sedentarization in filtu woreda, ethiopia: impacts on health, ecology and society

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Declaration

I, Kari Vrålstad, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signature: Kari Vrålstad
Date: 25.05.2010

Abstract

This thesis is about the sedentarization process in Filtu Woreda of the Somali Region in Ethiopia. Sedentarization is described as the transition from a more nomadic to a less nomadic or sedentary livelihood for pastoralists. In Filtu Woreda, this transition is occurring due to many reasons, among them drought, pressure from governments, and demand for education and development. The sedentarization process has, however, both positive and negative impacts on the pastoral livelihoods. In terms of *Health,* the sedentary life has enabled pastoralists to access health services, water and sanitation facilities, but it has also increased the risks of disease transmission and poorer nutrition. When sanitation facilities, health services and safe water quality lack in settled communities the consequences can be fatal. In terms of *Ecology*, the sedentarization process naturally leads to higher density of humans and animals, and thus often higher pressure on pastures in the same area. In Filtu Woreda, the respondents linked the increased density to reduced grass, bush encroachment and less rainfall, although no direct connection between these factors is documented in this thesis. Sedentarization had also enabled the pastoralists to engage more in agriculture, at the same time as this indicated a shift from a livestock-based economy with primarily home consumption to a more marked-oriented economy. In terms of *Society*, the sedentarization process did not seem to impact the rates of conflicts in the visited area, however examples from similar processes exemplifies the importance of awareness and carefulness when such processes are encouraged. The thesis further highlights the positive impact of education from the sedentarization process in Filtu Woreda; and the access to water which has changed pastoralists' livelihood tremendously. Lastly, the thesis looks into the impacts on gender roles, culture, community and participation, which shows positive trends as well as further challenges. It is the impression of the researcher that the sedentarization process in Filtu Woreda is both loved and disliked among the respondents, although none of them regretted the choice to settle. It had met some demands, and created others; it had brought improvement to their livelihood, but also some challenges. These different impacts of the sedentarization process are discovered and described in this thesis in order to improve the policies and activities of development schemes targeting pastoralists in the transition from a nomadic to a sedentary life.

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Contents

Figures, Tables and Pictures

Abbreviations

FWSP: Filtu Water and Sanitation Project

NLM: Norwegian Lutheran Mission

EECMC: Ethiopian Evangelical Church Mekane Yesus

CHW: Community Health Worker

FFW: Food for Work

WHO: World Health Organization

DASSC: Development and Social Service Commission

COOPI: Cooperatione Internationale

PCAE: Pastoralist Concern Association Ethiopia

SNRS: Somali National Regional State

NORAD: Norwegian Agency for Development Cooperation

WMC: Water Management Committee

FDRE: Federal Democratic Republic of Ethiopia

ONLF: Ogaden National Liberation Front

UNESCO: United Nations Educational, Scientific and Cultural Organization

EFA: Education for All

UN: United Nations

MDG: Millennium Development Goal

FGM: Female Genital Mutilation

Local expressions

Kebele: village/community; the smallest administrative unit in Ethiopia

Woreda: district/municipality; the second smallest administrative unit in Ethiopia

Barkad: underground water cictern

Duxi: Koran school for children

Guurti: congregation of elders in the traditional Somali hierarchy; incorporated in all levels of SNRS

1. Introduction

This thesis is about the transition from nomadism to sedentism among traditional pastoralists in Filtu Woreda of the Somali Region of Ethiopia. This shift – the *sedentarization* process, implies a change for pastoralist households from a livelihood constantly on the move, to a livelihood permanently settled in *kebeles* – villages. Often, these kebeles appear where there is a water source, e.g. a natural pond, near the river, or where there has been built a *barkad* – an underground cistern for fetching rainwater. The number of such barkads has increased rapidly during the last decade; leading to pop-ups of new kebeles all over the *woreda* (district). Due to a variety of reasons, many pastoralists have decided to live near one of the new water sources. Based on a 2, 5 month's fieldwork in some of the new kebeles in FIltu Woreda, this thesis aims at presenting some of the health-related, ecological and social impacts from the sedentarization process. A broad specter of topics will be investigated and discussed in order to see the process in a wide perspective; its pros and cons, its possibilities and constraints. This thesis is therefore not a deep dive into *one* of the consequences of sedentarization, rather it gives a broad, holistic picture of the complex process of sedentarization.

What happens when pastoralists settle down and create villages here and there where there was no settlement before? Obviously, many things happen – both positively and negatively. One can have many assumptions of this, and different interests will have different expectations to what a shift from nomadism to settlement might lead to. This thesis, however, tries to answer this question by presenting and analyzing the answers from the settlers themselves. They live in the process every day, and experience the different facets of the transition on their body. To them, this is not an interesting topic for a master thesis, or a historical happening that changed the traditional nomadic livelihood into "something else". To them, this is about survival, feeding their children, maintaining their livestock; - it's about their *life*, here and now. As a researcher, it has been my aim through all the process of data collection to grasp glimpses of the *real life* of the new villagers, to see the situation in their perspective, and, at the same time, be able to see their perspectives in a broader context. The overall research question in this thesis is therefore: *How does sedentarization impact pastoralist livelihoods in Filtu Woreda in terms of health, ecology and society?*

Many assumptions exist on what sedentarization might lead to in terms of health, ecology and society. Government policies, development strategies and anthropological studies often flourish with them, either directly or indirectly. Some focus solely on the positive impact from sedentarization, while others see only the negative consequences. Typical assumptions of the first kind are that sedentarization is good in terms of pastoralist development. By settling, they get access to water and sanitation facilities, and thus – they become healthier. Pastoralist children get access to education,

people will socialize and exchange knowledge and ideas, and get access to a broader income generating base. People will also be registered as inhabitants with an address and a say in public arenas. Assumptions of the latter kind – negative impacts from sedentarization – are concerned about the possible damage on culture and traditions; and how density-dependent factors such as diseases and degradation might be negatively influenced by the gathering of people. Some may even question the whole idea of putting settlement on the agenda; why should one encourage people to settle down when they've lived as nomads for generations? Is the settled alternative necessarily *better*? Through the discussions in this thesis, some of these common assumptions behind governmental and international policies towards pastoralists will be presented and discussed. However, it is not the assumptions, but the *respondents' experiences* that will shape the conclusions in this thesis.

One thing is the assumptions outsiders might have on the outcomes of the shift from nomadism to settlement, another is the assumptions that the pastoralists themselves had and have towards it. At some point they too might have put the expected benefits and the expected disadvantages on the scale, and found that the settled life seems better in some way or another. To some, it might have come to a point where there were no longer any choice; - the harsh life forced them to seek help in the kebele. To others, the process might have been coerced or encouraged by external interests such as governments, NGOs, traders, etc. Others again might have settled out of a dream of creating something new; a better future for their children, and to live as "developed" people. The hopes and expectations vary, as do the experiences and aftermaths. This thesis aims at bringing forth the stories of various causes and consequences; both those considered positive and those considered negative.

The stories in this thesis represent the situation in these particular kebles, and might therefore not correspond with sedentarization processes in other parts of the world. The impacts of a sedentarization process varies according to the physical position of the settlement (whether or not it is placed near urban areas, rivers, infrastructure, etc.), pastoralists' ability to adapt to new environmental and social conditions, and according to the level of assistance from outside. One should therefore not use the findings in this thesis to generalize and simplify sedentarization into one, uniform process. However, sedentaization is a global phenomenon at present (Fratkin & Roth 2005), and it is therefore likely that the findings in this thesis can highlight some general trends in the pastoral world. Based on the process in Filtu Woreda, one can suggest that sedentarization does impact the health situation, ecology and society in any area where it is happening; though in different ways.

One of the projects that have engaged in the building of water sources in Filtu Woreda, is Filtu Water and Sanitation Project (FWSP). Norwegian Lutheran Mission (NLM), together with the Ethiopian Evangelical Church Mekane Yesu (EECMY), started this project in 2002 as a response to the severe drought that again affected the area at the beginning of the millennia. The project's aim was to build underground cistern and shallow wells, repairing and extend existing ponds, and to improve sanitation facilities in the woreda. Many new kebeles have been created as a response to the FWSP water points, and it is some of these kebeles that have been the starting point of this thesis. Through the presentation and discussion, the FWSP approach and activities will be used as examples. When respondents refer to a barkad, it is always talk of a FWSP initiated barkad. The thesis, as such, is not an *evaluation* of the project, yet some of the findings can have that function as well. In the sense of an evaluation, this thesis might contribute to reveal some of the long-term consequences of FWSP and similar projects in pastoral areas. In the *Society* chapter, a more direct evaluation of the projects' participation- and non-payment approach will be given.

This thesis is the story of some pastoralists in Eastern Ethiopia affected by drought, famines and epidemics, trying to meet the future in the best way for themselves and their children. For many of them, the way out of these challenges has been to settle down. At the same time, this is the story of a project trying to meet the pastoralists' basic and fundamental need for water. As we will see, these stories interact and influence each other, creating the present situation that pastoralists now experience in the relevant kebeles. But, as we go deeper into this material, we will also find that there are many other stories as well; - other interests, institutions, mechanisms and structures, which influence the situation and makes it more complex. This thesis will try to grasp this complexity, and discuss the different aspects of the sedentarization story.

A presentation of the *Methodology* used will be given before we enter into the main issues in this thesis. The findings and discussion in the thesis is divided into four main chapters; *Nomadic versus Settled, Health, Ecology* and *Society.* The choice to divide the discussion into theses main topics is based on the respondent's answers; what they found relevant and necessary to mention from the sedentarization process is what will be discussed. Each chapter is further divided into different topics found relevant in the context of Filtu Woreda. In the end, a *Summing up* chapter will draw some conclusions out of the topics discussed, as well as present some suggestions and recommendations to further research and work among settled pastoralists. However, before we go on to describe the reasons to, and impacts from, the sedentarization process in Filtu Woreda, a closer look into the *Theoretical background* and the *Contextual background* is needed.

2. Theoretical background

The field we are entering into when we want to describe pastoralists and their lifeworlds is very interesting, though complex. Many attempts to categorize and generalize pastoralists around the world have resulted in a cognition that pastoralists are not a uniform group; their livelihoods, traditions, movements, activities and family structures varies greatly (Fratkin & Roth 2005; Salzman 1980). Yet, there are some characteristics that make us call pastoralists "pastoralists". In this chapter the term "pastoralist" will be clarified, the spread of pastoralism and aspects with pastoral societies and ecology will be presented. The theory and contents of sedentarization, both as a specific change and as a part of a socio-cultural change, will then be described.

Pastoralism

Definitions and classifications

Who is a pastoralist? And what characterizes him/her? The term *pastoral* refers to *pastures* which are essential to pastoralists' subsistence. A pastoralist is a person who raise his/her livestock in "natural" pastures; that means in on uncultivated land (Salzman 2004). This distinguishes pastoralists from e.g. farmers and ranchers, who may have large herds, but use natural pastures only seasonally or not at all. Pastoralists are thus characterized by the way their livestock are kept, and by the *dependency* on livestock in terms of products, status and economy. Livestock dependency is to a great extent what *defines* pastoralism, even though different authors have expressed this feature in different ways (Smith 1992). Among other things, pastoralists are also characterized by their constant considerations of where and what is the best environment for the livestock to graze. Temperature, climate, layout of landscapes, plant variation, density of humans and animals, conflicts, available water source, etc, are all important factors that pastoralists have to balance in order to find optimal pastures for their livestock (Salzman 2004).

Pastoralists are not necessarily *nomadic*, though the terms are often used to describe the same content (Homewood 2008). While *nomadism* refers to *movement*, pastoralism refers to the occupation, or activity from which pastoralists live (Barfield 1993). Pastoralists are often divided into sub-groups according to the degree of nomadic activity. *Pure nomads* or *pure pastoralists* are often described by their movements without fixed routes or regular movement patterns. They can live quite isolated from other populations, and are characterized by their sole dependency on livestock. The degree to which such pure nomads exist are questioned, however, as the relationship between herding societies most often are interwoven in reality (Smith 1992). *Transhumant* pastoralists are characterized by their move from one specific place to another, between which they travel along the

same, regular route. The move from one residence to the other usually happens on specific times of the year according to seasonality. *Semi-nomads* or *agro-pastoralists* are characterized by their more or less settled livelihood, but with their livestock herded in natural pastures. Often this group is associated with agricultural activity or small-scale trade in addition to their dependency on livestock (Sheik-Mohamed & Velema 1999). There exist also pastoralist populations that are totally *sedentary*, which makes the picture of who is a pastoralist more blurred (Homewood 2008).

Such classifications might not be possible to identify in practical life though, as pastoralists often shift between different forms of nomadic activity in a constant adaptation to environmental, political, cultural and economic conditions (Salzman 1980). Other ways of classifying pastoralists have been presented by e.g. Smith (1992), who pays attention to the way pastoralists classify *themselves.* If the livestock is viewed as the most important asset in a man's life and he considers himself a pastoralist – he is so. Similarly, if a woman has a large stock that she is dependent on, but identify herself more to her crops – she should be viewed as an agro-pastoralist. Self-identification is important, he claims, as "what they call themselves is usually based on the ideal identity expressed in certain cultural terms, especially if it is adhered to by the most prestigious classes" (ibid p. 17). Yet another way of distinguishing between pure pastoralists and agro-pastoralists is to look at the herd is viewed; as a means of production, or as a product. The degree to which pastoralists' animals have become a commodity is therefore interesting in terms of classification, according to Smith (1992). In this thesis, we shall see the commoditization process exemplified among pastoralists in Filtu Woreda, as they have shifted from more or less pure pastoralism into a more sedentary living.

Salzman (2004) focuses on the natural pastureland when he defines pastoralism. The pastures they use are not improved by human hand or fenced, and the livestock fodder is purely natural in the sense that trees, grass and bushes are not planted by humans. However, pasturelands are rarely unaffected by human activity, and the "wild bush" that are often associated as pastoralists' habitat are not necessarily that "wild". The political ecology school would argue that the place called "wilderness" is a constructed one, as no spot on the earth in unprotected from human impact (Proctor 1998; Robbins 2004). So also with pasturelands, Salzman (2004) argues. Fires, deforestation and clearing of land for grazing have shaped and maintained the pastures throughout history, and thus pastoral landscapes are not *natural* in the meaning of not being subject to human activity.

Spread and Society

It is estimated that there are about 20 million pastoralists and 240 million agro-pastoralists only in Africa (Fratkin & Roth 2005), but pastoralists occupy large areas also in Asia (Barfield 1993) and, less frequent, in Europe (Salzman 2004). The number of agro-pastoralists, or semi-nomads, in the world is

thus much larger than the number of pure pastoralists. Pastoralists occupy savannas, arid deserts and lowlands, and are known to adapt to harsh climate and poor living conditions (Fratkin & Roth 2005). Societies characterized as pastoral are not a new phenomena; they have been known throughout history in many parts of the world (Salzman 2004). The East-African countries of Kenya, Tanzania, Ethiopia, Eritrea, Somalia, Sudan and Uganda are home to twenty-five million pastoral and agro-pastoral people (Sheik-Mohamed & Velema 1999). This number is on the decline, however, as an increasing number of pastoralists in East African have settled during the past forty years. The same trend can be recognized also in other parts of the world, as we will come back to in the next section about Sedentarization.

Pastoralists are known for their strong specialization in livestock breeding (Salzman 2004). Although most pastoral societies are associated with two or more animals, there is often one *key* animal that defines the pastoral group culturally. Key animals are often seen as the most important animal, of which the pastoral group wants to be associated with. Example of such is the dependency on cattle in East-Africa, camel pastoralism in the Saharan and Arabian Deserts, sheep and goat dependency north of the arid deserts in Africa, or horse-riding pastoralists on the Eurasian steppe (Barfield 1993). However, Salzman (2004) argues that such characterizations are over-simplified and misleading, as most pastoral societies raise more than one animal species. Furthermore, such characteristics imply that the pastoral activities are the only, or the most important, income generating activities, which may not be the case in all pastoral societies. Often, pastoral societies or parts of it are engaged in other kinds of production to the same extent as in pastoral activities.

In many aspects and on various occasions, pastoralists have been looked upon as less productive, less sophisticated and less developed by settled people. The continuance of the nomadic lifestyle has been explained as a form of homelessness that forces some people to move. These statements of "conventional wisdom" have been negated in more recent studies, however. Rather, anthropologists and other researchers characterize pastoralism as a specialization or niche of animal breeding that fills an important ecological and economic role in society (Barfield 1993). Pastoralists' homes are increasingly understood as not necessarily related to the places they settle; rather their homes are *with* them as they travel, their houses always carried on their animals. An estimated 25% of food production in tropical Africa comes from milk and meat from domesticated animals, measured in grain equivalents. A large proportion of these products still comes from pastoral and agro-pastoral production (Homewood 2008). Some studies even show that pastoralists' mobility encompasses a production system more efficient than sedentary systems (Bogale & Korf 2009).
The adapting mechanisms of the pastoral life have been more "discovered", showing that pastoralists possess unique knowledge that enable them to live under tough conditions in the harsh

climate they inhabit (Fratkin & Roth 2005). In fact, pastoralists are experts on the environment they live in, in contrast to most of the people trying, consciously or unconsciously, to change their livelihood, mode of production, culture or ecology.

Pastoralists usually stick to their tribal group and individual pastoralists are almost always associated with the group they are part of. Such groups function as political units, based on collective responsibility and loyalty. They provide protection for every individual pastoralist, while at the same time every member is obliged to support the others (Salzman 2004). Members of a tribal group often share the same traditions and language, as for the Somali pastoralists studied in this thesis. Tribes or pastoral populations are always divided or classified into sections and subsections that can be based upon lineages, age- grades, recognition of a common chief, or a combination of these. In any case, the different sections and subsections are bound together by the framework called *the tribe* (ibid). Although pastoral households, due to their nature of movement, in a way is more autonomous than sedentary ones, pastoral families are at the same time greatly dependent on its ties to other families and groupings. Where, when and with whom to move and camp are always considered in relation to other families or subsections, which makes the social, agnatic and affinal ties very important (Barfield 1993). Further, the anthropologist Thomas J. Barfield (1993) points at the law of inheritance, descent and residence which almost always follow the male line; that is a *patrilineal* kinship. Still, women in the pastoral societies investigated by Barfield had a higher social status than in most comparative sedentary societies (ibid). We will come back to women's role and position in the pastoral community when describing the specific characteristics of Somali pastoralists.

Habitat and Ecology

Most pastoralists in Africa inhabit arid and semi-arid areas. These areas are characterized by unpredictable rainfall, periodic scarcity on grass and water, and rain-fed crop risk failure. The mobility of animals suits this climate; they can be moved to wherever there has been rain. The *mobility* is therefore the main reason why livestock are of such importance to pastoralists. Rain is thus the main limiting factor when it comes to pastoralists' utilization of the areas they inhabit, as both plant growth and surface water collection are crucial for livestock subsistence. The more arid an area, the more unpredictable in time and space is the rainfall, and vice-versa (Homewood 2008). An estimate by Jahnke (1982) suggests that 55% of the land in tropical Africa (Africa south of Sahara excluding South Africa) consists of arid or semi-arid land. This area carries more than 50% of cattle and more than 60% of sheep and goats. However, these estimates were given in 1982, and recent studies indicate that both the number of humans, animals and land areas under cultivation have increased during the last decades (Homewood 2008).

Pastoralist land use has been viewed as environmentally damaging by many professional ecologists, governments and administrations. Overgrazing and overstocking causing progressive degradation has been one of the main accusations. However, other views and voices have interrupted this way of thinking during the last 2-3 decades, pointing at the weak empirical base behind the conventional understanding (Homewood 2008). Political ecologists also argue that the presentation of pastoral land use as environmentally degrading is a fraction of the degradation *narrative*, where the "obvious" and commonly accepted reason for environmental degradation is: human impact (Robbins 2004). Of course, human activity do impact the environment to various degree, but what the school of political ecology wants to emphasize is that there *might* be, and usually are, other factors influencing as well, such as politics, non-human disturbances and natural variability of ecological systems. In this thesis the ecological challenges faced by pastoralists and settled pastoralists in Filtu Woreda will be discussed in relation to these different views on pastoral land use.

Romanticize or judge?

There are two "traps" one can step into when describing nomadism and pastoralists. Literature, governments, NGOs and experts seems to have a tendency to either romanticize or "judge" pastoralism; either they claim their sympathy with the "poor" depressed but unique pastoralists (Barfield 1993), or they criticize pastoralists' land use and social structure for being less sophisticated (Smith 1992). Both pits are unfavorable in order to describe pastoral livelihoods, and do not necessarily represent pastoralists' own perceptions. However, both these views have impacted policies on pastoral development. Birch and Shuria (2001) refers from an unpublished UNICEF/UNDP report which clearly describes this:

> *The assumption and generalizations* [about pastoralists] *run the gamut from romanticized visions of the exotic "nomad" to scornful depictions of their primitivism and backwardness. Through them all, African pastoralists appear only as caricatures, but it is these caricatures which have filtered into development thinking* (Bonfiglioli 1992 p. 1).

How such "caricatures" seem to have impacted pastoral development in the Somali Region will be exemplified further in this thesis. Despite the impossibility of total objectivity, it is a goal to present a picture on pastoralist livelihoods *as realistic as possible*, and as close up to pastoralists' own perceptions as possible. For; policies on pastoral development should be based on *reality*, not on constructed assumptions.

Sedentarization

Sedentarization is a term applied on the transition from nomadic life to sedentary life, derived from the term *sedentary*, which imply little physical activity, or sitting (Miller 2009). While "sedentism" indicates a settled position throughout the year of productive activities, and "nomadism" involves movement in the same period, "sedentarization" describes the transition between these positions; from nomadic to sedentary (Salzman 1980). It is not a new phenomenon limited to a specific area; from the Biblical Abraham in the Middle East to the Saami people of Northern Norway nomadic groups have gone through the transition towards a more settled life. Some groups have even gone in and out of the nomadic life; from nomadism to sedentism and back, dependent on important subsistent variables (Barfield 1993; Salzman 1980). However, the past century has shown many examples of pastoral groups becoming more or less settled, and many would argue that this activity has increased due to various reasons. The reasons can be either a "push" to leave the pastoral life fostering a coerced process, or it can be a "pull" from urban or agricultural life implying a wanted sedentarization process. As we will come back to when describing Somali pastoralists, this group is no exception when it comes to increased sedentism (Fratkin & Roth 2005).

Salzman (1980) describes sedentarization as the change from more nomadic to less nomadic – from a less sedentary to more sedentary lifestyle. The process is "neither irresistible nor irreversible" (ibid, preface), rather it occurs as phases in a continuous process of changes and recurring variations, the author says. Sedentarization thus must be understood both as the specific change it is, and as a facet of changes in the socio-cultural context it happens within. *Change* in this regard is therefore understood as a dynamic process, where society is flexible and adaptable rather than determined and invariant. Change in society is, according to Salzman, not an exchange of one set of perceptions, modes of production or way of living into a completely new set of such. Rather, change happens gradually, dynamically and constantly; with roles, production systems, livelihoods and perceptions shifting in a non-linear and complex system. This understanding of change in society, as sedentarization is an example of, is useful when we investigate the processes further. Rather than a radical change from a nomadic lifestyle into a totally new way of living, sedentarization is an act of response and adaption to variations in the society and environment.

The reasons why some pastoralists settle more or less permanently are many and interlinked. Very seldom is there one specific, isolated reason to why one family or group settle; usually the decision can be traced back to different factors that in sum overweighs the nomadic alternative. Fratkin and Roth (2005) mentions five major factors leading to sedentarization; 1) Population growth; 2) Drought and famines; 3) Loss of common property resources; 4) Commoditization and urban migration; and 5)

Political turmoil, civil war and state interventions. Moreover, sedentarization has been encouraged by many governments, NGOs and conservation groups as a means to control, introduce taxes, or to assimilate pastoralist into the national identity; or to bring education, health and other developments to pastoralists (Fratkin & Roth 2005; Sheik-Mohamed & Velema 1999). If the sedentarization process is pressed upon from outside, the consequences for pastoralists as well as the larger society can be detrimental, Salzman (1980) claims. The complex factors leading to sedentarization will be exemplified and discussed further when we go on to describe the current situation in Filtu Woreda.

Now, if we assume that sedentarization is a non-linear process of responding and adapting to different opportunities and constraints in society, and that there are many and interlinked reasons behind the process; how can one distinguish between a "before" and "after" settlement in the actual kebeles in Filtu? If the natural state of a pastoral system is *change* and the change to a settled life is just a temporary one; what need is there to investigate the specific consequences of sedentarization in Filtu Woreda? Galvin (2009) sais that because change is often unpredictable, pastoral systems seem to be managed for flexibility rather than for maintaining stability. She further claims that we can, at best, only describe some of the processes of change, but never really assess the pastoral system's state of adaption. This thesis is therefore one of such descriptions of processes of change, where sedentarization is more of a process than an exact point in time. However, this should be done without limiting the sedentarization process to "just another adaption", as if it did not make up a big deal to pastoralists. This thesis aims at taking the sedentarization process and its consequences seriously, and, based on the respondents' stories, I will suggest that it is meaningful to talk of a "before" and "after" when it comes to the Filtu case. The adaption to a sedentary life has brought both pros and cons for the pastoralists in Filtu, and they themselves trace the point of change more or less back to the time they settled. Therefore, we ought to have Salzman's (1980) two aspects of sedentarization in mind at the same time; an exemplification of the flexible, often unpredictable socio-economic, socio-cultural and environmental changes to which pastoralists have to adapt, and the practical change from nomadism to sedentism that generate certain changes in pastoralists' lives.

The future of pastoralism is hard to predict, but it is likely to assume that the pastoralists now settled will continue to adapt to new socio-cultural and environmental changes. The sedentarization process has, and will, in itself create new changes to which pastoralists continuously adapt. However, there is a trend that the pastoral strategies of living are no longer successful or sufficient in a global perspective; as the pressure from commercial interests have grown considerably during the last generation (Smith 1992). In one perspective, one could interpret the decline in traditional pastoral land use and livelihoods as a threat to pastoralism. At the same time; is it possible to mark the point

where someone stops being a pastoralist? According to Salzman (1980), pastoralism continue to live even though a pastoralist moves abroad and invest in livestock at home from his office in e.g. London. The future of pastoralism is thus also a matter of defining pastoralism and what is required to be called a pastoralist.

The sedentarization process does also imply a possibility that the pastoral skills to adapt may be *weakened*, or the changes are too drastic to be able to adjust to. If so, the opposite of adaptability may occur: *vulnerability* (Galvin 2009). In the case of Somali pastoralists, the vulnerable aspect is obviously present; a multidimensional and complex vulnerability (Devereux 2006). The vulnerability is added up by both natural stresses and "policy shocks"; that is foreign-, state- and region policies that either create or block opportunities of cash and commodity flow. Further, the author claims that Somali pastoralists are not necessarily poor; pastoral livelihoods in the Somali Region can be rather lucrative. This feature creates a paradox where wealth and vulnerability occurs at the same time. The relationship between adaptability and vulnerability are therefore quite complex, - yet we can conclude that pastoral livelihoods are subject to both features. Consequently, sedentarization processes may foster either increased adaptability or increased vulnerability, or a combination of both.

The question of pastoralists' future should not be focused predominantly on arguments for or against sedentarization in itself, but more importantly on how one can facilitate pastoralists' adaptation to a changing world. One critical question should therefore be raised by any government or NGO addressing pastoralists; are we doing this project to help pastoralists adapt, or are they becoming more vulnerable? In this thesis the policies and impacts from one such project will be described and discussed. Hopefully, this can contribute to build awareness of the ecological, health-related and social impacts from sedentarization, so that projects leading to sedentarization can be improved to pastoralists' benefit.

3. Contextual background

This chapter describes the context in which this research was conducted. Filtu Woreda was the geographical framework, and Somali pastoralists the demographic target group in the study. This background therefore needs to be investigated before the particular results from the research are presented and discussed. In this chapter, aspects of Somali pastoralism in general and pastoralism in Filtu Woreda in particular, will be highlighted. Further, some basics about the administrative framework and governance in Ethiopia and the Somali National Regional State (SNRS) will be presented. A general overview of the study area and its people will then be given, before the Filtu Water and Sanitation Project; its objectives, approach and challenges, are described.

Somali pastoralists

Somali people inhabit more than today's Somalia - so heavily affected by war and destruction. A large proportion of the world's Somalis live in the "Somali Diaspora"; in Europe, America and in the neighboring countries of Kenya, Tanzania, Uganda, Djibouti, Eritrea and; Ethiopia. Traditionally, the vast majority of Somalis were pastoralists, with important trading relations to the Arab peninsula (Bradbury 2008). So also today; some of the informal informants in Filtu meant that being Somali were synonymous with being a pastoralist, - claiming that "we are all pastoralists!" However, like all other aspects of the Somali society, the livelihood conditions and traditional trading opportunities are affected by the insecurity and instability in a war-torn area. The colonial period partitioned the Horn and the decades with instability has lead to an increase in the Somali population living outside today's Somalia. The pastoral mobility also lead many into the Ethiopian arid lands in the east (Bradbury 2008; Homewood 2008). Today, Somalis constitute 6% of the total population in Ethiopia (Encyclopedia of the Nations 2010). However, according to staff members in FWSP, most Somalis who flee from the war today try to reach Kenya instead of Ethiopia, as Kenyan economy and labor marked is considered more favorable.

Somali pastoralists can be categorized as "camel-herders" (Barfield 1993), even though cattle, sheep and goats also constitute an important livestock base for many herders today. The most honorable animal seems to be the camel, though, and great camel stocks are associated with wealth and status. Camels are especially favorable for "pure" pastoralists, while agro-pastoralists often prefer larger stocks of cattle and goats. If affordable, some also own donkeys as working and carrying labor (Devereux 2006). However, most Somali pastoralists are engaged in multiple activities, and are dependent on other sources of income outside livestock (Homewood 2008). Some agricultural activity is common, some engage in crafts and trading in cities, and others receive remittances from

family and relatives in the Somali Diaspora (Devereux 2006). The Somalis are, like other pastoralist groups, dependent on their relations to sedentary people and markets. As we will see from this thesis, it seems that this dependency increases as pastoralists settle.

Among the Somali pastoralist in Filtu Woreda, it is no doubt that the sedentarization process has speeded up during the last decade. In a larger perspective, this process is an example of a trend in East Africa that has been going on since the late 20th century. Nomadic pastoralism has decreased dramatically in this region due to sharp economic, political, demographic, and environmental changes. It is, however, worth noticing that most pastoral household still remain "pastoral", even if they adapt to new opportunities of agriculture or urban occupations (Fratkin & Roth 2005). Devereux (2006) emphasize that the future of pastoralism in the Somali Region of Ethiopia is determined by the development of the pastoralists adaptability skills; whether these will collapse or continue to function in response to the social and environmental conditions. The end of pastoralism in the Horn of Africa, predicted by some observers, is therefore not adequately measured if one only focuses on the exact numbers of nomadic and settled pastoralists respectively, he claims.

Somali people and Somali pastoralists in particular bear with them a heritage of a rich culture. Story-telling is an important component of rising children, where the "moral" is to strive to become brave and clever (Bradbury 2008; Hirsi 2007). Considering the dangers and harsh conditions these children are exposed to in their daily life, such skills are maybe more needed than any other knowledge. Somalis are family people, and the fellowship formed by clans, marriage and family lines are highly appreciated. Somali pastoralists throughout the Horn share the same language and the same religion (almost entirely Muslim), which give them a very special relationship and fellowship. However, the Somali culture also includes some harmful and less favorable practices that are still common despite campaigns and efforts to stop them. The most devastating example is Female Genital Mutilation (FGM), or female circumcision. This practice is part of a general picture of gender inequality in most Somali societies, where men are dominant over women. Girls are commonly married at an early age where the bride's price and husband are decided by the parents. Inheritance is restricted to sons, and households are predominantly male headed. While only mentioning some overall features with Somali culture and society here, these issues will be highlighted in various ways throughout the thesis as we look into the actual pastoral communities in Filtu Woreda.

Among Somali pastoralists one find both fully nomadic, semi-nomadic and sedentirized groups. In Filtu Woreda, an estimated 40% of the population is "pure" pastoralists, while 60% is said to be agro-pastoralists. The routes of pastoralists in Filtu are often, but not always, found between the two perennial rivers of Genale and Dawa (EECMY-DASSC 2009). Among the interviewed pastoralists in

this thesis, the majority can be classified as semi-nomadic or sedentary pastoralists, while two were closer to pure nomadic pastoralists. However, simplified in this thesis I will only distinguish between *pastoralists* (not settled) and *settled pastoralists.*

Government, governance and Ethiopian Somalis

The Somali National Region State is called the fifth of Ethiopia's five regions. The region is divided into nine administrative *zones*, of which *Liiban* is the zone farthest south. Liiban zone is divided into three *woredas* ; Dollo, Moyale and Filtu (Farah 1996). Filtu town is both the zonal and woreda-administrative centre (EECMY-DASSC 2009). The Woreda office, which was visited many times during the fieldwork, consists of several separate departments dealing with their respective affairs, such as education, health and sanitation, water, women and gender, agriculture, etc. The woredas consists of *kebeles*, which best can be interpreted as *communities* or *villages*. The size and population density of these varies. The kebeles are characterized by a gathering of households that share and administer some common resources and services, e.g. water source, health post or school. The term *kebele* will be used throughout this thesis when referring to the communities in which FWSP works.

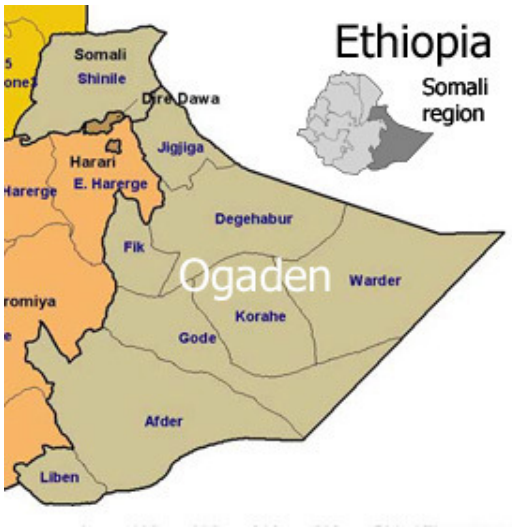

Figure 1 Map of the Somali National Regional State with zones (UCHA/IRIN and USAID).

The five regions in Ethiopia were redrawn along broad ethnic lines as a result of the change in government in 1991. The new governance had an "ethnic federalism" approach, where much power was allocated to each Region to govern its own affairs (Unruh 1990). All land is formally jointly owned by the State and the people, but practically the state governs the land use and property rights. Individual citizens cannot buy and sell land; it is allocated by the government (Devereux 2006). The regional states have been given quite much freedom to shape their own administrative units, and in the Somali Region this has lead to the inclusion of traditional Somali council of elders *Guurti* in

all the levels of the region governance. From being a neglected region governed by the powerful elite in Addis Abeba, the Somalis in Ethiopia have gained more freedom and recognition during the last decades. However, both the pros and costs of this process have been exemplified, and critical voices have questioned the special way of which the Somali Region is governed (Unruh 1990). One claim is that the establishing of ethnic divisions has increased polarization between the groups rather than strengthened the national identity (Devereux 2006).

Ethiopian Somalis are used to changes and conflicts because of their position in the "in-between" zone of the countries they belong to. In the late 1970s, the war between Ethiopia and Somalia led nearly 1 million Ethiopian Somalis over the border to Somalia. Approximately ten years later, about half a million Somalis fled back to Ethiopia because of the civil war erupting in Somalia. Another wave of Ethiopian Somalis returning to the Somali Region came after the collapse of the Somalia state and the fall of Siad Barre in 1991. There has also been ethnic polarization and conflicts between the Ethiopian state and Somalis in Ethiopia, affecting the civil society greatly (Devereux 2006). In 1984 the Ogaden National Liberation Front (ONLF) was founded by Ethiopian Somalis in Ogaden (eastern part of the Somali Region area) as a grass-root social and political movement (ONLF 2010). ONLF has claimed the Ethiopian Somalis' right to greater autonomy in Ogaden; a fight that has caused great harm and insecurity. The conflict has calmed since 2005, when after negotiations the Ethiopian Government and ONLF agreed on a ceasefire. Liben zone is not a part of the Ogaden, however both the conflicts between Ethiopia and Somalia and within Ethiopia have colored the people and stability all over the Somali Region.

Somalis in Ethiopia have traditionally felt little obligation and urge to support the state they are citizens of. The region has generally been less developed than the rest of Ethiopia, due to a resistance to interact with the Ethiopian state and foreign development schemes (according to staff members in FWSP). Neither have they been active in Ethiopian politics before the mid- 1990 (UNHCR 2003). It is hope, however, that the new politics and freedom in the region will contribute to empower the Somalis to build and develop their part of Ethiopia. The on-going war in Somalia has also put the Ethiopian Somalis in a fortunate position compared to their fellows in the east, which may encourage a greater Somali contribution to the Ethiopian state. Still, it is likely that most Somalis always will identify themselves to their Somali heritage, language and religion. Even today, despite the insecurity in Somalia, trade and livestock import/export through Somalia and Somaliland is crucial for the pastoral economy in the Somali Region (Bradbury 2008). The Ethiopian Somalis' ties to Kenya are also very strong, as important flows of money, commodities, communication, technology and people comes through the border city of Mandera in north-east Kenya. The identity and affiliation of Somalis in Ethiopia will therefore always be complex; with language, religion, culture

and livelihood similar to their origins in the east and south, but with political and public rights and obligations from the Federal Democratic Republic of Ethiopia (FDRE).

The Ethiopian government policy on pastoralism represents a view that sedentarization is the only sustainable solution to secure pastoral development in terms of education, health and wealth. FDRE's *Statement on Pastoral Development Policy* (2001) encourages a "phased voluntary sedentarisation" (p. 5); a transition of pastoral societies into agro-pastoral systems e.g. along river banks. The establishment of rural pastoral settlements and small towns are favored before pastoral mobility. At the same time, Ethiopian governments run a *decentralization* policy, which discourage urbanization and encourage pastoralists to remain in rural areas (Devereux 2006). The establishment of kebeles in Filtu Woreda is therefore directly in line with the national policy towards pastoral development; the kebeles gather the pastoralists while at the same time keep them in rural areas. This thesis aims at highlighting both the pros and cons derived from such a policy.

Filtu Woreda and its People

The Liben zone borders with the Borana zone of the Oromia region to the west, the Afder zone in north and east, Somalia to the east, and Kenya to the south. The area is located between the two rivers Genale; creating the northern boundary, and Dawa; creating the southern boundary of the woreda. There is one main road through the woreda, stretching from Neghelle (Borana zone) eastwards some 235 km to Filtu town, and further south-east to the city of Dollo close to the Kenyan/Somalia border. Except from this road, there are almost only seasonal roads leading to the different kebeles. Filtu town is the only urban settlement in the woreda, while it consists of an estimated 40-50 kebeles/settlements (EECMY - DASSC 2008). These numbers are, however, indicative, and subject to rapid changes. Due to the National population census of 2007, Filtu Woreda had a population of approximately 130 900 people (GeoHive 2010); this number also highly questionable due to the mobile majority of pastoralists. Population density is not considered high, because of the high number of nomadic inhabitants who are spread out on a large area (Devereux 2006).

Filtu town is home to a quite large population spread out on a wide area. Petty traders, small cafés and many small shops selling fabrics, foods and *khat* (narcotic plant) shape the centre. Among other services, Filtu town provides several schools, a relatively well-functioning hospital, the woreda and zonal administration, and a telecommunication bureau. Houses of wood, mud and cement crowd the town centre, but the traditional Somali mobile houses with mats of tethered grass also occupy much of the city area. The development agencies operating in the woreda all have their base in Filtu town.

Electricity came to the town in 2006, though sometimes unstable and subject to the national rationing of electric power. None of the kebeles mentioned in this thesis had access to electricity. There are no mobile networks or internet opportunities in the woreda, but according to the local governments, such facilities are under preparation.

The climate of the Filtu Woreda is ranged as arid to semi-arid, with temperatures ranging from 25-40°C. The Dawa and Ganale Rivers, north and south of the woreda, are the only natural perennial water sources. The altitude varies from 400m.a.s.l. along the rivers, to 1540m.a.s.l at mount Fiil, east of Filtu town. The rainfall pattern is bi-modal, with one long rainy season occurring from March to May; the *Gu',* and one short rainy season occurring from October to November; called *Dheer*. Rainfall annually varies from 400 to 600mm on average, but the area has been affected by severe droughts; and the rainfall pattern is highly variable and unpredictable (EECMY-DASSC 2005). The droughts have led to failed grass and crops growth, great livestock losses, starvation and death. The most recent droughts occurred in the early 1990s, in 2000, and again in 2004. Critical periods of less rain compared to normal have occurred also in between these droughts (Devereux 2006).

Except from the two perennial rivers, water is fetched from shallow wells, ponds, pipes, *barkads* (cisterns), boreholes, and from water tankers in times of crisis. The boreholes are very few, however, as the area is little suitable for utilization of ground water for human consumption (FWSP Terminal Evaluation Report 2008). At the time of the fieldwork, a large-scale water scheme was planned by the Ethiopian government, where piped water from the Genale River is expected to secure safe drinking water to Filtu town and some other communities along the main road. The results from this project are yet to be seen.

The very majority of people in Filtu Woreda are Somalis, with only a small number of Ethiopians inhabitating Filtu town. The non-Somalis in the area usually work for NGO's, the government, at the hospital, or for foreign investments. The administrative and spoken language is Somali, but in Filtu town one also find Amharic- and English-speaking Somalis. Nearly 100% of the inhabitants are Muslims, following the *Sunni* way of Islamic law. Among the Somalis, the majority come from the *Degodiiaa* clan, but also members of the *Marrehan* clan are found in the western part of the woreda (FWSP Terminal Evaluation Report). The establishment of kebeles is often done out of clan lines; one kebele usually consist of households belonging to the same sub-clan. This indicates that clan-based belonging plays a greater role than geographic location when pastoralists choose a kebele to settle in. In all the selected kebeles in this thesis the inhabitants belonged to different sub-clans of Degodiia; *Jibrail*, *Fay*, *Abrisha*, and *Ali Gumar*.

Filtu Water and Sanitation Project

Filtu Water and Sanitation Project was established in 2002 by Norwegian Lutheran Mission (NLM) together The Ethiopian Evangelical Church Mekane Yesus (EECMY). The project has been supported by Norwegian Agency for Development Cooperation (NORAD) throughout the project period. By the time of the project planning, NLM had been working in other parts of Ethiopia for many years (since 1948). As a response to the drought disaster in the beginning of the third millennia they decided to expand their activities to the Somali Region. The South-East Synod of the EECMY was the local partner in the early years of the project, but later this responsibility was transferred over to the central EECMY office and its Development and Social Service Commission (DASSC) department. The Norwegian involvement has decreased during the last years in line with the plans to phase-out the project and to establish local ownership. While the NLM representatives filled the project manager position in the first years, the leading positions are now filled by local labor. At the time of the fieldwork, there were two NLM representatives engaged in the project; one as project councilor and one as health promoter. The project was staffed with 15-20 persons; from motor mechanic to project manager. Four of these were engaged in the health part of the project.

The overall goal of FWSP is to reduce future vulnerability to water shortage for people in Filtu Woreda (EECMY-DASSC 2008). In order to reach the overall goal, FWSP aims at improving access to safe and adequate drinking water. Further, the main objective of the project can be summarized as follows: 1) improve knowledge about health, and access to health services; 2) improve knowledge about, and access to, proper sanitation and hygiene; 3) decrease risk of waterborne and water related diseases; 4) enhancing settled life among the nomadic people; and 5) build local capacity to sustain and manage water schemes and sanitation facilities. A wide range of activities have been conducted in order to reach these goals; e.g. upgrading and repair of existing ponds, construction of barkads and shallow wells, establishment of Water Management Committees (WMCs), teaching health and hygiene issues through seminars, training of local personnel in masonry, construction of pit latrines, development of appropriate design and technology for sustainable construction of barkads, and more. In all the activities, FWSP has had a participatory approach, where local ownership, local technology solutions, and sustainability have been basic pillars (EECMY-DASSC 2009).

The participation approach is one of the significant features with FWSP compared to other NGOs in the area. When a new barkad or health post is planned, the kebele members are involved in all stages of the process, and if there in one kebele is no local willingness to participate – the initiatives are postponed or stopped. FWSP never builds barkads or health posts on their own; their job is to

provide the external knowledge, tools and skills that are needed. No wages are paid to the local participants, so that the participants earn nothing except the installation they contribute to build. The project never places their label on the barkads they facilitate (unlike other NGOs in the area!); rather they emphasize that it is the local people that have done the job, and thus own the barkad. The strategy is very conscious, and the goal is to create local ownership and to enable local people to engage in their own development. According to the second phase (2006-2008) evaluation, the project has succeeded in this attempt.

A lot of challenges have occurred because of this "strict" policy, however, as it differs distinctly from other NGOs' and governmental policies. Two other organizations in the area, Cooperatione Internationale (COOPI) and Pastoralist Concern Association Ethiopia (PCAE) and the local government follows the National Ethiopian Food-for Work (FFW) policy in development projects. When NLM/EECMY came to the area they were the first organization to introduce a project with no economic profit or "easy solution" for the beneficiaries. The inhabitants in Filtu Woreda, so dependent on food aid and water from relief programs, suddenly had to make an effort to receive the goods offered. This information was presented in different interviews with Woreda representatives and staff in COOPI, PCAE and FWSP. Devereux (2006) also emphasize the misappropriate and mis-targeted relief programs that have led to a situation of relief *dependency* rather than development in the Somali Region. For FWSP to succeed with their participatory approach in this context has therefore been a major challenge. In many cases, the project activities have been delayed because of conflicting policies and expectations.

The project period is divided into three phases; the first one focused on building trust, planning and starting up, the second one focused on implementation, and the third period focused on phasing out. The second phase (2006-2008) was thoroughly evaluated in beginning of 2009. The evaluation team concluded that the project had reached its objective of improving water security, health services and sanitation facilities in the selected kebeles, and the degree of participation of both men and women were sensational. There were broad consensus in the Woreda administration that FWSP had a positive impact on the area, and all stakeholders interviewed felt that they were adequately included in the processes. However, the same report showed a gap between the number of water points, latrines and seminars planned and the number actually implemented. This gap was explained by the participation difficulties described above, high turnover of project personnel as well as among cooperate members in the Woreda administration, change in project management, inflation, and the occurrence of drought (EECMY-DASSC 2009). The report says much about the outputs and outcomes from FWSP, but little about the *impact*. As mentioned, this thesis will have an opposite focus; on the

less visible, but important, long-term impacts from FWSP, and less on the concrete results and outputs.

One of the clear impacts from the project that are also mentioned in the second phase report is the new settlements of pastoralists around the implemented water points. Though the sedentarization process has many and complex reasons, it is very obvious in Filtu Woreda that the barkads, ponds and wells have encouraged many pastoralists to settle. The FWSP project proposal for 2006-2008 says that the main target group is semi-nomads that have already partly settled, but are forced to move to the rivers in dry seasons. Not only is this life tough, it is also an obstacle to further developments in the area. Making pastoralists able to settle permanently is therefore one of the objectives in the project, the proposal continues (EECMY-DASSC 2005). Increased sedentarization is thus not an unpredicted consequence of the water points; rather it seems that FWSP sees sedentarization as a natural and wanted consequence of their efforts. However, the possible consequences of sedentarization, and the long-term impact from these processes are not assessed in the proposal. Surely, the project staff members were aware that sedentarization processes could have both positive and less positive impacts, but any assessment of such was never conducted. This thesis therefore aims at filling in the "gap" in FWSP's impact assessment, while at the same time highlighting social, ecological and health-related impacts from sedentarization processes more generally.

4. Methodology

Data collection in pastoral areas can be challenging and difficult; therefore demographic data on pastoralist societies often lacks in national statistics and ratings (Homewood 2008). The fieldwork in for this thesis exemplified this; blocked roads because of heavy rain, absence of people in the kebeles due to harvesting on the fields, and so on. However, in the end data was conducted as planned, and the various research methods could be used. In this chapter the methodology used in this thesis will described. The methodology can be divided into these sub-chapters: *Research Strategy, Research Methods,* and *Ethics and Limitations.*

Research strategy

The research strategy applied in this thesis is of the *qualitative* kind. This implies that emphasis is put on each respondent's reasoning, considerations, attributions, and contextual background, and not on numbers and measurements. The aim with using this approach was to capture some of the real experiences of the sedentarization process, not necessarily *how many* pastoralists it influences and impacts. These experiences, considerations and histories are not easily found by distributing a simplified questionnaire, or by counting the number of pastoralists settled in the given area. Moreover, due to the very recent introduction of schools in rural areas, the illiteracy rate among pastoralists in Filtu Woreda is likely to be significantly high. Thus, an effective qualitative research method that involves filling out questionnaires would be absolutely impossible. Rather, this study was designed to go behind the surface of sedentarization, and look at how the participants in the process perceive the change of livelihood and adapt to it. The study is therefore based on respondnets' stories and personal experiences that are not easily, and should not, be put into statistical figures and tables. In a few cases, however, some arguments and significant findings are illustrated in simple tables in the thesis.

The qualitative research strategy also implies that the study is based on an *inductive* approach to the relationship between theory and research. This means that the data collection creates the basis for theories that can be compared and tested on other theories *after* the research is conducted, whereas a *deductive* approach would state theories out of assumptions *before* data is collected (Bryman 2008). Applied on this study, the inductive approach means that the findings from Filtu Woreda are analyzed, discussed and compared in relation to other studies and theories regarding pastoralists and sedentarization.

The *epistemological* orientation applied in this thesis, as well as in most other qualitative studies, is the one of *interpretivism*. This orientation has rejected the ways in which natural science are studied

and understood, particularly the models and norms of *positivism*. The social interpretivistic approach recognizes that the stories and experiences presented by the informants in a study are *interpretations* of the reality, and that these interpretations have a *meaning* and a relevance to people. This contradicts the world of natural sciences, where findings and observations do not *mean* anything to the objectives studied (Bryman 2008). In the Filtu context, this means that the respondents' answers are interpretations of what they experience, perceive and undergo; interpretations that give meaning to their activities and subsistence. Further, interpretivism points at the second, or even third, interpretation of the reality one seek to study (ibid), of which this study is an example of. First, I as a researcher automatically use my own filters to interpret the interpretations presented by the respondents. Next, I interpret my own interpretations in the interview situation by analyzing it; discuss it in relation to other literature that I also interpret, and so on. The result I come up with in a conclusion has thus been subject to a sequence of interpretations. It is therefore important to read the findings and conclusions in this thesis as such; interpretations of the actual impacts from sedentarization in Filtu Woreda.

When it comes to the *ontological* position, this study consists of a *constructionist* view rather than a *positivist* stand. This means that the social world one aims at studying are continually subject to adjustments and accomplishments by its social actors (Bryman 2008). This implies that e.g. the term "sednetarization" exists because of its participators – the settling pastoralists – carrying out and thus creates the phenomenon. In itself, sedentarization is nothing else than a word; it does not exist independent of human actors. However, this study has already presented sedentarization as a phenomenon seen in many pastoralist societies around the world, where a more objectivistic position is used in order to describe the sedentarization process in a broader perspective. Still, a constructionist position is applied in the analysis and discussion of the findings, with focus on how the respondents' experiences and views construct the livelihood they live in.

Research Methods

Various research methods within the qualitative approach were used during the fieldwork. The main source of information was *household interviews*. The male or female head of the household was selected, or sometimes both if they wanted it so. When referring to *household* in this thesis, this indicates the persons belonging to one particular house. Some male respondents had another wife with family in another place, but in such cases only the members of the household he presently stayed with are counted. In other cases, where more children than the parents' own lived in the house, these are counted as part of the household. The selection of kebeles was dependent on the work of FWSP, as all transportation had to be with them. Whenever they visited a kebele for various

purposes, we (me and the translator) joined. The households were randomly selected within the kebeles; however, sometimes the "snowball" mechanism involved the process. That means that one respondent sometimes lead to the other, and the selection was not planned or managed before entering each of the kebeles. Sometimes the interpreters also facilitated the selection of respondents, as they knew the local language and were able to talk directly to people in the kebele. An adequate balance of male and female respondents was attempted.

The eight kebeles visited during the fieldwork were: Aanais, Washaqa Janay, Halima Islow, Dhebi, Nustariiq, Gunway, Kala Jeeh, and Garab Geel. Three of these are located quite near the river Genale, while the other ones are spread out in the woreda. Two of the kebeles had a health post, while all of them had got a barkad. The 30 household interviews consisted of 18 male and 12 female respondents. Their age ranged from 25 years old to 81 years old. Three of the respondents (all men) had always lived in the kebele that they now lived in, and had never been a pastoralist. Two respondents (also men) were still pastoralists, and were only visiting the kebele every now and then. The rest of the respondents had moved to the kebele they now lived in within the last 15 years. 15 out of those who had settled had done it within the last 5 years. All of them who had settled had previously been pastoralists except for one. All of the respondents had children; with the number varying from 3 to 15.

The household interviews were semi-structured and flexible, with emphasize on discovering the issues most pressuring and relevant to the respondents. By contrast to quantitative interviews, semi-structured interviews give the researcher the opportunity to go beyond schedules and interview guides, and go deeper into special parts if found relevant (Bryman 2008). These interviews are the main basis of the findings presented in this thesis.

Semi-structured interviews were also used to collect data from staff at FWSP, other NGOs in the area, and from the woreda administration in Filtu. In FWSP, interviews with the Project Manager, Project Administrator and the Construction Leader gave useful information. Additionally, numerous talks and discussions with the Project Adviser, Health Promoter and the rest of the health team gave inestimable insight in various topics, although no specific interview was arranged. Further, representatives from COOPI and PCAE were interviewed regarding their views and experiences regarding sedentarization, and their impression of the FWSP's impact in the area. In the Filtu Woreda administration, representatives from the Education Office, Health and Sanitation Office, Water Office, Education Office, Agriculture Office and Women's Office were interviewed. These interviews gave useful background information about the area and pastoralists' concern. It also served to cross-

check some of the claims the household respondents raised about the government and structures in the society.

The study also included two *life-story interviews* with two elderly people. The aim with this research method is to get an overview of historic events, social changes and personal experiences in someone's lifetime and by this learn about the historical and social context in which the research topic exists (Bryman 2008; Roche 1999). However, the life-story interviews in this research were not as comprehensive as literature describes, and no study of diaries, personal documents, etc. was done. The interviews neither covered all aspects of the respondents' life histories; rather it concentrated on their experiences regarding the topics in this study. That included e.g. conflicts in their lifetime, childhood, gender roles, ecological changes, changes in livelihood, and more. The interviews were semi-structured, but more flexibility than in the household interviews. These interviews were very interesting in terms of history of the area, and it contributed to see the sedentarization process in a wider perspective.

Another qualitative research method used in this study, is *focus groups*. The plan was to arrange two focus groups; one with women and one with men, but practical issues did not allow me to gather men in a group. Instead, two female groups were arranged in two different kebeles; Aananis and Washaqa Janay. In each group, 10-15 women in different ages were gathered in the shadow of a tree to talk about their views and experiences related to sedentarization. A special focus was put on *women's* roles and position in the nomadic versus the sedentary life. A weakness with this method, was that the oldest women in the groups tended to take the lead in the conversation, while the younger women were quiet. This is likely to be a cultural condition, where age is related to wisdom and respect, and where in a group it is obvious who should talk. As a researcher there is little one can do with such structures, and one has to accept that such structures is also a part of the findings. Despite little discussion in the focus groups, these were still very interesting in terms of women's situation and the roles and hierarchy among them.

The last, but important, research method applied in this study was *observation* and *participatory observation.* A lot of time was spent just walking around in the kebeles, observing peoples' daily life, and talking to people. In three of the kebeles, I stayed overnight together with FWSP staff and the interpreter. These stays were very valuable in order to understand a glimpse of the life conditions the respondents live under, and it gave me the opportunity to see people outside the interview setting. The *participation* part of this research method was limited; to the extent that I joined the women in a kebele when they fetched water from the barkad. An *observer-as-participant* role (Bryman 2008) can therefore best describe the ethnographic position I had in this study. In a social,

qualitative study, as this one, the things one observe, understand and perceive in and around the interview setting are important contributions to balance and nuance one's impressions. In Filtu Woreda, a lot of untold information was revealed through an active use of this research method.

Two *translators* were selected to assist the data collection among the non-English speaking respondents. To be prepared for the possible barriers and adjustments related to gender, one male and one female translator was picked. These were young Somalis speaking fluent English. They had no former connection to FWSP, and were "neutral" in the sense that they were not employed or paid by the project. This was emphasized in order to minimize the risk of being associated as an agent of FWSP. The use of translators is always related to a risk of misunderstandings and "lost-in-translations". Therefore, repetitions and clarifications after the interviews were necessary in order to secure a common understanding of the issues discussed. Typing and transcription of the interviews was tried in the beginning, but due to the remoteness in Filtu the technical equipment could not be replaced when the first set failed. Notes and observations during the interviews therefore became even more important, and full attention on the respondents was required. The notes were thereafter typed into full sentences as soon as possible after the interviews.

Ethics and Limitations

Some limitations to the trustworthiness of this study should be mentioned. First of all, the thirty households interviewed are only a tiny proportion of the number of sedentarized pastoralists in FIltu Woreda, and thus their views might not represent the majority. Pastoralists' answers and opinions may vary greatly according to location, rainfall that year, access to food distribution, etc. Seasonality is also a key word here, as health, food security and grazing possibilities change throughout the year, and thus also pastoralists' answers regarding these issued (Homewood 2008). The study was conducted in/right after the short rainy season, however, according to most respondents, this year it came very little. Further, the respondents are likely to answer out of their own, personal situation, which is - of course – highly subjective. They lived in different kebeles; some with a helath post, some without; some near to the river, some far away. None of the respondents presented an objective "truth" about sedentarization; however, that was not the purpose of this study. It is important, though, to be aware that the respondents were not a consciously selected group of representative pastoralists telling a common truth about our topic, and the conclusions should therefore neither be treated as such.

Homewood (2008) also mentions the limitation that often lies in researchers' and respondents' different understanding of years, dates and volumes. E.g.; the purpose of remembering dates of birth

and events is often of less importance among pastoral people compared to people in urban areas. This became very relevant in Filtu Woreda, as the pastoralists there usually count years as *seasons*. This had to be clarified in many of the interviews, and hopefully most of the misunderstandings were alleviated. Additionally, the Gregorian calendar is not the same as the *Ethiopian calendar*, which at the time of the fieldwork showed year 2002. This difference may also have caused some limitations to the validity of years, dates and numbers in this thesis.

Before the data collection started, the interview questions were more detailed in terms of livestock numbers, years resided, etc. This soon proved to be impossible to portrait, as none of the respondents knew exactly how many animals they had of each kind. Rather, I found out that formulations like “increased” or “decreased” in number were more suitable and useful, as these were terms the respondents easily could relate to. In terms of years resided in the kebele, most respondents did not know this exactly, and the questions regarding changes in livelihood were therefore simplified to “before” and “after” settling. When it came to health, nutrition and infant mortality, the questions were also made easy; terms like “better/worse”, and “more/less” were used so that the respondents did not have to count years, incidents, and so on. The data one get is therefore not as detailed as one might wish; however, one knows that the respondents did not misunderstand. Roche (1999) emphasize that such simplifications and adjustments are sometimes necessary and favorable in order to get the data one is looking for.

A last limitation lies in the fact that, even if simplified, questions regarding livestock numbers and wealth are sensitive issues to pastoralists. As one of the translators said; “these people never tell you the truth about how many camels they have”. What he meant, was that they might either say a higher number than they actually have due to the shame of having few; or they might understate the number because they don’t want to disclose their wealth. Sensitive is also the issues of mortality; and gingery and sensitiveness was needed in order to talk about these issues with the respondents. As we will come back to in the *Infant Mortality* part, the taboos related to mortality contributes to weaken the validity of the data regarding this issue in this thesis.

5. Nomadic versus settled

Where I make a living, there is my home.

(Somali Proverb, Special Dictionary 2010)

Before the different impacts from the sedentarization process in Filtu Woreda are described, it is necessary to know a bit more about why pastoralists actually settle. As already mentioned in this thesis, there might be a strong decision behind a shift from nomadic to settled life. However, even more usual is a gradual transition - neither irresistible nor irreversible - from more nomadic to less nomadic (Salzman 1980). The reasons behind this transition also vary and can be either coerced or wanted; encouraged by "pushes" or "pulls" (Fratkin & Roth 2005). In this chapter the respondents' reasons for settling will be presented, as well as their perceptions on the pros and cons with the nomadic and the sedentary life respectively. What fostered the sedentarization process in their particular kebele? What are the positive and negative aspects of being settled compared to being nomadic? These questions and more were asked to all the respondents, and many interesting opinions and experiences came up. The findings will be described first; then follows a discussion of some of the topics that came up.

The 25 respondents that had been pastoralists before and now were settled had different reasons for choosing the new kind of livelihood. The reasons given were among other things: access to school and health services, promises of food and other governmental interventions, need of water, less ability to walk due to high age, diseases, relatives that had settled before, and a dream of creating a town. 15 of the settlers planned to stay in the same kebele for the rest of their life, 4 others hoped to do so, while 5 others did not know – "that is up to God to decide". One respondent thought that she would move away again eventually. When asked what they ideally would prefer if they could choose again, 25 out of 30 respondents preferred the settled life, two respondents said it would depend on how many animals one had, and one respondent had no specific preference. Two respondents that still were pastoralists preferred the pastoral life and did not want to settle. In Figure 2 the preferences of men and women are specified. None of the former pastoralists missed the pastoral life, but one said that they might start to miss it soon if the situation in the kebele did not improve. One of the focus groups also stressed this; ideally they wanted to be settled, but the harsh situation in the kebele might force them to start moving again sooner or later. This focus group missed the pastoral life where they were proud of their livestock and the products it gave, even though that life was very hard.

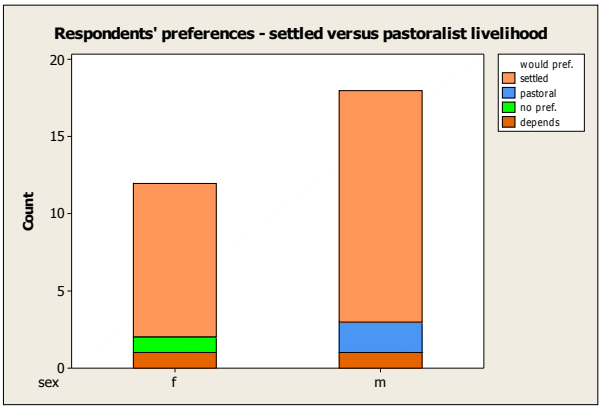

Figure 2: Respondents' preferences regarding settled versus pastoral livelihood

All the respondents were asked to tell what they saw as advantages and disadvantages of both the pastoral and the settled kind of life. The answers varied a lot, but the main arguments are described in Table 1 Respondents' views on advantages and disadvantages with pastoral/settled life.

Table 1 Respondents' views on advantages and disadvantages with pastoral/settled life

Pastoral life		**Settled life**	
Advantages	Disadvantages	Advantages	Disadvantages
Animals produce more milk and meat More grass for animals Less insects Less deceases More able to sell milk More able to sell animals Cities are dependent on pastoralists in terms of meat and milk supply Able to have farms --- Nine respondents meant that there wasn't any advantage with the pastoral life anymore.	Always thirst; lack of water Hunger; lack of access to food Hard life, always moving No education No health service Animal deceases spread No help for pregnancy and child birth No communications No sugar in the tea Affected by droughts Sometimes conflicts --- Two respondents claimed that everything was unfortunate with the pastoral life, while three respondents said there was no specific disadvantage; it depended on how many animals one had.	Access to water Access to schools Access to health services (some places) Rest More peaceful Able to do more farming Closer to the city Able to do trading No conflicts Assistance from the government and NGOs Registered by the government Sugar in tea Veterinary services (some places) --- One respondent said that there were no specific advantages yet, only that they had got access to water.	Less milk and meat from animals Less grass for animals More deceases Deceases spread more easily Still no health service People sell milk instead of sharing Poorer nutrition More insects Dirty water in barkad Lack of hygiene No transport or vehicle Not enough water, many users --- One respondent said that there were no negative sides of the settled life.

All of the respondents had opinions about the advantages and disadvantages about the two kinds of life, yet many said that their life was more or less the same after they had settled. They were still affected by droughts and famines, there were still no health services, they still had to keep their livestock in far-away places for grazing, and the culture they shared was the same. Still, almost all the respondents mentioned the access to water as an important benefit with the settled life compared to the pastoral life. When it comes to differences between a pastoral and a settled life, the issues mentioned most often were access to water, schools, health services, pasture and animal products. The majority said that they lacked water, schools and health services in the pastoral life, while they had access to milk, meat, fat and pasture. In the settled life it was the other way around; they had access to water, schools and - in some places - health services, but they lacked animal products and pasture. However, this is a simplified and general description of the facts, and there were of course individual differences in the respondents' reasoning.

One of the focus groups brought up an issue that can describe what many other respondents also expressed in other words. They said that: "Now we are neither pastoralists or developed, we are somewhere in between". What they meant, was that they wanted the "developed" life that they assumed would start as soon as they settled down, but that was not what they got. They thought a settled life would be like what they had seen in Filtu and other small cities. Some said that they had even been promised such kind of developed life, if they only would settle. When this did not happen, they felt that their livelihood was "in between" – not pastoralists anymore, but still not settled, in terms of "developed". In this middle position, their old strategies of survival in the harsh climate, their way of organizing their life, and their dependency on animals was not sufficient anymore. It seems that, according to many respondents, this situation was harder than the pastoral life, where they at least were experts on their own, special kind of livelihood. The pastorals' tools to live and survive did not work in the same way in the settled life, and there were no replacement of new tools to manage the new way of living.

What we see through this, is that there exist many and complex reasons to settle for pastoralists, also in Filtu Woreda. The reasons mentioned; access to education and health services, loss of livestock, drought, governmental policies, etc. are many of the same as found in other studies, though such studies are few. Quite many respondents emphasized *education* as a "pull" to settle, which reveals a positive attitude towards education for children. As one respondent put it; "I want my children to go to school – that's why I settled". The desire to let children go to school represent an example of what Salzman (1980) calls an *adaption* and *response* to changes in the larger society. Many studies recognizes the correlation between education and wealth (Fratkin & Roth 2005); a

cognition that is likely to have reached out to the pastoralists in Filtu Woreda as well. Due to the respondents that ranked education highest, the sedentarization process therefore seemed to be a voluntary shift to meet new opportunities and constraints in the society.

In the "Theoretical background" chapter Fratkin and Roth (2005)'s five major factors leading to sedentarization was listed; population growth, drought and famine, loss of common property resources, commoditization and urban migration, and war and politics. The first one, *Population growth*, is reasoned out of the perception that population growth of humans and animals leads to increased pressure on land and resources, both from farmers that have to move out to less productive lands, and from pastoralists that increasingly adapt to agricultural activity. This leads to more conflict over land and resources between nomadic populations and sedentary communities, the authors claim; "The concentration of populations directly contribute to economic transformation, environmental degradation, and political conflict in these regions" (p. 7). A consequence of this is increased sedentarization, according to Fratkin and Roth. However, this reason to sedentarization seemed less prevalent in Filtu Woreda, as the population growth was not ranged as a particular challenge by any of the respondents nor by the governmental officers. Moreover, the chain of explanation; population growth – degradation – conflicts – increased sedentarization, is simple and might overlook other factors along the way. Voices would also accuse this argumentation for being "Neo-Malthusian"; based on the belief that conflicts and environmental degradation always can be traced back to population growth (Homer-Dixon 1999; Robbins 2004; Ross 1998). This issue will again be exemplified when we discuss the impacts of *drought, grass and bush encroachment* in the "Ecology" chapter, and *conflict* in the "Society" chapter.

Drought and famine in Fratkin and Roth (2005)'s list of reasons to sedentarization proved to be more recognizable in Filtu Woreda. Many respondents had settled because of drought and scarcity on food and pasture. Some had lost their animals as a cause of drought and animal disease and saw no other option but settle; because, at least, in a kebele there might be distribution of food sometimes. This reasoning can be seen as an example of what Salzman (1980) calls a "drought and decline" model of sedentarization. This model describes sedentarization as a situation where pastoral people have "neither reason nor opportunity to continue nomadizing" (p. 12). Many former Somali nomads now work in fisheries or co-ops on the coast due to this exact form of sedentarization. However, this model includes an understanding of sedentarizationa as *reversible*, Salzman continues, as a bad year is usually followed by a good one, and pastoralists, flexible as they are, might go back to nomadism when conditions allow it. At this point, the respondents in Filtu Woreda presented a different picture; very few of them thought that they would ever go back to nomadism. Salzman's other

approach to sedentarization, as neither *irresistible* nor *irreversible*, therefore seems to correspond more to the experiences of the respondents in this study.

While *loss of common property resources* as a reason to sedentarization was not mentioned by any respondents, some expressed a frustration over the governmental *policies*, corresponding with the fourth major reason to sedentarization in Fratkin and Roth (2005)'s list. Promises of food and seed distribution had never been fulfilled, and no health post had been built in most of the kebeles. The Ethiopian government's policy in their *Statement on Pastoral Development Policy* (2001), where sedentarization is viewed as the only sustainable solution to pastoral development, was therefore exemplified clearly in these respondents answers. To them, the sedentarization process had been a coerced one; even though they now saw great benefits with being settled. This is an interesting observation: all the settled respondents would prefer to remain settled, despite the different reasons to settle and whether it had happened willingly or forced. Except from the two pastoralists, all respondents said they *ideally* would prefer the settled life, and they did not miss the nomadic life (except from some women in a focus group). This indicates that, taken together, the benefits with being settled were considered more than the benefits with being nomadic. Or; to some, going back to the traditional movements seemed as a worse or even impossible alternative. Maybe Salzman (1980) is right when he claims that "pastoralist move because they have to, not because they love to – even if, making a virtue of necessity, they do indeed love to as well" (p. 174)? At least it seems from most respondents in Filtu Woreda that the sedentary life is more attractive than the nomadic; though sedentarization sometimes might start as a coerced process.

The strongest "pull" to settle for the respondents in Filtu Woreda seemed to be the access to water; or the *barkads*. Water, in the visited kebeles, was characterized both as the "prize" for leaving the pastoral life, and the initiator that encouraged the sedentarization era in Filtu Woreda. Rather than asking in what ways sedentarization have impacted access to water in Filtu Woreda, the question can be turned upside down; has the access to water impacted the sedentarization process? The answer would be: yes, to a great extent! Water has been, and is, the determinant of pastoralists' movements that have decided their routes and livelihood patterns (Homewood 2008). When suddenly there are new, permanent water sources along the pastoralists' routes in Filtu Woreda, it is not surprising that pastoralists will gather around these. Water in itself, the most important yet scarcest resource in the area, thus seems to gather people and encourage sedentarization. One of the FWSP staff members remembered how they used to meet pastoralists in open spaces where they gathered to hear what the project had to offer. Most of the places that had got a barkad were now crowded with houses. The respondents told the same story; all of them settled solely or partly because of the water source.

Though they had other reasons to settle as well, there are reasons to believe that the barkads initiated a *wave* of sedentism in the area, - a wave which is still rolling.

Maybe the most interesting finding regarding nomadic versus settled life is the "in-between" position discussed in one of the focus groups and by a few other respondents. Neither fully pastoralist – nor fully sedentary. It is noteworthy to see how these respondents look at the sedentary life as synonymous with *development*. Development is in thus in their perspective associated with services and opportunities, such as access to health services, markets, education, clean water, more agriculture, etc. Other studies of sedentarization schemes have found the same impression among pastoralists and governments; the settled life is looked upon as a sign of development (Larsen & Hassan 2003). In this sense, the settled life did not correspond exactly with what the pastoralists in Filtu Woreda expected. Some of these "developments" had come; some had been promised and would come eventually, while some might never come, according to the respondents. This highlights a very important feature with sedentarization processes and pastoral development: *change* does not happen overnight! To settle down is *not* synonymous with development of this kind, as one can get the impression from the Ethiopian government's policy towards pastoralists. Sedentarization indeed create possibilities and easier conditions for development schemes to reach out to pastoraslists, but development never occur automatically. For organizations and projects like FWSP, this is a very clear message, and efforts should be done to meet pastoralists' needs in this position "between a rock and a hard place". This issue will be further discussed later in this thesis.

6. Health

People's health is decided by many complex factors. Pastoralists are no exception; lifestyle, exposure to transmission, climate, density, hygiene and physiological exposure are all factors that impact their state of health. This chapter will focus on one such factor; sedentarization – if and how it impacts pastoralists' health. The discussion builds on a broad understanding of the term "health", which includes both causes and effects of the general health situation in a kebele. This chapter is therefore divided into these topics: Health, Nutrition, Infant Mortality, Sanitation and Hygiene, and Water, where the findings on each topic will be presented and discussed separately. The choice to structure the health chapter like this is based on the recognition that all of these topics are impacting, or related to, people's health in one or another way. A natural starting point is with *Health* in general.

Health

> *…human life is like a goat's that might be eaten by a hyena or a lion any time; you never know what will happen to you the next moment.*
>
> Old respondent, Garab Geel

The citation above highlights the vulnerable situation pastoralists experience in terms of conflicts, environment and habitat; but also in terms of *health*. In the following it is necessary to be aware of the complexity of reasons and conditions that create the health situation in pastoral communities. Studies on health in pastoral versus settled communities come up with different results; often determined by numerous factors, e.g. health services available, vaccination programs, level of education, wealth, and more (Homewood 2008). This section will focus on the findings from Filtu Woreda and see how these correspond with other studies. Have the respondents experienced any particular changes on their own or their children's vulnerability to diseases after they settled? Are there more diseases in a kebele compared to the "bush"? Through the discussion the purpose is to answer the research question: has sedentarization lead to any changes in pastoralists' general health situation? This general "Health" part will discuss the respondents' answers in relation to mobility, density and accessibility, before some thoughts and questions around the policies, practices and possibilities related to health are raised.

Out of the 30 respondents, 19 of them thought that the *health situation* was worse in the kebele compared to in the pastoralist community (see Table 2). Four respondents thought there was no specific change, while seven respondents thought that the health situation in the kebele was better than in the pastoral community. Out of those seven, six of them lived in a kebele where they had got a health post. Only one in the group of 19 that thought the health situation was worse lived in a

kebele where they had got a health post. As we see, this indicates that whether or not the kebele had got a health post decides to a great extent peoples' views on the general health situation. Those who had got a health post in their kebele experienced that the health situation was better than before, while those who still lacked a health post experienced the opposite trend. This might not surprise us, but it is still an interesting observation.

When discussing the health situation, the majority of the respondents mentioned the increased population density as the main cause behind their worsened health. As more people live closer to each other, share the same water points and send their children to school, etc, diseases spread more easily, some said. In this way people fell sick more often, and the outbreak of epidemics was a constant danger to them. Common diseases mentioned were, among others: cholera, tuberculoses (TB), measles, and malaria. Some respondents even said that they had received new kinds of diseases in the kebele that they had never seen before – brought by people from other places. In the pastoral life, one focus group explained, the families lived more or less isolated, and they could move quickly from places where they heard about epidemics. At the same time, *if* someone fell sick, they had nothing else to do but read the Koran and hope for recovery. Sometimes they could walk to the nearest town, but that was a journey of many days, and the sick person might not manage it. Other reasons why there were more diseases in the kebele compared to the pastoral life, were: God's punishment for sins, unclean water, droughts, poor nutrition and little variety of food. Several respondents also said that they didn't know the reason why health was poorer; they just observed it.

Some respondents claimed that the access to help was as hopeless in the kebele as in the pastoral life. In one village this was exemplified by a little girl that had just been "treated" in the traditional way; her breast and back had burn marks after a procedure where the goal is to kill the pain from the disease by adding another kind of pain. The sick person is then held by several people while an ardent, sharp stick is used to burn the skin in different places of the body. The girl that had undergone this procedure just a few days before the interview was shown as an example of their desperate situation, - to prove the fact that nothing had changed regarding health since they settled. They practiced this method because they didn't know of any other options, and this was what they always had done. The government or any NGO had still not offered them any other alternatives, they claimed.

One focus group focused on the access to medicine men and herbs that they found in the bush when they travelled before. Those medicine men lived on certain places along their routes, but after settling it was too far to walk and make use of those "doctors". There were also a great variety of herbs that were used for treatment of different diseases in the area they used to travel in, but none

of those herbs were available close to the kebele. One lady in the focus group said that they were experts on the use of these herbs, and that the herbs really cured diseases. She expressed herself like this:

> *The children were healthier in the pastoral society than they are now. Before they drank milk directly from the animals, they used medicines from herbs, and there were medicine men along the journey.* […] *Here there are no medicine man, and no health service. We can't treat the diseases like we did before* (focus group, Ananis).

In another kebele, one respondent contradicted this statement by claiming that they used herbs and medicine men in the bush only because they lacked other options and that they now had realized that those methods were primitive and useless. However, the women in the focus group had their experiences should be taken seriously.

The respondents that meant that health had improved since they settled saw this trend in relation to better access to health services. As mentioned, most of those who said that health had improved lived in kebeles with a health post. Others had a health post in the neighbor kebele, or their own kebele was located relatively close to a town. Some meant that the roads and the visits from NGO's and the government had made the access to medicines and health services in cities more available. A few respondents also mentioned seminars on health and sanitation held by FWSP and other organizations as factors that had made them more resistant to diseases and epidemics. In some of the kebeles, there had been vaccination programs that protected children from common diseases, but many respondents requested new such programs as it was many years since last time.

When starting to analyze these findings, one finds that the data collection of this thesis is too limited to examine and distinguish between different diseases and their characteristics. The discussion is therefore confined to talk of "health" as a uniform term here. However, diseases are not uniform, and a more detailed study on what kinds of diseases are common/not common, their symptoms and impacts on people in the kebeles in Filtu would have strengthened the validity of this analysis. The respondents' experiences with morbidity and their impression of the general health situation in their kebele are still important indicators of how sedentarization impact health, and again, it is these personal experiences that will be the basis of this discussion.

One might think that sedentarization of pastoralists lead to improved health, which have been portrayed by many governments and international agencies encouraging pastoralists to settle (Shell-Duncan & Obiero 2000). The reasoning is as follows: there are no health services in the arid bush, no medicines, and no knowledge about how to treat common diseases except from indigenous,

traditional beliefs. Therefore, pastoralists need to settle in order to get access to health services, other foods, medicines, and knowledge. As seen in the "Contextual background" chapter, this argumentation has influenced many governmental and international NGOs' policies towards pastoralists. Attempts have been done to encourage settlement both as a *goal* in itself, or as a *mean* to achieve other agendas, e.g. reaching out with health services. However, studies done on settled pastoralist communities in other parts of the world do not necessarily support this assumption.

Sheik-Mohamed and Velema (1999) describes the paradox that lies in the fact that pastoralists usually lack basic health services, but are still the ones that score highest on health- and nutrition rankings: "Nomads appear to be generally healthier than their settled neighbors, but have much less access to health care, safe drinking water and formal education" (p.696). A research on morbidity among nomadic and settled Rendille pastoralists showed that the children from nomadic households had less prevalence of diarrhea and respiratory diseases (ibid). The settled households in this study had access to health services and medicines, but still – the nomadic children seemed healthier. How can one explain such findings? In the following section some possible explanations will be discussed in relation to the findings from Filtu Woreda, starting with the issue of *mobility*.

Mobility and Health

One of the features and advantages with being mobile is that one can always move away from areas affected by transmittable diseases or other dangers for themselves or their animals. This is one of the coping mechanisms developed through decades of nomadic life (Sheik-Mohamed & Velema 1999). The advantage disappears, however, as pastoralists settle. If and when a settled community is affected by epidemics or animal diseases, they no longer have the ability to quickly move, as before. However, pastoralists *do* enter into settled areas sometimes, due to water shortages, to sell products, or to access food relief. In such areas there are often more people, more animals, and more diseases; - a complexity of transmission sources by which the pastoralists has to interact. While the settled population may have become more resistant to diseases that are common in their area, pastoralists that enter may contract diseases that they have no immunity against. Lastly, a feature with pastoralists' mobility is also that they can carry around transmission to new places, and spread diseases throughout a large area and across boundaries. It is documented that the last outbreak of smallpox in the world happened in Somalia, greatly induced by pastoralists who constantly carried the disease to new, settled communities (ibid). These examples show that health and pastoralists' mobility are very inter-related, and we can conclude that pastoralists' mobility has both advantages and disadvantages in terms of health.

Both the advantages and disadvantages related to mobility and health was mentioned by the respondents in Filtu Woreda. One respondent explained exactly what the literature mentions as pastoralists' coping mechanisms; movement as a strategy to avoid transmission of diseases. Some respondents pointed out the barkad as the main source of transmission in their kebele, as well as through faecal material and poor hygiene. This shows that the awareness of health hazards and prevention strategies were relatively high among the respondents. Ideas of pastoralists as "stupid" and unable to know what is best for their health were therefore to a great extent negated, as other recent studies also have shown (Fratkin & Roth 2005; Sheik-Mohamed & Velema 1999). At the same time, the respondents told stories of how they tried to treat diseases in harmful ways before, and how the settled life had lead to changes in people's attitudes and practices regarding this. Though some still practiced such methods (e.g. burning of skin) they seemed to know that it wouldn't heal – they just lacked other reasonable alternatives. The access to information and the exchange of knowledge among settled pastoralists therefore seems to potentially impact the use of traditional harmful practices in a positive way, even though the kebele might lack a health post.

Density and Health

Pastoralists usually live quite isolated and dispersed, and diseases are less likely to spread to other families/groups. As pastoralists settle and population density increases, density-dependent factors such as diseases are expected to increase accordingly in effect (Sheik-Mohamed & Velema 1999). According to most respondents, the increased density and transmission risk were the main reasons why the kebeles in Filtu experienced a worsened health situation too. They said that, in the pastoral life diseases didn't spread to neighbors and relatives, simply because there were no neighbors or relatives close by. In the settled life, however, there is no way of escaping transmission, and thus outbreaks of diseases are more common. The experiences described by these respondents are similar to situations that have occurred in relief camps and resettlements during history. One example of this happened in Ethiopia and Somalia in the 1970-80, in an attempt to resettle drought-affected pastoralists that inhabited large relief camps into new settlements. Suddenly, the conditions for density-dependent diseases were suitable, and the health hazard exploded. This happened at the same time as the awareness of the consequences and the necessary preventing strategies lacked (ibid). This example, and the stories from Filtu Woreda, indicates that sedentarization leads to increased population density and thus increased risks of transmission.

Accessibility

The mobile lifestyle of pastoralists has often made the outreach of vaccination programs hard and costly, because the target group is often hard to find, their routes are unpredictable, and roads are non-existing or of poor quality (Sheik-Mohamed & Velema 1999). Pastoralists' restless life doesn't fit

with most national program on health or NGO-organized efforts. In order to be reached with e.g. vaccines, medicines or food relief, one should live in central or urban areas where the distribution usually takes place. This is one of the reasons why many governments and NGOs also have encouraged pastoralists to settle; so that the help offered can reach out to all. Examples show that as pastoralists settle, health- and vaccination programs' ability to reach them improves. A WHO *Health for all* program in Jordan reported that the sedentarization process contributed greatly to the accessibility of health services in rural areas (Spicer 1999). One question to be asked in such cases, however, is on whose premises the services are given, and to whose benefit is the process of sedentarization? These are questions will not be investigated deeper into in this thesis, though they are useful to have in mind in the further discussion.

Improved access to health services was mentioned by many respondents as an advantage with the settled life. To some respondents, this was the very reasons why they decided to settle down. For most respondents, the distance to a health post or to Filtu town had become less, or – as in one kebele – they had got a health posts as their neighbor. Once in a while a truck or a car passed the kebele, some said, which made transport to hospitals possible. One respondent emphasized the importance of *being* someone in the governments' eyes; to exist and matter in the society. The fact that I as a researcher sat there interviewing him proved that they now had more contact with the outside world where everything was accessible. Besides, there is no doubt that the seminars held by FWSP would have never been possible if people had never settled around the barkads built. All these observations and answers support the assumption that sedentarization impact the accessibility to health services positively. But – is improved accessibility enough to meet the health risks that seem to accompany the sedentarization process?

Not all respondents agreed that the access to health services had improved their health. Not unlike the result of the research on settled Rendille pastoralists (Fratkin & Roth 2005), the majority of the respondents in Filtu Woreda experienced that the general morbidity in their kebele aggravated, *despite* the improved access to health services that the settled position gave them. Some respondents even claimed that there were no differences in the access to help before and now, or the services offered were inadequate or incomplete. In one kebele, they had access to a health post in their neighboring kebele, but the health post lacked both medicines and staff. The health post worker interviewed said that he had to walk several miles sometimes to get hold of medicines for his patients – because the health post wasn't properly equipped. Another respondent said they had got a road that in itself opened the access for them to reach hospital and at the same time opened the access for health services to come to them. The road, however, didn't solve the problem of *distance*; they still had to walk the way which could take several days. These examples indicate that

sedentarization, and the improved accessibility to health services that follows, in itself is not enough to compensate for the health hazards that usually follow sedentarization processes. It seems that the quality, sufficiency and sustainability of the health services are just as important in order to meet the needs of settled pastoralists.

Nutrition

Someone's nutritional status tells us something about his or her diet; how *nutrient* the food is, how *much* food intake, what *kinds* of food are consumed, and thus how *healthy* he or she is. Pastoralists' diet and nutritional status often differ from their settled neighbors because their diet is primarily based on the available livestock products. In this section a closer look into aspects of pastoralism and nutrition will be given, and discuss the question: do settlement of pastoralists impact on the nutritional status? Though there are few studies done on these issues, most of them show that, despite better access to health services and information, there are some negative effects of pastoral sedentarization on nutrition (Fratkin & Roth 2005; Lindtjorn et al. 1993a; Pedersen & Benjaminsen 2008). The studies report on lack of clean water, higher rates of certain infectious diseases, poorer nutrition, and inadequate housing. However, there are also studies that have come up with contradictory results, as the one of Greene which found a significant higher prevalence of malnutrition among nomadic people compared to settled people in Mauritania (Shell-Duncan & Obiero 2000). When we investigate and discuss the results from Filtu Woreda in the following it is therefore necessary to keep in mind the complexity of results that are found in research on similar issues, and cognition that seasonal- and socio-economic variation also may influence the nutritional status. Moreover; sex, birth-order, parental education, family size, family type, and economic status are factors that to various extent impact peoples' nutritional status (ibid).

Regarding the *nutrition situation*, more than half of the respondents thought it was better in the pastoral life, and worse in the kebele. A few did not see any particular change in this regard. The majority of the people in the kebeles that didn't have a health post thought that nutrition had become poorer, while most of the respondents in health post –kebeles thought nutrition had improved. Having access to a health post in the kebele therefore seems to impact the nutritional status, or at least the *view* people had on this issue. The answers from men and women do not indicate any specific differences in their views as there were mixed opinions in each group.

The reason given most often by those who meant that nutrition was poorer in the kebele, was that they had more milk, meat and fat in the pastoral life. The animals they had produced more because they always moved to better pastures, and thus they gained more stable animal products. Two

respondents also said that in a kebele one had to pay for everything - and therefore they had to sell the little milk that they got from their animals. In the pastoral life they could enjoy the milk themselves, but in the kebele they suddenly needed money for different purposes (e.g. a monthly fee for the use of the barkad), and thus had to sell the milk. "Children have to drink tea now, instead of milk", one respondent said. As the quotation under says; it seemed to some respondents that settled mothers had less milk with poorer nutritional quality to feed their new-born children with, and thus the children started their life in a weaker state.

> *Here it is scarcity on everything, so the nutrition is poor. Here, pregnant women do not get enough nutrients for the child and not enough milk for breast feeding, so the babies are weak* (Lady, Ananis)

However, not all the respondents had this view regarding nutrition. One third of the respondents meant that nutrition had improved since they settled, and their arguments were quite opposite to the other group: they meant that there were more food available now, and that the water source improved nutrition. Moreover, they were more able to vary the food in the settled life, as agricultural products were more available. This had broadened their nutritional basis and improved their diet. One staff member in FWSP emphasized that the settled life enabled pastoralists to try other crops and to take better care of their plots. As nomadic pastoralists, he said, they often had to move far away from their plots in periods, leaving their crops to grow while they looked for water other places until the time of harvest. The settled life therefore secured a better utilization of their fields and thus contributed to improve nutrition, he claimed. None of the respondents mentioned this aspect specifically, though several of them underlined the benefits agriculture had in terms of nutrition. One respondent also mentioned the access to other kinds of food from cars and trucks that drove through the kebele once in a while; food that were not available in the kebele. The settled life thus enabled them to benefit nutritionally from NGOs, visitors and logistics that passed occasionally.

If we go on to analyze these findings, we see that many of the respondents in Filtu Woreda missed the time when they had access to milk all the time. Their animals were always there when they moved around, providing them with milk. When they settled, suddenly their animals were kept away from them and the diet was radically changed, and thus the nutritional status had declined. These experiences correspond with what Fratkin and Roth (2005) found among the Ariaal and Rendille pastoralists in Kenya. This study showed that children with a milk-rich diet (from nomadic households) had a significant better score on the dietary and morbidity scale compared to children with a diet based on grains and little milk (from sedentary households). These findings are best explained by looking at the traditional pastoralist diet, which is characterized by high levels of proteins and low levels of calories. The high proportion of proteins have proved to be one of the factors that make nomadic populations more resistant to harsh circumstances, especially for

pregnant women and children, who are most vulnerable to poor environments. As pastoralists settle, the diet usually changes gradually towards more protein-less food; such as agricultural products and less milk. Therefore, since protein-rich milk is such an important part of the pastoral diet, the loss of it may have negative impacts on women, pregnancy, infants and growing children in settled communities. At this point, the findings from Filtu therefore seem to support what Fratkin and Roth found on pastoralism and nutrition, and the implications it has on sedentarization processes.

A story from the kebele Nustariq highlights how the loss of milk not only affects nutrition and health, but also the pride and identity of settled pastoralists: One of the old men interviewed excused himself and felt ashamed because he could not offer us any camel milk. Usually, he said, they would have given guests from outside the best they could offer – camel milk, but nowadays they only had milk available at special occasions when the herder came to visit with the animals. Apparently, the old man felt sorry and almost embarrassed because the milk of their pride – the camels – couldn't be served.

The already mentioned research on Ariaal and Rendille communities in Kenya also compared health and nutrition status between pastoral and sedentary women and children. It reported that pastoral children under six years old were three times less likely to be malnourished than children in settled households. The settled group included households that relied on food from relief programs and/or agricultural products. The same study revealed lower height and weight among settled children compared to children in pastoralist communities. Other studies have shown similar results, e.g. an in-depth research of Turkana populations showing that nomadic women were taller, heavier, and had lower blood pressure than their settled ethnic female fellows (ibid), and a study reporting high rates of malnutrition among settled Fulani children, due to changed diet and food habits (Ekpo et al. 2008). Our study from Filtu cannot point at such statistical number or direct effects of sedentarization, but it is interesting to notice that several studies point as such significant trends. This should encourage NGOs, the government, or other interests to do similar research on settled pastoralists in Filtu Woreda as well, so that the possible negative effects on health and nutrition can be revealed and handled in an appropriate way.

As described above, some respondents experienced a positive change in diet as they settled, due to various reasons. These experiences support common hypotheses on sedentarization and nutritional benefit; e.g. that commoditization of food reduces seasonal fluctuations in dietary intake, access to health services and information reduces the impact from infections in nutrition, and that access to markets provides a more varied and balanced diet (Shell-Duncan & Obiero 2000). This last reason was mentioned by a handful of respondents, as being a part of a kebele gave them the opportunity to eat varied food and thus gave them a richer nutritional basis. When milk and fat intake was

reduced, other kinds of nutrient food became important and "compensated" for the losses. However, factors such as age play a great role on people's vulnerability to changes in diet (ibid). It is likely that an infant child will respond more negatively to the loss of milk intake compared to an adult. It is also likely that the answers regarding nutritional status will depend on each respondents' personal experiences regarding the changes in nutritional basis, and whether one refer to children's or adult's adaption to such changes. Changes in the nutritional status among pastoralist are therefore caused by complex factors; of which, as exemplified here, *age* is one of them.

Another factor impacting sedentarization's effects on nutrition recognized in Filtu Woreda is *wealth*. Some respondents said that the advantages of settlement in terms of varied food only benefited people who already were wealthy in terms of livestock and labor and thus were able to expand to agricultural activity. Their own animals and their agricultural activity were too little to gain any nutritional variety even though they had settled, some said. This is also found in other studies of settled pastoralists; households that have the ability to engage in e.g. commercial livestock trade or expand their agricultural activity will earn enough to both even the seasonal variation in food security and income, and be able to strengthen their nutritional basis through varied food. Asset-poor households, however, are more likely to be affected by seasonal stresses which make their diet less varied and nutrition-poor in certain periods (Fratkin & Roth 2005; Shell-Duncan & Obiero 2000). It seems from this that *wealth* is a variable that impacts the ability to gain higher nutritional status through sedentarization. The question of how sedentarization impacts pastoralists' nutrition is therefore perhaps not predominantly a question of settled/not settled; other factors such as wealth and livestock number might also be important determinants of pastoralists' nutritional status.

It should also be mentioned that some respondents saw little or no changes in terms of nutrition after they had settled, indicating that the sedentarization process might not impact the nutritional status appreciably. The same impression was partly found in a study on Rendille pastoralists in the transition from nomadic to sedentary life by Shell-Duncan and Oberio (2000), though the main impression from their study was that sedentary pastoralists risked poorer nutrition than their nomadic peers. Summarized, the discussion of the findings from Filtu Woreda points at the same conclusion; settled pastoralists seemed to look at themselves as more vulnerable to poor nutrition than nomadic pastoralists. At the same time, the settled life can open pastoralists' access to other sources of nutrients that can improve their diet, however dependent the household's wealth and ability to adjust to and utilize the opportunities.

Infant Mortality

Infant deaths is the most extreme outcome of vulnerability, if we are to believe Devereux (2006). Rates of infant mortality can tell us a lot about a society's social status, wealth, risks and health services. The issue is therefore included in this report even though the fieldwork did not allow any thorough investigation of the causes and effects of infant mortality. Poverty is usually directly correlated to infant mortality across the world, but factors such as drought, seasonality, contamination and epidemics also influence the picture (ibid). And maybe the sedentarization process too? This section raises the question whether or not sedentarization in Filtu Woreda impact the infant death rates, and if so; how? It turned out, however, that this question revealed a need and a request for more knowledge rather than discovered any specific changes.

When it comes to the level of *infant deaths* and how that had changed from the time when the respondents were pastoralists and up to present, it seems that there are no specific trends either way. The answers vary both within the female and the male group. However, comparing the answers from the respondents that have a health post and those who have not shows quite significant differences. Only one respondent from the no-health-post-group thinks that there are fewer infant deaths in a kebele, while seven respondents think there are more. In the health-post-group these numbers are the exact opposite. This indicates that the presence of a health post in the community may impact the level of infant deaths, - or at least peoples' impression of how many infants that die. However, the samples size here is far too little to look at it as representative for the population in the area.

The reasons given for the increase/decrease in the number of infant deaths since settlement are very much the same reasons as given regarding nutrition and health. Many respondents saw infant deaths in relation to the access to milk, meat and fat, which they often lacked in the kebeles. One respondent said that the camel milk was their medicines that prevented them from diseases and helped the children grow up. Another respondent complained about the diet they had in the kebele; they lacked the variety in food that people in Filtu town had, and therefore malnutrition and infant deaths were more common in kebeles. Again, vaccination programs were requested, in addition to more seminars on pregnancy, child birth and infant care. Respondents from one kebele thought that such knowledge could save the lives of many infants, because now many children died because no one knew how to prevent common diseases. The women wanted to learn how to be "amateur-midwives", so that giving birth could be safer both for mother and child.

Other respondents related infant deaths more to the access to medicine, which was easier to get hold of in the settled life. Pregnant women could be sent to Filtu hospital if needed, where there were midwives available. It must also be mentioned that many respondents did not know the exact reasons why the number of infant deaths had increased or decreased. It is only God that gives life and takes life, many replied, and man cannot give the exact reason why God chooses to take some lives and save others. Still, though this study's data on infant mortality are very inadequate, it seems – unsurprisingly - that the access to medicines, a health post or a midwife impacts peoples' views on the infant mortality rate. This is the same impression we get from peoples' perceptions on health and nutrition. People's views seem to be related to the level of "developments" in the kebele; such as health post, midwife, transport possibilities, water quality, etc.

The findings regarding infant deaths are very limited in terms of depicting trends caused by the sedentarization process. There are probably many reasons to the diverse answers regarding this issue. First; probably, there were actual variations between the kebeles on how mortality rates had developed since it became a settlement. Secondly; mortality is a sensitive issue, and the probability that the respondents hesitated or were reluctant to talk about this issue is present. The openness and taboos around death and its causes vary between cultures and peoples (Eriksen & Sørheim 2006), and different cultural backgrounds of the researcher, interpreter and the respondents might have influenced the answers greatly. Lastly, the term "infant mortality" is vague, and the respondents might have referred to different age sets in their answers. Even though the question was the same to all, some might have included only infant deaths, while others might have included older children as well. These limitations make it especially difficult to analyze the findings regarding infant mortality, and do not allow us to draw any conclusions whether or not the sedentarization process has impacted infant death rates.

Research on mortality, pastoralists and sedentarization shows different results. Breinard (1986) found that settled Turkana agriculturalists experience less infant deaths compared to pastoralists. A more recent study from the Somali Region compared mortality between rural (pastoral and agro-pastoral people) and urban areas (farmers and urban settlers), and found that children under age five had much higher probability to live up in urban areas than in rural areas. This study did not look at sedentarization specifically, but the findings are still interesting as it was done in the Somali Region. Another study of nomadic populations in Sub-Saharan Africa concluded that mortality was higher among pastoralists compared to neighboring settled communities (Sheik-Mohamed & Velema 1999). The South Turkana Ecosystem Project (STEP) concluded differently; settled Turkana experienced higher rates of child mortality, increased morbidity and reduced fertility (Fratkin & Roth 2005). Yet

another study from Southern Ethiopia found that the settled Elka population experienced more infant and childhood deaths than the semi-nomadic Borana population (Lindtjorn et al. 1993b). This was by the researchers attributed to the mobility of the Borana, as they were able to escape epidemics of meningitis and malaria. The studies done on sedentarization and infant mortality point in different directions, and leave us no significant trends either way. However, the same complexity in results was also found in the fieldwork in Filtu Woreda; the respondents' experiences varied and the reasons given for their views also varied.

What we know, is that the prevalence of infant deaths is generally high in the Somali Region, and that this is a strong indicator of *vulnerability* (Devereux 2006). The sedentarization process may reduce or increase the vulnerability of pastoralists in Filtu Woreda, yet we know that other factors such as rainfall and seasonality might impact their vulnerability as much as the degree of sedentism. When the findings in Filtu Woreda do not point in any specific direction, it might indicate that the sedentarization process mean *less* when it comes to infant death rate, while incidents of drought or epidemics might impact heavily on this. At the same time, the sedentarization process might impact the prevalence of epidemics and droughts, and thus these processes interact with each other. In a complex system of causes and consequences, the infant death rates might therefore be impacted by increased sedentaization, however indirectly and invisible. In a future study of pastoral settlements in Filtu Woreda a closer look into these complex causes and effects of infant mortality would be of high relevance.

Whatever the sedentarization effects are on infant mortality, the most important message from the respondents regarding this was the need for knowledge and assistance during pregnancy and birth. The mothers wanted to know how they could help each other to prevent diseases, recognize symptoms of diseases, prepare for the childbirth, etc. They requested a midwife that could assist them, but they also needed to learn more themselves. This willingness to learn and eagerness to do something with their own situation creates a great opportunity to prevent infant deaths! The settled position might in this case be a necessary pre-requirement in order to actively reduce infant mortality. The mothers interviewed now had the ability to actually *request* more knowledge, they could easily help each other because of the closeness, and a midwife could – if one day available – reach out to them. These examples illustrate some of the *positive* effects on infant mortality from the sedentarization process; effects that should not be overlooked in the discussion of health-related issues. However, the follow-up of these mothers' request and the quality of the services offered will decide the actual impact on infant deaths in the kebeles. As with health services, increased accessibility is not synonymous with better health, or; less infant deaths in a kebele.

Sanitation and Hygiene

Sanitation is closely linked to the issue of health, as it is estimated that more than half of the annual 10 million child deaths is related to poor sanitation and hygiene (UN-Water 2008). Among the (preventable!) diseases that cause most deaths related to sanitation, hygiene and unsafe water are diarrhea, malnutrition, intestinal nematode infections and malaria (Prüss-Ûstün et al. 2008). WHO suggests that, while the world is on track when it comes to the MDG targets on access to water, there are serious delays in achieving the sanitation target. The most recent report estimated that today 2, 6 billion people do not have access to basic sanitation, which is more than one third of the total world population (WHO/JUNISEF 2010). Filtu Woreda is one of the areas in the world where most people do not yet have access to improved sanitation. Not only did many respondents lack basic sanitation, but also *awareness* of the health risks related to sanitation and hygiene. Yet, there are improvements going on. Latrines are being built on settled pastoralists' own initiative, and awareness is rising through the seminars and training held by e.g. FWSP. In this chapter the findings regarding sanitation, hygiene and related health risks in the kebeles will be discussed, as well as the research question: what are the impacts from sedentarization on sanitation?

The respondents were asked what kind of sanitation facilities they had in their kebele, and whether or not they were satisfied with this kind of system. The sanitation systems used varied between the kebeles, and ranged from using the bush to having a latrine for each household. Here, it became very clear where FWSP had started to work first, and where they had just started lately. In one kebele, where they also had a health post, the project had built some common latrines at first, but later the kebele members themselves decided to build one for each household. The awareness of health risks and hygiene aspects of sanitation systems seemed to be very high in this kebele, which is likely to be a result of repeated seminars on health and hygiene, and the health post that is there to sustain the knowledge. The awareness of sanitation and hygiene had led to great improvements on household level, like one respondent exemplified:

> *"Before there were faeces everywhere, and animals walked everywhere; close to the houses and kitchen. Now they are kept separated, and we collect all the faeces from our children and throw it in the toilets".*

In another kebele, the respondents said that they planned a similar project; to build a latrine for every household instead of five common ones, as FWSP planned.

In other kebeles, the awareness of health risks related to sanitation was less visible, and many respondents were satisfied without any latrines in the kebele. In three kebeles, people used to collect faeces from humans and animals and burn it. Most respondents in these kebeles were

satisfied with this system, while some wished that they could have a latrine instead. One of the challenges with not having a latrine was that the faecal material could be thrown into the canals that lead rainwater into the barkad, one respondent pointed at. In one kebele, they had a hole in the ground for defecation, which was emptied every Friday and the faecal material removed and burned outside the kebele. One man in the kebele was paid by the others to do this job. “It works”, one lady said, “it prevents deceases and improves the hygiene of the town”. In another kebele, they had got five common latrines, which were good, but not enough, according to the respondents from that kebele.

The respondents were also asked if they had any specific sanitation system before they settled, and why the need for other systems had occurred when they settled. All the respondents asked said that they used the bushes as they travelled along, and none of them mentioned any problems related to that. One lady said that the bush was good enough as long as they moved from place to place and were fewer in each group. When more people started to live together, sanitation in the bush suddenly became a problem. People had started to feel ashamed of using the open, because the faeces were visible everywhere. Children walked in it, it contaminated the water, and it became a source of transmission of deceases. Another man said that nowadays they had to walk farther and farther away from the kebele so find private places for defecation, because the kebele was more and more populated. The two pastoralists interviewed confirmed that they still used open defecation in the bush, but they never faced any problems related to it. As one of the pastoralists said in a humoristic manner: …”it is very clean in the bush, you know”! (Pastoralist, Nustariq). He saw no negative outcomes from open defecation, because they were few in the group and problems of contamination and feaces “floating” never reached them before they moved to a new place. His arguments were followed up by some other respondents, saying that they never faced any problems with sanitation before they settled.

As we see from this, the increased density of pastoralists in the kebeles seems to have negatively impacted the satisfaction with the sanitation system used. When settling came in the dimension of privacy, shame, contamination and health risks; creating a demand for more advanced systems. Even though open defecation might have caused health problems in the pastoral life as well, the link between increased population density and greater sanitation demands are well recognized. Population growth and urbanization are one of today’s serious challenges to development, and often processes of urbanization are taking place without the necessary follow-up in the sanitation sector (Boadi et al. 2005). The visited kebeles in this research cannot be characterized as urban cities, yet-there is a similar process going on when a new community is created as when a city is becoming

more populated. If the city (or the kebele) is unable to meet the sanitation demands of an expanding population, negative impacts on health and hygiene are natural consequences. Putting the respondents' answers into a global perspective like this, one realizes that their experiences from a sedentarization process are not very different from urbanization processes elsewhere in the world.

What kinds of sanitation and health risks are characteristic in a settlement of pastoralists? A major risk is related to faecal matter that, if left openly, is a source of "bugs" that effectively spread to new hosts. The F-diagram (Figure 1) first published by Wagner and Lanoix for more than 50 years ago illustrates the route of how faeces contact with Fingers, Fluids, Flies and Field/Floor, and further down to food and new hosts (Wagner & Lanoix 1958).

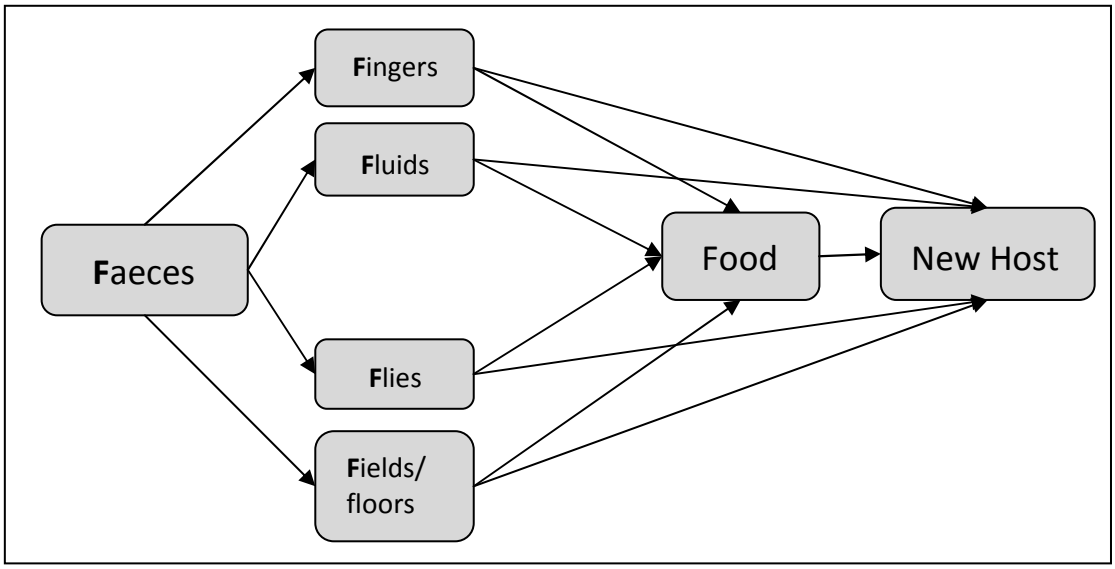

Figure 3 The F-Diagram

The F-Diagram is not particularly adjusted to fit into a settled pastoralist setting, but still it can illustrate some key risks that are relevant in such places. The fact that faeces spread through *fingers* could quite easily be observed in the visited kebeles. Children play in and around the kebele – where people go to defecate. Hand washing and soap were as far as observed not usual, and the way from the hand to the mouth is often very short. People eat with their hands from the same plate; women and men separately. Small children may defecate close to houses and playing areas, as seen during one of the interviews. The mother then "washed" her child with a small spring, removed the faeces, and threw the spring on the ground close to her house. This example shows that some kind of awareness had reached her household (the faeces was removed and thrown in the latrine), but still she lacked basic knowledge about hygiene (no hand washing, and the dirty spring was left on the compound for her children to play with later). This also reminds us that the *floor* in a kebele is *the ground*. There is no difference between the ground inside the house, on the compound, or outside

the kebele, and thus there is no difference in where one uses sandals, let the children defecate, etc. This makes the faeces' way from the *floor/ground* and into food/new hosts particularly short.

Picture 1 Flies cover the pots, ladles and jerry-cans, often carrying transmission from faeces etc.

Some respondents did mention the faeces' way through *fluids*, as they had noticed that excreta, dirt and garbage were transported into the barkads by rain water and wind. The water was contaminated and caused diseases like diarrhea and malnutrition. This was, however, to a great extent avoided in the kebeles where they had got latrines or where they burned the faeces. In one kebele the settlers had made a common obligation to boil water for drinking, practice hand wash, and to wash plates, etc. Where such common agreements are not in place, it is not surprising that the water contaminated with faecal matter cause serious health problems. Many respondents reported such experiences. The last medium for spreading of faecal matter in the F-Diagram, *flies*, is also highly relevant in the kebeles visited. Animals kept in the kebele attract flies, and at hot days, human activity such as cocking and tea preparing attract flies to plates, pans and sugar cups. The flies surrounding everywhere and crawling into children's eyes and mouths when sitting inside a traditional Somali house disturbed me and the translator, but apparently not the children themselves or their parents. All these examples underline the risks related to poor sanitation that were clearly presented and observed in the kebeles in Filtu Woreda.

Essential for the sanitation impact on health is how the kebele, sanitation facilities and the barkad are located in relationship to one another. If the households in a kebele are located above the barkad in a hillside, faeces and other contaminating materials will easily be flushed into the barkad during rains. At the same time, the barkad is dependent on rainwater from the surrounding area, and should be placed according to this. Where improved sanitation systems such as deep dug latrines are implemented this challenge is, however, to a great extent solved. Location of barkads and where it is suitable to place houses according to it is still an important part of the facilitating and guiding process of projects where sedentarization is a consequence. Altitude, distance and accessibility are all factors

that must be considered in order to limit the sanitation hazards related to rainwater, barkads and thus – health.

So, back to the question of sedentarization; what are the consequences on sanitation and hygiene from this process? As seen, one consequence is the simple fact that more people and animals lead to more human waste and thus higher risk in terms of health. Yet, there is another process going on at the same time. Many respondents told about how the settle life had given them increased *awareness* of the importance of proper sanitation and hygiene; awareness that they most likely would not have received in a pastoral life. At the same time as their choice to settle down brought some negative experiences in terms of sanitation and health, it opened up to new insights on how these issues impact each other. The described common obligation to keep a proper hygiene in one kebele, and the decision to build one latrine for each household instead of five common ones in another kebele, both demonstrate this. It is likely that the seminars given by FWSP has greatly contributed to this development, or at least started the process of awareness building. One could therefore argue that settlement was the necessary precondition that enabled FWSP and other organizations to hold seminars. Furthermore, the negative impact from poor sanitation and hygiene might not have been "discovered" or self experienced if the pastoralists had never settled.

An interesting point from one of the respondents' reasoning around sanitation is the issues of shame and embarrassment that had occurred since they settled. Suddenly people felt that they had to hide themselves from the others when he/she needed to empty themselves, and the term "privacy" had become more relevant. This had led to a situation where, if no latrine existed, the walk to find a private place in the open constantly increased in distance. Many sanitation projects build on exactly the mechanisms of shame and privacy to promote the introduction of new sanitation facilities and the end of open defecation (Chambers 2009). The purpose of this is to make people see for themselves the negative outcome of poor sanitation and start to mobilize their community to find other solutions. Yet it didn't seem to be a project policy in FWSP to promote sanitation and hygiene through shame and embarrassment; the mechanisms had occurred automatically as more people had to use the *same* open area for defecating. This is interesting; and it somehow shows that improved sanitation in a pastoral settlement is *not only* important in terms of health, but also in terms of shame and cultural taboos.

Every day, 1, 8 million people die from diarrheal diseases (including cholera). WHO suggest that diarrhea morbidity can be reduced by 6-25% through improved water supply, while the same estimate is 32% through improved sanitation (WHO 2004). Still, not unlike many other water and sanitation projects in the world today, FWSP so far seems to have focused most on the *water* part,

and less on the *sanitation* part. However, promising plans to increase the sanitation activity were established during the fieldwork period; e.g. implementation of bio-sand water filters in the kebeles and building of new latrines in many kebeles. New seminars on health and hygiene were also planned and implemented. Again, it is interesting to notice that increased settlement seems to not only satisfy needs; it also creates new needs. The need for improved sanitation solutions is yet another example of that.

Water

Water is a basic requirement for life. No human, animal or plant can live completely without it, though the amount needed and how often one needs it varies. Humans, with 2/3s of our body mass consisting of water, are absolutely dependent on water for our body to function (Abrams 2001). According to Wenhold and Faber (2009), water is not only a nutrient and a food, it is also "a non-food resource essential for daily living" (p. 65). Water is crucial as to prevent diseases and injuries and for recovery after illnesses. But, water – if not clean – is also a major source of transmission that causes millions of disease outbreaks every year. Where water is a scarce resource, *clean* water is likely to be even scarcer – maybe non-existing. Filtu Woreda is a place where water is scarce and even contaminated water is greatly demanded. While this section will focus on the health risks related to water and water sources, other aspects with improved access to water will be discussed in Chapter 8.

Most respondents had access to a barkad in their kebele, except from three who lived near the river and fetched water there. All the barkads had been built during the last 2- 7 years, and were implemented by FWSP. With no exception, the respondents with access to a barkad expressed their gratitude and appreciation for the water source, in one or another way. The access to water had given them an easier life, some said, and reduced thirst. In terms of health, they could now cook soup to sick people, give them enough to drink, and the probability to die from dehydration or depletion was totally reduced. At the same time, most respondents were aware that there were certain health risks related to the water source. When discussing the health situation in the kebeles compared to the "bush", several respondents of those claiming that health had declined attributed this partly to inadequate water quality. "There are no problems with the barkad, except that the water is not clean", one respondents put it. Contamination came, according to the respondents, from dust and garbage carried by rain or wind into the barkad, human excreta brought into the rainwater canals, excreta from birds, and water-attached insects around carrying viruses and bacteria.

Even though most respondents seemed to be aware that the water they used was contaminated and might cause illnesses, very few practiced any treatment of the water before drinking. One exception was found in one household, where the male head proudly told how they, on their own initiative,

had started to boil water and store it in separate, clean jerry-cans. However, most respondents seemed to lack the knowledge and initiative to take similar action. They knew that diseases like diarrhea and cholera were related to the water source or the water in itself, but what could they do? They had to use the water anyway, and this water was better than what they got before, some reasoned. Diarrhea and cholera were the diseases mentioned most often in relation to water, but one respondent said that the water also had worms in it. In one kebele, the respondents also emphasized the danger of falling into the barkad, as it had no fence and no stair to climb up and down. One child nearly drowned here, they said.

Looking deeper into these findings, we see that many respondents in Filtu Woreda were aware of the risks related to the barkad, and attributed the high prevalence of diseases to the water source they used. The FWSP staff confirmed that a major challenge to the water points is contamination, as did also my own observations in the kebeles. The settled pastoralists had experienced what Fratkin and Roth (2005) emphasize from their study on health among settled Rendille pastoralists; cedentarization does not necessarily lead to access to *clean* water, even though access to water may improve. In the visited kebeles, all users fetch water from the same place, and use their private jerry-cans to carry it back to their house. Transmission can therefore be carried from the household to the water, from the water to new households, and so on. Water is used both for drinking, cooking and washing, and diseases can thus spread through various forms. In fact; as long as the water is contaminated, almost all the daily routines such as eating, tea drinking, washing and fetching water contain a risk of transmission. Women and girls are likely to be especially at risk as they are the ones that are supposed to deal with water fetching and cooking in the household.

Wenhold and Faber (2009) classifies the infectious diseases associated with water into four categories; *waterborne, water-washed, water-based*, and *water-related* diseases. A water source contains risks from viral, bacterial and parasitic organisms *in* the water causing e.g. diarrheal diseases, malnutrition and hepatitis; called *waterborne* diseases. *Water-washed* diseases are related to personal and domestic hygiene, e.g. scabies or trachoma caused by insufficient quantities of water or poor hygiene. Diseases that are caused by worms or snails where part of the life cycle takes place in water are called *water-based* diseases; e.g. guinea worm disease and shistosomiasis (bilharzias). The last group in the classification is called *water-related* diseases, and contains diseases caused by vectors breeding on the water surface or biting around the water source (also called *vector-borne* diseases). Examples of such vectors are mosquitoes causing e.g. malaria and yellow fever, and tsetse-flies. It is likely that the pastoralists using the barkads in Filtu Woreda are at risk of transmission from all the four categories of diseases in Wenhold and Faber's classification; waterborne diseases as well as diseases based or related to the barkad. However, incidents of waterborne diseases such as

diarrheal diseases and malnutrition were mentioned most often and thus seemed to be most prevalent.

In most kebeles the respondents lacked basic knowledge about household treatment of water. FWSP has tried to respond to this need by implementing a "Home Development" component into the project, which aims at improving hygiene and water treatment on a household level. The introduction of this component is quite recent, and the results are therefore not visible yet. Taking the above mentioned transmission risks into consideration; there is no doubt that such efforts as the one of FWSP are crucial. Estimates by WHO, saying that household water treatment such as chlorination can reduce diarrhea episodes by 35-39 % (WHO 2004), underlines this. The findings in this thesis therefore support the continuation and upgrading of the current FWSP "Home Development" program. Not only is this a sufficient and possible aspect of a water and sanitation project; I would argue that activities to reduce the transmission risks are an absolute necessity. However, knowledge in itself is probably not enough to change practices in this area; such change also require the ability to separate some jerry-cans, cups and pots for cleaned water, and some for unclean use. It is likely to think that the pastoral economy and wealth allow few pastoralists in the visited kebeles to make this change, even though they know about the benefits. A strategy to implement household treatment of water and better hygiene must therefore include these practical issues as well in order to succeed.

As a method to prevent contamination of the barkad water, some respondents suggested that a cover would improve the situation, as it would prevent birds, animals and dust from falling into the barkad. One could also add that a cover might keep the water volume more stabile, as it is suggested that one third of the water in an average un-covered cistern is lost through evaporation (Krämer 2003). In the WHO Guidelines for Drinking-water Quality the use of tight covers on water storages is encouraged, as it prevents mosquito breeding and sunlight into the water causing algal growth (WHO 2008). Staff from FWSP said that different cover solutions had been considered, but so far none of these had proved to function as wanted. Such covers are also very costly, and require technical support external to what local committees can administer. Moreover, even with a cover to prevent contamination the water might not be *clean*, and household treatment of the water will still be necessary (according to FWSP personnel). The second phase evaluation report of FWSP raises concern about the lack of *clean* water in the barkads; however emphasize that this water probably is the cleanest there is in the woreda. Water from ponds and rivers are worse, the report says. This might be true, but should not be used as an "excuse" for not investing in improvements of drinking water quality. Cover or not; one of the biggest and most important challenges for FWSP at present

and in the future is therefore to find functioning and sustainable solutions to the demand for *clean* drinking water. As mentioned in the "Sanitation and Hygiene" section, location of barkad relative to the kebele and altitude are important factors to have in mind in this context.

However, while discussing the unclean water in the barkads it is necessary to ask: what is *clean* water, and who should decide the standard of clean/unclean? WHO (2008) has simplistic defined safe drinking-water as water that "does not represent any significant risk to health over a lifetime of consumption, including different sensitivities that may occur between life stages" (p. 1). Further, the Guidelines emphasize that the standards for what is considered safe drinking-water varies between countries and cultures, and a fixed universal standard for water quality is irrelevant or even impossible to portrait. The actual situation in the Filtu kebeles therefore need to be examined and a drinking-water quality standard should be drawn based on local conditions. Furthermore, Hovden (2006) points at the importance of *local knowledge* when putting up standards of drinking-water quality. Goals of clean water are normative, and the goals of local users are not necessarily similar to those of international agencies or social scientists, he claims. The *local standards* are important indicators that help to understand the logic and priorities of the users, and thus one is better able to find suitable and effective ways of promoting water treatment and proper hygiene (ibid). In the case of settled pastoralists in Filtu, this is an interesting topic to investigate, as the water quality standards may have changed due to the sedentarization process and the improved access to water. This research did not include any such data, but for further work aiming at improving water treatment and hygiene practices in the kebeles, interest should be paid to the local standards for safe drinking-water.

Picture 2 Fetching water at the barkad contains a risk of transmission from waterborne and water-related diseases

Policies, practices and possibilities

Several NGOs and governments have tried to solve the dilemma of how to organize health services for pastoral people. Different methods and policies have been suggested based on different studies, among them organizing of mobile health posts with a nomadic CHW supported by the group he/she is travelling with (Sheik-Mohamed & Velema 1999). Likewise is it relevant and necessary to ask: what would be the best approach in Filtu Woreda? In the fieldwork area, it seemed that most of the already settled pastoralists wanted to remain in their kebele, and to have health services there. This fits with the governmental and FWSP strategy; to build and staff health posts in all the new kebeles created in the woreda. The challenge, however, is to follow up in the same speed as settlements emerge. Despite promises and plans both by governments and NGOs, many of the kebeles that had got a water point long ago had not yet got adequate health services to meet the health risks that follow increased population density. It seemed that the health services, due to different reasons, were delayed in many kebeles. Part of the picture is, according to FWSP staff, that the inhabitants in some kebeles are reluctant to engage in the building and require payment if they are to participate in the process. Other factors that might influence this situation are lack of staff and money, conflicting policies between government, NGOs and donors, or other unpredictable obstacles. Still, this section will be focused on the *planning* part; why it is important to incorporate a health component from the very beginning in projects that aims at settling pastoralists.

From the FWSP proposal and plans from the early years of the project, one can read that settlement of pastoralists is included in the objectives as sedentarization is a premise for further development. It is assumed that as pastoralists settle possibilities for reaching out with e.g. health services opens. What the plans somehow lack, in my opinion, is the recognition that settlement not only will create possibilities, it will also *require* further developments. Due to the acute water shortage in the area, it seems that access to water has been prioritized more or less isolated in the early years of the project, possibly at the cost of the health and sanitation components. When dealing with sedentarization and the serious consequences on pastoralists' health and nutrition I would argue that it is not enough to *assume* that health services will come as a consequence of settlement; rather it should be incorporated in any project plan from the start. A strategy where water-, sanitation- and health aspects are planned and implemented *simultaneously* is therefore suggested. This requires a holistic and multi-stakeholder approach where health risks and strategies to meet these are taken into consideration. Since the consequences of sedentarization are complex, it also requires complex and multi-disciplinary plans and methods to deal with them.

Considering the size of FWSP, a broader approach equally focusing on health, water and sanitation at the same time would possibly indicate that the project would have to focus on fewer kebeles, but with a closer follow-up in each of them. In other words; the qualitative outcome of the project would have to be put in focus instead of the quantitative results. One could argue that the need for water is too dramatic in the area to wait for plans that incorporate all aspects of sedentarization. This argument is absolutely reasonable in times of severe drought and when acute aid is needed. Bureaucratic models can for sure delay many efforts in critical situations. However, projects with a long-term perspective that aims at being sustainable, as FWSP, have the possibility and the responsibility to predict both the positive and negative outcomes of a planned project, and to make necessary adjustment to avoid/handle the negative ones. In the case of health, the negative outcomes from sedentarization are documented in several studies, in which this thesis can be included. When one knows that increased sedentarization is one of the consequences of a planned project, I will therefore suggest a broad approach that equally and simultaneously focuses on water, sanitation and health. This will also require a closer cooperation and corresponding policies with other NGOs, governments and other stakeholders in the area.

Today, Filtu Woreda bases the health posts on CHWs that are supposed to be recruited from different parts of the Woreda. The challenge, according to FWSP staff and the government, is to secure staff to health posts that are far out in the “bush”, where the CHW positions are isolated and less attractive. According to FWSP project staff this has lead to a situation where health posts in the rural outskirts remain unstaffed, as no CHWs are willing to settle there. This was exemplified in one kebele by which we passed in the fieldwork, where the health post was nicely located in the midst of the kebele, but where the building was empty and locked because the government had failed to recruit any CHWs from the kebele. This underlines the necessity of recruitment on a broad scale; from the very outskirts to the cities. A system where the educated candidates are attached to their kebele for some period would therefore be necessary for the solution to be sustainable. In this way the probability that all kebeles will be reached with relevant and understandable health information, and appropriate health services, is maximized. Further, the quality of the education given to the CHWs is a highly important aspect though not outlined here.

7. Ecology

Ecological changes happen everywhere and all the time. The constant circuit of ecosystems and the laws in nature compose the "motor" of this earth, which drives forward and sustains the nature and living creatures. Ecology is thus the science of how all living creatures interact with each other in our environment "on this fascinating, complex Spaceship Earth" (The Ecology Global Network 2010). It is not the small, natural variations that is the focus in this chapter, rather it is the large and, perhaps, *unnatural* fluctuations and changes in the pastoral ecology. However, whether these changes are unnatural or not are greatly debated. Political ecologists, among others, will argue that even the great fluctuations are "natural", or less sensational than many believe. This chapter aims at describing some of the fluctuations, or changes, in the ecology of the pastoralist society in Filtu Woreda. The focus will be on how the respondents interpret the changes they see; as natural fluctuations or as certain changes with specific reasons. Further, the chapter looks at how sedentarization might have impacted the ecology in the area, and how the respondents perceive sedentarization as a factor impacting ecology. Implicit in this lays an assumption that the sedentarization process actually has impacted the ecology in the area to some extent. However, the respondents' views and stories will be the base of this chapter, to see if the assumption corresponds with reality.

The ecology of pastoral societies includes a wide range of topics, theories and debated "truths" of which one could write books (Homewood 2008). This chapter only looks into a few of these topics which were found relevant in the visited kebeles in Filtu Woreda. The topics included in this chapter are therefore: *Sedentarization and Changes in Ecology: basic findings; Drought, Grazing and Bush Encroachment; Livestock; and Farming.* The first part will present the basic findings on the issues of ecology and sedentarization, while the latter parts will go deeper into the material and discuss the findings. Through the discussions, the focus will be on how sedentarization might have impacted pastoralists' ecological opportunities and constraints, and how this knowledge might encourage renewed policies on pastoral development. As in the "Health" chapter, this part will end with a section where *Policies, Practices and Possibilities* will be discussed.

Sedentarization and Changes in Ecology: basic findings

The ecological and climatic changes that the pastoralists and settled respondents in this study told about were serious and complex. All the respondents were asked what sort of ecological changes they saw, or thought would come, as a result of increased settlement. Further, they were asked if they had any specific strategies or methods to cope with those changes, or to prevent it. Some

respondents had a lot to tell about this, and explained a lot about the relations and links between increased settlement and ecological changes. Other respondents were more insecure and did not know so much about these links. Therefore; the findings in this part are to a great extent based on the explanations given by some few respondents. For some reason, more men than women had opinions and stories to tell about the ecological and climatic impact on their livelihood.

Three respondents did not know of any specific changes in the ecology, while three others did not think settlement had any impact on ecology at all. However, most respondents had observed different changes in nature during their lifetime; changes that impacted their livestock number and production, food security, livelihood, and wealth. The main ecological changes observed and experienced were: droughts occurring more often, reduced grass, bush encroachment, deforestation, and more pressure on pastures. Some attributed this to increased sedentarization, while others saw no specific connection between these phenomena. Except from increased sedentarization among pastoralists, the respondents mentioned these reasons for the ecological changes: repeated droughts (both as cause and effect), pollution from factories and industry, climate changes, and increased demand for wood (for firewood, housing and the Koran-schools - *Duxies*). A few respondents had tried or considered use of fire or cutting to combat bush encroachment in the area, however most respondents thought of the changes as uncontrollable and irresistible to humans. Nature; and ecology, is controlled by God anyway, some said. But if the government or NGOs told them to do anything to stop overgrazing or bush encroachment, they would gladly do it, others said.

Not all respondents saw any specific challenges related to ecological changes. Whether it was because of lack of knowledge, unclear questions, or misunderstandings is unknown, but some answers in this part also indicate that the questions were not properly explained. When asked about settlement and possible impact on ecology some of the respondents reacted by defending themselves and the way they took care of the nature. Examples of this are answers like “We don’t harm the nature! We are only friendly to it, and we cause no ecological change”. These respondents might have seen me, the researcher, as an outsider that tried to tell them that they should be more careful with nature, - the nature that they had lived in and from for generations. This was not the intention from my side, but it might have caused some misunderstandings regarding the issue of overgrazing and ecological change. When people feel offended and - in a way – threatened, it is likely to think that they will answer in a way that protects them, or in the way they think will please the researcher. This *might* have been the case where respondents claimed that there were no ecological impacts or challenges regarding the ecology in the area, however, these assumptions are only based on observations and impressions in the situation. There are also reasons to believe that some

respondents actually observed little or no change in the ecology surrounding them, or they felt incompetent to talk about the issue.

Drought, Grass and Bush Encroachment

These issues, *drought, grass* and *bush encroachment* are somehow interlinked, even though each of them could have been investigated separately. The choice to present and discuss the findings on these issues together here, is based on the respondents' answers and reasoning; how they saw the complex connections between drought, grazing and bush encroachment. Included in this section is also some perceptions and theories regarding pastoral land use and environmental degradation. Through the discussion, it is our aim to find out whether or not sedentarization has impacted these issues.

A majority of the respondents mentioned overgrazing and reduced grasslands as an increased problem in the area. Some of the oldest respondents said that the area was like a meadow when they were young, and now it had turned into a desert. In one of the life-story interviews, the old lady pointed at her legs to indicate how high the grass was when she was young. "Our cows used to graze where Filtu town is now", she said. She also meant that the main reason behind this change was all the droughts that had affected the area. This view was shared by many other respondents, who blamed the repeated droughts for the problems they now faced. Some respondents also meant that the amount of rain that usually came at rainy seasons nowadays was less than before:

> *Before, when it rained, at least the grass grew. Now, even if it rains, it is too little, and the grass will not grow properly. I don't know why… (female respondent, Kaleh Jeeh).*

When asked why they thought that drought came more often nowadays, most respondents did not know, but one respondent said it was because of global climate change. Others said that drought is God's will, and wondered no more about other explanations. "Maybe it is because of our sin?" one man suggested.

One respondent said that overgrazing was a challenge, but not especially worse after the settlement-trend started. That has been a problem long before people started to settle, he said. Most respondents, however, pointed at overgrazing as one of the biggest challenges with the sedentary life. With the rapid growth of both humans and animals, some explained, the pressure on land increases all the time. "The area around this kebele is completely overgrazed already", one man said, claiming that grass had completely stopped growing. For this reason, most respondents kept their livestock far away from the kebele, where pastures were better. 13 respondents mentioned bush encroachment as a cause of reduced grassland, as non-palatable trees and drought-resistant species

had taken over where grasses used to grow. Most of the respondents didn't know exactly how or why this was happening, but they observed it.

Some respondents, however, saw bush encroachment in relation to increased settlement. People have started to cut trees for housing and fencing, they said, - trees that are eatable for animals and good for the area. More people now want modern houses, and the Duxi always need firewood for light at their evening lessons. The bad trees that are not eatable for animals remain, one respondent explained, and those trees grow even throughout the dry season and despite failed rainy season. In this way, the grasses are being out-concurred, and the encroachment of woody plants continues, he said. This way of explaining bush encroachment and reduced grass cover was repeated by staff in FWSP and other NGOs, as well as by the woreda administration. Bush encroachment not only blocked the grasses, according to several of my respondents, it also caused other challenges such as blocked roads and paths, thorns that could sting animals and humans, hiding places for creepy and wild animals, etc. Those bushes are the perfect hiding place for lions and hyenas, one respondent said. Another man said that more snakes would be attracted to the kebele if surrounded by bushes.

Only a few respondents knew about strategies and methods that could help towards the challenges regarding overgrazing and bush encroachment. Most respondents asked said that there were nothing they could do, or they did not know what to do. Some respondents referred to God who had created it – "he knows, not we". One man said that if the government or an NGO asked them to do anything, they would do it. Another said that they absolutely needed more knowledge about these things, because the amount of "unwanted" trees had really exploded in the last years. When asked if they had ever used burning as a method of getting new, palatable grass, only four respondents said that they had tried it. One of these had done it in order to prevent snakes and other cruel animals from coming. Two of them had done it only once, while the last one burned trees once in a while – one by one. It was not possible to burn a larger area at the same time because there was too little grass for the flames to spread. However, where he had burned trees, grass started to grow, he said. He had heard of this method from other places before he tried it in his own kebele. Another respondent had heard that one could cut trees selectively to increase the amount of grass, but because it was not allowed to cut trees in that area, they had never done it. Not the laws, but the hard work and lack of machines hindered another man from cutting the unwanted trees.

Now, how can we understand and analyze these mixed findings? Let's start with the highest risk and the most urgent need found among pastoralists in Filtu Woreda: *drought*. Many respondents (especially the older ones) claimed that droughts occurred more often now than when they were younger, and that rainfall were generally less even in the "normal" years. These statements are not

very different from what many observers and experts assert as well; droughts in the Somali Region are more severe and strike more often compared to before (Devereux 2006). Not only is this theory commonly accepted as a phenomenon in the Somali Region; studies and reports from several other arid and semi-arid areas conclude the same way. One example is from the Sahel desert in West-Africa, where drought has been made almost like a characteristic of the area during the last 30-40 years. The drought crisis has been attributed to climate change and over-exploitation, and the results are environmental degradation, deforestation, and desertification (Agnew & Chappell 1999). What the respondents told about from the Somali Region therefore seems to correspond with trends in other similar climatic zones, even though the rainfall pattern in the Sahel seems even more alarming than in East-Africa (Homewood 2008). None of the respondents used words as "environmental degradation", "deforestation" or "desertification"; still the respondents reported exactly what these terms indicate. Most of them could not explain why this happened, other than "drought".

More recently, however, the common assertion that droughts come more frequent than before has been questioned from many sources (Adger & Benjaminsen 2000; Devereux 2006; Robbins 2004). The term "before" or "in the past" are interesting here, and some would argue that long-term rainfall data shows that there are actually no proofs that droughts occurred less frequent in the past. The way of interpreting the data is as determining for our theories as the actual milliliters of rain, Agnew and Chappell (1999) argues. Homewood (2008) sais that it is not the actual level of water that creates droughts; rather it is the *timing* of the rain that actually falls. If the rainfall is such that it does not allow crop or grass growth, e.g. stops at a critical stage in the succession, it might lead to the situation described by some respondents: the pastures never have time to "recover". Therefore, it is not the absolute absence of rain in one single year that challenge pastoralists' subsistence, but repeated years with little and unfortunate timed rain (ibid). Furthermore, it is not necessarily drought in itself that make pastoralists vulnerable; rather other factors such as conflicts, legal restrictions, trade and mobility impact pastoralists' ability to cope with drought. These factors may have complicated pastoralists' adaption to drought and dry periods during the last decades; making it look like droughts come more frequent (Devereux 2006).

These arguments make sense if we look at sedentarization as one of the factors that may reduce pastoralists' ability to cope with drought. The "in-between" position that the respondents in Filtu Woreda experienced made them less mobile, and perhaps; less able to tackle dry periods. Maybe the hardship of drought appeared more severe in the sedentary life because their best coping strategy – mobility – represented the life they had left? One could argue that the flexibility and adaptability of pastoralists make them able to start moving about again, even if they begin a sedentary life.

However, the respondents in Filtu Woreda did not present this as an option; only one woman said that she would consider going back to the nomadic life if she had to. It seems that the respondents are put in a situation where, as Fratkin and Roth (2005) sais, they are cursed if they settle, and cursed if they don't (or leave the sedentary life). It is likely to think that the respondents had got duties and opportunities (e.g. school, barkad and agriculture) in the kebele that they were reluctant to leave. However, sedentaization is surely not the only factor that impacts the pastoralists' vulnerability, and global climate change, deforestation and reduced rainfall are by no means irrelevant to this discussion. Still, as the respondents in Filtu Woreda exemplified, there are reasons to believe that the loss of mobility to some extent disables pastoralists' coping strategies to drought.

Rainfall decides the growth of *grass*, which is essential for the livestock production and thus pastoralists' subsistence. Most of the respondents in the visited kebeles said that the amount of grass had been reduced during the last decade, while a few saw no specific change. None of them had experienced any increase in the grass growth. The visualization by the old lady pointing at her leg to show the grass height when she was young makes it necessary to ask: how is this possible? What made the change? The impact of drought in the area as one possible reason for the reduced grassland is already discussed in this thesis. But what may have increased the frequency of dry periods and reduced the amount of rainfall? Homewood (2008) points at a natural circle where heavy grazing and deforestation reduces land cover, and thus the albedo-effect[1] contribute to more evaporation and less rainfall, and again poor plant growth. This circle of declining rainfall and vegetation cover may help to explain the complex picture of drought and loss of pastures presented by the pastoralists in Filtu Woreda.

Again, this indicates that sedentarization, which imply higher density of animals and humans might impact the vegetation cover and thus rainfall. As one respondent claimed, the grass had totally disappeared around the kebele due to pressure from rapidly growing populations. Could it be that increased sedentarization in Filtu Woreda leads to larger areas of bare soil, and consequently; increased albedo and less rain? This is one possible explanation that *might* impact the rainfall pattern

[1] *Albedo-effect:* The term is applied to describe the earth's ability to absorb and radiate energy depending on vegetation cover. Bare soil, looking light and bright from above, has high albedo as it reflects most of the warm air right back to the atmosphere instead of absorbing it. The relatively cool and stable atmosphere that thereby is created above the bare soil let air from above descend and form a "cap" above the cool air; hindering condensation and thus rainfall. Opposite, the warm air radiating from vegetation covered (looking dark from above) areas rises and cools, condenses and give clouds, and then turns back to the earth as rain. This constant circle gives more rain to areas that are covered with vegetation, and less to areas with much bare soil. This is one of the reasons why arid and semi-arid areas continue to be so (Adams 2007). In Ethiopia, it has been claimed that the amount of rain has not really decreased during the severe droughts in the last decades, but the share of rain in different regions had become more "unfair" due to increased albedo in arid regions (Høgetveit 2004).

in the area. At the same time, we know that land-cover dynamics and population density is not straightforward in the sense that degradation of land always follows population density proportionally. Reduction in vegetation cover can occur whether there is population growth, population decline or no changes in population at all (Reid et al. 2000). To claim a too strong relationship between sedentarization, land cover and rainfall is therefore unfavorable and may be directly wrong. However, as a few respondents drew these links so clearly, it is necessary to investigate the issues a bit deeper. But before we go on to describe the *equilibrium* and *disequilibrium* theories; another pressuring topic in Filtu Woreda needs to be explained: bush encroachment.

Bush encroachment was presented both by several respondents and NGO staff as a great challenge to the ecology of pastoralists in the area. The issue was also thoroughly explained by staff at the woreda administration, and it is confirmed as a phenomenon in the area by several studies (Angassa & Oba 2008; Britz & Ward 2007; Miller, J. B. 1999; Oba et al. 2008; Sheuyange et al. 2005). Bush encroachment means that bush and scrub *encroach*, or invade, areas of land where there were no such species before; often characterized as an unfavorable and unwanted process. The phenomenon is believed to be caused by heavy grazing by livestock, reduced grass land, and thus more bare soil for woody vegetation to invade. Some respondents, as well as NGO and woreda staff said that there were certain species, e.g. some *acacia*-species, which grew year-round, even with no rainfall. When grasses failed because of poor rainfall, woody species expanded. These species are usually non-palatable to animals and bring no good, they said. One woreda representative added that, when the animals still were forced to eat of these bushes because grass was diminished, the unwanted species spread even further through the animal's excreta. Britz and Ward (2007) further explains how intense livestock grazing reduces fuel loads and thus pastoralists' ability to control woody vegetation by fires. *Fires* have been used as a traditional tool to balance the share of woody vegetation and grass in many African savannas (Angassa & Oba 2008; Oba et al. 2000; Sheuyange et al. 2005). As described above, one respondent emphasized this by pointing at the ground around him; no grass to burn made fires an impossible solution. However, the exact mechanisms of the process and *why* this increasingly affects arid and semi-arid lands in Africa, is debated (Britz & Ward 2007).

As sedentarization and increased human and animal population density in Filtu Woreda naturally has led to increased pressure on the surrounding land, it might not surprise us that bush encroachment also has increased in the area. However; according to woreda and NGO representatives, bush encroachment happened not only around the new kebeles, but in almost every part of the Woreda. Other factors than sedentarization and heavy grazing are therefore useful to understand the spread

of woody plants in Filtu Woreda. This thesis does not allow any in-depth analysis of the different causes of bush encroachment, but some factors should be mentioned briefly. First of all; *rainfall*, as described, determines the growth of grass. Furthermore, *global climate* conditions such as increased CO_2 have been presented as a possible cause of the phenomenon. Bush encroachment can occur as a *rapid* change in the grass-woody vegetation balance; or as a *gradual* change over a long time span. As with changes in rainfall and grass growth; some would also claim that bush encroachment is a *natural* phenomenon, caused by natural fluctuations in the ecosystem. Sedentarization alone can therefore not be blamed for the spread of woody vegetation. The *combined* factors of rainfall, climate change, overgrazing, and; sedentarization, might however influence the degree of bush encroachment in Filtu Woreda.

The *equilibrium* and *disequilibrium* theories are useful in order to understand the debated relationship, or absence of such, between population density, land cover, degradation and loss of productive potential better. *Degradation* in itself is a contested term, as different definitions try to capture the causes and features with the popular term (Homewood 2008; Robbins 2004). The *equilibrium theory* have been used to describe e.g. economic growth (Ayres 1998) and genetic evolution (Hartl & Taubes 1998), as well as ecosystems and population growth (Homewood 2008). The theory sees population growth as a linear succession where density-dependent factors are the main limitations to not overshoot the *carrying capacity*. Where these density-dependent factors do not operate effectively, environmental degradation is the expected result. One typical example of a density-dependent factor is diseases, which are expected to spread proportionate to increased population density. The carrying capacity in the equilibrium theory is the stage in the sequence where the maximum number of people can exploit the natural resources existing without degrading the environment. The equilibrium chain leading to degradation, as presented by Homewood (2008) can be illustrated as in Figure 4.

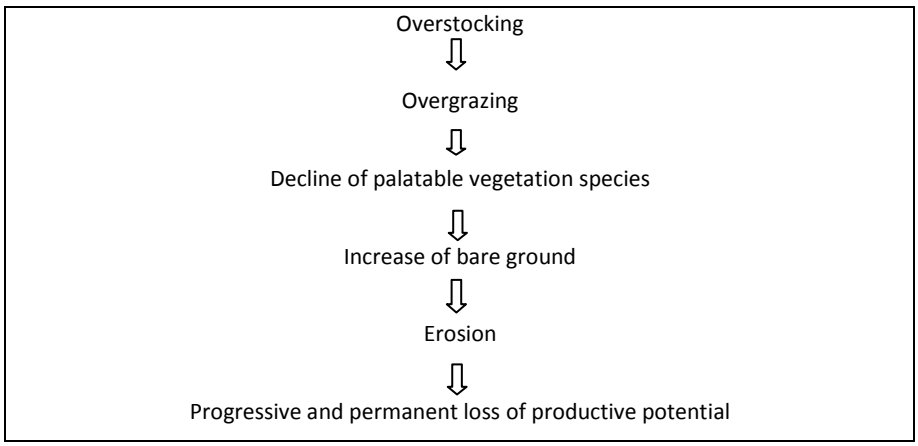

Figure 4 The equilibrium theory's postulated sequence of overstocking, overgrazing leading to environmental degradation

This chain of explanation more or less corresponds with the respondents' reasoning. Staff at the woreda administration, FWSP and in other NGOs gave the same explanation of the decline in pasture and rainfall. However, the equilibrium theory has been questioned by the *disequilibrium debate*. This debate has lead to a shift in the mainstream view towards a more nuanced understanding of the ecological dynamics of pastoralist land use. Criticism has been raised concerning the validity and meaningfulness of using the equilibrium theory and concepts to measue degradation in arid and semi-arid areas (Homewood 2008). The concept of "carrying capacity" has been found not sufficient to describe ecosystems in such environments, as arid and semi-arid areas are characterized by extreme variations in rainfall. Moreover, the given climatic conditions are interrupted by "chaotically interacting random events of fire, flood, drought and epidemic" (Homewood 2008 p. 68). Rather than following a linear succession that ends up finding the carrying capacity of a society or ecosystem, the disequilibrium debate argues that there is a constant chaotic interplay between shifting climatic conditions. This interplay does not only involve the density-dependent factors; the disequilibrium debate emphasizes that also density-independent factors influence greatly in arid and semi-arid areas.

In the case of the Somali Region, this means that not only pastoral land use influences the ecology and "degradation rate" in arid and semi-arid landscapes; so do density-independent factors such as natural disasters and political decisions. A political ecology point of view would support the disequilibrium arguments by questioning the conventional tendency to attribute changes in nature to degradation caused by human activity, while often overlooking the possible political and natural aspects of the situation (Robbins 2004). In Filtu Woreda, the interaction between density, rainfall, bush encroachment and plant growth might be rather *chaotic* than *linear*. For sure, there *is* an interplay between these factors, but as Homewood (2008) describes, that interplay is not necessarily following a logic succession. This is perhaps a more pertinent understanding of the situation in Filtu Woreda, as this study cannot prove and linear relationship between density and degradation. We can assume, however, that there is a complex interaction between these factors, where also political and natural constraints play a role. The process of sedentarization is therefore not as directly linked to the decline in rainfall and pasture as one could imagine, even though the awareness of degradation as a *possible* consequence of increased sedentarization is crucial in any attempts to pastoral development.

Many respondents in Filtu Woreda had settled *because* of drought and loss of pastures. That means that the problems they now faced (drought, overgrazing and bush encroachment) did not start once they left the pastoral life; it probably started long before that. This is also important to notice when

we discuss sedentarization as a possible cause of changes in the ecology of pastoralists. Sedentarization is perhaps best understood as one out of many factors that, in a chaotic, non-linear way, impact or change the ecology in Filtu Woreda, but sedentarization is at the same time a *response* to such changes. Salzman (1980)'s model of sedentarization as "adaption and response", as described in Chapter 2, is thereby exemplified.

Livestock

Livestock is "the defining characteristic of pastoralist people" (Homewood 2008 p. 1). The ecology of pastoralist societies is, as already seen in this chapter, fundamentally associated with their dependency on livestock. Included in the "Ecology" – part of the fieldwork was therefore an attempt to find out if sedentarization had impacted the number and productivity of the respondents' livestock in any way, or if there were other factors that had caused any specific change in the number of animals. These issues, however, was not easily counted or described by the respondents. Most respondents didn't know how many animals they had, and any specific numbers were hard to mention. Moreover, some respondents had lived in the kebele for more than ten years, and any comparison was therefore difficult. This makes the findings regarding livestock and changes less valid, but still the stories behind the numbers can give us some interesting insights about the issues.

All respondents except from one (working in the kebele health post) had one or more types of animals. All the respondents that had animals had goats, while most of them had camels as well. A handful of the respondents also had cattle, donkeys and chickens. More than half of the respondents had experienced a decline in the number of animals, while a few respondents had seen their livestock increase (see Table 2). Two of those in the last group had divided their stock into one group that grazed far away, while some grazed close to the house. One man had another wife in the bush and had his animals with her, while another respondent was still a pastoralist and moved with his animals. This indicates that closeness to pastures and ways of organizing the stock might have something to say when it comes to number of animals. However, these facts do not say whether the number of animals increased because the stock was divided, or if the respondents divided the stock because the number of animals increased. The limited time and framework of the fieldwork didn't allow such deeper investigations. Still we can conclude that most respondents had experienced great losses of animals during the last years, and different explanations were given for this trend.

Table 2 Respondents' livestock losses and restocking during the last ten years

Livestock increased/decreased during the last 10 years	
Livestock increased (5)	**Livestock decreased (16)**
- God's will, -blessings - Divided livestock – some close, and some far from kebele - By luck	- Drought - Hunger – not enough grass, overgrazing - More animals in the same place - Diseases, epidemics - No proper care of animals in kebele - Sold - God's will - Taken by wild animals

The reasons mentioned most often for the decline in number of livestock were drought and lack of pasture. There were simply not enough grass and water to feed them, and thus they had died from hunger. The lack of pasture also made them more vulnerable to animal diseases, and there had been many epidemics during the last years. Eight respondents had their animals killed by diseases of different kind. Five respondents had sold their animals; one of them because he saw that the "town" (kebele) was not a good place for animals. Another man said that there was no one to take care of the animals properly anymore; they had all got other activities and responsibilities to take care of. Children went to school, women did farming, and men built new houses, school and/or health post, so that the livestock was not prioritized in the same way as before. One lady blamed wild animals for the loss of her animals, while three other explained it simply as a result of God's will.

Even though most of the respondents had settled down permanently, only 11 of them had their animals grazing in the nearby area. 13 respondents had their animals grazing other places; some in distances of 3-4 hours walking, others in distances of one days walking. When asked who that took care of their animals far away, the respondents mentioned sons, daughters, brothers, uncles, fathers, and other relatives. A third option was tried by two respondents, where they had most of their animals far away, while some of their animals were kept close to the household. In this way they always had some milk available, and the grass available in the village was not exploited. They had a rotation system, so that the animals kept at home were replaced by other animals every now and then. The two households that used this system both had a large number of animals so that it was possible to divide the flock. It is likely to think that also other households would have considered this alternative if they had had more animals and able to divide them.

A study of pastoral people in the Somali Region of Ethiopia (Devereux 2006) corresponds with the finding that most respondents had experiences great losses in livestock. Almost all respondents in

Devereux' study, spread out in the whole of the Somali Region, had also experienced a decline in their number of animals during the last ten years. Reasons given in this study were first of all drought, and then diseases. Other less frequent reasons were selling of animals for nutrition or economic reasons, and religious practices as sacrificing animals. Many respondents had also lost their animals from wild animals, and some from raiding or other attacks (Devereux 2006). Sacrificing of animals was not mentioned as a *loss* in Filtu Woreda, but many respondents said that they used to do this if someone fell sick or at special religious ceremonies. Devereux's study confirms the trend found in Filtu Woreda, and there are reasons to believe that the last decade represents a period of significant decline in pastoralists' livestock numbers in the Somali Region.

The most common reasons for the loss of livestock in Filtu Woreda; reduced grass land, overgrazing and drought, are highly connected to the topics discussed in the last section about drought, grass and bush encroachment. The chain of explanation was very much the same as with these issues; increased density – overgrazing – reduced productivity – starvation – death. This further underlies that these issues are interlinked in a complex way where sedentarization is also a part of the picture. Some respondents "blamed" the sedentary life and themselves for not taking care of their animals anymore; - they had become too busy. Fratkin and Roth (2005) points at the same factors when they explain the salient change in pastoral livestock production in Marsabit, Kenya; 1) Increased population pressure; 2) Losses of pastoral lands; 3) Reduced mobility; and 4) Environmental degradation. The reasons given correspond with the stories from Filtu Woreda; however, again they may contribute to simplify and generalize the changes to a linear, predictable process. It is important to notice that some of the respondents in Filtu Woreda settled exactly as a coping strategy to livestock losses. One said that he had tried hard to "survive" as a nomadic pastoralist, but when the drought killed his animals one by one he saw no other option but settle. In other words; the decline in animals had not happened *because* he settled, - he settled because of the decline in animals. As we see, sedentarization processes may evolve as responses to environmental-, societal-, and political changes, but they may as well generate or intensify such changes. Reduced mobility seems to function both as a reason to, and a response to, negative changes in pastoral livestock production.

The increased pressure on the land close to the barkad had forced most of the respondents to stay apart from their livestock most of the time, - something that turns one of the defining characteristics with pastoralism upside down. A pastoralist apart from animals – is he still a pastoralist? Some of the respondents expressed sorrow and shame because their animals were far away, like they felt that their pride and identity was left with their animals in the bush. They were pastoralists by culture, but their association with animals had been wakened. Another respondent that had increased the

number of animals during the last years appeared proud over her pastoralist identity. It was very interesting to notice this difference in appearance, which says something about livestock as the core of pastoralists' economy, wealth and identification. In pastoralist development the livestock component should therefore be incorporated in a way that does not run over pastoralists' identity as *herders*; rather their important contribution to the local and national economy through livestock (Homewood 2008) should be secured.

The downward trend in livestock numbers seems to have many reasons, as the respondents in each study listed. From the respondents in Filtu Woreda, one could get the impression that this decline had affected worse than ever before, and in a way that they had never experienced before. In Kenya, the traditional pastoral livestock production systems had remained relatively stable for many years until the end of the last century, when traditional coping strategies were not successful anymore (Fratkin & Roth 2005). The long term irreversible changes that now characterize the Marsabit region are beyond pastoralists' control, and their livestock production therefore needs alternative strategies to be rescued, the authors argue. However, our data says nothing about the rise or decline of livestock numbers in the past, and whether or not this trend is significant in a historic perspective. Devastating epidemics and droughts have affected livestock and pastoralists' subsistence through all times. One example is the outbreaks of *Rinderpest* that have killed large numbers of cattle in Ethiopia as well as other African countries in e.g. 1880s, 1960s and 1980s (Abraham et al. 1998). It is therefore likely to think that there have been similar crisis in livestock keeping in the past as well. However, this does not make today's pastoralists' losses less severe and possible strategies to address this challenge therefore need to be discussed.

One traditional coping strategy for pastoralist societies in times of poor production and scarcity is to restock. If animals produce less or die because they lack fodder, the solution in many societies has been, and is, to increase the number of animals. There are conflicting views on whether or not this is a sufficient and sustainable strategy. Oxby (1994) explains restocking as a solution to overgrazing in areas where pastoralists have been forced to settle due to drought and animal losses. With restocking as a development strategy, pastoralists are enabled to reenter a nomadic life, and the pressure on high-density areas reduces. With more animals, they are also less vulnerable to possible losses during drought. Others argue strongly that pastoralists should rather reduce their herds and nurture a few good-breeding animals. In this way, pastures will be shared by fewer animals which each will produce more (IRIN 2006). What would be the best strategy in Filtu Woreda depends on the opportunity and willingness for pastoralists to leave the sedentary life. As already concluded in this thesis, the respondents seemed firm on their decision to be settled; it was not a temporary solution

just to overcome a temporary scarce period. Restocking therefore appear as a inappropriate alternative to the losses in livestock in Filtu Woreda, as this most likely will lead to continued overgrazing and pressure on land. As seen through this chapter, this might be followed by degradation, bush encroachment and drought.

In order to find out what could be a good coping strategy for settled pastoralists it is maybe more interesting to look at the few respondents that had actually experienced no losses in livestock during the last ten years or even managed to restock. What made these pastoralists able to go opposite the trend? Some of these respondents had adapted to the sedentary life by dividing their stock, as described. This had given benefits regarding nutrition and health, but also in terms of wealth, pride, and pastoral identity. This risk-reducing strategy has traditionally been used by many pastoralist societies as an attempt to reduce risks related to food shortage, animal diseases and raiding (Fratkin & Roth 2005). However, this strategy requires more labor (Oxby 1994), which may explain why only a few respondents applied this method. It would be interesting to further investigate the possible advantages with this strategy, as an attempt to develop new coping strategies for sedentary pastoralists.

Another important development in some pastoral settlements is the establishment of veterinary posts and vaccination programs. As with human health care, it is likely that the sedentary position enables pastoralists to access vaccines and medicines for animals. This might secure a better control and early identification of animal diseases and epidemics; given that some animals are kept close to the kebele in a rotational system. In one kebele visited, a veterinary post was built and ready to use, - but lacked staff. With the described challenges and lack of health services for *humans* in the visited kebeles, it is likely that health services for *animals* are even less prioritized. However, given livestock's role and position as pastoralists' basic source of food, income and status; animal health should perhaps be given more attention than today. In a way – either directly or indirectly; livestock health *is* human health for pastoralists in Filtu Woreda.

Farming

When looking out on the arid landscape in Filtu Woreda it seems like a miracle that this soil is be able to transform seeds into crops and give good yields, albeit *good* yields is the exception in this area. Despite the scarce and arid climate, pastoralists have grown crops on dispersed plots throughout the region for many years; however with a high risk of failed yields. Livestock production has been, and still is, the most important source of subsistence, while agriculture has been an additional security in terms of food. Now this pattern is likely to gradually change, as it has done in many other areas

occupied by pastoralists (Fratkin & Roth 2005). In this section the focus will be on the respondents' adaption to, and association with, agriculture and farming, and it will look at the future prospects of farming in Filtu Woreda. As FWSP is presently planning to incorporate an agriculture component in the project, these issues are specifically interesting. The findings present some important attitudes towards agriculture among the respondents, which is an important determinant of success in any project intervention.

Just as with livestock holding, 29 out of 30 respondents did *farming activities*. All the farmers grew maize as their main crop, some with sorghum and millet in addition, and a few grew beans as well. It seemed that most of the respondents had done farming activities also before they settled down in their kebele, one as long as 55 years! Both men that were still pastoralists had a farm somewhere out in the bush where they came and went according to the season. Before, the now settled respondents had organized their farms in this way as well; having a plot in a strategic place where they stopped and lived for a while during planting and harvesting. Now most of the respondents had their farm in a relatively close area, while in one kebele the farming plots were located approximately 10 km away, near the Genale River. The distance, however, was not far compared to the distances they used to travel before, the respondents said. One respondent had one plot close to the kebele and one in the bush. In this way, he was less vulnerable to lack of rain in certain places, and he could grow different crops that were suitable in different places.

At the time the data collection, several of the kebeles visited experienced harder farming conditions than usual. In some places, they had not even planted this season because of the lack of rain. In one kebele located close to the Genale River some respondents were engaged in irrigated farms along the river, but except from this all the respondents' plots were totally dependent on rain. It might not surprise us that several of the respondents requested help to develop their farms with watering canals, pumps and farm tools. All the respondents that were asked if they thought increased agricultural activity would benefit the area were exclusively positive to this. If they only had more knowledge, tools and inputs they would definitely expand more in the agricultural sector, many said, but the unpredictable rainy seasons also made the situation very difficult.

In addition to livestock and farming activities, one third of the respondents mentioned *food aid* from the government and NGOs as an important contribution to the household. In one kebele, one local NGO usually came during dry seasons to distribute maize, oil and wheat, which – according to one respondent - saved the villagers from hunger in those periods. Other respondents told about how the government distributed food at times of drought, but also about the hard times when this support sometimes missed out.

The respondents' strong engagement in agriculture surprised me as a researcher, as I had assumed that farming activities was something that started as a consequence of sedentarization. Instead, farming activities has been carried out during the last decades, despite the pastoral mobility. The sedentary position seemed to provide better care of the plots, as well as easier conditions for agricultural expansion. A study from the recently settled Kenyan community *Songa* where agricultural activities have been developed rapidly, showed that the former nomadic pastoralists benefited greatly from this change of production system (Fratkin & Roth 2005). Many pastoralists settled in Songa and adapted to farming as the most dominant production system, which, according to the study, made them more food secure and resistant to drought. However, the Songa community differs from Filtu Woreda on one important point: Songa is relatively well watered and has rich soils (ibid). The assumed benefits and achievements in agriculture through sedentarization in Filtu Woreda are unfortunately often overwhelmed by poor rainfall. There, the poor soil and the water insecurity make yields highly variable and farming as a production system consequently vulnerable, even though the farm-owners have settled. Therefore, sedentarization does not *automatically* lead to higher yields, even though a potential to prioritize agriculture is created.

The Rendille and Ariaal study already referred to showed that many pastoralists settled in Songa in order to broaden their economic base through agriculture, or because they had lost more animals than they could replace. One could expect then, that they would turn to the nomadic life once they had managed to restock again. However; most of the pastoralists in Songa preferred to stay in the community and continue farming, even though the nomadic alternative might have been possible (Fratkin & Roth 2005). Even though most of the respondents in Filtu Woreda had not lived in the kebele for more than ten years, they too considered it as a too big risk to reenter the nomadic life. The fact that all the respondents wished they could expand on their farm if they had the opportunity to confirm this. It is interesting to notice that the sedentarization process, when it comes to farming activities, seems to be solely voluntary; not coerced. No respondents were forced to take up farming, - but they wanted to, and needed to, in order to adapt to the sedentary life. Due to the decline in livestock, and also increased distance to the flock, it is likely that agricultural products had taken up some of milk and meat's position in the pastoral diet. Fratkin and Roth calls this transition "from milk to maize", which properly describes the process in Filtu Woreda quite well.

Privatization and commercialization of pastoralist production has happened throughout the African rangelands in the past decades, partly as a result of efforts in the 1960s-80s to change pastoralist economy into Western-style production systems (Homewood 2008). The increased focus on agriculture as a production system seems to have increased the need for, and dependency on, markets and exchange of commodities in the kebeles. Some respondents were worried because

everything had to be paid for in the kebele; water, milk, meat, - everything! Another man saw the bad impact the commoditization of livestock and farm products had on people's selfishness. At the same time; to sell their products in e.g. Filtu town were crucial to their subsistence, as that enabled them to buy sugar, tea and oil in the town that they would not get otherwise. As one man said; "The urban people are dependent on us – the pastoralists! Without our products the town would die". The opposite statement would perhaps be true too; pastoralist societies are dependent on urban people's ability to buy their products. Even thought this study did not allow any in-depth investigation of this issue, it is likely that increased agricultural activity in the kebeles will further intensify commoditization of farm products, and thus strengthen pastoralists' involvement in the national economy. Whether or not increased commoditization will benefit the pastoral economy in the long run is, however, debated (Anderson & Broch-Due 1999).

The desire to increase the agricultural activity found among pastoralist both in Filtu Woreda and in Marsabit district in Kenya forms a clear message to agencies and projects working for pastoralist development. New skills, technology, seeds and suitable fields are needed to meet the demand from a growing sedentary society of pastoralists. At the same time, an assessment of the possible negative impact of commoditization on sedentary pastoralist communities might discover important risks of failure in this process, where exactly *risk-reduction* is the goal. This study supports the FWSP plans to expand their activities to include an agriculture component, - as long as it secures sustainable and suitable pastoralist land use. Focus should be on the development of local dry-land agriculture systems that can minimize the need for food relief and provide a broader nutritional base for the local community. A few test-kebeles in the woreda has gained great success with the introduction of wheat and beans on their plots; indicating that diversification of crops is not only possible, but also favorable in Filtu Woreda.

Policies, Practices and Possibilities

This chapter has presented different features with pastoral land use; its reasons, features and consequences. The ecology of pastoralist societies, however, is much more complex than this. Issues of concern are e.g. pastoral ecology in relation to economy, variations in herd composition, herd biology, and issues of land tenure and common property resources. These issues are not mentioned separately in this chapter, however they are not unimportant. As already stated, pastoral ecology and land use are determined by a wide range of coinciding factors, where also political opportunities and constraints are found (Robbins 2004).

Pastoralist ecology in Filtu Woreda is an issue of concern, as this chapter has revealed. Drought, overgrazing, bush encroachment and increased albedo represent a serious threat to pastoralist communities, if we are to believe many ecologists and policy-makers (IRIN 2006). If taken seriously, this latter point should encourage governments and development agencies to transform the land in arid and semi-arid areas to *covered* land; e.g. by expanding agriculture or tree-planting. Høgetveit (2004) argues that tree-planting is a more sustainable solution to drought in Ethiopia, as only a greener land cover can increase the amount of rainfall in the long run. In Israel, he says, tree-planting has transformed the traditionally arid area from a desert into a green and fertile oasis. Miller (1999) emphasizes the feasibility of agro-forestry in traditional pastoralist societies as a means to improve soil fertility and animal fodder through by-products and grass. Further, the introduction of agro-forestry is likely to meet the increased need for fuel and timber in sedentary communities, as in the Filtu kebeles. In some parts of Filtu Woreda, *selective cutting* has been tried as a strategy to diminish the spread of unpalatable trees and improve grass growth. This method is resource- and cost-demanding, but has proved to function as intended. However, strategies to reduce the risk of drought, overgrazing and bush encroachment should be carried out in each local context.

If we go back to the question of sedentarization, it is clear that this process has something to do with the ecology of pastoralist societies. Sedentarization does not happen as a separate process; unaffected of, and without affecting, the ecology in pastoral areas. The pressure on land and pastures is always strongest in areas with high density of humans and animals (Oxby 1994), - which is often the case in kebeles. This fact should encourage governments and development agencies to evaluate and redefine its policies and strategies towards pastoralist development. At the same time, sedentarization is also a coping strategy for pastoralists that have suffered great livestock losses. The settled position often provides new opportunities to pastoral production, and the benefits from increased agricultural activities have been significant in many sedentary communities; also in Filtu Woreda. The way in which sedentarization impact the ecology in pastoralist societies is therefore bilateral (at least!); it gathers people and animals to possibly over-exploit a certain area, and it provides opportunities for agricultural expansion that pastoralists might not access as nomadic. In that way, sedentarization processes may be the pre-condition that enables the transition from livestock-based production system into farming-based production systems in many pastoralist societies around the world.

8. Society

The word *society* can be defined in many ways and give meaning to various social organizations. One definition focus on society as an extended social group having distinctive cultural and economic ties to one another (Miller 2009). One could also add some form of mutual interests, institutions and culture, and participation in common activities, as characteristics with Somali pastoralist societies. Societies of pastoralists have existed long before they started to settle in Filtu Woreda; thus society does not necessarily mean *settled* societies. However, sedentarization might lead to some changes in the pastoralist societies; their social structure, common activities and cultural expressions. This is the focus in this chapter. We will look into a few topics that play an important role in the functioning of a society, and see how these have been impacted and impact the sedentarization process. The respondents' perceptions and experiences will be presented and discussed on each topic. We will start with the issue of *Conflict*; one of the most determining factors for a society's well-being, before we turn into the *Education* sector. Thereafter, *Gender* and *Culture and Religion* will be investigated, and one of the shared resources, water, will be discussed in an *Access to Water* section. Lastly, the *Community and Participation* part will discuss the society's participation and social change through the FWSP.

Conflicts

> *The best bed that a man can sleep on is peace.*
>
> (Somali Proverb, Special Dictionary 2010)

The Horn of Africa has been affected by serious and damaging conflicts throughout the last century, with the Somali Region of Ethiopia as no exclusion (Bradbury 2008; Homewood 2008). However, today the situation is much more stable and peaceful on the Ethiopian side of the border than in Somalia. On a national level, Ethiopia experience a period of growth and economic expansion that the country has never seen before. Obviously, there are many reasons for this.When we look at the turbulent history of shifting regimes and following wars in Ethiopia, however, it is likely to think that today's growth has been made possible by the relative peace established in the 1990s. A staff member in FWSP pointed at conflicts as the main obstacle to development; - a statement illustrated quite well by the current situation in Somalia and Ethiopia. Yet, there are still conflicts and feuds in Ethiopia on a local level, with the Somali Region as one of the hardest affected areas (Devereux 2006). The question asked in this part is whether or not the sedentarisation process affects the conflict situation among pastoralists in Filtu Woreda. The chapter will also discuss how theories regarding conflict and resource scarcity correspond with the respondent's perceptions and

experiences, or if they do so at all. Further, pastoralists', and especially Somali pastoralists' strategies to prevent conflicts will be highlighted, as well as the importance of sustaining these in sedentarization processes.

None of the respondents reported any direct conflicts in the close area, and the majority said that their kebele experienced no problems with surrounding clans, peoples or groups. One respondent even repeated this message as a comment when the interview was finished: "I just want you to know that this is a peaceful area. Even you could sleep here in the house". Another respondent added this to the issue: …"Tell people in Norway that Somalis are very friendly people". In all the kebeles except from one, the respondents needed no time to think at this questions; it was very clear that they felt very safely and peacefully located. Neither did the respondents experience much conflict related to the barkad, health- or sanitation installations. One respondent said that they sometimes experienced "stealing" of water from the barkad in drought periods, as nomadic pastoralists sometimes took their animals to their barkad to drink during the night. Except from this, they had no problems related to nomadic pastoralists or neighboring groups, he said.

One of the life-story respondents, an old lady, could tell that there were much more conflicts and small feuds when she was younger. Looting of animals was more common (also by the government under different regimes), and there was a constant competition for land, grazing and water points with other tribes and clans. The situation was, according to her, totally changed now, and the area was now more peaceful. Also from the project staff's point of views there were very little conflicts at the sites that they operated.

Even though most respondents did not experience any conflicts in their close area, it should be mentioned that there had just recently been hard fights in the Western part of Filtu Woreda, where it borders with Borana people. This is an example of how new settlements and governmental/NGO's interventions possibly can lead to conflicts between groups of pastoralists that have traditionally lived in peace. This conflict was a big issue in at least Filtu town during the fieldwork period, and the story was told by different people in many informal discussions and chats. As far as I have been told, this conflict started as the local government in Filtu Woreda built a school and a health post in a "new" kebele where Somali pastoralists from the Degoodiia clan had started to settle. This area, however, had for many years been common grazing land for both Boranas and Degoodiias. Before this peaceful period, there had been heavy fights and negotiations over the right to own the land, in which the Degoodiias "won" the land title, but the Boranas was granted the same access to use the area for grazing. When the Degoodiias, with the governments' support, now had taken some of this land to create a settlement, the Boranas felt that the agreement was broken, and a bloody conflict

arose. In one of the kebeles visited, the consequences of the conflict were felt strongly even though their kebele was quite far away from the fights. When the village leaders heard about the conflict west of them, they decided to leave their houses and animals, and to flee eastwards with their wives and children. While they were away from their kebele, another group of people that also escaped from the conflict came across the empty kabele which then was raided and looted. When the kebele owners came back, they found their barkad nearly empty and the grass around the kebele was grazed by the raiders' animals. The five respondents from this kebele said that they had no enemies themselves, but they felt the effects of a conflict that they had nothing to do with.

One typical assumption regarding pastoralists and conflicts is that increased settlement naturally leads to more conflicts both within the group of settlers and between settled pastoralists and nomadic groups. However, as the findings here have shown, this assumption was to a great extent negated by the respondents in Filtu Woreda. None of the respondents experienced any direct conflicts within their kebele or towards others. A member of the FWSP staff had noticed that there sometimes had been small disputes between families and sub-clans over management and location of barkads, which had delayed the building in some kabeles. However, these feuds had been solved and the work had continued after negotiations and compromises. It is interesting to notice the unanimous and clear message underlined in all the kebeles visited: this is a peaceful area, and we are friendly people! Some respondents even gave the impression that there were more conflicts in the past. These findings do not correspond with most other studies on pastoralist societies and conflicts in Ethiopia, which claim that the frequency of conflicts and disputes among pastoralists have increased in the last years, partly due to sedentarization processses (Edossa et al. 2007; Unruh 2005). There might be many and complex reasons for this mixed picture, of which some will discussed here.

Unruh (2005) claims that the number of conflicts, and armed conflicts in particular, have increased in the Somali Region during the last decades parallel to increased settlement and sedentarization. According to him, there are several parallel processes going on in the region presently which all together lead to more conflicts. Some of these are: the governmental policy which encourages pastoralists to settle; reduction in authority and possibility to rule for Somali elders and clan leaders whose negotiations traditionally served to prevent escalating conflicts; increased economic pressure from outside; and previous Ethiopian government's attempt to replace customary tenure regimes with national tenure systems. The result of these processes is more conflicts, if we are to believe Unruh (ibid). The conflict in the Western part of the woreda exemplifies some of these processes; the government's policy on sedentarization leading to disrupts over land tenure and pastures. The respondents in the visited kebeles, however, told another story. They had also been subject to the

government's encouragement to settle, however – it had *not* led to more conflicts. These kebeles and the neighboring area therefore seem to be an exception from the automatic link between sedentarization and conflicts, as one can get the impression from Unruh.

For pastoralists, access to water is a constant challenge that influences all aspects of life (Homewood 2008). It might therefore not surprise us if lack of available water points especially during droughts can cause conflicts. The story of nomadic pastoralists that, in despair, let their animals drink from the barkads, is an example of such. Malley & Teab et al (2008) describes a significant coherence between resource scarcity and conflicts among pastoralists in Southern Tanzania. These examples support the theory discussed in the "Ecology" chapter; the more scarce resources are the more tough the competition gets and the more conflicts are there. The reasons for conflicts can always be traced back to, or at least be related to, environmental degradation and resource scarcity, many have claimed (Bogale & Korf 2007; Homer-Dixon 1999; Ross 1998). It is, however, not a matter of course that resource scarcity in any case leads to conflicts, as the visited kebeles in Filtu Woreda proved. Resource scarcity *might* lead to conflicts over e.g. water and pastures, but not necessarily. It seems to be the same way with the issue of sedentarization; the process *might* foster or intensify conflicts in pastoralist societies, but there is no automatic cause-effect relationship between the two.

If we take the assumption that resource scarcity leads to more conflicts and follow the arguments literally, one could assume that an increase in resources will lead to *less* conflicts. As barkads are being built and settlements are established; does the competition for and conflicts related to water sources become less? Even though Filtu Woreda is still affected by scarcity on resources, there has been a rapid growth in the number of water points build by FWSP or other NGOs during the last decade. Studies from other pastoral areas in Ethiopia show, however, that conflicts are not always adequately explained by resource scarcity and its consequences. Rather, conflicts might be linked to governmental policies and state expansion towards pastoralists, as well as resource *abundance* (Bogale & Korf 2007; Bogale & Korf 2009). The idea that more water points *automatically* lead to less competition and thus less conflict is therefore also wrong, if not destructive in its worst case.

Any conflict over access to land, water and pastures is a possible loss of such resources. Most pastoralist groups are therefore likely to do everything in their power to secure their foundations of life and not jeopardize their access to basic resources (Miller, J. B. 1999). Peace is not something taken for granted in Filtu Woreda either, with the history of war and the conflicts in neighboring areas. Rather, peace is more likely to be something the respondents have aspired and strived to reach, possibly through negotiation and alliances. A study of Bogale and Korf (2007) in the Yerer and Daketa Valleys in the Somali Region of Ethiopia investigated such peace-preventing alliances and

strategies specifically. Instead of looking at conflict triggers, they focused on conflict *prevention* strategies despite periods of resource scarcity, and the peace building work that exists across clan- and ethnicity lines. The study thus criticize and contradict the above mentioned theory of scarcity = conflict. Environmental scarcity is in itself a "result of social and economic demands that vary across time and space" (p. 744), they claim. Another traditional conflict-preventive strategy among pastoralists has been to transfer some animals to another pastoralist, while self taking care of an equivalent herd belonging to someone else. In this way, they create a common responsibility for sustainable resource use (Miller, J. B. 1999). As far as this study found, this system is not common among pastoralists in Filtu, though. A key to understand the peacefulness described in Filtu Woreda might therefore be to recognize the building and rebuilding of sharing arrangements that probably exist also there.

Bogale and Korf (2007) found that when times were most stressful and the scarcity increased, people clung to the sharing arrangements even more. Asset-poor household were the ones that gained most from the arrangements, and the ones that assumable had most to lose without such safety-nets. They would probably have no benefit from being in conflict with other pastoralist groups or other intruders, - only additional losses (ibid). This contradicts with Unruh (2005), who points at increased conflict vulnerability in times of scarcity and drought because the "territorial overlap" increases and pastoralists are often forced to cross new borders to find water and pastures. However, the pastoralists interviewed had chosen to settle instead of increasing this territorial overlap. Whether or not conflict vulnerability was a reason to not travel farther, it seems that the settled life has provided peace and stability for those who have chose that option. The findings from Filtu Woreda thus correspond more to what Bogale and Korf (2007) found in their study compared to that of Unruh. Alliances and safety-nets among pastoralists seems to function even, and maybe especially then, in times of severe scarcity.

Somali people are especially known for the alliances between and within groups and families. These regulate important aspects of life such as marriage, obligations, wealth and access to resources. The council of elders and clan leaders do still have a high position in governance and peace keeping in many areas. In the Somali Region, the council of elders, the *Guurti*, is even incorporated in all levels of the Region's governance (Devereux 2006). Such structures of negotiation, though time-consuming, have proved to secure stability and social order in many contexts; e.g. in the building of Somaliland from the beginning of the 1990s and up to present (Bradbury 2008). In the visited kebeles, it seems that traditional Somali clan-based structures have continued to function even when people have settled. None of the kebeles borders directly with other major clans, peoples or ethnic groups. This,

together with the fact that all the visited kebeles consisted of people from different sub-clans of Degoodiia, makes the relative peacefulness more understandable.

As already mentioned, one old lady claimed that the area was more peaceful now compared to before. One could therefore ask the opposite question: does increased settlement lead to *less* conflict? Has the interventions by the government and NGOs created a more stabile situation and prevented clashes between pastoralists? The latter is not necessarily the case even if the interviewed lady is right about her statements. The time period she probably referred to - "when I was young" - roughly indicates the period from 1050-80s. This period in Ethiopian history was characterized by shifting regimes, wars and severe hunger (Kloos 1998) that affected the Somali pastoralists in the sense that livestock was looted, women raped, men forcefully recruited to armies, and land taken by rivalry groups (according to one respondent). If one compares that time with the present, it might not surprise us that the old lady felt much more ease with the situation now. At least now they do not have to fear the government in the same way. Therefore, her answer does not tell us if and how *settlement* has impacted/does impact the level of conflicts in this area; rather it gives interesting aspects of conflicts in relation to the government in place in Ethiopia over the last half century.

To sum up the discussion, we can conclude that there are no specific indicators in the findings that support the assumption that settlement necessarily lead to more conflicts. Either not do the findings support the theory saying that resource scarcity automatically causes conflicts, and that such conflicts increase in the Somali Region of Ethiopia today. Having this said, we know that in a historical perspective, the area has been affected by serious conflicts (Homewood 2008), and there is no guarantee that this will not happen again. The recent conflict between Degoodiia and Borana people shows that peace agreements and sharing arrangements might be put at risk when one of the parts, with governmental support, wishes to settle down. It is therefore of essential importance to not overlook possible tensions that might be triggered through planning and implementing of development projects in this area. Conflicts *can* arise from changes in common grazing landscapes and from outside installations that create differences and maybe jealousy. Awareness is therefore a key word, and sensitiveness for the existing conflict tensions, preventing mechanisms and sharing arrangements in the area. FWSP's strength in this field is the local background and knowledge of their staff and partners in the government that makes the project able to select sites strategically and sensitively. Still, one can never emphasize too strong the importance of conflict-preventive efforts so that conflicts as the one seen recently will not emerge in other places.

Education

> *Education is at the front line. Not only do schools teach literacy and lay the groundwork for productive lives, they also play a crucial role in promoting tolerance, peace and understanding between peoples, and in fighting discrimination of all kinds. Schools are the place where indigenous groups can learn to read and write in their mother tongue, where cultural diversity can thrive and where children can try to escape the hardships of conflict and displacement.* (UNESCO 2010i)

These are quite pompous words about education, which is the topic in this section. If education can transform individuals and societies as tremendously as the quotation above indicates, it is worth investigating this issue in relation to sedentarization too. In this section the educational status in the visited kebeles will be discussed, as well as the respondent's perceptions about the importance of schooling. This part will also focus a great deal on Filtu Woreda's policies and strategies in the education sector, and their activities and challenges will be discussed. The aim of the discussion is to look at how sedentarization impacts pastoralists' access to and attendance in schools.

Picture 3 Outdoor school in one of the kebeles

All the kebeles visited had some form of primary school. One kebele had one grade, while the kebele with the oldest school had four grades. In the kebele that had only one grade, the school had just started up some months ago. In one kebele the teaching took place in the shadow of some trees in the middle of the kebele. The equipment used was simple, but the children had a pencil and a writing book for their own. Most respondents mentioned education and access to school as an advantage with the settled life, and may had also settled for this particular reason. The schools in the visited kebele had been established by the government within the last five years. In one kebele, they had had their own kind of school also four years before that, where the kebele members themselves decided to sponsor a teacher to come. With proudness, the respondents in this kebele said that some of the boys from this school were now enrolled in secondary school in Filtu town. The two pastoralists interviewed said they had no access to school for their children unless they sent their

children to live with relatives in kebeles. One of the pastoralists planned to do this; that was why he was there at the moment.

All the respondents considered the quality of the school as good. They also agreed that education was good and necessary. They were very happy that their kebele had got this opportunity; as one respondent said: "that is also a part of development". Another respondent stressed the importance of education for his children's future, saying "…if my father had taken me to school when I was little, I would have talked English with you now!" Yet another man said that the purpose of education is "…to understand more. Education is very good. It is more important than any other thing." One man said that he too was educated now; "I go to school sometimes too, and I learn from my son!" The schools had thus benefited the larger community in the kebele – not only the children enrolled. Some respondents complained about the lack of teachers, as they had rooms for more than one class, but only one teacher. The awareness of the importance and the value of education seemed to be high. At the same time, it came clear that one of the newly started schools had 18 boys and only 3 girls. The woreda administration stressed this, and sought to equal the balance between girls and boys in school.

According to the Educational Office at the woreda administration, the number of children enrolled in school had increased tremendously in the last few years; from 4716 in 2004 to 20.310 in 2009. The number of female students had increased from 170 to 9991 within the same period. At the time of the fieldwork, there were a total of 112 primary schools Filtu Woreda, of which 53 of them had been established within the last year. School coverage was 25,4% of all the children in the woreda, however planned to reach 70% by the end of September 2010. The lack of teachers was a great concern to the office; at the time of the interview there were one teacher per 70 pupils. To speed up the recruitment of teachers, the woreda office in collaboration with the SNRS, had developed a new, shorter education program for teachers in which they had high expectations. Now, new teachers could start working after two months, instead of one year, as the "normal" study program included. The purpose of this short-version of the teachers' education was to be able to fulfill the goals launched by the UNESCO Education for All (EFA) movement. The main goal in this movement; primary education for all by 2015, is also stated in the United Nation (UN) Millennium Development Goals (MDG) (UNESCO 2010). When questioned about the quality of this shortened teachers' education, the woreda representatives said that the quality would be strengthened too after some time, but right now their focus was on reaching the EFA goals.

Another huge challenge that the Education Office addressed, was the high number of dropout. 59% of the pupils had dropped out of school within the last year, and more girls than boys dropped out.

The reason was often that the girls were taken out by the parents after a few years, as they are expected to work at home anyway. Many parents therefore consider further education unnecessary for their daughters, one office representative said. To decrease the dropouts, especially among girls, was therefore one of the main goals in the following years. The office also planned to scale up the number of *mobile* teachers in the woreda, as this solution had proved to function well in some parts of the woreda. The mobile teachers were recruited from different pastoralist groups and "placed" back to travel around with that group as a teacher. However, one office representative said, many pastoralists are settling now, which is a great improvement.

Summarizing this, it is no doubt that education was looked at as a great development in the visited kebeles. Education was never presented as something the government had coerced in their kebele – rather the respondents told stories of how they themselves had started a school *before* any assistance was provided. Both by the respondents and the woreda administration, education was presented as a feature with the sedentary life, and a great promoter to further development in the area. A lot of studies confirm that this latter point is true. Fratkin and Roth (2005) calls education a "tremendous engine for demographic and social change" (p.17). In Kenya, female education has led to a decline in mortality and fertility, the authors say. The link between education and poverty is also well documented, as poor areas are often featured by low education levels. Education is believed to enable people to take charge of their own vulnerability, where positive extended effects are likely to spread to the larger society (Hershock 2008). The Education Office in the woreda and the respondents in the kebeles demonstrated quite clearly that they had joined this understanding of the importance of education.

The rapid growth in the number of children enrolled in school in Filtu Woreda is quite amazing. Children from pastoralist societies are usually educationally marginalized, as accessibility and attendance is often determined by seasonality and rainfall. Though, there are still great challenges related to enrollment and dropout in the woreda, it seems that the government's focus on education has bore fruit in the last years. The Ethiopian government stresses the issue of education, one woreda representative said, which can be confirmed by the Ministry of Education in Ethiopia (Assefa 2008). Primary education is free and compulsory. Devereux (2006) points at a generation shift when she explains the increased enrollment of children in the Somali Region, as younger parents more frequently send their children to school compared to the generation before them. The case in Filtu Woreda indicates that a change in both *access* to schools, and *attitudes* towards education has taken place; the young generations now have the possibility to attend school at the same time as awareness and acceptance of its benefits have been built. This was exemplified in one respondent's

answers, quoted above: “If my father had taken me to school….” In this lies a confirmation that his father did not see the purpose of education. Probably he had little opportunity to send his children to school too, as he was a nomadic pastoralist. Now, his son – the respondent – had the opportunity to send *his* children, and he saw the benefits: e.g. they would learn to speak English with visitors!

Now, to the issue of sedentarization; could the change in awareness and attendance in the school sector have something to do with the transition towards a sedentary life among pastoralists? Would the rapid growth of children enrolled in school have been possible *without* the sedentarization process? The Education Office in Filtu Woreda focused on both “sedentary” and mobile schools, and wanted to increase the number of mobile ones. The office worked in collaboration with NGOs dealing with water issues, so that wherever people settled around a water source – a school would be considered. It is reasons to believe that the sedentarization process in Filtu Woreda has partly enabled and expedited the growth in the numbers of schools and children enrolled in school. Moreover, Devereux (2006) sais that sedentarization is being used as a *means* to reach the MDGs on education in the Somali Region. Sedentarization is a part of the government’s strategy on education, the author says. This indicates that sedentarization is not necessarily a process that – by chance – coincides with the government’s plan to build more schools; it is as much a *planned* and *managed* process used in order to reach objectives on education.

The Education Office in Filtu Woreda had a quite unilateral focus on the EFA-goals; in line with the Ethiopian government’s focus on education. The EFA-movement’s second goal is to provide free and compulsory primary education of good quality for all children, both boys and girls, by the year 2015 (UNESCO 2010). The decision to shorten the education of teachers down to two intensive months (two months each year in three years) underlines the strong commitment to the internationally accepted goals regarding education. At the same time, a question of quality of the education rises when the overall goal is to establish schools and educate teachers so rapidly. Will the EFA-goal on primary education be reached at the cost of the quality of the education? A study of ten schools in Malawi showed that exactly this had happened; the quality had been “forgotten” in the struggle to reach the EFA-goals, and the schools thus lacked basic materials and teachers (Godson 2005). Moreover, rural schools in the Somali Region are generally of poor quality and have too few teachers, Devereux (2006) sais. Though the education sector in the woreda in one way represents a success story towards the EFA-goals, there are reasons to worry about the quality and sustainability of this development. The change in curricula and length of teacher’s education might enable the woreda to reach the EFA-goal on primary education, but it might also lead to a primary education of poor quality or little relevance to children in pastoralist societies.

The high percentage of dropouts was a great concern and focus at the Education Office; how to reduce this number. The EFA Global Monitoring Report 2010 (UNESCO 2010) emphasizes that, in order to reach the goals by 2015, dropouts is one of the greatest challenges. Getting children registered in school is not difficult; but enabling them to complete school is harder, it seems. The same report shows that more than 40 % of children from poor households in rural areas of Ethiopia are expected to never enroll school, while about 30 % are likely to enroll but drop out (ibid). Pastoralist children are one of the groups that are especially at risk of dropping out of school. As mentioned, their attendance at school often follows the season; in dry periods they might have to move to other places to find water, leaving the permanent school. Moreover; in many societies, of them pastoralist societies, children constitute an important labor force. They are often needed e.g. in agriculture, for fetching water, taking care of the animals or children, etc. Parents may have to select which one of the children that should attend school, and who should not. Munene and Ruto (2010) therefore argues that even though education is "free", it might be a great cost to let go children's labor. The loss of children's labor might to a great extent explain the high prevalence of dropouts and out-of-schools in Filtu Woreda.

Unless mobile schools are provided, sedentarization may serve as a means to reduce the high prevalence of dropouts. If people do not have to move because the season change, it is perhaps more likely that the children will attend school year-round. As mentioned, many respondents settled down for this particular reason; they wanted their children to go to school year-round. The sedentary position thus seems to reduce the risk of being "educationally marginalized", as Devereux (2006) calls it. At the same time, dry periods and drought might force many households to take their children out of school in order to cope with the situation, even though they remain settled. Children's labor force might be requested in a kebele as well, as the new livelihood foster new needs and challenges. Sedentarization alone will therefore not diminish the dropouts in Filtu woreda, though it may to some extent reduce the likeliness for children to drop out.

The number of girls enrolled in school in Filtu Woreda was significantly lower than the number of boys; though there seemed to be a positive trend towards more equal share. The example from one of the kebele schools showed a very clear picuture; 3 girls and 18 boys attended school. Filtu Woreda does not differ from most other rural areas at this point, however, as girls all over the developing world are much less likely to be enrolled in school than boys (Devereux 2006; Munene & Ruto 2010; UNESCO 2010). As in most societies, this inequality is a highly gendered issue in Filtu Woreda. Girls and young women are expected to find their place in the domestic sphere, and many parents therefore consider their daughters' education unnecessary. One representative at the Education

Office in the woreda said that parents usually think of female education as a waste of time and money, as well as being inappropriate and "unnatural". Boys, however, will have the possibility to work outside the household, and might therefore need education. Such attitudes and cultural perceptions are not easily changed. It is hope, however, that the sedentary position of pastoralists in Filtu Woreda might be a starting point in order to positively transform women's position and rights in the society. Or will it change the freedom and working load for girls and women negatively? These are some of the issues to be discussed in the *Gender* chapter. Before that, some aspects of *Culture and Religion* in the sedentarization process will be highlighted.

Culture and Religion

In this section, the respondents' impression of culture and religion's position in society before and after settlement will be in focus. The main question of interest was whether cultural identity and religious practices had become stronger or weaker since settlement, or if there was no change at all. The data collection is far too limited to document any significant impact from sedentarization processes on culture and religion; still some findings need to be mentioned. The term "culture" is broad and quite vague, however, and can be measured by many different parameters. The Somali language are known for its many synonyms and, probably, the term "culture" can be expressed in various ways with slightly different meanings. The exact meaning of the word used by the translators in this fieldwork was unfortunately not clarified in each interview. Additionally, the cultural barriers between the translators, respondents and the researcher might have influenced the ability to understand the concept of culture in a Somali pastoralist context. This constitutes a great limitation to this part of the thesis, as it lacks a clear, mutual definition and perception of the culture. The findings regarding culture are therefore a result of this uncertainty around the contents of the term.

When asked about their culture and how that possibly might have changed during the sedentarization process and after, none of the respondents could think of anything specific. Some respondents did not seem to understand the question properly, or they were not sure what was meant with "culture". Some seemed to automatically relate the term to religion; some thought of their production system, while others referred to the family structure and relationship between parents and children. This might be attributed to the exact meaning of the Somali word for "culture" used by the translator in each situation. However, whatever the definition of culture, the respondents saw few changes. As mentioned in the earlier chapters, one man thought people had become more selfish because everything suddenly had an economic value, but their *culture* was still the same. "We are still pastoralists", one lady said, and "*we* are the same, except that we are settled". One old lady meant that things had got more expensive, and no one shared or brought gifts,

as before. She also said that the relationship between parents and children had changed from her childhood:

> "*When I was little I had to do everything! Now they even refuse to go and get firewood, they are useless. We had better manners before. Now they do not obey when the parents talk to them. Still, I think their childhood is better, because before children used to be tortured if we did wrong; lost a goat or something.*

Despite these changes, the old lady said that their culture was the same.

When it comes to *religion* the respondents agreed that this had been strengthened since they settled in the kebele. Their Islamic faith and religious life had become more firm, and the knowledge of what they actually believed in had been increased. The reason for this was first of all the presence of educated people that could teach the children from the Koran. Before, they did not know that much about the Koran because no one in the bush had gone through any further education about it. In the kebele there were Koran teachers, and people exchanged knowledge and rituals. "Children teach each other here", one respondent said, and in that way he saw that religion became a greater part of their life. All the kebeles had a duxi where children in school age are gathered three times a day for teaching and memorizing from the Koran. According to one respondent, they had had a duxi in the nomadic pastoralist life too, but now the teacher was more educated and the teaching was more regular. Some men said that this improvement in people's skills about Islam also impacted positively on the practice of FGM, as most imams and duxi-teachers now taught people to stop this practice.

If we see beyond the respondents' answer, we see that, despite the claims that their culture was the same, some changes in their livelihood had taken place. According to Fratkin and Roth (2005), sedentarization "is usually accompanied by larger socio-cultural changes" (p.10). In their study of settled Rendille pastoralists in the Songa community, they found that people no longer shared food as they did in the pastoral setting. Exactly the same changes in customs were found in Filtu Woreda; the commoditization of livestock products had impacted people's behavior and attitude. Milk was not shared anymore, and visitors had to drink tea – if anything at all. Instead, they benefited from marked opportunities, as their products had become goods for selling; not only consumption. Moreover, studies have shown that pastoralists commonly adapt to capitalist concepts of private property and individual gain when they settle (Fratkin & Roth 2005; Smith 1992). Salzman (1980) points at how this influence on the cooperation and fellowship among pastoralist women; the milking of animals, weaving and cooking had increasingly become an individual activity among pastoralists in the Syria-Libanon border region. The changes described by the respondents in Filtu Woreda therefore seem to be found in other settled pastoralist communities as well, indicating that

Fratkin and Roth's hypothesis about sedentarization and socio-cultural changes is correct. The term "socio-cultural" also describes better the changes mentioned in Filtu Woreda, as it puts culture into a larger societal context rather than looking at culture isolated.

The other interesting finding regarding culture, or socio-culture, was the old lady's perceptions on children now and in the past. According to her, the content of the term "childhood" had partly changed. Her experiences indicate a clear change in the role of children in the pastoralist community. Children as domestic labor, as discussed in the last chapter, thus seem to have been even more common in the past. There are probably many and complex reasons for this. One of them might be children's enrollment in school, as more and more children are busy either in the duxi or at the primary school most of the day. Their role is not first and foremost *helpers* at home; but *pupils* at school. The study of settled pastoralist communities in Songa showed similar trends also on this point; the former pattern of age and gender roles had broke down, and new sets of roles and positions had to be defined. One example from the Songa community was that the male elders' collective power to control younger men had been seriously weakened (Fratkin & Roth 2005). Changes in age roles are also described by Salzman(1980) and Smith (1992).

The changes described above cannot be directly traced back to sedentarization alone, however; sedentarization is an important factor to explain why these changes have come about. The sedentarization process has assumingly expedited the commoditization process, as the settled life often enables pastoralists to engage more in trading and commercial economy. The settled position also implies a change in work load and type of work for men, women and children. Pastoralist children's access and attendance in schools usually increase as pastoralists settle. All these factors indicate that the socio-cultural changes described in Filtu Woreda have something to do with sedentarization, though one should be aware that other factors also drives forward changes in society and culture.

The strengthened religious identity and faith found in Filtu Woreda was presented as a direct result of the sedentarization process. In the pastoral livelihood, peoples' knowledge about Islam was very limited, - they just followed what the elders taught. Now, one respondent said, people know more about the Koran itself. Few other studies have looked at this side of pastoralists' culture and society; therefore it is hard to compare these findings to other groups. Yet, we know that religion is an important part of people's identity and affiliation among Somalis (Bradbury 2008). It is likely to think that the stronger the common religious identification, the stronger is the community solidarity and fellowship. At the same time, the social deprivation and hardship for *braking* with the religion often increases accordingly. The duxis had contributed to improve children's knowledge and identity in

Islam, as they taught each other to live out the religion. However, the teaching methods at the duxi, with constant cramming and memorizing Koran verses, and slapping the children that remember poorly, are an issue of concern. That issue must be left here, though, as we go further to discuss sedentarization's effects on *Gender* issues.

Gender

> *The most dangerous thing a man needs is woman.*
>
> (Somali Proverb, Special Dictionary 2010)

The Somali Proverb above is perhaps unfairly cited, as gender issues among the Somalis are so much more than what this proverb tells. However, the discussion in this section will focus on changes in men's and women's roles as a consequence of sedentarization. Traditional pastoralist gender roles, work load and the practice of Female Genital Mutilation (FGM) in nomadic versus sedentary communities are therefore the main issues to be discussed in this section. Some general findings regarding gender will be presented and discussed first, then follows the specific findings regarding FGM.

The female respondents in Filtu Woreda generally talked little about their roles as women, and most of them seemed more reserved than the male respondents. Most respondents did not present any specific changes in the roles and tasks for men and women. However, some respondents had comments about it, and many observations were done. One of the focus groups with women was encouraged to say something about their position and roles and women in the nomadic versus the sedentary life, and this is how one of the ladies reasoned:

> *The advantages* [with the nomadic life] *were that we got water from the rivers and wells, and we could take it and transport it for free. The disadvantages were that we had to carry very much, and it was so tiresome. We had to carry water even when we carried babies, we had to load the camels, walk very far with all our stuff, and it was extremely hard.*

The same focus group continued to reflect on the hard work they experienced in the nomadic life, and how the work load had decreased since they settled. At the same time, the sedentary life was not as easy as they had expected, and sometimes they even wondered if the nomadic life, despite the hardship, was better.

Many respondents mentioned the short distance to the barkad as a great improvement in the sedentary life. When we know that women are the ones that usually deal with water among the Somali pastoralists, it means that the reduced distance to the water source is an overwhelming benefit to women. Walking with women and young girls to the barkad for fetching water proved this; before they would have to walk for days carrying the 10 liters' jerry-cans on their heads and backs

until they found a new water source. Now, they went to the barkad every day, and it took no more than 5 minutes to walk. Carrying the jerry-cans was still a hard job, but compared to the nomadic life, this was nothing, they said. More time could be spent on other activities, like cooking, farming, cleaning the compound, etc. In the kebeles visited, it seemed that women (and sometimes children) were still in charge of the water-related activities, such as fetching, washing and cooking.

In terms of livestock, one respondent said that women traditionally were responsible for goats and cattle, while the "crown" – the camels – were taken care of by men. Women did the milking, though, on all animals. The travelling gave a lot more job for women, he said, because camels were easy to travel with, while cattle and goats were much harder to lead in the same direction. With children as an additional responsibility, this indicates that women had a harder task than men when it comes to herding animals in the nomadic life. In the settled life, however, we have seen that the care of animals had become less prioritized by many pastoralists. Most respondents said that their animals were being herded far away by sons, fathers, uncles, cousins and other relatives. Only in a few cases, respondents said that their livestock were taken care of by female herders. A change in the traditional herding and responsibility patterns might therefore have taken place.

A clear division of labor was also seen in the domestic sphere; women were responsible for the house, cocking and children. They milled grains together, fetched water together, and served tea and food to men and visitors. Young girls also took part in this work, but some places this had changed recently: girls went to school, just as boys. Some respondents expressed a positive attitude towards this development, and though it was sad that more boys than girls were sent to school. The woreda administration expressed the same concern, as we've already discussed.

Farming is another field where interesting findings on gender roles and power relations was observed. In one kebele visited, almost all the men were absent because they, their wives told, worked on the fields. In another kebele, the situation was opposite; most of the women were busy in the fields, while some men were available for interviews. In other kebeles, both men and women worked on the fields. The increased farming activities thus seem to engage both men and women. Farming products were also increasingly sold on markets, where women seemed to be the main participants. Often, groups of women and children were observed walking on their way to or from Filtu town with milk and other products to sell. In some kebeles, almost all the men were engaged in some kind of building project; e.g. a house, shop, health post or school. One female respondent had to leave during the interview to serve tea to the men in the village that were busy building a new house. The share of responsibility was thus clearly exemplified.

This presentation of the findings here has shown that most of the respondents did not reflect much around the changes in gender roles and power relations in the sedentarization process. However, the ecology chapter has shown that some specific changes have occurred when it comes to work load, labor, occupation and markets; thus some changes in share of work, opportunities and responsibilities between men and women are likely to have occurred as well. One thing is what the respondents *say* to me as a researcher; another is what is actually happening regarding power relations and gender roles, consciously or consciously to the settled pastoralists. The new situation in the kebeles probably required new, or reintroduced, structures of power and labor; e.g. power to decide where to locate houses, services and roads, and systems of who should be engaged in farming, trading and fetching water. Obviously, investigating these issues can open up new aspects of the sedentarization process, even though the respondents did not reflect much around the issues during the interviews.

Many authors have looked into the gender aspects in pastoralist and sedentary livelihoods (Devereux 2006; Fratkin & Roth 2005; Hodgson 2000; Homewood 2008; Salzman 1980; Vågenes 1995), which may help to understand the picture from the visited kebeles. The thesis has already exemplified that gender roles among Somali pastoralists seem to be characterized by male dominance in power relations and labor division. In many aspects, the gender pattern in Filtu Woreda seems to correspond with what Hodgson (2000) calls the "myth" of patriarchal pastoralists in Africa; men dominating every aspects of life. This myth, which puts women in a permanent subordinate position, is commonly accepted in much of the literature and studies on gender issues in pastoralist societies, she argues. The male dominance is influencing *economic, political, social* and *cultural* aspects of life, whereas women's position in these aspects is marginal (ibid). When talking to the women in Filtu Woreda, however, they did not seem as marginalized and "helpless" as the description of pastoral women above. Many of them appeared strong, respected, and some even powerful in their kebele. A straight-forward understanding of women's status as subordinate to men's is therefore not feasible when discussing gender in a sedentarization process.

Rather, a more nuanced look at power relations and gender roles in pastoral societies is needed. Among Somali pastoralists, it seems that *age* is also highly determining for power and respect. Older women in the kebele were respected higher than younger men, and young girls were supposed to learn from their mothers and grandmothers. The saying "wisdom grows with gray hair" thus seemed to be literally understood in the visited kebeles. The same findings are reported in other studies of pastoralist societies (Hodgson 2000). In this regard, it is noteworthy to think back on the old lady mentioned in the previous section, who thought today's children were rude and without respect.

Could it be that the respect for age as authority is on the decline in sedentary communities? This question goes beyond the focus of this chapter, but is still worth mentioning. Anyway, now that we've stated the fact that age is perhaps as important as gender in terms of power and position, we can go on to discuss some concrete consequences from sedentarization on gender issues in Filtu Woreda.

One concrete consequence presented is the new income generating activities that requires new, or modified, division of labor. Women have to take part in new activities such as agriculture and selling products at markets, while at the same time take care of their traditional roles as caregivers, mothers, domestic laborers, and water-fetchers. Kipuri and Ridgewell (2008) are among the authors that clearly see sedentarization as a factor that increases the burden of work for pastoralist women. The increased tasks that follow with the sedentary life lead to a situation where girls often are kept home for labor instead of attending school, they claim. Other authors have emphasized the "triple burden" that often affects women when development schemes introduce new opportunities and activities for women that are already 100% engaged in childcare and domestic work (Moser 1989). This means that e.g. improved agriculture and a market-oriented economy, which is positive in the sense that is gives higher yields and better income, also annotates women a new burden of work without releasing them from the burdens they already have. In the case of Filtu Woreda, this is exemplified by the fact that women had to take part in the agricultural sector in the same way or, some places, even more than, men.

Now, one can ask to what extent these new tasks for women were an *additional* burden that they had to take part in, or if the new activities *replaced* other activities. The latter seems more correct if one look at the female respondents in Filtu Woreda. They were released from the burden of thirst and the hardship of the nomadic life. Many of them emphasized the ability to rest in the sedentary life; which indicates that they did not experience the new duties followed by sedentarization as a "triple burden". However, this does not necessarily mean that the share of responsibilities and work load between men and women had become more equal in the sedentary life. Moser (1989) talks about gender differences related to what is considered "productive work" – done by men, and "reproductive" work – leaved with women. The latter is often considered less important than the first; that means, men to the *real* work, while women just do what they are supposed to. In the case of Filtu Woreda, this was exemplified by men working in building of houses, health posts, latrines, roads and schools, while women served them tea, took care of the children and cooked. However, the sedentarization process seemed to require more of women's labor in the new "productive" roles; such as in agriculture and commercial trading.

Having this said, one should be aware that this way of "judging" the division of labor in the kebeles is based on a very "Western" way of thinking, where gender equality often is associated with equal rights in labor markets, equal responsibilities in the domestic sphere, etc. The same parameters on gender equality are not necessarily relevant in a pastoralist context as Filtu Woreda. At the same time, the obvious gender inequalities found in the visited kebeles should not be explained away! Boys are still favored when parents decide which children should go to school, as Devereux (2006) also reports from the Somali Region. A camel should be slaughtered and a feast held when a boy is born, whereas a goat is enough if someone is "unfortunate" to give birth to a girl. Such differences in rituals related to birth of boys and girls are found among other pastoralist societies as well, among them the Hadendowa tribe in northeastern Sudan (Vågenes 1995). Further, men has the right to eat first (the food prepared by women), separated from the women. Young women have little to say in terms of marriage and family planning; however their say in such matters increased as they got older and had their own children. These examples show that gender inequalities are deeply rooted in the traditional Somali pastoral and Muslim identity, which do not seem to have changed in the sedentarization process, even though the work load and tasks have so. Another example is the practice of FGM, which will be discusses in the following.

Female Genital Mutilation

One of the issues of particular interest and concern in the Somali Region is Female Genital Mutilation (FGM). The choice to focus extra on this issue came up during the interviews, as people started to mention it as a part of their culture and religion. The practice is usually referred to as a *cultural* phenomenon in literature; however, in the visited kebeles the harmful practice was understood as in the intersection between culture and *religion*. An interesting question that evolved was therefore how this tradition was practiced in the kebeles nowadays, compared to in the pastoral livelihood. Had the religious and cultural understanding of FGM changed in any way since people started to settle? The answers varied from place to place and from respondent to respondent. The openness and willingness to talk about the issue varied too, as well as the level of insight in the present situation in their kebele.

Half of the respondents meant that FGM was still practiced in their kebele, - in the same way as before they settled. Five respondents disagreed with this, saying that FGM was on the decline in their village. One said it had totally stopped in the kebele, but was still practiced in the bush. Four respondents meant that the *type* of FGM and *method* used had changed from the traditional Somali way (with removal of genitalia and sawing) into the Koran-way (piercing of the genitalia without sawing). A female respondent said that there had been many campaigns and attempts to stop the

practice of FGM, but they had no plan to listen to these outsiders' message. "We will continue to do it in the same way that our mothers did to us!" she said, supported by 2-3 other older women standing around. A male respondent in the same kebele claimed that FGM belonged to the past, and that they now considered FGM as violence. It caused a lot of problems, he said, but now it has stopped. This gives us an unclear picture of the situation, and it is not possible to draw any specific conclusions out of these mixed answers. It is interesting, though, to notice that the majority of the male respondents meant that FGM was on the decline or had changed, while the majority of the female respondents meant that FGM was practiced in the exact same way as before (Table 3).

Table 3 FGM practices in the kebeles

FGM practiced in the kebeles	
Women (9)	**Men (11):**
The same: 7 Changed/on the decline: 2	The same: 3 Changed/on the decline: 8

It is interesting to notice how the views on FGM seems to differ between men and women; men thinking that the practice is more or less stopped, and women thinking that FGM is, and should be, practiced still. This indicates that FGM is a "women's arena" where grandmothers and mothers are "in power"; the ones that decide whether or not FGM should continue. Campaigns and men's support to stop it might not be that arbitrative; - anyway it is women who carry out the FGM procedure and seems to have the power to decide its destiny. The same impression of how FGM is transferred down to new generations is found in other studies as well (Sæverås 2004; WHO 1997). According to the men interviewed, it seemed that the sedentarization process to some extent had impacted positively on the practice of FGM, while the women interviewed negated this possible link.

Women's resistance to stop FGM has both cultural and religious reasons. *Culturally*; girls that have not undergone the practice risk discrimination, social exclusion and being unwedded, - a situation most mothers will not put their daughters into. *Religiously*; many parents see FGM as an obvious part of obeying God, even though the practice is not required in either the Bible or the Koran (UNHCR 2001). The girls may be looked at as *unclean* and sinful if their genitals are removed. This makes the issue of FGM not only a "women's arena"; rather it indicates that mothers' strong commitment to the practice has a lot to do with men's acceptance of uncircumcised girls in the real life. If a man refuses to marry a girl that has not undergone FGM, or she is excluded from school, work and any other activity; it may be no wonder why their mothers "let" them be mutilated. The pain of the cutting is considered *less* than the pain of being socially and religiously excluded. In this way, the mixed answers in Filtu Woreda may be explained. The men saw, perhaps, the bad outcomes of the

practice in theory, but their practical acceptance of an uncircumcised girl might not have changed. Therefore, women preferred to continue the harmful practice.

The Rendille study by Fratkin and Roth (2005) already referred to many times in this thesis showed similar results regarding FGM as in Filtu Woreda. Despite the assumption that the settled position would indicate a rapid decrease in the practice of FGM, this did not happen. The Rendille women would continue to circumcise their daughters, the majority said. However, both this study and ours in Filtu Woreda was conducted quite early after people had settled, and it is maybe not surprising that changes in attitudes and traditions do not follow in the same speed the change in livelihood. The settled position might create possibilities for NGO, governments and religious leaders to reach out with information and campaigns against the practice. Some kebeles had already had visits from imams that had taught people that the most harmful way of FGM was not required in Islam. This had changed most people's attitude and practices, one respondent said. It is likely that this opportunity for imams and other religious leaders to talk to whole communities at one time would not have been so easy if the pastoralists had not settled. In this way, the sedentarization process seems to have contributed positively on the knowledge about FGM, and – hopefully; the practice of it. However, changes of such practices so deeply rooted in culture and religion requires time and courage, where sedentarization is just a little step ahead.

Access to Water

> *Only water in your hands can satisfy your thirst…* (Somali Proverb, Special Dictionary 2010)
>
> *…the barkad has improved our lives by 100%...* (Old man, Washaqa Janay)

The quotation above is only one out many examples of the respondents' gratitude for the water source implemented in their kebele. Water is the main reason why pastoralist have started to settle in Filtu Woreda, and water, or *lack* of water, was the main reasons why FWSP's came to the area. It is therefore time to present some of the respondents' perceptions and experiences regarding the water source in their kebele, and how this impacts on the society. The chapter will discuss the relationship between sedentarization and water, as well as challenges related to water installations such as FWSPs'.

This thesis has already touched into the findings in this part, by referring to the respondents' appreciation and compliments towards the implementation of the barkad. If it was not for the barkad, they could never have stayed permanently in the kebele. Some said that their life simply had become easier since they did not have to walk so far to fetch water; now even small children could

do that job! The respondents used water for many purposes, as described in the "Health" chapter. First of all the barkad water is for drinking, one respondent said; but they could even use some water for personal hygiene! The barkad had taken away a lot of the stress and worries they had before. The water point was the greatest development that had ever come to the area, one respondent said.

Despite the unanimous appreciation of the water point, some respondents reported some problems with it too, e.g. cracks. This problem was mentioned by FWSP staff as well, as many of the barkads had undergone or needed reparation. The reason for this situation was that the construction materials and technology used had been developed and modified along the way, and many of the first barkads later proved to be poorly constructed. Some of the kebeles suffered from this at the moment, as the amount of water decreased day by day. The question of maintenance and responsibility seemed unclear; the respondents blamed FWSP for not following up, and the FWSP staff said that the government was officially responsible for use and maintenance once a barkad was finished. Another obstacle related to the barkad was the payment on water. Some respondents and some women in one focus group thought that the price on a jerry-can was far too much. The price was decided by the WMC, and had little to do with FWSP.

These findings indicate that, despite failures with the construction work, lack of cover, and contaminated water; – the barkad had contributed inestimable to the respondents' lives. Thirst was the force that made them constantly move, - a movement that made them constantly thirst. It is difficult for an outsider to even imagine how hard the pastoral life might have been, and sitting down listening to settled respondents describe the harsh conditions makes one understand the water sources' positive impact. From being desperate for water in a drought-prone area, the pastoralists had become more or less water secure through the FWSP installations. Also the two pastoralists interviewed appreciated greatly the barkad, as they too used it when they travelled by. One of them had even participated in the building of it because he knew that he would benefit from the new water source. This underlines the broad specter of beneficiaries from FWSP and similar projects, which is an important aspect in planning, implementation and evaluation.

Taking the history of drought in the area into consideration, it is no doubt the FWSP engagement came at a critical time where pastoralists' life foundations were threatened. It is quite obvious that the project did succeed in the task of addressing the most urgent need at the time of planning and implementation. Even though the building of the barkads has led to impacts of both positive and negative character, it seems that the access to water is the most important development in the area during the last decades. By different expressions and reasoning – it seemed that the respondents

agreed on what the old man in Washaqa Janay said; water is a development that has improved our lives by 100%.

In terms of water it is therefore clear that the sedentarization process in Filtu Woreda has led to improved access. However, the respondents still experienced water scarcity sometimes, and some barkads were subject to poor maintenance and degradation. Hovden (2006) underlines that leakage from barkads can be caused by several factors where failed technology might not be the main cause. Further, he points at the fact that despite today's technology it seems almost impossible to build a cistern that will never leak at all, as there is always a risk of leakage. In this perspective the situation on the FWSP sites is not exceptional, and the question that remains is rather: how to construct a barkad that can be sustained by the local community? As important as having the best technology available is it to simplify and adjust this technology into the actual context.

It also seems that succeeding with water and sanitation project is not an easy task (Taylor 2009). Rosenberg (2010) reports from the Konso district in southwest Ethiopia that only nine out of 35 built water and sanitation-installations are functioning. The biggest problem with water schemes around the world, she says, is that half of them fall into disrepair when the projects that brought them consider themselves finished. Challenges are related not only to technology, but maybe even more to the beneficiaries' adaptation. Building a barkad does not automatically lead to e.g. a willingness to maintain it, to improve the hygiene or to start practicing adequate water treatment. Sometimes, as mentioned by some respondents, the obstacle lies in the introduction of a payment. Water, which is a gift from God, has always been free for pastoralists, so why should they suddenly pay for it? As Rosenberg (ibid) saw from South-Western Ethiopia, a key to succeed in the water and sanitation sector seems to be a cognition that the solution lies only partly in the technology. Other crucial success criteria are concerned about the involvement of the local community, participation and local ownership. As will be described in the following, FWSP has made these latter criteria its features.

Community and Participation

> *If people come together, they can even mend a crack in the sky.*
>
> (Somali Proverb, Special Dictionary 2010)

The Somali proverb above indicates that things are possible when people gathers and starts to cooperate. This chapter investigates how settlement of pastoralists can be one such "productive assembly" of people. What happens when pastoralists – living dispersed and often in small entities - gather and become *one* community? What happens when this community has to work together for their common good without payment? These are big question, and only some aspects of them will be

discussed here. Development projects, either successful or failed, leave the beneficiaries with not only physical outputs and installations, but also some kind of impact in terms of attitudes, skills, power, abilities, or constraints. This section will discuss some of the possible long-term impacts on settled pastoralists in Filtu Woreda, and ask if this kind of development would have been possible without the sedentarization process. FWSP has put a lot of effort into the participation and non-payment policy. Have they succeeded in this? The section will also focus on the respondents' views in this; whether this strategy has bore fruit, or whether a Food-for-Work policy would be more sufficient in order to empower the beneficiaries.

It came clear during the interviews that most respondents did not have any knowledge about the term FWSP – Filtu Water and Sanitation Project. Instead, the translator found it more useful to refer to NLM – Norwegian Lutheran Mission, or just "Project Nils" (Nils was the name of the first Norwegian project leader). These were terms that the respondents recognized and understood. All the respondents except from one had something positive to say about FWSP, either by mentioning some of the installations they had brought or by commenting the project's policy and efforts. The positive feedback focused on the importance of water points, health posts and seminars. "We are very happy for their work" and "they do a lot good" were some of the comments. Some respondents were also asked who owns the barkad, and all of them said it was common property, and the kebele was responsible for it. Many respondents said with proud voices that the kebele members themselves had build it; - not "Project Nils".

One staff member in FWSP said that the woreda administration had adopted the project's methods now, and encouraged other NGO's to use the same participatory approach. When asking about the main achievement from all FWSP's activities, there was no doubt: the empowerment of pastoralists. These people and the kebeles are totally changed, he said. According to him, people now understood that they had to work for their own development, and that they actually were *able* to this! The non-payment policy and the participation approach had made this possible. It had been extremely hard in the early years to be accepted as a serious development project, but this had changed gradually into a success story, this FWSP staff member said.

Even if almost all respondents' first answer regarding FWSP was positive, some of them had a "but" afterwards. The problems with cracks and lack of cover are already discussed. Some said that there were still huge needs in the kebele that FWSP had not helped them with, other complained about the no-payment policy. "NLM should pay us like other NGOs which pay wages or give food if they want us to do something. NLM do not", one respondent said. Another said that NLM must be the poorest organization ever, since they never have money to pay us. In one kebele, a man claimed that

NLM didn't like them anymore because the staff did not come to visit as often as before. It is useful to notice that this man lived in a kebele where the FWSP interventions were more or less "finished". In Table 4 the positive and negative feedbacks on FWSP are summarized.

Positive and negative feedbacks on FWSP performances	
Positive	**Negative**
Do a very good job/bring development (22 resp.) Helped building barkad (13 resp.) Helped building health post (6 resp.) Give seminars/training (5 resp.) Helped building latrines (2 resp.)	No payment given (7 resp.) Should do more, more needs (5 resp.) Job not properly done, rushed work (2 resp.)

Table 4 Feedbacks on FWSP performances

Out of 27 respondents it was only five that had *not* participated on the building of the kebele barkad. One of these five had moved to the kebele after the barkad was built, while another was sick at the time of building. Women had participated in their special way; by serving tea and food to the workers, and by taking care of animals and children. Some had even participated in the digging, one respondent said. The project's statistics on female and male participation in the seminars and trainings show a relatively high percentage of women (EECMY-DASSC 2009). Many respondents emphasized the fact that FWSP only brought cement and engineers, while they themselves had done the hard work. "We used our animals to carry stones and to remove mud, and our own bodies to do the digging", one respondent said. Another respondent confirmed that they were very proud of their own efforts, and that the assistance they had got from NLM and the government was only small pieces compared to the job they had done themselves.

When asked about needs in the kebele, all the respondents had a lot of things to mention. The most urgent need mentioned by many was to repair or to enlarge the barkad. In the kebeles without a health post, the respondents requested this. Some wished that FWSP could help them with finishing or starting the building of latrines, school, and veterinary post. Respondents from the kebeles near the Genale River asked for tools and machines to start irrigated farming, and seeds to improve the variety and yields. Other respondents saw the uncovered barkad as the main challenge, and requested FWSP to do something about it. Some kebeles also needed more teachers so that they could improve the number of classes at the school. The lists were long, and several respondents said that they would do anything that any NGO asked them to – if it only could bring development to the area. Most of the respondents said that they were still dependent on food aid in dry periods,

however; according to staff in FWSP and the government, the relief dependency in the Woreda had decreased in the last years.

It is obvious from these findings that Filtu Water and Sanitation Project has a high position in many of the visited kebeles, as well as among the woreda representatives and in Filtu town. It is no doubt that "Project Nils" has left its print in the area, as observed in all the kebeles visited. It is also clear that their methods and policies have been noticed not only in the woreda administration, but also among other NGOs in the area and international observers. The participatory approach has been met with opposition, but later; also respect. The second phase evaluation report (EECMY-DASSC 2009) considers the FWSP's participatory approach as successful, and points at the positive feedback given from beneficiaries both in the kebeles and at the woreda offices. Some of the respondents in this study (particularly the men) expressed an optimism and enthusiasm because they saw the possibilities given in the kebele, and they had started to develop the place. One example is the man that was busy building houses of wood where he wanted to have shops and a café. The settled position, and the power to change exemplified in the building of the barkad, had enabled him to take charge of his own situation. This and similar cases show that FWSP to a great extent has succeeded in their aim to empower the settled pastoralists. Through the building of the barkads, unity and pride had been strengthened.

The project had met a lot of challenges to the participatory approach. Some respondents still seemed to be disappointed with the FWSP strategy; not paying wages and leaving the hard work to the local people. What could be the reasons why the participatory approach had not score a success in everyone's opinion? An assessment of barriers to community participation in a water project in Cameroon recognized different aspects causing a challenge to participation (Njoh 2002). One of these is *prescriptive role of the state,* which implies that development projects always have a political function; either it is linked to a governmental policy, or it is the direct implementation of a governmental strategy. In Filtu Woreda, the FWSP activities contribute to the success of the state policy on sedentarization. Some of the respondents said that the government had put pressure on them to settle, and thus, a resistance to both settle and participate in the community activities might have been developed. Another of the barriers to participation mentioned by Nijoh is *disinterest within the beneficiary community* (ibid). Such unwillingness to be involved in the project activities had been exemplified many times during the FWSP's history, most often because of the non-payment policy. According to staff in the project, they sometimes had had to leave a kebele with planned activities because the community refused to work without payment – even if this policy had been stresses throughout the planning phase.

The unwillingness to participate without payment has deep roots in the history of *food relief* in the area. Filtu Woreda has been dependent on water and food aid for many decades, as described in the "Contextual background". Today, the participatory approach to development and the non-payment policy is applauded and recommended by international development thinking (Degnbol-Martiniussen & Engberg-Pedersen 2005; Tarp 2000). Still, the respondents' complains about the work without food or payment policy give reasons to ask if this is the most sufficient policy in Filtu Woreda. Given the contradictory policy within the government and other NGOs in the area, this question is even more relevant. The Ethiopian state has chosen to channel 80% of its food assistance resources through Food-for-Work (FFW) projects. This commonly accepted policy *offers* something while at the same time *requires* something, and the aim is by that to reduce the beneficiaries' vulnerability (Barrett et al. 2002). Should FWSP, like the other NGOs in the area, adopt this policy? This would probably make participation easier, and maybe results more immediate. However, Barrett et al (ibid) emphasize that there are certain conditions that determine the success or failure of FFW programs.

Geographic position is one of the conditions that may decide the outcome of FFW programs. Food-insecure people in rural areas will benefit more from FFW interventions than people in urban areas where market economy is more developed. People in the visited kebeles can be placed in the first group, where FFW programs have proved to reduce vulnerability to shocks among marginalized groups. However, Barrett et al (2002) also mentions a danger with the FFW approach; it may depress investment initiatives for farmers and food traders, commercial food purchases leading to low price levels, and it may be used to replace investments in e.g. schools, health services and infrastructure. In such cases, FFW does not reduce vulnerability; rather it maintains food aid dependency. Due to the history of this kind of dependency in Fitlu Woreda, it is therefore reasonable to believe that a "light" version of food aid contributes to fill the position as relief programs in the past. It is likely that radical change in attitudes and behavior, as promoted by FWSP, is needed to bring forth the *real* participation and empowerment in this area. The approach has, truly, brought about changes no one in the woreda administration thought was possible. Some of the respondents were living examples of this change. This thesis therefore support the continuance of the participatory and non-payment policy in FWSP, though the approach needs to be evaluated more thoroughly in order to discover all the pros and cons from *not* using the customary policy in the area.

To sum up this section, one could say that the unity and common participation has been strengthened in the kebeles as a result of the sedentarization process and the FWSP approach. The settled pastoralists considered themselves strong and ready to take action in the further development of their kebele. At the same time, many of them waited for initiatives from outside; *if*

only a NGO would help us… Some felt that the time and money they had invested in the FWSP activities was unfair compared to what the project gave them back. It is therefore important to raise critical questions towards the existing approaches and policies in FWSP, and consider a FFW strategy in line with the state and other NGOs. However, the stories of real change and real empowerment presented by some of the respondents prove that the FWSP approach actually *can* work, and that the emphasis on participation *has* bore fruit. The empowerment of the settled pastoralists thus exemplifies one of the positive impacts than can derive from sedentarization.

9. Summing up…

In this thesis, a wide range of topics under the "sedentarization-umbrella" have been discussed in order to discover the process' impact on health, ecology and society in Filtu Woreda. The household interviews, focus groups, life-story interviews and interviews at the local government and with NGOs in the area have all contributed to give a broad and nuanced understanding of the sedentarization process in the area. Reasons and incentives to settle have been presented, as well as different views on the pros and costs with this shift in pastoralists' livelihood. Through the thesis, the aim has been to answer the main research question: *How does sedentarization impact pastoralist livelihoods in Filtu Woreda in terms of health, ecology and society?* In the following, a summary of the findings and discussion will be given, some main conclusions to this will be drawn, and suggestions for further work in similar contexts will be presented.

Summary

The drought-prone area of Filtu Woreda presently experiences a rapid growth of settlements – or kebeles – of pastoralists. This sedentarization process has many and complex reasons, characteristics and impacts. We've seen that the most common reasons to settle are drought, loss of livestock and pastures, demand for education and health services, and a commitment to engage in commercial trading. Some simply wanted to become "developed", as people in the city. The presentation also shows that people's perceptions of the settled life compared to the nomadic life varies; with positive and negative features of both livelihoods. Access to water and markets, rest, education, agriculture, and health services seem to be the most dominant benefits with the sedentary life, while lack of milk, meat and fat, poorer nutrition, easier spread of diseases, and overgrazing seem to be the most pressuring challenges with it. To some pastoralists, the sedentarization process corresponds to what Salzman (1980) calls a "defeat and degradation" model, while the process occur more like a "adaption and response" (ibid) to others. Some also experience the sedentarization process as coerced, encouraged from external interests.

The *Health* chapter has given us insight in different impacts sedentarization has on health-related indicators. The process seems to impact negatively on pastoralists' morbidity, as density increases and new sources of transmission occurs (e.g. barkad, more faeces). The difference between *waterborne, water-washed, water-based,* and *water-related diseases* has been explained, and we've found that the barkads are sources of transmission from all these kinds of diseases. Poor *sanitation* and hygiene practices are also main sources of transmission, and the discussion has highlighted how the transmission route from faeces to finger and food are particularly short in the kebeles (the F-

Diagram). All these risks have increased since the pastoralists started to settle. At the same time, the respondents saw the settled life as an opportunity to access health services, medicines and midwife care. Such services still lacked, however, in most kebeles, despite promises from the government and NGOs. Some respondents still practiced traditional harmful treatment methods because they saw no other options. Most respondents still appreciated and seized the opportunities the sedentary position gave them in terms of infrastructure, passing cars/trucks, and access to health post in other kebles.

Nutrition-wise, we've seen that the shift from a protein-rich diet based on livestock products to a more calorie-rich diet with farm products seems to have led to a decline in children's nutrition. This corresponds with other studies on pastoralists' nutrition (Lindtjorn et al. 1993a; Sheik-Mohamed & Velema 1999; Shell-Duncan & Obiero 2000). However, most pastoralists appreciated the access to farm products, but yields were very vulnerable to drought. Regarding *infant mortality* and how sedentarization might impact that, the study found no specific trends either way. The data collection on the issue was limited, as well as it is a sensitive topic with many possible misinterpretations. The views seemed to vary according to the access to health services; with less infant deaths in the kebele that had got a health post.

The *Ecology* chapter has looked into the related topics found most relevant in the Filtu context. The complex issues of overgrazing, degradation, bush encroachment and rainfall have been investigated in relation to sedentarization. Many respondents saw increased density of humans and animals as the main cause of overgrazing, while a few also saw a link between global climate change, deforestation and drought. These issues are chaotically interlinked, however, and as we've seen; a *disequilibrium* theory rather than the traditional *equilibrium* theory appear useful in order to explain the complex picture of the ecology in arid and semi-arid areas. In terms of ecology, sedentarization is therefore best described as one out of *many* factors that impact the ecosystems in Filtu Woreda. Regarding *livestock*, the respondents had both lost animals and restocked since they settled. Many of them had started to lose animals before they settled, and had adapted to the sedentary life in order to survive. Some saw a tendency to commoditization of livestock products as a result of improved access to markets. The sedentary life disabled pastoralists to take good care of their animals; however, it enabled them to take better care of their *farming activities*. Most respondents experienced great benefits from this possibility, and wanted to expand and improve their farms if made possible.

In the last chapter, *Society*, different aspects of sedentarization's impact on the pastoralist society have been highlighted. It has shown that the occurrence of *conflicts* has not increased in the visited

kebeles, despite the assumed link between increased density, degradation and conflicts. The situation in the area thus seem to correspond more to studies of pastoralists' alliances and conflict-preventing strategies, claiming that the solidarity in such safety-nets increases in times of scarcity. Access to *Education* was presented as a significant difference between the nomadic and the sedentary life. All respondents saw education as a great development, and many had settled in order to enroll their children in school. Education can thus be seen as one of the positive outcomes of sedentarization. We've looked into aspects of *Culture and Religion*, and seen that sedentarization does not necessarily lead to a decline in pastoralists' culture, even though some customs, traditions and habits change. A *Gender* section has discussed gender roles and share of power and responsibilities in traditional pastoral societies compared to the settled communities. The attitudes regarding FGM were mixed, and it is unclear whether or not the practice had decreased since the respondents settled down. Religious identity and practices, however, seemed to be strengthened in the kebeles.

Further, we have seen that the *Access to Water* has brought great benefits to the pastoralist society; however, sustainability and maintenance of the barkads are challenges that need attention also in the years to come. Lastly, the *Community and Participation* section has investigated the long-term impact on the communities created, the FWSP participation and non-payment approach, and the extent to which such policies are suitable in the context. Despite the challenges and obstacles one might meet using such an approach; the thesis has argued that participation without payment is the most sufficient policy in order to bring about *real* change.

Conclusions

With the broad perspective used in this thesis, it is hard to draw the different topics into some general conclusions. Some lessons should still be mentioned as the main messages from the sedentarization process in Filtu woreda:

Sedentarization processes are initiated and perceived in many different ways, also within the same area. Pastoralists have different reasons and incentives to settle, and their satisfaction with the sedentary life also varies. Within the same area and the same kebeles, a wide range of reasons to settle were found. Although some common "pushes" and "pulls" may dominate, sedentarization is not a *uniform* process with the same facets for all pastoralists. The study has also shown that the expectations and assumptions pastoralists have to the sedentary life do not always correspond with the reality they meet when they settle. However, to some it does, and the level of satisfaction rises accordingly.

Sedentarization in Filtu Woreda seems to be "neither irresistible nor irreversible". The term is borrowed from Salzman (1980), and can describe the sedentarization process in Filtu Woreda quite well. The process has already taken place in the area for more than one decade, and there is no way that the process will stop in the near future or go back to "scratch". It might slow down, change character, and a few pastoralists might go back to the nomadic life. Still, it seems that the sedentarization process in Filtu Woreda had made pastoralist settle for good; with the impacts on health, ecology and society that entails.

Sedentarization has both negative and positive impacts in terms of health, ecology and society. The study has revealed both impacts considered good and fruitful, and impacts considered unfortunate, negative or as losses. Both kinds are found in each of the main categories; health, ecology and society. To see sedentarization as *the* solution to all the challenges in the pastoralist society, or to see it as *the* failure in all pastoralist development schemes, is therefore both unfortunate approaches. Rather, focus should be put on how the sedentarization process can lead to something good both for the pastoralists involved and the larger society. That means, the positive impacts and the new opportunities should be seized, and the negative impacts should be prevented or minimized.

Sedentarization both meets demands and creates demands. It has often been portrayed that sedentarization is the pre-condition that enables governments and NGOs to reach out with various services to meet the demands of pastoralists. This thesis has also given examples of such (education, vaccination, seminars, etc.). However, the thesis has also shown that sedentarization *creates* demands, such as the need for improved sanitation and hygiene, health services for humans and animals, and methods to cope with bush encroachment. These demands are not new in the sense that there was no need for health services or sanitation in the nomadic life. Yet, - the difference is that these needs become more urgent once pastoralists settle. The need for improved sanitation and health services becomes more acute due to increased density and transmission risks, and the need for methods to reduce bush encroachment increases as the areas around the kebeles often are especially affected by overgrazing and bare soil. Projects and policies that include sedentarization should therefore be aware of the fact that this process entails both possibilities to meet demands, at the same time as new or fortified needs are being created.

Sedentarization does not automatically lead to pastoralist development. In this lies an understanding of development as the positive impacts on pastoralist livelihoods, measured on their own parameters of development – not the governments'. Examples in this study underline the fact that

sedentarization and development of this kind are not synonyms. Sedentarization may lead to new possibilities and installations, but real *change* towards a better livelihood might still not come automatically. This might seem obvious, but still the opposite assumption has influenced and formed many governments' and development schemes' policies towards pastoralists. This study has shown that sedentarization might even initiate the opposite of development; increased vulnerability to diseases and drought. In this sense, the study corresponds with findings in other, similar studies (Fratkin & Roth 2005; Salzman 1980; Sheik-Mohamed & Velema 1999; Spicer 1999). Therefore, assessments of the impacts of sedentarization are necessary in order to meet the consequences that *do* come. When the possible impacts of sedentarization are taken into account in policies, plans and approaches towards pastoralists, development may be the result.

Sedentarization might lead to development. The study has also exemplified the fact that sedentarization *might* lead to "real" development, or positive change, in pastoralist societies. More specifically, one could say that sedentarization creates *possibilities* that, if seized, might bring about positive change for pastoralists. The access to schools, seminars and training, markets, health services, and the empowerment created through participation, are examples of that. These findings do also correspond with other studies of settled pastoralists (Devereux 2006; Fratkin & Roth 2005; Salzman 1980). A view on sedentarization as solely negative is therefore also unfortunate, as many pastoralists actually welcome the transition because they see the opportunities the sedentary life implies. The question of whether sedentarization is *good* or *bad* in terms of health, ecology and society thus seems to be more a question of how the process is initiated, assisted and followed up.

Sedentarization does not happen in a vacuum. In this lies a recognition that sedentarization is one part of a larger, complex picture. It can occur both as a cause and an effect of other factors, such as drought, overgrazing, bush encroachment and degradation. Other studies of pastoralist societies point at the same fact (Britz & Ward 2007; Homewood 2008; Oba et al. 2000; Reid et al. 2000). In this chaotic interplay of factors, the impacts of sedentarization are not always easy to identify. The consequences on health, ecology, and society that are described in this thesis are therefore subject to other impacts except from sedentarization as well. However, the thesis has tried to capture a glimpse of this complexity by describing sedentarization in Filtu Woreda both as a concrete change in pastoralists' livelihood, and as a process in a wider context.

Suggestions for work among pastoralists in a sedentarization process

> *He, who does not seize opportunity today, will be unable to seize tomorrow's opportunity.*
>
> (Special Dictionary 2010)

Now that the impacts of sedentarization on health, ecology and society in Filtu Woreda are discovered and discussed; how should one respond to this? In what ways could these findings be exerted to benefit the target group in FWSP and other similar projects? As mentioned in the introduction to this thesis, sedentarization is not an interesting phenomena or a historical event to the pastoralists that actually settle in Filtu Woreda; to them, it is about their *life.* Sedentarization, and its impacts, is about their subsistence as pastoralists. It is therefore appropriate to point at some ways forward that might minimize the negative impact of sedentarization and seize the opportunities of the process.

1. Minimize health risks

The increased health risks that occur when pastoralists settle around a barkad should encourage a strong focus on health-preventing activities. Such activities should be incorporated in any plans and strategies that involve sedentarization, and in all phases of such projects. While in the health sector this strategy seems to be delayed, the education sector seems to be more on track when it comes to meeting the demands in the new kebeles.The risks of transmission from barkads, poor sanitation, and poor hygiene seem to increase immediately after settling, and thus; immediate and appropriate action is needed on these issues. The kebele that had got a health post and improved sanitation facilities generally "scored" better on the questions regarding diseases and sanitation, indicating that the installations actually made a difference. Sanitation issues, often given less priority than access to water, should be given more attention, as these issues are so highly interlinked. Improved sanitation will impact positively on the access to clean water, health and hygiene. Prioritizing sanitation is therefore crucial in minimizing health risks. With the growing demand and possibilities for agricultural expansion, the potential for implementing sanitation facilities that enables recycling of nutrients into food production should also be considered.

2. Improve water quality

This is also an essential part of minimizing health risks in a sedentary pastoralist community; however, so important that it needs a point for itself. Due to the serious impacts form unclean water in settled communities, more emphasis should be given to improve the water quality in the installed water sources. To this, new methods and ways of thinking might be needed, as this thesis has shown that suitable and sustainable methods have not yet revolutionized the building of barkads in Filtu Woreda. The bio-sand filter presently introduced by FWSP is an exciting project in that sense, and the following years will reveal its outcome. However, this installation also needs concrete plans for implementation, access, and sustainable use. One should also consider possible efforts to improve the water quality *in* the barkad, so that the health risks related to fetching water might be reduced.

3. Prevent bush encroachment and improve grass growth

Some organizations in Filtu Woreda have tried different strategies in this regard; e.g. selective cutting. Although this project has stopped now, the results were promising. Similar or other methods to slow down the rapid growth of woody vegetation are therefore appropriate in the area, and can have long-term positive effects on rainfall patterns, pastures, and thus pastoralist livelihoods. Angassa & Oba (2008) found that cutting together with fires could reduce bush encroachment more effectively than if using the methods separately. As we've seen, some also recommend agro forestry as a way forward to reduce albedo, and thus increase rainfall in the area (Høgetveit 2004; Miller, J. B. 1999). Attention should also be given to pastoralists' traditional methods of coping with scarcity; restocking. This thesis have found that most pastoralists in Filtu Woreda have little knowledge about other possible strategies to cope with drought, reduced pastures and bush encroachment. Seminars and practical training on these issues could therefore also be useful in order to improve peoples' awareness of the causes and consequences of bush encroachment, reduced rainfall and soil erosion. In this way, settled pastoralists' ability to minimize sedentarization's negative impact on ecology can be improved.

4. Develop the agricultural sector

As a response to the pastoralists' uniform wish to expand more in the agricultural sector, development schemes and the government should focus their activities on this in the coming years. FWSP has already started the planning of a dry-land agriculture component of the project, which this study fully supports. Focus should be on small-scale, rural agriculture, as it is here the agricultural activity is least developed. There is a great demand for skills, tools, seeds, watering solutions, and storage systems, and the interest and willingness needed in the kebeles is absolutely present. A goal would be to diminish the dependency of food relief that is still there in the area, and reduce the vulnerability to drought. In this way, the nutritional base can be broadened, and the decline in protein-intake among sedentary pastoralist children might be replaced with another nutrition-rich diet.

5. Stop traditional harmful practices

The thesis has found that FGM and other traditional harmful practices have not stopped in the sedentary communities, although a common assumption regarding sedentarization is that such practices will disappear. Religious leaders in Islam should be more actively involved in the campaigns and strategies to stop FGM, as it seems that the pastoralists in Filtu Woreda respected and listened carefully to what these said. Because FGM is a gendered issue where attitudes are so deeply rooted in the male/female hierarchy, activities to stop the practice should involve both men and women, old

and young, elders and leaders. When it comes to the other harmful practice exemplified in the thesis, burning of skin in order to reduce pain, information and other health services are likely to automatically stop the practice. People were fully aware that other methods of treatment existed, however not in their keble. This underlies the importance of immediate action in the health sector when new, sedentary communities are underway.

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All in all, these suggestions are presented in order to prevent the “in-between” situation that the settled pastoralists in Filtu Woreda experienced. They felt neither pastoralists anymore, nor “developed”. This middle-position were though and harsh, both in terms of livelihood and pride. Devereux (2006) points out that projects and policies should aim at maximizing pastoral mobility – physically, socially and economically! ...not restricting it. The sedentarization process can result in increased restrictions on pastoral mobility; however, it can also lead to opportunities and increased flexibility! When the potential of these possibilities are maximized to benefit sedentary pastoralists, the sedentarization process might contribute to increase pastoral mobility. The impacts on health, ecology and society, revealed in this thesis, are thus key components to understand the process, the challenges, and the potentials to increase pastoral mobility through sedentarization.

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Appendix

1. Filtu Water and Sanitation Project Location Map