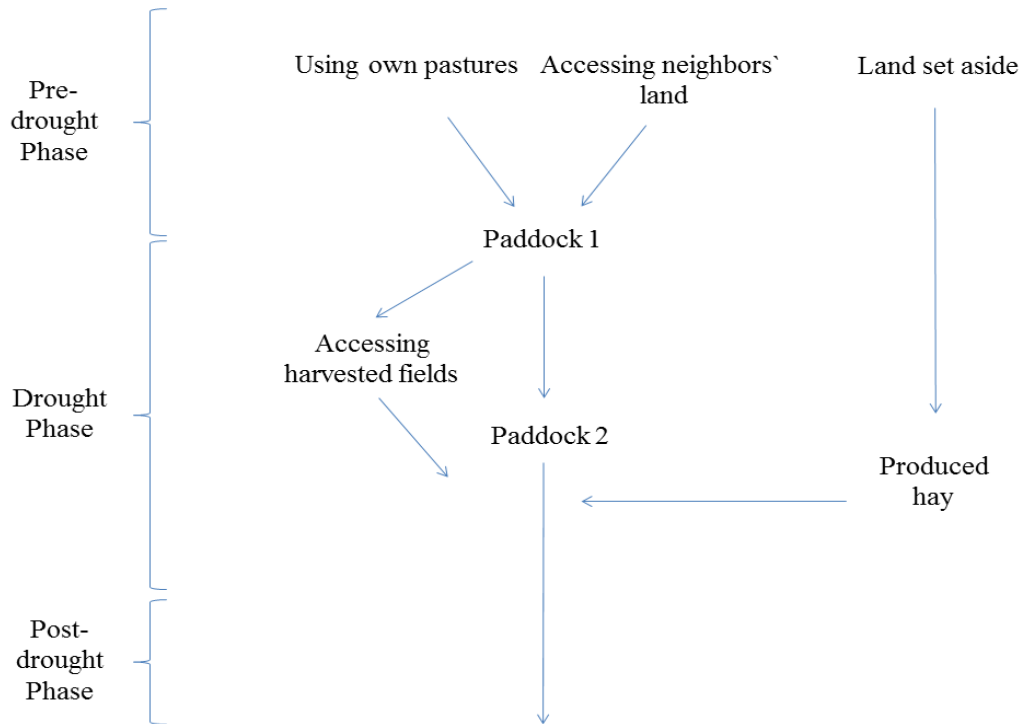


Figure 12: Drought management of HH 09: Decision making tree

Household 09⁹⁶ and (part of) its neighboring farms have a perennial amalgamation of pastureland (Using own pastures and Accessing neighbors' land). Once the grass on the common pastureland is exhausted, Household 09 moves its cattle into a widely fenced area (Paddock 1) until the grass is finished there as well. From the exhausted Paddock 1, cattle move to second largely fenced area (Paddock 2). Concurrently, some land is set aside (Land set aside) for the production and storage of hay, which might sustain cattle in case the paddocks are exhausted (Produced hay). As the household is practicing cultivation, cattle can additionally access the harvested fields (Accessing harvested fields). Producing hay and accessing harvested field do play a subordinate role in the household's drought management strategy. Crucial for the fact that the household neither depends on migration nor applies de- and restocking are the paddocks which are sufficient for feeding the amount of cattle throughout the entire drought phase (land-cattle ratio).

⁹⁶ Household 09 owns around 250 acres of land, 100 cattle and 200 sheep and goats.

9.8.6 Discussion

Household 09 is an example for a rather demobilized drought management approach, as the household stopped migration and keeps cattle on the own ranch land over the entire year. Using large-scale fenced paddocks as pasture reserves, the household's own localized coping and drought management strategies are sufficient to nourish cattle throughout the dry seasons. Although this household amalgamates land with the neighbors (in this case due to good neighborhoods and not because the household's cattle depend on the neighbor's resources (cattle-land ratio)), the household is sustainable during dry seasons. This type of drought management strategy could in fact be a middle-stage of current cattle management and livelihood developments among the households in the research area developing from rather mobile drought management strategies (HH 11, HH 05) towards an increasingly localized drought management approach (HH 09). Partition or zero-grazing, as entirely demobilized cattle management practices, will probably gain in importance in the future (comp. Chapter 10.1).

Partition (or *paddock*) is a circular way of feeding cattle, which is consecutively moving between several fenced paddocks on a ranch. Cattle will remain in a paddock until its grass is completely exhausted before approaching the next (minimal waste of grass). The main advantage of paddocking is that some paddocks can be used several times during a seasonal circle e.g. for producing hay before being accessed by cattle (multiple land use). Several households intent to apply paddocking in the future (HH 01, HH 05, HH 09, HH 13) which requires an 'economic' and sustainable management of cattle and land, as it depends entirely on the capacity of the own fenced land and mobile coping strategies, such as migration and accessing neighbors' land, will probably not be applicable anymore (reciprocity). Partition is a strategy to intensify land use and to adapt cattle management to a decreasing accessibility and availability of pasture land. With an assumed further decrease of individually owned land due to e.g. a further (sub)division of land through a household's land inheritance practices, paddocking will probably be challenged. A potential alternative cattle management strategy that might gain in importance is *zero-grazing*.

Zero grazing is the practice of rearing cattle inside a stable or closed area with the cattle not leaving the compound. Cattle are fed indoors while herders use their manure as fertilizer to plant e.g. Napier Grass, which is then the cattle's main feed. Zero-grazing is cyclical way feeding cattle and does include a complete demobilization and increased de-spacealization of herding.

9.9 Conclusion - Changing drought management among Maasai households

The chapter described some of the main drought management strategies and the most important - mainly reactive rather than preventive - coping strategies currently applied by Maasai in order to increase feed security for their cattle. These drought management practices need to be regarded in a wider context of changing land tenure and new land use practices emerging from a privatization of title deeds. Fencing and selling of land were identified as the two prevailing outcomes shaping and changing land access of Maasai pastoralists. Fencing seems hereby more a result of a new property regime and is applied by many Maasai to protect individual property rights and claims by preventing others and wild animals from entering the land and in order to improve drought management. Land sales on the other hand are more an outcome of the

commodification of land within a newly emerging and establishing land market after the subdivision of the group ranch. The sudden valorization of land led to a commercialization of the same and, if land was sold excessively and revenues were not reinvested sustainably, probably contributed to pauperization and landlessness among some Maasai in the research area. Both trends fencing and land sales shape and change Maasai livelihoods and drought management strategies. The results suggest that strategic mobility and migration changed due to the new land tenure system and currently depend on accessing a set of various forms of capital in order to access private land of other Maasai. Especially access to social and cultural capital seems essential, as drawing on a socially and culturally embedded reciprocity or mutuality is crucial for migrating Maasai. This combination of access to different forms of capitals seems rather new and emerged with the changing face of migration after the subdivision, which generally led to more localized and less mobile livelihoods. Migration is therefore currently only one out of several possible coping strategies a household can draw on and less a particular way of life anymore. Next to changing migration practices, mutual grazing arrangements with neighboring farms have been emphasized in this chapter, as they gained in importance for Maasai livelihoods in order to increase feed security for a household's cattle. The research suggests that different forms and levels of access regulations and practices exist among the investigated households, such as accessing with permission or accessing as accepted practice. Where customary access practices and new property claims - as a negotiation between customary land tenure and (new) freehold - incompatible come together, social interfaces occur, which might only be 'avoided' or solved by a reification of land property claims and rights through fencing. Again, the practice of accessing neighbor's land draws on a culturally and socially embedded reciprocity. It seems evident that furthermore a - partly mutual - dependency of some farms on the neighbor's resources exist. This dependency can probably either be caused or deteriorated by the seasonal cycle or by general overstocking and overgrazing practices in parts of the research area.

Fencing and land sales can contribute to permanent loss of land and access to it. Fencing, as a reification of property claims and rights, might furthermore have impacts and implications on current cultural and social norms, practices and habits (reciprocity), as well. Beyond that, not only land sales do change pastoralism as a production system and as way of life, but also the accompanying influx of other communities might have cultural and political implications in the long run. The permanent loss of access to pasture land through fencing and land sales and the new livelihood opportunities accompanied by the changed land property regime have and will further change Maasai livelihoods and household assets, first and foremost the number of cattle, as both an economic and as a social or cultural form of capital.

These described developments shape the drought management on the household level, exemplified by three different types of drought managers. While some households still migrate other households have stopped migration and feed the entire stock perennially on their own farm land. Crucial is that migrating households seem in the majority to try to postpone migration as long as possible and diversify the risk of cattle loss by migrating, keeping and selling parts of the stock, whereas cattle sales are co-determined by the unpredictability of the drought and the Maasai-specific attachment to cattle and less by favorable market conditions. Some households rely on accessing other's land, but current trends in the research area and the analysis of the households suggest that households will probably try to reduce their dependency on neighbor's land and increasingly de-mobilize their drought management strategies (comp. Chapter 10).

10 Long-term livelihood strategies and future investments of Maasai

This chapter identifies long-term trends of Maasai household and livelihood developments by taking cattle management, cultivation and a production/income diversification into account.

10.1 Future cattle management - The main trends

As outlined above, the application of specific drought management practices and strategies depends on various factors such as land availability and accessibility. As these factors are changing, many households intent to change cattle management. 'Managing cattle newly' is an emerging paradigm that most of the investigated households seem to follow for their future cattle management. Among the most important changes of current cattle management are:

1. Reducing the number of cattle according to the size of the household's own land (HH 02, HH 05, HH 06).
2. Increasing fencing or fencing the entire land (HH 03, HH 05, HH 13) in order to preserve grass and to reduce the dependence on accessing neighbors' land and migration as coping strategies (land use intensification).
3. Reducing and avoiding strategic migration (HHs 02-05, HH 14) (reduced mobility). Ensuring cattle's feed security within the own homestead's boundaries (including the application of localized coping strategies) is hereby the requirement for such a strategy (land use intensification).
4. Changing cattle breed (HH 02, HH 04, HH 05, HH 12). Due to an assumed decreasing accessibility and availability of pastureland and a numeric reduction of cattle per household, the focus of breeding might shift from current breeds to - more productive - dairy cows (Int. 03, HH 05; Int. 04, HH 04; Int. 12, HH 05) (livestock intensification).
5. Producing hay (HH 01, HH 02, HH 05, HH 12, HH 13, HH 14), planting grass (HH 05) and securing access to water (HH 02, HH 03, HH 14) in order to ensure cattle's nutrition within the own homestead (land use intensification).
6. Changing focus of livestock production from cattle towards sheep and goats might be an option for some households (Int. 26).

These identified potential main future trends of Maasai cattle management need to be regarded as mutually shaping each other and not as independent developments. They are outcomes of and in line with increasing land intensification, reducing mobility and increasing livestock intensification tendencies. These trends might furthermore be outcomes and causes of two potentially rising cattle management strategies, which could determine Maasai cattle breeding in the future: Paddock/partition and zero-grazing. Both practices de-mobilize cattle management and increase its place-based character. These practices could furthermore be the outcome of increasing human population within a fixed non-expanding - or even decreasing - land resource base (Mwangi, 2007, p. 901f; 2005, p. 17ff) and relatively less livestock numbers in relation to the increasing population (Rutten, 1998, p. 186).

10.2 “What I am going to grow, is what I am going to eat”⁹⁷ - Farming intensification and extensification through boreholes, dams and irrigation

The dependency on seasonal rains for tilling fields and the accompanying occasional lack of rains as well as an insufficient (perennial) secure access to own water resources is regarded as the biggest challenge for cultivation (Int. 10, HH 08; Int.12, HH 09; Int. 13, HH 10; Int. 14, HH 11; Int. 16, HH 09; Int. 20, HH 16) and one of the biggest obstacles to obtain food security over the entire year. Most of the investigated Maasai households which face food shortages in the course of a year, are therefore planning to increase, intensify and/or extensify their farming activities in the future (HH 01, HH 04, HH 05, HH 07, HH, 08, HH 10, HH 18)⁹⁸. Season independent irrigation through a secure access to water, especially by drilling boreholes⁹⁹ and constructing dams, is assumed to be a main driver and requirement to intensify (Homewood, 2009) and extensify agricultural production, increase a household's foodstuff-variety and improve its food security.

The aspiration of many households currently facing food shortages seems evident: to increase the household's food security through increasing the household's own production of crops and vegetables by securing a permanent access to and availability of water to irrigate fields and thus to decrease the dependency on seasonal rains. “What I am going to grow, is what I am going to eat” (Int. 01, HH 01, l. 619f), seems to become a paradigm that Maasai households might follow more intensively in the future.

10.3 Income and production diversification

Decreasing a household's dependency on income generated from livestock (products) and livestock-related activities is another strategy Maasai households intend to follow in the future. An increased independence from one single source of income refers in this context to at least two dimensions of diversification:

1. A diversification of production

A diversification of production refers to the livestock-dominating Maasai production system and future increased diversifications through for instance increased farming activities - not only as a source of food security, but as a source of income as well.

2. A diversification of non-production-related sources of income

A diversification of non-production-related sources of income refers to diversification tendencies into for instance employment (Int. 06, HH 05) or revenues from investments

⁹⁷ Int. 01, HH 01, l. 619f.

⁹⁸ Next to irrigation, further requirements to increase cultivation are assumed to be: An increased fenced area (Int. 07, HH 01; Int. 09, HH 07), a tractor to plow (Int. 07, HH 01; Int. 09, HH 07; Int. 10, HH 08, Int. 12, HH 05), seeds (Int. 07, HH 01; Int. 09, HH 07, Int. 10, HH 08) and workers (Int. 09, HH 07).

⁹⁹ Depending on the deepness of the ground water, drilling a borehole costs around 1.5 Million KSh - 12.500 Euro - often funded through loans from banks with the land as security, or through land sales.

in real estates (HH 01, HH 02, HH 05, HH 11, HH 12, HH 09, HH 18) as sources of household income.

The fact that the investigated Maasai households increasingly invest or invested in real estates in the nearby located towns over the past years or intent to do in the future in order to diversify and increase their income sources is evident (HH 01, HH 04, HH 05, HH 09, HH 11). The season-independent regular income from rented out real estates increases a household's resilience to seasonal stresses and contributes to a household's income stability and therefore food security (food accessibility). The fact that the investigated households invest in real estates is conditioned by the research area's proximity to urban areas which provide unique investment opportunities.

10.4 Conclusion - Future livelihood strategies

New cattle management, an intensification and extensification of cultivation and agricultural production - as both a source of household nutrition and as a source of income -, and a diversification of production and non-production-related sources of income will challenge and probably change the currently still high economic reliance of Maasai households on livestock as a source of social and economic wellbeing and the current role of livestock keeping as the dominating production system. Although cultivation currently plays an important role for a household's food security and so far not as a source of income, future trends might result in "an increased economic diversification" (Fraktin, 2001, p. 1) of Maasai agro-pastoral livelihoods. These future diversifications and developments are outcomes of the fact that the investigated households possess agency and actively adapt and develop their livelihoods by confronting and renegotiating them with current land tenure changes and that Maasai may not be regarded as increasingly disempowered in the local arena. The results of this research are in line with results of latest researches suggesting an agricultural and pastoral intensification and extensification as well as generally a livelihood diversification as common changes in sub-Saharan rural livelihood strategies (Ouma et al, 2011; Wisner et al, 2004; Scoones, 1998). However, referring to the cultural importance of keeping cattle (comp. Chapter 6.2.2), as well as their perceived importance (comp. Chapter 6.5), this research confirms BurnSilver's (2009, p. 194) suggestions that diversification is rather "a question of combining new strategies with livestock production, not abandoning livestock entirely".

The identification of potential future Maasai livelihood strategies suggests that land and livestock intensification as well as increasing livelihood diversification might play important roles in the future. Land intensification does hereby refer to both more localized or de-mobilized forms of cattle management as well as an intensification and extensification of cultivation through investing in boreholes, dams and irrigation. A further diversification of the Maasai production system and of non-production-related sources of income might gain in importance as well. Especially investments in real estates due to the very proximity of the research area to several urban areas might provide unique investment opportunities for Maasai households.

In other words, Maasai adapt their livelihoods and try to make use of land tenure changes. With this adaptive capacity, Maasai increase their livelihood resilience by developing new and adapting current livelihood strategies.

11 The rise of women? - Reflections on new forms of land transfers, subdivision and inheritance practices from a gender perspective

Before the subdivision of the group ranches cattle were the main inherited tangible asset divided among the sons. Since the subdivision of the group ranches and the individualization of title deeds, intra-family land transfers and distributions became new practices within Maasai households. Land can be inherited after the death of the legal land owner (title deed holder) or formally be signed over any time to one or several beneficiaries. How, when, if, under which circumstances or between whom land is going to be transferred and title deeds are signed over, is an individual decision of the title deed holder. Generally, it can be assumed that sons of a land owner will be taken into account in inheritance practices, but also daughters are increasingly considered in land distributions (Int. 09, HH 07; Int. 11, HH 09; Int. 12, HH 05; Int. 14, HH 11; Int. 15, HH 12; Int. 16, HH 09; Int. 18, HH 14; Int. 20, HH 18; Int. 25, P 2).

The reasons and underlying motivations of (mainly male) title deed holders to consider daughters in land transfers as well are diverse, but probably the most important is the assumption that land serves as back-up or insurance in case daughters might get divorced and will return to the father's land (Int. 11, HH 09; Int. 12, HH 05; Int. 14, HH 11; Int. 16, HH 09; Int. 18, HH 14). For instance Int. 14 (HH 11, 435-353) will sign over some piece of his land to his daughter

because nowadays marriage is not like the time before...Mine [my daughter] is married now, but I don't know whether she will come back or not [getting divorced]. If she comes back, where will I put her?...She will go back to her father. So you have to prepare. If she comes back, I tell her 'Go there and build your house and stay there with your children'. Life has changed a lot.

Having an own title deed (property) does therefore increase a woman's security in case of divorce (Int. 09, HH 07). Others consider their daughters because they regard them as equal to the sons (Int. 12, HH 05) and as "part of this home" (Int. 22, HH 18, l. 501), because of legal regulations (Int. 25, P 2; Int. 22, HH 18) or as a back-up or insurance in case the daughter's future husband has no land (Int. 11, HH 09; Int. 16, HH 09) or sells the entire land (Int. 16, HH 09). The title deeds will either be transferred to the daughter's name only (Int. 14, HH 11; Int. 15, HH 12; Int. 16, HH 09; Int. 18, HH 14) or to both the future husband's and the daughter's/wife's name (Int. 12, HH 05). Others will specifically consider daughters, who are not married (Int. 11, HH 09; Int. 18, HH 14; Int. 25, P2), in order to provide them some land to live and work on. How these new practices shape livelihood opportunities of women and how they emerge in practice is beyond the scope of this research and requires further research, but it might indeed be the case that traditional Maasai role models - of Maasai men and women - will change in the future, due to a renegotiation of 'female roles' as land and property owners, with own investment and production opportunities and new legal rights.

As selling of land to non-Maasai is regarded as a rather negative development by many Maasai in the research area, some try to protect their land from being sold (Int. 24, NGO), since once the title deed has been transferred, it is the new title deed owner's legal right to decide on the land and on the title deed. Therefore, some title deed holders intent to transfer the title deed only "if...I don't suspect that he [the son] will sell the land. I then give him [the title deed]" (Int. 19, HH 15, 251-254; Int. 02, HH 02; Int. 14, HH 11). Others intent to transfer the title only under the

premise that sons are married (Int. 14, HH 11; Int. 15, HH 12), or particularly have the title under both the husband`s and the wife`s name, as some assume women to be less prone to sell or willing to agree on selling land (Int. 14, HH 11; Int. 11, HH 09).¹⁰⁰ In fact it could even be the case that the fear of current title deed owners that sons might sell the land causes an increased consideration of daughters or wives as (joint) title deed holders in the future. If this is indeed the case, it might in the long-run contribute to a decrease of women`s vulnerability and dependence on men, and contribute to a reduction of the currently prevailing marginalization of women in property regimes and generally within Maasai society.

A particular case in land transfers emerges when the husband within a household passes away. If the deceased was the title deed holder, the title deed will legally be transferred to the widow`s name (Int. 10, HH 08; Int. 24, NGO; Int. 22, HH 18; Int. 25, P 2). This legal security is lacking, once the deceased husband did not have the title deed under his name, but if the title deed was for instance under the name of the deceased`s father. In this case, it seems crucial for a widow to have children with the husband in order to be considered. In case of children, the widow will according to statutory law as well as customary practice be considered (Int. 19, HH 15), as the children are entitled to receive land (Int. 25, P 2) - whereby in customary practice it probably also plays a role whether the children are boys or girls (Int. 19, HH 15; Int. 25, P 2). If the widow neither has children, nor was the title deed under the deceased`s name, the widow will probably have to leave the land (Int. 25, P 2). An increased consideration of women as (joint) title deed holders will therefore reduce the vulnerability of women and daughters, once the spouse has passed away.

This brief reflection might indicate how new property regimes, an increased consideration of women in land transfer practices and how the status of women as legal land owners might impact their resilience, their position within a Maasai household or in Maasai society as a whole. Although an in-depths analysis of these developments was beyond the scope of this research, the reflections on them might provide incitements for future research.

The next chapter will briefly enumerate several of the main limitations of this research and give some further incitements for future research.

¹⁰⁰ Currently, a land owner`s wife needs to give her consent if land is sold, even in case she does not hold the title deed, but if the marriage is legally certified by a marriage certificate. Accordingly, wives have the legal right to stop land sales (Int. 22, HH 18). This is a rather new legal phenomenon, however, it cannot be estimated in this research how and if this legal framework is enforced and applied in practice and how it is weighed against customary practice.

12 Main limitations of the research and future research

Next to technical, financial, methodological and organizational limitations shaping the research process, the research was - due to its chosen focus and approach - constrained and its results biased in several ways. Some of these limitations will briefly be enumerated in the following:

- The focus of this research has mainly been on male household heads and their wives, as the research aimed to investigate perceptions and opinions on decisions and decision-making processes over a rather long period of time and household heads were regarded as the persons being responsible for making key decisions and managing the household.
- As the research focused on Maasai in a rural area, hence on Maasai, who still own land and rear cattle, Maasai, who e.g. sold their entire land, focus on wage labor and migrated permanently to urban areas were not considered.
- The proximity of the research area to several urban areas shaped the results, especially considering current and future livelihood strategies such as investments in real estates and the demand on land in the area.
- Most interviewees were elder people from the current 2nd and 3rd generation. The succeeding, inheriting 2nd or 1st generation and their perceptions were hardly considered.
- The subdivision and the corresponding division of land among the Maasai was taken as a given. Local power structures, the roles of traditional land dispute committees as well as the role of the 'council of elders' were not considered for this research.
- *Political economy* and *political ecology* did not receive any attention for this research. Neither within the local community, nor between Maasai and other communities, or concerning the Kenyan government and its policies on land privatization, land acquisition and tribal affiliation. However, both concepts might be useful to explain the complexity of conflicts on land use and access between different stakeholders (Campbell, 2000).
- Furthermore, the number of interviewed widows, women and Kikuyu was too small in order to make confident, analytical statements on their lifeworlds.

Derived from these limitations and biases some incitements for future research might be:

- Analyzing livelihood strategies or livelihood plans of younger, land-receiving Maasai.
- Investigating changes and chances in Maasai livelihoods in the context of currently emerging Konza City.
- Analyzing motivations of Maasai to maintain the current four group ranches in Kajiado Country and analyzing their livelihood strategies in comparison to Maasai in post-group ranch settings.
- Investigating the role of commercial large-scale farms in the research area.
- Investigating the role and impact of governmental policies, laws and regulations on land (commodification) on a local level within a community or tribal context (political economy).
- Investigating and estimating the quantity and quality of land, that has been sold by Maasai to different parties (e.g. non-Maasai communities) and the amount of fenced land.
- Analyzing how recent changes in inheritance practices shape the role models and livelihood opportunities of wives, widows, daughters and divorced women.

13 Conclusion

The research suggests that changes in land tenure - the privatization of title deeds and the commodification of land, respectively - shape Maasai livelihoods and can contribute to increase a household's food security. It shows furthermore that Maasai actively adapt their livelihoods to these changes and beyond that use(d) the new land tenure system to develop new livelihood strategies. However, these new or changed livelihood strategies impact Maasai pastoralism both as a production system and a socio-cultural way of life.

An identification of current livelihood strategies of Maasai households in the research area revealed that livelihood strategies consist of different combinations of the components livestock keeping, cultivation and wage labor. The research shows that Maasai households rely economically to a large extent on the traditional pastoral production system of livestock keeping, however, complemented through cultivation and - marginally - off-farm employment. Beyond its economic importance, keeping cattle is furthermore an important form of social and cultural capital among Maasai. This eclectic importance induces the investigated households to keep on rearing cattle as a main livelihood component. However, an analysis of the perceived relative importance of the three livelihood components by Maasai shows that cultivation is clearly increasing and livestock decreasing in perceived importance over time, while off-farm employment slightly increases in importance. An analysis of livelihood assets suggests that the assets 'education' and 'money' considerably gain, while the 'amount of livestock' clearly loses in perceived importance over time.

Cultivation and livestock keeping, as the currently two dominating livelihood components, determine a household's food (in)security substantially, either as a direct source of nutrition or as means to purchase foodstuffs. But both practices rely to a large extent on the seasonal cycle. Its perceived unpredictability and irregularity as well as water and food scarcity and changing market prices during dry seasons pose periodical pressures to Maasai agro-pastoral livelihoods and their food security, which does generally play an essential role in Maasai livelihoods. Due to the seasonality of cultivation and the seasons' impact on livestock keeping, some Maasai households remain vulnerable and are accordingly characterized by cyclical or seasonal food and feed insecurity. However, food and feed (in)security need to be regarded in a wider context of changing land tenure and new land use practices emerging from a privatization of land ownership. Emerged from the individualization of title deeds in the research area, a high land tenure security has contributed to an increase of cultivation and agricultural production among the Maasai households, as cultivation is a rather long-term investment in land. Most of the Maasai started or intensified cultivation in order to contribute to the household's food security. It is probably the current combination of cultivation and livestock keeping that has increased the resilience of many investigated households and improved their food security, as Maasai food security depends on both a secure access to agricultural and pastoral resources. In order to overcome seasonal food and feed instability and insecurity during stressful times, Maasai households apply a wide range of mostly drought-reactive and less preventive coping strategies which are partly facilitated and partly constrained by the privatization of land and water, as the natural pastoral resource base.

The research shows that strategic mobility and migration have changed due to the new land tenure system and that migration currently depends on accessing a set of various forms of capital, especially cultural and social capital, in order to access private land of other Maasai. This combination of accesses to different forms of capitals seems rather new and emerged with the changing face of migration after the subdivision, which contributed to generally more sedentary livelihoods and converted migration from a particular way of life into migration as one out of a set of coping strategies a household can draw on in stressful times. Due to the privatization of land and a reduced household mobility, mutual grazing arrangements with neighbors gained in importance for Maasai livelihoods in order to increase feed security for the household's cattle during dry periods. The practice of accessing neighbor's land draws - similarly as migration - on a culturally and socially embedded reciprocity. However, the research shows that furthermore a - partly mutual - dependency of some farms on the neighbor's resources exist, which contributes to practiced overstocking and overgrazing in the research area. Where customary access practices of (relatively) free cattle mobility and new property claims - as a negotiation between customary land tenure and new freehold - incompatible come together, social interfaces occur, which might only be 'avoided' or solved in practice by a reification of land property claims and rights through fencing.

The individualization and privatization of land title deeds included a transition of property regimes from communal to individual land ownership. Individual title deeds in this sense become a tangible and inheritable asset within Maasai households with new land transmission, subdivision and inheritance practices. How these practices will be established remains to be seen, but an increased consideration of women especially in intra-household land distribution practices might impact the current marginalized position of women within many Maasai households and Maasai society. Accompanied by the privatization of title deeds is the phenomenon of increased fencing and land sales, which both shape and change the accessibility of land by Maasai pastoralists. While fencing is more the result of a new property regime protecting and reifying individual property rights and claims, land sales, especially to non-Maasai, are more an outcome of the commodification and valorization of land within an emerged and established land market after the subdivision of the group ranch. It might be over the top to announce a 'tragedy of the individuals', but it remains striking that the privatization of title deeds, justified and claimed in due time by Maasai also with the fear of increasingly losing land, seems to have led to a considerable permanent loss of accessible land for many Maasai pastorals. Both, fencing and land sales contribute to this permanent loss of (pasture) land, impact current cultural and social norms, practices and habits, and change pastoralism as a production system and as a way of life. Beyond that, land sales might in the-long run indirectly change current regional political power constellations and ethnic compositions through an influx of other, financially potent communities, or foster livelihood investments through revenues obtained from these sales. The permanent loss of pasture land through fencing and land sales and newly emerging livelihood opportunities from the new property regime have changed and will further shape Maasai livelihoods.

Analyzing household drought management strategies, the research suggests that current drought management strategies might increasingly be localized and demobilized in the future, caused by both new emerging localized drought management opportunities and a reduced accessibility of pastures of other Maasai. These localized livelihood and drought management strategies might

impact Maasai-specific cultural norms, habits and customary practices. Due to the privatization of land and the accompanied reduced mobility of livestock, the amount of cattle a household can keep is depending on the capacity and the size of the land, which is available or accessible for a household. Temporal or permanent strategies to expand a household's accessible pasture land are progressively under pressure, which will probably decrease the number of cattle a Maasai household will keep in the future. The current economic importance of cattle and an assumed future numeric reduction as well as a decreased accessibility of pastures necessitate Maasai to change current and look for alternative livelihood strategies.

Agricultural and pastoral intensification and extensification as well as generally a livelihood diversification seem to be trends which will further increase in importance for the investigated households. The adaptive capacity, knowledgeability and willingness of Maasai households to further adapt to these changes might become crucial for future livelihoods. New forms of localized and demobilized cattle management, land use intensification strategies through an intensification and extensification of cultivation and agricultural production, livestock intensification and a diversification of production and non-production-related sources of income are ways Maasai might increasingly (have to) approach in the future. However, this does not necessarily mean that livestock production is abandoned completely, but rather that new strategies will expand livestock production and that current livestock keeping practices will change.

How these partly non-traditional land use practices will emerge in the future remains to be seen, but the developments described in this research and the potential future developments of Maasai livelihoods are clear signs for the abilities, capabilities, capacities and - to some extent - the willingness of pastoral Maasai to adapt livelihoods to and use changes in land tenure. With this adaptive capacity, Maasai increase their livelihood resilience by developing new and adapted livelihood strategies. It is this adaptive capacity that can make Maasai the beneficiaries of the current land tenure system, however, these adaptation processes might go hand in hand with a renegotiation and maybe at cost of traditional Maasai pastoral culture. In the end, it will probably depend on the Maasai and on how and if they are using these changes in a sustainable way. From this point of view, current changes in land tenure can be both new constraints and new opportunities for Maasai livelihoods.

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Appendix 1

Appendix 1.1: Data collection process

The data collection was divided into three major phases. Each phase consisted of an approximately three weeks stay in the research area for data collection, followed by a 1.5 to 2 weeks phase outside the field for data analysis and interpretation. The aim of this back and forth from and to the field was to repeatedly re-enter the field with (re-)analyzed data, in order to identify and focus on emerging relevant ideas and insights and in this way to facilitate a greater deepness of analysis.

Data collection process		
Phase	Activities	Location
Preparation-Phase: 21.04.14 - 13.05.14	Field work preparation Research permission process Induction of interpreters	Maasai Mara University, Narok
Phase 1: 14.05.14 - 31.05.14	Field work 1 Data collection	Kajiado County
Phase 1: 01.06.14 - 15.06.14	Data analysis and interpretation Field work 2 preparation	Maasai Mara University, Narok
Phase 2: 16.06.14 - 06.07.14	Fieldwork 2 Data Collection	Kajiado County
Phase 2: 07.07.14 - 20.07.14	Data analysis and interpretation Field work 3 preparation	Maasai Mara University, Narok
Phase 3: 21.07.14 - 08.08.14	Fieldwork 3 Data collection	Kajiado County
Phase 3: 09.08.14 - 13.08.14	Data analysis and interpretation	Maasai Mara University, Narok

Appendix 1.2: Raw data ranking and rating

Table of numeric average values of rated relative importance of livelihood components over time:

	Past	Present	Future
Livestock keeping	84.54	44.08	20.38
Farming / Cultivation	4.23	35.38	58.08
Off-farm employment / wage labor	11.23	20.54	21.54
	100	100	100

Overall table of ranked relative importance of livelihood assets over time:

Ranking all participants		
Past	Present	Future
Number of Cattle/Livestock	Education	Education
Amount of Land	Amount of land	Money
Number of Wives	Money	Amount of Land
Number of Children	Number of Cattle/Livestock	Number of Wives
Money	Number of Wives	Number of Children
Education	Number of Children	Anything Else
Anything Else	Anything Else	Number of Cattle/Livestock

Appendix 2: Household overview (extract)

Inter- viewee	Age	Sex	Commu- nity	Position in HH	Number of wives and children	Number of acres po- ssessed	Farming activities	Number of acres	Own consumption or (products) sold	Herding activities	Number of acres	Type and number of animals	Own consumption or (products) sold	Main income source	Wage labor part of hh income	Percent of hh income
Int. 01 HH 01	63	Male	Maasai	Household head	1 (8)	300	Yes	-	-	Yes	300	Cattle: 60 Sheep and goats: 200	Own consumption, selling for fees	Keeping Livestock	No	-
Int. 02, HH 02	59	Male	Maasai	Household head	2 (6)	215	Yes	3	Own consumption	Yes	100	Cattle: 70 Sheep and goats: 289	Own consumption, selling for fees	Keeping Livestock	Yes	5%
Int. 03, HH 03	43	Female	Maasai	Wife / Mother	1 (7)	?	Yes	3	Own consumption and products sold	Yes	-	Cattle: 20 Sheep: 7 Goats: 24 Poultry: 30	Own consumption and products sold	Keeping Livestock	Yes	2%
Int. 04, HH 04	28	Male	Maasai	Household head	1 (2)	60	Yes	3	Own consumption	Yes	50	Cattle: 30 Sheep: 50 Donkeys: 10	Own consumption and products sold	Driving	Yes	50%
Int. 05, HH 03	44	Male	Maasai	Household head	1 (7)	20	Yes	1	Own consumption	Yes	18	Cattle: 20 Sheep: 100	Own consumption and products sold	Keeping Livestock	No	-

Interviewee	Age	Sex	Community	Position in HH	Number of wives and children	Number of acres possessed	Farming activities	Number of acres	Own consumption or (products) sold	Herding activities	Number of acres	Type and number of animals	Own consumption or (products) sold	Main income source	Wage labor part of hh income	Percent of hh income
Int. 06, HH 05	26	Male	Maasai	Son	3 (3,2,2)	125	Yes	5	Own consumption	Yes	120	Cattle: 45 Sheep: 30 Goats: 20	Own consumption and products sold	Keeping Livestock	Yes	45%
Int. 07, HH 01	50	Female	Maasai	Wife / Mother	1 (7)	300	Partly	1,5	Own consumption	Yes	300	Cattle, sheep and goats	Own consumption and products sold	Keeping Livestock	No	-
Int. 08, HH 06	-	Male	Maasai	Household head	Not collected		Yes	Not collected		Yes	Not collected			Herdsman	Yes	Not collected
Int. 09, HH 07	29	Female	Maasai	Wife / Mother	1 (3)	-	Partly	-	Own consumption	Yes		Cattle, sheep and goats: 105	Own consumption and products sold	Business	Yes	-
Int. 10, HH 08	32	Female	Maasai	Mother	1 (4)	10	Partly	4	Own consumption and products sold	Yes	-	Cattle, sheep and goats	Own consumption and sold	Farming	No	-
Int. 11, HH 09	64	Female	Maasai	Wife / Mother	1 (9)	350	Yes	10	Own consumption and products sold	Yes	340	Cattle:100 Sheep and goats: 147 Poultry 500	Own consumption and products sold	Livestock	No	-

Inter- viewee	Age	Sex	Commu- nity	Position in HH	Number of wives and children	Number of acres po- ssessed	Farming activities	Number of acres	Own consumption or (products) sold	Herding activities	Number of acres	Type and number of animals	Own consumption or (products) sold	Main income source	Wage labor part of hh income	Percent of hh income
Int. 12, HH 05	66	Male	Maasai	Household head	1 (5 + 1 passed away)	120	Yes	3	Own consumption and products sold	Yes	117	Cattle: 49 Sheep and Goats 89	Own consumption and products sold	Livestock (partly farming)	No	-
Int. 13, HH 10	19	Male	Maasai	Household help / son	1 (2) (2 wives)	2	Yes	0.25	Products sold (export)	Yes	0.25	Cattle: 13 Sheep: 7	Own consumption and products sold	<i>Skipped question</i>	No	-
Int. 14, HH 11	52	Male	Maasai	Household head	2 (3/2)	20	Yes	5	Own consumption and products sold	Yes	20	Cattle: 15 Sheep and goats: 30	Own consumption and products sold	Rental houses	Yes	10%
Int. 15, HH 12	50	Male	Maasai	Household head	1 (6)	19	Yes	2	Own consumption	Yes	-	Cattle: 100 Sheep and goats: 300	Own consumption and products sold	Livestock	Yes	20%
Int. 16, HH 09	70	Male	Maasai	Household head	1 (8)	250	Yes	6	Own consumption and products sold	Yes	250	Cattle: 100 Sheep and goats: 200	Own consumption and products sold	Rental houses	No	-
Int. 17, HH 13	60	Male	Maasai	Household head	1 (5)	250	Yes	2	Own consumption	Yes	250	Cattle: 70 Sheep and goats: 150	Own consumption and products sold	Selling milk (rain season)	No	-

Inter- viewee	Age	Sex	Commu- nity	Position in HH	Number of wives and children	Number of acres po- ssessed	Farming activities	Number of acres	Own consumption or (products) sold	Herding activities	Number of acres	Type and number of animals	Own consumption or (products) sold	Main income source	Wage labor part of hh income	Percent of hh income
Int. 18, HH 14	-	Male	Maasai	Household head	Not collected		Yes	Not collected		Yes	Not collected					
Int. 19, HH 15	30	Female / Widow	Maasai	Household head	1 (2)	not applicable	Yes	0.5	Own consumption	Yes	108.5	Cattle, Sheep and goats	Own consumption and products sold	Farming	No	-
Int. 20, HH 16	76	Male	Kikuyu	Household head	1 (6)	1	Yes	0.25	Own consumption	Yes	0.25	Cattle: 2	Own consumption and products sold	Poultry and selling milk	No	-
Int. 21, HH 17	29	Female	Kikuyu	Wife / Mother	1 (3)	0.125	Yes	0.5	Own consumption and products sold	Partly	-	Chicken, rabbits	Own consumption and products sold	Business	No	-
Int. 22, HH 18	63	Female / Widow	Maasai	Household head	1 (7)	65	Yes	2	Own consumption and products sold	Yes	63	Cattle: 16 Sheep and goats: 82	Own consumption and products sold	Livestock keeping	Yes	40%
Int. 23, HH 19	45	Male	Kikuyu	Household head	1 (3)	0.25	Partly	0.125	Own consumption	Yes	-	Poultry	Own consumption and products sold	Business	No	-
Int. 24	-	NGO			Not collected											

Inter- viewee	Age	Sex	Commu- nity	Position in HH	Number of wives and children	Number of acres po- ssessed	Farming activities	Number of acres	Own consumption or (products) sold	Herding activities	Number of acres	Type and number of animals	Own consumption or (products) sold	Main income source	Wage labor part of hh income	Percent of hh income
Int. 25, HH 20	-	Male	Maasai	Household head	-	Not collected									Yes	-
Int. 26	-	Male	Maasai	Household Head	Not collected					Yes	Not collected				Yes	-

Appendix 3: Research forms and papers

Appendix 3.1: Household overview form

Household overview

To be completed for every interview and household

General Information

- Date of Interview: _____ • Interview Code: _____ • Interviewer: _____
- Household Code: _____ • Duration of Interview: _____
- Household Location: _____
- Household type: ☐ Traditional ☐ Semi-permanent ☐ Permanent

1 Interviewee

- Name/Pseudonym: _____ • Age of interviewee: _____ • Sex: _____
- Position in household: _____ • Education: _____
- Occupation (if applicable): _____

2 Household Members

- Number of people living in the household: _____
- Number of wives and corresponding children: _____
- Other members of the household: _____

3 Household

Houses and accommodations

- Number of houses / accommodations that are considered as part of the household: _____
- What kind of facilities: _____

Land

- Number of acres possessed by household (head): _____ Possessed by: _____
- Number of acres owned by household (head): _____ Owned by: _____

- Land rented out: Yes ☐ No ☐ Partly ☐ ● If yes / partly, how many acres: _____
- If yes, amount of rented out land in proportion to owned land (in acres or %): _____
- Land rented: Yes ☐ No ☐ Partly ☐ ● If yes / partly, how many acres: _____
- If yes, amount of rented land in proportion to owned land (in acres or %): _____
- Fenced own land? Yes ☐ No ☐ Partly ☐

Farming

- Farming activities: Yes ☐ No ☐ Partly ☐ ● If yes / partly, on how many acres: _____
- What crops: _____
- Own consumption or (products) sold: _____

Herding

- Herding activities: Yes ☐ No ☐ Partly ☐ ● If yes / partly, on how many acres: _____
- What kind of and how many animals: _____

- Own consumption or (animal products) sold: _____

Income

- Main source(s) of income: _____
- Wage labor / salary as part of household income: Yes ☐ No ☐
- If yes, estimated (by interviewee) proportion of household income: _____
- Activities related to tourism: Yes ☐ No ☐
- If yes, estimated (by interviewee) proportion of household income: _____

Appendix 3.2.1: Master thesis research proposal - Summary for interviewees (English)

Wageningen University (WUR), The Netherlands
Program: International Development Studies (M.Sc.)
Chair group: Rural Sociology (RSO)
Supervisor: Dr. Jessica Duncan
Second reader: Prof. Dr. Han Wiskerke
Submitted by: Florian Neubauer, B.A.
Contact: Florian.Neubauer@wur.nl, Mobile: + 245 727474095 (until July 2014)



Master Thesis Research Proposal - Summary for interviewees

Understanding Changes in Land Tenure and Livelihoods among the pastoral Maasai in southern Kenya

Pastoralist communities in Africa are characterized by a high economic reliance on livestock as a source of social and economic wellbeing. However, over the past decades pastoral livelihoods and populations were increasingly exposed to various pressures to their way of life such as demographic development, relatively less livestock, loss of common property resources to agriculture and the spread of national and game parks. The Maasailand, with its transformation from formerly land 'held in trust', over the introduction of 'group ranches', towards a subdivision into privately owned small plots provides an illustrative example for processes of increased privatization and commercialization of formerly commonly owned land and their impacts and implications on pastoral livelihoods. Despite these transformation challenges and pressures, livestock pastoralism is said to have been rather resilient and adaptive in the past. These assumed pastoral adaptation capacities and a lack of research on how Maasai households are doing under these changes in land tenure render the case of the pastoral Maasai a particularly interesting case to study. Hereby, it is assumed that food (in)security and land tenure are inherently linked and fundamental elements of (Maasai) pastoral livelihoods.

Derived from this problem statement, the main research question of this thesis is:

With specific regards to implications and impacts on food (in)security, (how) do recent changes in land tenure shape the livelihoods of Maasai pastoralists in southern Kenya?

The corresponding main research objectives emerge as follows:

- *Objective 1:* Identifying current livelihood strategies and underlying motives for changes or continuation of Maasai pastoralist livelihoods at a household level.
- *Objective 2:* Understanding (perceptions of) access to land, tenure security and land ownership in a Maasai context.
- *Objective 3:* Understating changes in (perceptions of) food (in)security, their relation to (changes in) land tenure, and identifying coping strategies in times of food (in)security.

Analyzing Maasai households, the thesis aims to shed light on the questions what current livelihood strategies exist in the research area and how changes in land tenure shaped or did not shape their current appearance. Therefore, besides of the current situation, the *processes* that led

to changes or maintenance of certain livelihood strategies will be analyzed. Interviews, (participant) observations and ethnographic interviews are conducted to collect data. A detailed scientific report will be the main outcome of this research. Additionally, an article presenting the research and its main findings is planned to be published in a relevant professional journal in order to ensure the (academic) surplus of this research. Summaries of the research and its main findings will be provided to interviewees, stakeholders and third parties interested in the topic and the research in order to ensure the non-academic surplus.

Appendix 3.2.2: Master thesis research proposal - Summary for interviewees (Kiswahili)

Wageningen University (WUR), Uholanzi
Kipindi: masomo ya kimataifa ya kimaendeleo

Kikundi Elekezi: Rural Sociology (RSO)

Muelekezi: Dr. Jessica Duncan

Msomaji wa pili: Prof. Dr. Han Wiskerke

Imewasilishwa na: Florian Neubauer, B.A.

Pepe: Florian.Neubauer@wur.nl, Rununu: + 245 727474095 (Hadi July 2014)



Master Thesis Research Proposal - Kidokezo Kwa Wahojiwao

Kuelewa mabadiliko katika umiliki wa ardhi na uishi katika jamii ya kuhama hama ya Wamaasai kusini mwa Kenya

Jamii za kuhama hama Afrika mara mingi hutegemea mifugo kufanikisha uchumi wao na maisha ya kijamii kwa jumla. Lakini katika miongo zilizopita maisha ya jamii hizi zimebadilika kwa sababu ya kuongezeka kwa idadi ya watu, kupunguka kwa mifugo, kupoteza mali na raslimali kwa ukulima na kufunguliwa kwa mbuga za wanyama. Katika jamii ya wamaasai, umiliki wa ardhi umebadilika mara kadhaa kwa mfano, kutoka ardhi kumilikiwa kwa niaba ya wengine (land trust), ardhi moja kumilikiwa na watu kadhaa na kuzingatia nambari fulani ya mifugo (group ranch) na mwisho, umiliki wa ardhi kibinafsi, haya yamesababisha mabadiliko katika uishi wao. Ingawa jamii ya kuhama imepitia majaribu mengi, imeweza kustahimili kwa sababu imeweza kubadilika na mienendo na miondoko. Kwa hivyo, ukosefu wa utafiti wa kutosha kuhusu jinsi jamii hii hubadilika ili kujimudu kimaisha, haswa kuhusiana na kubadilika kwa umiliki wa ardhi, imesababisha utafiti huu kutaka tuzingatia uishi wa jamii ya kuhama ya wa Maasai. Inadhaniwa kuwa uhaba au utoshelezi wa chakula na umiliki wa ardhi ni muhimu katika uishi wa Wamaasai.

Kwa hivyo, kutokana na haya yote, swali kuu la utafiti huu ni:

Ukizingatia madhara ya uhaba au utoshelezi wa chakula, onyesha jinsi mabadiliko katika umiliki wa ardhi imebadilisha uishi wa jamii ya kuhama ya Wamaasai kusini mwa Kenya.

Malengo ya utafiti huu:

- *Lengo la kwanza:* Kutambua mbinu za kimaisha ya sasa na sababu ya mabadiliko au uendelezi wa uishi wa jamii ya kimaasai katika kiwango cha nyumba.
- *Lengo la pili:* Kuelewa (mtazamo) wa uwezo wa kumiliki ardhi, sheria za ulinzi wa ardhi na umiliki wa ardhi kulingana na jamii ya Wamaasai.
- *Lengo la tatu:* Kuelewa jinsi mabadiliko katika sheria za umiliki wa ardhi umeadhiri uhaba au utoshelezi wa chakula na kuelewa jinsi jamii ya Wamaasai wameweza kushughulikia uhaba au utoshelezi wa chakula.

Tasnifu hii inanuia kuangazia jinsi nyumba kadhaa zinajikiimu kimaisha kwa sasa na jinsi mabadiliko katika umiliki wa ardhi imeadhiri au imeendeleza hali ya maisha kwa sasa, mambo

yote yaliyoleta mabadiliko katika maisha kihistoria yataangaziwa pia. Mahojiano ya moja kwa moja, kutazama na historia ya kifamilia yatatumiwa kama njia ya kusanya data ambayo itakuwa ya kisayansi. Bila kusahau, matokeo ya utafiti huu yatachapishwa kwenye Journal ya wataalamu ya akademia. Pia, muktasari wa matokeo haya yatapewa yeyote aliyehusika na yeyote atakaye hitaji.

Appendix 3.2.3: Master thesis research proposal - Academic summary



Wageningen University (WUR), The Netherlands
Program: International Development Studies (M.Sc.)
Chair group: Rural Sociology (RSO)
Supervisor: Dr. Jessica Duncan
Second reader: Prof. Dr. Han Wiskerke
Submitted by: Florian Neubauer, B.A.
Contact: Florian.Neubauer@wur.nl, Mobile: + 245 727474095

Master Thesis Research Proposal - Academic Summary

Understanding Changes in Land Tenure and Livelihoods among the pastoral Maasai in southern Kenya

Pastoralist communities in Africa are characterized by a high economic reliance on livestock as a source of social and economic wellbeing (African Union, 2010). However, over the past decades pastoral livelihoods and populations were increasingly exposed to various pressures to their way of life (AU, 2010; Fraktin and Mearns, 2003) such as demographic development (AU, 2010), relatively less livestock (Zaal and Dietz, 1999; Rutten, 1998), loss of common property resources to agriculture or national and game parks (Fraktin and Mearns, 2003; Fraktin, 2001), commoditization of livestock economy (Zaal and Dietz, 1999) and a stratification of livestock ownership (Rutten, 1998). While on the one hand these developments can constrain pastoral livelihoods, they might on the other hand provide new economic and livelihood opportunities and foster livelihood diversification (Thompson et al, 2009; BurnSilver, 2009; McPeak and Little, 2005; Little et al, 2002). Nonetheless, earnings from livestock remain the key factor in Maasai pastoral households and in Maasai economy (Wren, 2010; Thompson et al, 2009; Homewood, 2009; Nkedianye, 2009; Little et al, 2002). The Maasailand, with its transformation from formerly land 'held in trust', over the introduction of 'group ranches', towards a subdivision into privately owned small plots provides an illustrative example (Rutten, 1998) for processes of increased privatization and commercialization of formerly commonly owned land and their impacts and implications on pastoral livelihoods. Despite these transformation challenges and pressures, livestock pastoralism has been "surprisingly resilient" (Fraktin, 2001, p. 2) and "highly adaptive" (CAADP, 2012, p. 1; AU, 2010, p. I). These assumed pastoral adaptation capacities and a lack of research on how Maasai households are doing under these changes in land tenure (Radeny et al, 2007) render the case of the pastoral Maasai a particularly interesting case to study. It is assumed that food (in)security and land tenure are inherently linked (ECA, 2004; Maxwell and Wiebe, 1999; Maxwell and Wiebe, 1998) and fundamental elements of (Maasai) pastoral livelihoods.

Derived from this problem statement, the main research question of this thesis is:

With specific regards to implications and impacts on food (in)security, (how) do recent changes in land tenure shape the livelihoods of Maasai pastoralists in southern Kenya?

The corresponding main research objectives emerge as follows:

- *Objective 1:* Identifying current livelihood strategies and underlying motives for changes or continuation of Maasai pastoralist livelihoods at a household level.
- *Objective 2:* Understanding (perceptions of) access to land, tenure security and land ownership in a Maasai context.
- *Objective 3:* Understating changes in (perceptions of) food (in)security, their relation to (changes in) land tenure, and identifying coping strategies in times of food (in)security.

Approaching from an actor-oriented view (AOA) (Long, 2004, 2001, 1999, 1997) and complemented by Latour's actor-network theory (ANT) (Latour 2010, 1996), different concepts such as livelihood (Ellis, 2000; Chambers and Conway, 1991), land tenure (ECA, 2004; Maxwell and Wiebe, 1999) and food (in)security (Clay, 2006; FAO, 2006; Desmarais, 2002; FAO, 2002) will be applied in this research. Analyzing Maasai households, the thesis aims to shed light on the questions what current livelihood strategies exist in the research area and how changes in land tenure shaped or did not shape their current appearance. Therefore, besides of the current situation in the research area, the *processes* that led to changes or the maintenance of certain livelihood strategies will be analyzed. In order to answer the research questions and to address its research objectives, the research will *reconstruct* and *analyze* practices and developments within Maasai households and collect accounts and perceptions of *how* land tenure changes and land tenure (in)security (are perceived to) emerge within this Maasai pastoral context. However, the research will not simply reconstruct subjective views, but rather try to uncover social phenomena, patterns and motivations underlying these views and practices. Approaching ethnographically (Atkinson and Hammersley, 2007) and using grounded theory (Charmaz, 1996; Glaser and Strauss, 1967) as main methodological approach, in-depths interviews (Honer, 1994), participant observations (Kawulich, 2005), ethnographic interviews and an extensive literature review will be conducted to collect and analyze the data. A detailed scientific report will be the main outcome of this research. Additionally, an article presenting the research and its main findings is planned to be published in a relevant professional journal in order to ensure the (academic) surplus of this research. Summaries of the research and its main findings will be provided to interviewees, stakeholders and third parties showing interest in the topic and the research in order to ensure the non-academic surplus.

Appendix 4: Organizational agreements and forms

Appendix 4.1: Participant consent form for English speaking interviewees



Participant consent form for English speaking interviewees

Research Project: Understanding changes in land tenure and livelihoods among the pastoral Maasai in southern Kenya

Please read the following pages about the research project. Feel free to ask any questions which might lead to clarification.

You are invited to participate in a study entitled 'Understanding changes in land tenure and livelihoods among the pastoral Maasai in southern Kenya'. This research is part of a Master of Science degree of Florian Neubauer in International Development Studies at Wageningen University (WUR) in The Netherlands. The purpose of this research is to understand how changes in land tenure influence and shape the livelihoods of pastoral Maasai in southern Kenya (if you wish to have more information on the research, you will receive a summary of the research proposal after the interview has been conducted). This type of (grassroots) research is very important and interesting for researchers in order to understand the very local opinions on, perceptions and experiences of changes and transformations processes in land tenure and livelihoods over the past decades.

You are interviewed because your opinion, expertise and point of view of the current situation are essential for this research. Hence, I, Florian Neubauer, would like to ask for your permission to conduct an interview with you, whereby this interview is more a normal conversation than a traditional interview. I will ask you questions about the current situations in your village and household, as well as questions about the past and past decisions you made.

I would furthermore like to ask for your permission to audio tape the interview, as I or my interpreters want to transcribe the interview's content in order to analyze it more detailed. In doing so, your identity will be completely anonymized. That means, your name will not be mentioned, neither the names of any of your family members or other people you might mention during the interview. Instead pseudonyms will be used. Names of specific places, streets, etc. and all other potentially identifying information will not be transcribed or replaced by pseudonyms. I as well as my interpreters will do everything in our power to protect your identity and ensure the confidentiality of the data. Still, I cannot guarantee that your identity will not somehow be identified.

The interview's content will be used for different projects, including but not limited to my thesis, academic and popular articles, and public presentations.

If you are interested in the transcribed interview (English only) and / or the results of the research, you can write an email to Florian.Neubauer@wur.nl and you will receive the

transcription and/or a copy of the thesis` results via mail once the research has been finalized. Another benefit of your participation is that you contribute to a (scientific) understanding of the current situation of Maasai people in Kajiado County for an academic and non-academic audience.

Your participation in this research must be completely voluntarily. You may withdraw from the interview at any time without explanation. If you wish to withdraw from the interview, the data will not be used for the research, unless you give explicit written permission to use them. You may also reject or skip questions at any point of the interview.

The results of this research will be shared with participants of the study, researchers, university staff as well as with academic and non-academic public. Due to purposes of clarification, I or the interpreter might come back to you for a follow up-interview.

This research is conducted with and supervised by Wageningen University (WUR) staff in the Netherlands. The affiliating Kenyan institution is Maasai Mara University (MMU), Narok. The Kenyan National Council for Science and Technology has officially granted permission to conduct this research.

Please state in the boxes below whether you agree and verify that you have read and agree or disagree with the following:

Please Check

Yes ☐

No ☐

I agree that the interview will be audio taped.

Yes ☐

No ☐

I understand that the information I provide will be used as part of a scientific thesis, public presentations and publications for academic and non-academic audience.

Yes ☐

No ☐

I understand that my identity will be protected, my name and any other name I mention during the interview will be given a pseudonym and my location will only be references as part of district.

Yes ☐

No ☐

I understand that I may skip any question I don't feel comfortable with or don't want to answer and that I can withdraw at any from the interview. In case of withdrawing from the interview, the data provided so far will not be used unless and until my explicit written permission is given.

I understand that the researcher or the interpreter might contact me for a follow-up interview if any clarification is required and that this consent form applies to all future interviews.

Yes ☐

No ☐

Your signature below indicates that you understand the above conditions of participation in this study and that all of your questions have been answered appropriately.

Name of Participant

Signature

Date

A copy of this consent will be left with you for your record and the researcher will keep a copy.

Thank you for your participation



Florian Neubauer

Appendix 4.2: Participant consent form for Kiswahili speaking interviewees



Fomu ya ruhusa ya mshiriki wa mahojiano katika lugha ya Kiswahili

Mradi wa utafiti: Kuelewa mabadiliko katika umiliki wa ardhi na uishi wa wafugaji wa kuhama, jamii ya wamaasai katika kusini mwa Kenya

Tafadhali soma kurasa zifuatazo kuhusu mradi wa utafiti. Kuwa huru kuhuliza swali lolote litakalo kuwezesha kuelewa zaidi.

Unaalikwa kushiriki katika mafunzo yenye mada ‘kuelewa mabadiliko katika umiliki wa ardhi, uishi wa wafugaji wa kuhama katika kusini mwa Kenya’. Utafiti huu ni sehemu ya Uzamili wa shahada cha Sayansi cha Florian Neubauer katika Masomo ya Kimataifa ya Kimaendeleo katika chuo kikuu cha Wageningen (WUR), Uholanzi. Lengo la utafiti huu ni kuelewa jinsi mabadiliko katika umiliki wa ardhi imeadhiri na kubadilisha uishi wa wafugaji wa kuhama, jamii ya wamaasai katika kusini mwa Kenya (ukitaka habari zaidi kuhusu utafiti huu, utapata muktasari wa pendekezo la utafiti baada ya mahojiano kukamilika). Aina hii ya utafiti wa moja kwa moja ni muhimu sana na yenye kufutia kwa watafiti ili waelewe maoni, mtazamo na tajriba ya wenyeji katika mabadiliko na hatua za mageuzi katika umiliki wa ardhi na uishi katika miongo iliyopita.

Unahojiwa kwa sababu maoni yako, uzoefu na mtazamo wako kwa jumla wa hali ilivyo sasa ni muhimu sana katika utafiti huu. Kwa hivyo mimi Florian Neubauer, ningependa kukuomba ruhusa kufanya mahojiano nawe, ambapo mahojiano yenyewe yatakuwa kama mazungumzo ya kawaida kuliko mahojiano rasmi. Mfasiri wangu atauliza maswali kuhusu ali ilivyo sasa katika kijiji chenu na familia/boma lenu na maswali kuhusu ali ilivyokuwa zamani na mahamuzi ya awali mliochukuwa.

Ningependa pia kukuomba ruhusa ili nitumie utepe wa kusikilizwa katika mahojiano, kwa

kuwa mfasiri wangu atahitaji kufasiri matokeo ili niweze kuhakiki vilivyo. Katika kushiriki, utambulisho wako utakuwa sirini. Hii ina maana kuwa jina lako halitatajwa wala majina ya wowote wa familia yako ama ya watu wengine utakaowataja wakati wa mahojiano. Badala ya majina hayo majina bahandia yatatumika. Majina sahihi ya sehemu fulani kama vile njia/barabara na vinginevyo na habari zingine zozote ambazo zinaweza kutoa utambulisho hazitatumika katika utafsiri au majina bahandia kutumika. Nami pia na wafasiri wangu tutafanya vyo vyote tuwezavyo ili kusitiri utambulisho wako na kuhakikisha kuwa kuna ulinzi bora wa data. Hata hivyo, zitakuhakikishia kabisa kuwa utambulisho wako hautajulikana.

Matokeo ya mahojiano yatatumika kwenye miradi mbalimbali kama vile tasnifu yangu, sanaa maarufu na ya kiakademia na mawasilisho ya umma.

Ukhitaji mahojiano yatakayo fasiriwa (katika lugha ya kimombo), na matokeo ya utafiti, utaandika barua pepe kwa Florian.Neubauer@wur.nl na utapokea tafsiri au nakala ya matokeo ya tasnifu kupitia kwa barua pepe baada ya kudhibitishwa kwa kazi hii. Umuhimu mwingine wa

ushiriki wako ni kwamba unachangia kueleweka kisayansi ya hali ilivyo sasa ya wamaasai katika wilaya ya Kajiado county kwa hadhira ya kiakademia na isiyo yaa kiakademia.

Kushiriki kwako katika utafiti huu lazima iwe kwa kujitolea. Unaweza kujiondoa kwenye mahojiano wakati wowote bila kuomba ruhusa. Ukitaka kujiondoa kwenye mahojiano, data yako haitatumika kwenye utafiti, au labda utoe idhini katika maandishi. Utaweza pia kataa au kuacha bila kujibu maswali fulani wakati wowote.

Matokeo ya utafiti huu yatumika pamoja na washirika wa mafunzo, watafiti, wafanyakazi wa chuo na umma kwa jumla. Kwa sababu ya kutaka kupata udhabiti sahihi, mimi au mtafsiri anaweza kuja kwako baadaye kwa mahojiano zaidi.

Utafiti huu unafanywa na kusimamiwa na wafanyakazi wa chuo kikuu cha Wageningen (WUR), Netherlands. Kinashiriki na chuo kikuu cha Maasai Mara (MMU), Narok. Kamati ya Kitaifa ya Sayansi na Teknolojia, imenipa idhini rasmi ya kufanya utafiti huu.

Tafadhali onyesha kwenye mabano hapa chini ikiwa unakubali na kuhakikisha kuwa umesoma na unakubali au unakataa yafuatayo:

Tafadhali sahihisha

Nakubali kuwa mahojiano yatarekodiwa kwenye utepe wa kusikilizwa. **Ndio** ☐ **La** ☐

Naelewa kuwa habari nitoayo itatumika kama sehemu ya kisayansi na sanaa maarufu. **Ndio** ☐ **La** ☐

Naelewa kuwa utambulisho wangu utalindwa. Jina langu na majina ya wale nitakaowataja kwenye mahojiano yatapewa majina bahandia na taarafa yangu itatambulika tu kama sehemu ya wilaya. **Ndio** ☐ **La** ☐

Naelewa kuwa naweza kuacha bila jibu swali lolote ambalo sitakuwa tayari kujibu na kuwa nitaweza kujiondoa kwenye mahojiano. Ikiwa nitajindoa, data ambazo nitakuwa nimetoa hazitatumika hadi nitakapotoa idhini rasmi kwa njia ya maandishi. **Ndio** ☐ **La** ☐

Naelewa kuwa mtafiti au mtafsiri ataweza kunitafuta kwa mahojiano zaidi ikiwa udhabiti zaidi utahitajika na kuwa ruhusa hii itatumika kwa mahojiano mengine siku zijazo.

Ndio ☐

La ☐

Sahihi yako hapa chini inadhibitisha kuwa umeelewa masharti uliyopewa ya kushiriki katika mafunzo haya na kuwa maswali yako yote yamejibiwa kwa usahihi.

Jina la mshiriki

Sahihi

Tarehe

Utabaki na nakala ya fomu hii ya ruhusa ya mshiriki kwa sababu ya rekodi na mtafiti pia ataweka nakala.

Asante kwa ushiriki wako.



Florian Neubauer

Appendix 4.3: Research permissions



OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR
AND COORDINATION
OF
NATIONAL GOVERNMENT

COUNTY COMMISSIONER
KAJIADO COUNTY
P.O BOX 1-01100
KAJIADO

Telegrams: "DISTRICTER", Kajiado
Telephone: 02035711295
Fax: 0202054416
E-mail: kajiadoccr20_2@yahoo.com
Kajiadoccr2012@gmail.com
When replying please quote

Ref.KJD/CC/ADM/45/(23)

21st May, 2014

Deputy County Commissioner
LOITOKITOK

Deputy County Commissioner
ISINYA

Deputy County Commissioner
MASHURU

Deputy County Commissioner
KAJIADO CENTRAL

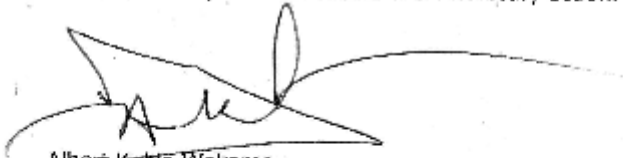
Deputy County Commissioner
KAJIADO NORTH

RE: RESEARCH AUTHORIZATION: MR. FLORIAN WERNER NEUBAUER

Mr. Florian Werner Meubauer is a student at the Wageningen Universit, Netherlands and has been authorized to carry out research in Kajiado County on **"Understanding changes in Land Tenure and Livelihoods among the Pastoral Maasai In Southern Kenya"**, for a period ending 8th August, 2014.

Kindly accord him the necessary assistance.

Attached is a letter from the National Commission for Science, Technology and Innovation for your information and necessary action.


Albert Kobia Wakamau
COUNTY COMMISSIONER
KAJIADO COUNTY

**MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
(State Department of Education)**

E-mail: lucykashu@gmail.com
When replying please quote
Ref: KJD/C/R3/VOL.1/36
And
Date: 22nd May 2014



County Director of Education
Kajiado County
P. O. Box 33
KAJIADO

**FLORIAN WERNER NEUBAUER
WAGENINGEN UNIVERSITY
NETHERLANDS.**

RE: RESEARCH AUTHORIZATION.

Your application for research authorization was approved by National Commissioner for Science, Technology and Innovation, vide letter Ref.NACOSTI/P/14/1660/1668 dated 15th May 2014.

You are hereby authorized to carry out your research on "Understanding changes in Land Tenure and Livelihoods among Pastoral Maasai in Southern Kenya" in Kajiado County for a period ending 8th August 2014. On completion of the research you are expected to submit 2 copies of the research finding report to this office.

**MOSES M. MWARARIA
FOR COUNTY DIRECTOR OF EDUCATION
KAJIADO**

Cc

- National Commission for Science, Technology and Innovation
P.O.Box 30623-00100
NAIROBI.
- The County Commissioner- Kajiado County.



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254 20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30633-00100
NAIROBI-KENYA

Ref No.

Date:

NACOSTI/P/14/1660/1668

15th May, 2014

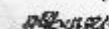
Florian Werner Neubauer
Wageningen University
NETHERLANDS.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ~~"Understanding changes in the Food and Livelihoods among the~~
~~pastoralists in Southern Kenya."~~ I am pleased to inform you that you
have been authorized to undertake research in **Kajiado County** for a period
ending 8th August, 2014.

You are advised to report to the **County Commissioner and the County
Director of Education, Kajiado County** before embarking on the research
project.

On completion of the research, you are expected to submit **two hard copies
and one soft copy in pdf** of the research report/thesis to our office.


SAID HUSSEIN
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Kajiado County.

THIS IS TO CERTIFY THAT:
MR. FLORIAN WERNER NEUBAUER
of WAGENINGEN UNIVERSITY,
DR.MACH.STR-29-85540 HAAR,has been
permitted to conduct research in
Kajiado County

on the topic: UNDERSTANDING
CHANGES IN LAND TENURE AND
LIVELIHOODS AMONG THE PASTORAL
MAASAI IN SOUTHERN KENYA

for the period ending:
8th August,2014

Applicant's
Signature

Permit No : NACOSTI/P/14/1660/1668
Date Of Issue : 15th May,2014
Fee Recieved :USD 350



Secretary
National Commission for Science,
Technology & Innovation

CONDITIONS

- 1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit**
- 2. Government Officers will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.**



REPUBLIC OF KENYA

NACOSTI

National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No. A 12014

CONDITIONS: see back page