The Multifaceted Commodification Processes and Transformations of Pastoralists in Lowland Ethiopia

by

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ACRONYMS AND GLOSSARY

Asaimara	Afar nobles/red
Asdoimara	Afar commoners/white
Bah	Somali uterine lineage
Booda	Uncovered Afar well in flooding plains
BoPAD	Bureau of Pastoral and Agricultural Development, Afar
Buyyi	A shallow temporary Afar well
Caanaha	Somali word for milk
Daagu	Afar knowledge exchange
Coox dacayri	Traditional Afar protection of trees and rangelands
Dardar	Afar Sultan
Derg	Coordinating Committee of the Armed Forces, Police, and Territorial Army
Dija/mag	Somali blood compensation group
EPRDF	Ethiopian People's Revolutionary Democratic Front
Faage	Afar territory
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
Habäsa	Highland Ethiopians
Hass	Somali family nuclear
Haud	A large grazing area found in Dire Dawa, along and to the corner of the border between Ethiopia and Somaliland
Isso	Afar oral lease
Jifi	A small group of Somalis who receive compensation for the death/injury of a family member
Kebele	Smallest administrative unit in Ethiopia
Khat	Catha edulis, popular drug
Lataliye	Somali advisor working for the government
Ma'ada	Afar customary law
Mablo	Afar customary court
Mela	Afar clan
Metaro	Settlements belonging to singular or multiple households
PDRE	People's Democratic Republic of Ethiopia
Raas	A Somali designated area with houses and fenced off areas for smaller livestock
Region	First-level administrative division in Ethiopia
Shir	Somali clan council
Shoat	Sheep and goat
Tol	Somali patrilineal lineage
Wammo	Afar primary inhabitants
Woreda	Third-level administrative division in Ethiopia
WSLF	Western Somali Liberation Front
Xeer	Customary Somali law
Zone	Second–level administrative division in Ethiopia

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EXECUTIVE SUMMARY

In the lowlands of Ethiopia, the traditionally pastoralist Afar and Somali Regions, multifaceted transformations and commodification processes have taken place. This thesis focuses on these transformations by addressing their fundamental societal, economic, and environmental developments. Three papers were written to clearly demonstrate how such environmental, political, social and economic processes have shaped and continue to alter and impact Afar and Somali communities in Eastern Ethiopia.

The first paper, *Pastoral livelihoods under pressure: Ecological, political and socioeconomic transitions in Afar (Ethiopia)* by Matthias Schmidt (lead author) and Olivia Pearson (2016) and published by the Journal of Arid Environments 124, 22-30, will be referred to as "*Pastoral livelihoods under pressure"* from this point forward. It addresses the various ecological, political and socio-economic changes currently transforming the rangelands and natural resources of the Afar pastoralists' ancestral domain, changes which are driven by factors such as recurrent droughts, overgrazing, erosion processes, alien plant invasion and governmental land policies. To assess how these inter-related changes are impacting the Afar and their livelihoods, empirical research was conducted in four villages in western Afar, with the results showing that environmental, institutional and cultural changes have weakened the position of the pure pastoralist and strengthened the move away from pure pastoralism towards agro-pastoralism. As introduced natural resource management strategies driven by land privatization alter common property resources, traditional practices and institutions lose power. While research clearly shows that the influence and control of indigenous institutions and cultural practices have diminished, the subsequent impact on future generations and Afar identity remains unclear.

The second paper, by Olivia Pearson (lead author) and Matthias Schmidt (2017) *Repercussions of governance institutional changes on communication practices in the Afar National Regional State, Ethiopia* has been accepted by the Singapore Journal of Tropical Geography and will be referred to as "*Governance Institutional Changes"* from this point forward. By examining local communication practices, this paper investigates the transition from informal and traditional Afar institutions to formal institutions occurring in the Afar Region of Ethiopia. As the role and importance of traditional institutions diminishes and the strength of introduced formal federal and regional governmental institutions increases, pastoralist and agro-pastoralists in western Afar have altered how and with whom they communicate. The decrease in traditional ecological, political and socio-economic settings has led to the Afar adapting their communication practices in order to navigate these new environments. An analysis conducted from empirical research conducted in four Afar villages illustrates changes in resident preferences when reporting concerns. Concerns are now primarily reported to local formal institutional representatives or government agents; however, residents still find it beneficial to report certain problems and concerns to traditional institutions. This transition has had a positive impact on females, who now report concerns directly to government officials. Conversely, the transition has spatial disadvantages due to the typical location of government officials in village and town centers; as Afar is a vast and lowly populated region, those residing further from their government representative are at a disadvantage.

The final paper, by Olivia Pearson (lead author) and Matthias Schmidt (2017) *Commodity Individuation of Milk in the Somali Region, Ethiopia* has been accepted by Area and will be referred to as "*Milk Commodity Individuation*" from this point forward. This paper analyses one of the changes to livestock commodification in the Somali region of Ethiopia – the extent and implications of altering the social and cultural role of milk. Traditionally, livestock is a central Somali commodity, with herds specifically chosen for their ability to reside within the arid to semi-arid region and sustain pastoralist livelihoods. Somalis sell livestock and consume their meat and milk, which is a fundamental requirement for a healthy life; milk provides sustenance in an environment where resources are scarce and is also a traditional medicine. The commodity individuation of milk means that it is now sold by Somalis as an income generating tool, defying cultural traditions that declared the sale of milk to be taboo. Milk has been separated from its traditional function and context and is no longer solely food for livestock and Somalis but now also a source of income that is primarily managed by females. Traditional milk boundaries have been stretched and altered, with the commodity now managed through the informal relationships between buyers and sellers.

To investigate the correlations between the three papers, each of which has its own unique theoretical framework, this booklet uses the results of the conducted research as indicators to identify the prevalent transformations and commodification processes present in the lowlands of Ethiopia. Castree's (2003) six distinct and inter-related elements of capitalist commodification – *Privatisation, Individuation, Alienability, Abstraction, Valuation*, and *Displacement* – are used for the data analysis. The discussion is divided into three categories, the first being the transformation and commodification of clan structures to highlight the juxtaposed valuation and devaluation of these structures. As the clan as an institution is replaced by formal institutions, its control over environmental, societal, and cultural management weakens. This devaluation occurs in parallel with the valuation assimilation of clan leaders and elders into formal institutions and as the clan as a commodity faces displacement, in particular the clan leader. The transformation and commodification of gender highlights the shift in gendered roles for both sexes and the increase in female mobility, with the sale of milk and other income generating activities fundamental to this transition. A shift in control over household management from male to female has occurred and has been supported by perceived female altruism. The final section deals with natural resources and their management and focuses on the key related transition and commodification practice – the privatisation of land and its resulting environmental and societal consequences.

In conclusion, it is important to note that while these areas have become increasingly integrated into global systems, leaving behind many traditional institutions, the mentioned transformations and commodification processes will continue to evolve. Findings suggest that the Somali and Afar Regions will become increasingly influenced by outside forces and institutions, which will drive further change in the lives and livelihood practices of the lowland residents of Ethiopia's arid and semi-arid regions.

DEUTSCHE ZUSAMMENFASSUNG

Im Tiefland von Äthiopien, den traditionell pastoralistischen Afar- und Somalischen Regionen, fanden vielfältige Transformationen und Kommodifizierungsprozesse statt. Diese kumulative Dissertation konzentriert sich auf diese Transformationen, indem sie ihre fundamentalen gesellschaftlichen, ökonomischen und ökologischen Entwicklungen anspricht. Es wurden drei Publikationen in ISI-referierten anerkannten Zeitschriften veröffentlicht, die klare Beispiele dafür liefern, wie Umwelt-, politische, soziale und ökonomische Prozesse bereits die Afar- und Somalischen Gemeinden in Ost-Äthiopien verändern und beeinflussen.

Die erste Publikation, „Pastoral livelihoods under pressure: Ecological, political and socioeconomic transitions in Afar (Ethiopia)" von Matthias Schmidt (Hauptautor) und Olivia Pearson (2016), veröffentlicht im Journal of Arid Environments, wird von hier an als „Pastoral livelihoods under pressure" bezeichnet. Diese Publikation beschäftigt sich mit verschiedenen ökologischen, politischen und sozioökonomischen Transformationen, die im Ahnengebiet der afarischen Pastoralisten stattfinden und das Weideland sowie die natürlichen Ressourcen verändern und beeinflussen. Diese Transformationen sind das Ergebnis von wiederkehrenden Dürren, Überweidung, Erosionsprozessen, Invasionen durch fremde Pflanzen und staatliche Landpolitiken. Um die Auswirkungen der zusammenhängenden Veränderungen auf die Afar und ihre Lebensgrundlagen zu beurteilen, wurden in vier westlichen Afar-Dörfern empirische Untersuchungen durchgeführt. Die Ergebnisse zeigen, dass die ökologischen, institutionellen und kulturellen Veränderungen die Position reiner Pastoralisten schwächen und den Übergang zum Agro-Pastoralismus nicht nur ermöglichen, sondern fördern bzw. geradezu fordern. Eingeführte Strategien zur Bewirtschaftung natürlicher Ressourcen, die durch die Privatisierung von Grundstücken getrieben wurden und weiterhin werden, verändern die bis dato als Allgemeinbesitz bewirtschafteten Ressourcen, während gleichzeitig traditionelle Praktiken und Institutionen an Einfluss verlieren. Zwar zeigt die Forschung klar den verminderten Einfluss und die Kontrolle der indigenen Institutionen und kulturellen Praktiken auf, liefert jedoch keine eindeutigen Ergebnisse dazu, wie dies die künftigen Generationen und die Identität der Afar beeinflussen wird.

Die zweite Publikation von Olivia Pearson (Hauptautorin) und Matthias Schmidt (2017), „Repercussions of governance institutional changes on communication practices in the Afar National Regional State, Ethiopia", wurde vom Singapore Journal of Tropical Geography angenommen und wird von hier an als „Governance Institutional Changes" bezeichnet. Diese Publikation untersucht den Governance-Übergang in Äthiopien – von informellen und traditionellen Afar-Institutionen hin zu formalen Institutionen – anhand von Kommunikationspraktiken. In dem Maße, in dem traditionelle Institutionen an Bedeutung verlieren (or even: einbüßen) und die eingeführten formalin Bundes- und Landesregierungsinstitutionen an Bedeutung gewinnen, , haben Pastoralisten und Agro-Pastoralisten im westlichen Afar verändert, wie und mit wem sie kommunizieren. Die abnehmende Präsenz der traditionellen ökologischen, politischen und sozioökonomischen Kontexte hat dazu geführt, dass die Afar ihre Kommunikationspraktiken diesem neuen Kontext anpassen. . Die Analyse empirischer Erhebungen in vier Afar-Dörfern zeigt veränderte Präferenzen der Bewohner beim Melden ihrer Anliegen an die entsprechend zuständigen

Institutionen. Primär wenden sich die Bewohner inzwischen an den lokalen Vertreter der eingeführten formalen Institution, d.h. einen Regierungsvertreter. Dennoch finden es die Bewohner immer noch vorteilhaft, bestimmte Probleme und Bedenken den traditionellen Institutionen zu melden. Der Übergang hat sich positiv auf Frauen ausgewirkt, weil diese jetzt ihre Anliegen in direktem Kontakt mit Regierungsbeamten vortragen können. Umgekehrt hat der Übergang räumliche Nachteile, da sich der Arbeitsort der Regierungsbeamten typischerweise in Dorf- und Ortszentren befindet, sodass diejenigen, die in der flächenmäßig großen und dünn besiedelten Afar-Region in einem größeren Abstand von ihrem Regierungsvertreter wohnen, im Nachteil sind.

Die dritte und letzte Publikation von Olivia Pearson (Hauptautorin) und Matthias Schmidt (2017), „Commodity Individuation of Milk in the Somali Region, Ethiopia“, wurde von der Zeitschrift Area angenommen und wird von hier an als „Milk Commodity Individuation” bezeichnet. Diese Publikation analysiert eine der Auseinandersetzungen um die Kommodifizierung des Viehbestandes in der somalischen Region, insbesondere das Ausmaß und die Auswirkungen der Veränderung der sozialen und kulturellen Rolle der Milch. Traditionell gelten Vieh als eine zentrale somalische Ware, wobei die Herden speziell gewählt werden aufgrund ihrer Fähigkeit, innerhalb der ariden bis semi-ariden Region zu leben und den pastoralistischen Lebensunterhalt zu sichern. Somalis verkaufen Vieh und konsumieren dessen Fleisch und Milch; Milch ist eine Grundvoraussetzung für ein gesundes Leben. Milch liefert Nahrung in einer Umgebung, in der Ressourcen knapp sind, und ist darüber hinaus eine traditionelle Medizin. Commodity Individuation findet nun durch Milchverkauf von Somalis statt, wobei Milch nun zur Einkommensgenerierung genutzt wird. Mit dieser Praxis setzen sich der Verkäufer über kulturelle Traditionen hinweg, nach denen der Verkauf von Milch als Tabu gilt. Milch wurde damit aus ihrer traditionellen Funktion und ihrem traditionellen Kontext herausgelöst und ist nicht länger ausschließlich Nahrung für Vieh und Somalis, sondern bietet auch eine Einkommensquelle, deren Management primär Frauen obliegt. Traditionelle Grenzen wurden gestreckt und verändert, und die Ware wird nun durch die informellen Beziehungen zwischen Käufern und Verkäufern verwaltet.

Um die Zusammenhänge zwischen den Zeitschriftenartikeln mit ihrem je eigenen theoretischen Rahmen aufzuzeigen, nutzt diese Broschüre die jeweiligen Einzelergebnisse als Indikatoren, um die vorherrschenden Transformationen und Kommodifizierungsprozesse im Tiefland von Äthiopien zu identifizieren. Für die Datenanalyse werden die von Castree (2003) vorgeschlagenen sechs unterschiedlichen und miteinander verknüpften Elemente der kapitalistischen Kommodifizierung verwendet: Privatisation, Individuation, Alienability, Abstraction, Valuation und Displacement. Die Diskussion ist in drei Kategorien unterteilt, wobei die erste die Transformation und die Kommodifizierung von Clanstrukturen ist, die die gleichzeitige valuation und devaluation (Aufwertung und Abwertung) von Clanstrukturen hervorhebt. Da der Clan als traditionelle Institution durch formale Institutionen ersetzt wird, wird seine Kontrolle über das Umwelt-, Gesellschafts- und Kulturmanagement geschwächt. Diese Abwertung erfolgt parallel zur Aufwertung der Assimilation von Clanführern und Ältesten in formale Institutionen, und, da der Clan als Ware mit Displacement konfrontiert ist, insbesondere der Clanführer. Die Transformationen und die Kommodifizierung von Gender unterstreicht die Verschiebung der

geschlechtsspezifischen Rollen für beide Geschlechter und die Zunahme der weiblichen Mobilität, wobei der Verkauf von Milch und anderen einkommensschaffenden Aktivitäten als grundlegend für diesen Übergang gilt. Eine Verschiebung der Kontrolle über die Haushaltsführung von Männern hin zu Frauen ist aufgetreten und wurde durch den wahrgenommenen weiblichen Altruismus befördert. Der letzte Abschnitt befasst sich mit natürlichen Ressourcen und deren Management und konzentriert sich auf die entscheidenden Übergangs- und Kommodifizierungspraktiken; die Privatisierung des Landes und die daraus resultierenden ökologischen und gesellschaftlichen Konsequenzen.

Abschließend ist festzuhalten, dass während diese Bereiche zunehmend in globale Systeme integriert werden und im Zuge dessen viele traditionelle Institutionen hinter sich lassen, sich die genannten Transformationen und Kommodifizierungsprozesse fortsetzen. Die Ergebnisse deuten darauf hin, dass die Somalischen und Afar- Regionen zunehmend von äußeren Kräften und Institutionen beeinflusst werden und so weitere Veränderungen im Leben und in Praktiken des Lebensunterhalts der im Tiefland lebenden Bewohner von Äthiopiens ariden und semi-ariden Regionen vorangetrieben werden.

1 INTRODUCTION

1.1 PASTORALISM

Pastoralism is the primary means of livelihood practiced in numerous regions throughout the world; in arid and semi-arid regions including the Sahara, Sahel, and East Africa, in colder climates including Siberia, Mongolia, and parts of Northern Scandinavia and in the mountainous regions of Central Asia: Kyrgyzstan and Tajikistan (Barich, 2012; Kerven et al., 2012; Marin, 2010; Mapinduzi et al., 2003; Barich, 2002; Thébaud & Batterbury, 2001; Krupnik, 2000). Pastoralists practice animal husbandry and rely on their livestock for milk production and meat, sales and consumption as well as the money made through the sale of livestock to facilitate their transhumant existence (Davies & Bennett, 2007). Pastoralist practices were developed and are now used by local populations to enable them to reside in and sustain the harsh ecological conditions of these regions with limited natural resources (Krätli, 2013; Oba, 2012).

The sophisticated resource management techniques are varied and complex, and not universally implemented by all pastoralist communities. One of their primary characteristics is livestock mobility, both transhumance and nomadic (Niamir-Fuller, 2000). Transhumance mobility is a seasonal movement between grazing grounds, a movement that takes advantage of the seasonal differences in rangeland conditions, both horizontally and vertically. Nomadic pastoralism draws on transhumance practices, a movement between varying rangelands, but is not fixed to specific migratory practices (Cribb, 2004). Pastoralists utilise spatial mobility methods to find sufficient water and fodder for livestock, a practice that also provides the natural resources found within the rangelands the required time to regenerate, thus reduces the chance of desertification in harsh environments (Samuels et al., 2013; Weber & Horst, 2011). Some households will keep mixed herds, having more than one type of livestock owned by a household or a group. This is done for numerous reasons, including but not limited to making use of the varied rangelands available to them and the resources found within, to decrease the risk that the entire herd is lost due to diseases that attack certain animals or a loss of a certain fodder (Fratkin, 1986).

Institutional management and regulation are not uniform, with each pastoralist society forming its own practices and regulations, resulting in indigenous knowledge systems used to regulate the society. Indigenous knowledge employed, for example, by the Bhotiya pastoralists of Humaon Himalaya (Farooquee & Nautiyal, 1999) and those by the Saami reindeer pastoralists (Tyler et al., 2007) differs greatly. Common property regimes manage rangelands and natural resources such as water and fodder, a tool employed in almost all pastoralist regions, amongst other territories (Swallow & Bromley, 1995). Traditional tenure systems are a combination of varied ownership rights, with practices utilised including communal ownership over the rangelands and family or clan ownership over water points (Reda et al., 2015). Seminal works by Hardin (1968), Ostrom (1990) and Ostrom et al., (2002) conducted in-depth research on common property regimes. These works have been used as a starting point for numerous authors who shed light on pastoralist commons management system and illustrate both the negative and positive perspectives, including the afore mentioned work by Swallow and Bromley who investigate

institutions, governance and incentives in the pastoralist setting (1995), Fratkin who addresses east African pastoralism (2001) and a work by Moritz et al who focus on the Chad Basin (2013).

1.2 CHANGING CONDITIONS

The heterogeneous pastoralist regions of the world, in particular the arid and semi-arid lowlands of Ethiopia, are transforming due to various processes of commodification, globalisation, modernisation, neo-liberalised development and climate change. The lowlands of Ethiopia are both used and governed by numerous institutions, both multi-scale and singular, a complex network that consists of governmental and traditional, national, regional, and local, as well as formal and informal bodies. The traditional institutions of the Afar and Somali pastoralists are deeply entrenched in and supported by the cultural practices of their inhabitants. However, the merger of traditional institutions with external forces, i.e., globalisation, modernisation, colonialisation, has created new formal and informal governance practices that govern all aspects of society. The multifaceted cultural environments in the lowlands of Ethiopia are forged out of the relationships between individuals and communities, inter and intra-clan. These relationships transform local cultures, as culture cannot be simply classified and is not a fixed notion of traditional customs and consists of more than internal social roles and practices; transformations are influenced by internal and external agents (Jahoda, 2012).

1.2.1 *INSTITUTIONAL AND GOVERNANCE TRANSITIONS*

The lowland Ethiopian pastoralists in the Afar and Somali have faced continued pressure to relinquish control and amend their land management and traditional practices from varied political regimes ranging from imperial rulers to modern governments. Colonial forces in the Horn of Africa worked to diminish traditional authority (Peters, 2004) and to manipulate cultural practices (Hagmann & Khalif, 2008; Bradbury et al., 2003). Relations between lowland pastoralists and imperial rulers have been documented to reach back to the Aksumite Empire (100–940 CE) (Muhe, 2014; Yasin, 2008). Ethiopia's imperial regime had one of the most complex land ownership regimes in Africa (Crewett et al., 2008). But, due to the vast and sparsely populated nature of the lowlands, in conjunction with limited natural resources, these land ownership regimes were not widely implemented. In the late 19th century, the Abyssinian Empire initially gained control over Afar and the Somali Regions, however they were only able to secure some of the Somali Region by 1927 and had limited authority in Afar (Behnke & Kerven, 2013; Hagmann & Korf, 2012; Hagmann, 2005; Harbeson, 1978).

The Ethiopian and British colonial agents divided control of the Haud (a large grazing area that stretches from Dire Dawa, along to the corner of what now is the border between Ethiopia and Somaliland) and the Ogaden (what is now known as the Somali Region in Ethiopia) without consulting the Somali in the Anglo-Ethiopian Treaty of 1897 (Latham Brown, 1956). This treaty, as well as other agreements established by colonial forces at the end of the 19th century declared the rest of the Somali Peninsula to be under the control of the French (northern Somalia), British (north-central Somalia) and Italians (south Somalia) (Menkhaus, 2014; Renders, 2012; Turton, 1972). Notably Ethiopia, aside from an unsuccessful Italian endeavour to annex it from 1935 to 1941, was never colonised by European forces (Braukämper, 2013). However, while in the region the fascist Italian government did utilise regional identities, cultures and religions in a divide and

conquer approach that seemingly supported the Ethiopian Muslims by granting them the opportunity to gain ground “against the Habäsa, who had marginalized and suppressed them” (Braukämper, 2013, 176; Novati, 2008).

Imperial Ethiopia, backed by the British, expelled the Italian forces from Ethiopia in 1941 and Emperor Haile Selassie maintained power until overthrown by the socialist, militaristic Derg dictatorship in 1974 (Samatar, 2004; Clark, 1992). Selassie’s absolutist state attempted the homogenisation of Ethiopian society, dominated by Amharic culture and identity (Abbay, 2004; Bulcha, 1997; Gashaw, 1993). The Derg came to power in response to a famine in the early 1970s, which, in conjunction with the perceived injustice of the imperial land tenure policies and the majority of high ranking administrative positions belong to the upper stratum of society, lead rural Ethiopians and students to revolt against imperial Ethiopia and the ruling class (Kelly & Peluso, 2015; Tiruneh, 1993). The Derg decreed public ownership over all lands, stating land and resources belong to the state and the peoples of Ethiopia, and prohibited “the transfer of use rights by sale, exchange, succession, mortgage, or lease, except upon death and even then, only to the wife, husband, or minor child of the deceased” (Stellmacher, 2007, 524). The Derg government utilised violent methods to remove customary ethnic practices which were seen as capable of weakening governmental control and authority (Abbink, 1997).

Although the Derg remained in power until 1991, they faced strong resistance in the Somali Region. In 1964, and from 1977-78, Siyad Bare supported the Western Somali Liberation Front (WSLF) in an attempt to unite the Somali Peninsula as one country, Greater Somalia. This proved to be unsuccessful and failed after Ethiopia gained the support of the Soviet Union and their associated allies (Korf et al., 2015; Tareke, 2000; Putman & Noor, 1993).

In 1984, the People's Democratic Republic of Ethiopia (PDRE) declared Afar, Somali and Tigray to be autonomous administrative regions due to their perceived position as “the country´s most unstable and troubled regions affected by ethic insurgency, drought and famine” (Ayenew, 2002, 135). The Derg was overthrown in 1991 by the Ethiopian People's Revolutionary Democratic Front (EPRDF), which has since implemented state ownership over land (Crewett & Korf, 2008). The EPRDF continued the Derg’s policy of public ownership over all lands, through Article 40 of the 1995 Constitution of the Federal Democratic Republic of Ethiopia, The Right to Property (Gebreselassie, 2006; Nega et al., 2003; FDRE, 1995). Although the federal agreement should be supported by a regional agreement (Gebeyehu, 2013), the Somali Regional Land Use Agreement remains in draft. The EPRDF utilised ethnic identity to gain and maintain control of the country (Samatar, 2004). The neo-patrimonialist approach drew on the 80 various ethno-linguistic groups to designate regional boundaries (Abbink, 1997); borders designed to allow each region to have a greater level of autonomy through decentralisation (Samatar, 2004). Despite this design objective, clientelistic relationships between central and regional governing actors and agencies limit local authority (Chanie, 2007). In the Somali Region, the government currently utilises the position and power of chosen Somali elders known as Lataliye (advisor) to strengthen control over clans and their constituents, but the Lataliye lack credibility among the population (Hagmann, 2012).

1.2.2 *LIVESTOCK AND LIVELIHOODS*

Across both regions herd sizes have decreased substantially. How pastoralists manage their livestock and livestock preferences has changed. In both regions animals not traditionally considered as important, goats and sheep (shoats) have increased in value as camel and cattle herd sizes shrink. In Afar, cattle raiding is still present in the focus region. However, in Zone Four it is primarily conducted between the Afar and the neighbouring regions: Tigray and Amhara. In the Somali Region cattle raiding has decreased, however with this decrease the horse has lost its value and is no longer present in herd demographics.[1]

The neo-patrimonialist approach to rangeland appropriation taken by the Ethiopian Government has restricted access to customary migration areas. One of the consequences of limiting the migration routes and mobility of pastoralists is overgrazing. No longer able to access all their traditional rangelands and routes, pastoralists resort to staying for a longer duration of time in one spot, greatly diminishing the available fodder and reducing the seed bank, as seen in East Africa (Blackwell, 2010).

Those who settled prior to or during the settlement program have taken up new livelihood practices, the primary being farming. As documented in other sub-Saharan pastoralist regions, the neo-liberal policies in play that support actions such as agriculture, both industrialised and small-scale farming, place a larger emphasis on a stronger monetary income as opposed to traditional practices (McKune & Silva, 2013). The growing strength of the capitalist marketplace system can also facilitate cash-crop production as opposed to the production of food crops for private or local consumption. “Markets trigger commercial intensification of agriculture in a commodification pathway” (Lambin, et al., 2001, 265). Sedentarised agro-pastoralists are guided to cultivate crops for both human and livestock consumption. Commonplace crops include maize, wheat, sorghum, tomatoes, onions, *khat* (*Catha edulis*), and sesame in the Somali Region.

In addition to farming, the settlement programs introduce new livelihood practices including wage labour in both rural and urban settings as well as “migration to famine relief centres” (Fratkin, 2013, 199). Pastoralists who have either lost all their herd or had the size dramatically reduced have amended their natural resource utilisation practices: conducting the illegal practice of collecting wood for sale and the production of charcoal (Rembold et al., 2013; Stark et al., 2011; Desta & Coppock, 2004). Those without livestock or farming plots, classified as dropouts, carry out these activities throughout the year, while production increases during the dry season as households with limited livestock also take part in order to supplement their household’s income (Flintan et al., 2011).

The importance of livestock is not limited to animal sales. Milk has long been a fundamental element of Somali life, not only as one of the primary foods but also as a well-known traditional medicine (Carruth, 2014). As in other pastoralist regions (Elhadiet al., 2015), herders now sell milk. This act which was traditionally taboo (Nori et al., 2006) is now accepted as a tool which

1 In the focus area, residents reported that livestock raiding ceased in the 1970s, partly due to the increased government presence and decreasing herd sizes.

supplements their income. Sales are conducted locally and in the regional capitals, with milk processing plants established in Jijiga.

During the Derg administration's control, socialist livestock marketplaces were regimented and controlled by the government. Pastoralists who lived near the border would sell their livestock abroad, as the chance of getting caught and fined or their livestock confiscated was mitigated by the higher price paid by foreign investors. Although control over the marketplace fell with the regime, livestock flows are still directed across borders. Current marketplaces dynamics are centred around brokers, who have established themselves as the principal agents. Arab markets are a major destination for livestock, a predominately contraband movement over international borders that occurs despite Middle Eastern restrictions on livestock imports (Bekele & Girmay, 2014; Oumer, 2007). However, the present crisis in Yemen has blocked this major path.[2] Limited Somali livestock are sold in local markets or in other Ethiopian regions. Worsening animal conditions during 2014, climate change and rangeland degradation, combined with an increase in the cost of food staples has further shrunk profit margins (FEWS, 2014).

1.2.3 *Natural Resource Management and Access*

A significant transformation can be seen in natural resource management, where neo-liberalised global development policies increase the commodification and privatisation of ecosystems and natural resources such as land, water, minerals, and forests (Fratkin, 2013; Lavers, 2012; Gomez-Baggethun & Ruiz-Perez, 2011; Castree, 2003). For pastoralists, a primary change is the increase in agricultural production, as agrarian reforms decrease the amount of land available to practice animal husbandry (Mace, 1993). This change is global, from the policies of the People's Republic of China that impacted pastoralists in the North-eastern Qinghai province (Cincotta et al., 1992) to the traditional natural resource access and use agreements between Sahelian pastoralists and farmers, agreements that are no longer as viable due to the increasing demand on agricultural production to support the population increase (Dong et al., 2011)

The lowlands of Ethiopia have been impacted by increased land commodification, settlement projects, sugarcane plantations and an increased external interest in natural resources found within (Müller-Mahn et al., 2010) Foreign companies now have access to Ethiopian land that was off limits during the Derg regime at low rates[3] (Rahmato, 2014). Large-scale sugarcane plantations were introduced to Ethiopia in 1954, in Wonji (Oromia Region), and since then more have been established along the Awash River, including the Tendaho farm in Afar (Tena et al., 2016). Settlement programs, as already seen in other African pastoralist regions (Desta & Coppock, 2004), were designed and promoted by the Ethiopian Government as a modernization practice capable of addressing the problems presented by the perceived failing pastoralist system. Settlement of the lowland pastoralists was initiated by the Imperial rulers, created as a tool to modernise the lowlands while strengthening imperial control in periphery areas (Harbeson, 1978). The Derg's settlement program required people to settle in specific areas and adopt agro-pastoralism (Abate, 2016). Once the Derg fell, settlement areas in the Somali Region

2 Although the present crisis can be traced back to the uprising in 2011 (Clausen, 2015), Somali pastoralists reported the impact was felt in late 2014 and 2015 in the Somali Region.

3 $10 US per hectare per year with tracts of land averaging between 25,000 to 50,000 ha, and reaching up to 100,000 ha (Rahmato 2014).

were later vacated by those who were forced to settle. The present government's development plans stipulate that settlement programs in specific areas, i.e., near perennial water sources, or where ground water will be accessible, are designed to assist in livelihood diversification and to reduce reliance on aid, with an emphasis on destitute households to be settled first (BFED, 2010). Critics of the Government's settlement project argue that it weakens customary institutions and has been implemented without well-defined policies (Flintan et al., 2011).

The present agrarian reforms also alter land ownership laws, building on the alterations already introduced by a wide variety of different forms of customary, colonial, private or governmental land tenures (Gilbert & Couillard, 2011; Yeh, 2011; Galvin, 2009; Peters, 2009; Hoffman & Rohde, 2007; Woodhouse, 2003; Bromley, 1992). The current neoliberal viewpoint perceives *de jure* ownership to be non-contingent, while traditional laws, *de facto* commonly used by pastoralists, are seen as "incomplete and contingent" (Goodhue & McCarthy, 2009, 32) further reducing the ability of indigenous peoples and pastoralists to remain in control over their ancestral domains.

This reduction of access to rangelands can also result in increased desertification, a debate that started in the Sahel and culminated in the 1970s and 1980s (Andersson, 2011). The argument for supporting pastoralism as a means of reducing the spread of desertification and reducing the damage done to lands already affected is not new. From the 1970s, papers such as Swift's (1977) used case studies conducted in Somalia to show how herding cooperatives are beneficial instruments. Reports, including those from the FAO, advise that pastoralism is a form of dryland management that is capable of mitigating the negative impact of climate change (Neely, 2009). Conversely Webber and Horst (2011) argue that the impact of pastoralism can further degrade rangelands and lead to desertification.

1.2.4 *GENDER*

The final fundamental transformation is the evolution of gender, particularly in gender based constraints, roles and commodification. In pastoralist settings duties assigned in accordance with a gendered identity are not an introduced phenomenon. Specific tasks are ascribed to each gender with male duties including but not limited to scouting new grazing locations, management of larger animals, and official leadership roles within the household and clan. Females also have numerous duties, including caring for children and smaller animals, erecting and taking down the house when migrating, and household management such as cooking, cleaning, collecting water.

Gender can be used as a conduit to assess not only how females are reacting to the transitions in play, but also male reaction, as a key question is the loss of the male pastoralist's masculinity. This loss occurs when paired with the loss of a functional livelihood. As identity has historically been intertwined with livelihood practices, what happens to male pastoralists who lose their herds is vague. A lack of a traditional (pastoral) livelihood will impact how a man is perceived by others and by himself.

There is limited academic research on the relationship, and its impact, between climate change and gender and its impact, specifically in pastoralist settings. That female pastoralists are affected by climate of climate change more than males is recognised (Bee et al., 2013; Feyissa, 2013). Typically, females and children are responsible for collecting water and firewood, traditional

duties that become more difficult as resources diminish (Ongoro & Ogara, 2012). The need to increase the time spent collecting resources can prevent females and children from attending school or other activities, and inhibit hygienic practices. Females are also less likely to receive needed medical support than males and are responsible for caring for the ill (Brody, 2008).

Over the past decades, major transitions in gender roles have taken place in the lowlands of Ethiopia. As shown, various aspects of economic life have undergone significant upheavals, for example due to the reduction in herd size and the increase in population paired with the decrease in fertile rangelands and farming land. Simultaneously social structures have been altered, in part due to increased interactions with the outside world, the demotion of clan structures and promotion of formal government institutions, and the rising role of modernisation and globalisation. These transitions have led to females obtaining a more vocal and visible presence in their communities, be it through the push for gender inclusion in development projects, the hiring of female Somalis in government finance offices, and the increase in female participation in small business and milk sales.

2 Research Aims and Questions

The multifaceted transformations and commodification processes in the lowlands of Ethiopia have led to fundamental societal, economic, and environmental changes in the lives of the Afar and Somali in the lowlands of Ethiopia. Three papers have been written which provide clear examples of how environmental, political, social and economic processes have already and continue to alter and impact Afar and Somali communities in Eastern Ethiopia. This thesis aims to use the results from these papers as indicators to investigate and identify the prevalent commodification processes happening in the lowlands of Ethiopia.

2.1 Research Questions

Research has been designed to build on the available studies conducted on pastoralism by focusing on the actual transitional and commodification processes themselves. To do so, the following research questions were composed:

1) In which way do natural resource management practices, livelihoods, institutions, governance and gender relations transform in Afar and Somali?
2) How are these transitions linked to commodification processes?
3) What are the societal, economic, and environmental consequences of these transformation and commodification processes?

2.2 Significance of Research

The combined impact of the transformations in the lowlands of Ethiopia has changed the traditional structures and practices employed in these regions by the local inhabitants. Due to the previous insecure state of the two regions, in particular the Somali Region, limited research had been conducted in the lowlands of Ethiopia. While insightful research has been published on

conflicts and conflict management, institutional changes, and livelihood transitions, only limited work has focused on how these transformations are viewed and accepted by local populations.

Research contributes to the academic discussion on transformation and commodification processes. It expands on the theoretical understanding of certain commodification processes by providing relevant analyses of how these processes have occurred in traditionally pastoralist settings and their impact on local lives. My studies further contribute to the knowledge base available for informing development and aid work. This greater understanding of the transformation processes in the region, their history and how their impact has been assessed and managed by the local peoples can be transferred to project development and implementation practices in pastoralist areas in the Horn of Africa.

3 State of the Art

3.1 Pastoralism in Ethiopia's Lowlands - The Afar Region

The Afar practice semi-nomadic transhumance animal husbandry, customising mobility and migration practices to live within their harsh environments (Harbeson, 1978).[4] The herding of domesticated bovine in the Ethiopian Rift and Afar Triangle can be traced back to around 2000 BCE with documented camel rock paintings found in Ethiopia dating back 3000 years (Yosef, et al., 2015; Lesur et al., 2014). The Afar utilise complex herd management strategies, including breeding programs, culling, herd diversification, and controlled management of migration practices (Tesfay & Tafere, 2004). The Afar language belongs to the Cushitic branch of the Afro-Asiatic/Hamito-Semitic language family, as does Somali (Lewis, 1966).

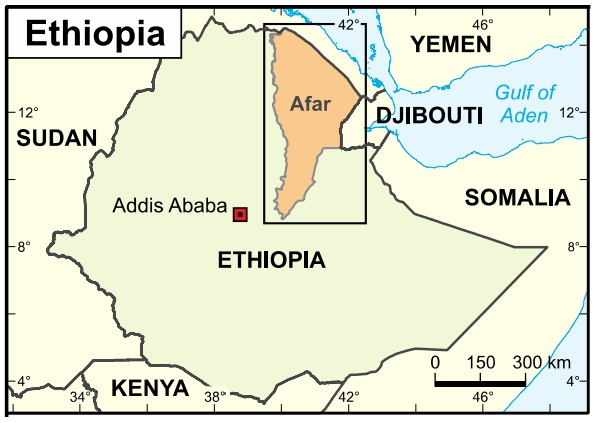

Figure 1. Afar Region

As documented in relation to various other pastoralist clan structures in Africa, Afar clans are based around lineage and affinal connections, lineage groups known as *afa*. Afars belong to clans (*mela*) that are formed due to patrilineal ancestral structures (Reda, 2011). Within the clan, there are two descendent groups: the Asdoimara (commoners/white) and Asaimara (nobles/red). This divide can be traced back to the 10th century, resulting from the arrival of Arab immigrants in the area. While introducing Islam to the area, intermarriage between Afar and Arab individuals occurred. Thus, those descending from the intermarriages were classified as Asaimara (Lewis, 2003). Following on from Asdoimara and Asaimara, there are four Afar

4 It should be noted that while traditionally most the Afar were pastoralists, there are also small groups that resided along the Red Sea and practiced fisheries (Miran, 2009)

Sultanates: the Asaita[5] and Biru in Ethiopia and the Tajoura and Raheito in Djibouti. Sultanates are run by the Sultan, *dardar*, who is the religious and political leader of the clan (Stokes, 2009).

The Afar have their own customary law, *ma'ada*, with serious violations brought before the *mablo* (court) (Reda, 2011). An Afar is ranked in society in accordance with the size of his herd and support given to clan members who are less well off (Davies & Bennett, 2007). A traditional reciprocal institutional social security system, the "accrual of debts and obligations that can be recalled during crisis," is used to ensure that weakest members of the society receive support when needed (Davies & Bennett, 2007, 496). Clan and community members donate when they can, and, in turn, will call on others to donate when they require assistance. Religion also plays an important role in the social support networks.

Traditionally the Afar preferred cattle and camels, however, there has been a clear escalation in the importance of goats and sheep (Tesfay & Tafere, 2004). Households practice herd diversification to reduce a reliance on a specific fodder and the risk of possibility losing their entire herd through specific illnesses that target certain livestock. Whether cattle or camels are more valued is dependent on the clan's territory and whether the rangelands are richer in browser or grazer fodder. During the dry season and at times of drought or water scarcity, cattle and sheep are directed towards the areas surrounding perennial rivers which are richer in grazing fodder: rangelands near the Awash River for example are used by both the Afar and the neighbouring ethnic group, the Oromo (Abule & Snyman, 2005; Kloos, 1982). Camels and goats will be taken to rangelands richer in browser fodder. This separation of herds is dependent on the length of droughts and dry seasons. Cattle and sheep will remain away from the home settlement for longer durations during droughts, remaining near riverside rangelands, which camels and grazers will be moved more frequently. Livestock that are not able to migrate, including weaker, ill, and young animals, remain at or near home settlements.

The Afar practice communal ownership over their regions and the natural resources within. The common property regime and associated governance practices employed by the Afar state that the primary inhabitants have shared non-transferable rights to their territory (*faage*) and resources (Oba, 2012; Hundie & Padmanabhan, 2008). Land, valued according to the quality of its natural resources, was divided according to the needs, size and strength of the clan and was identified using natural features such as rivers and mountain ranges, as well as trees, plants, and the like, and areas belong to the clan as a collective whole (Hundie, 2008). The *wammo* (primary inhabitants) permit or refuse access to their territory, with the final judgement made by the clan leaders, elders, and wise men (Hundie, 2008). A clan's land will also contain the clan's graveyard and sites of religious or historical significance. Within a clan's territory, the land and resources are broken into smaller regions (*metaro*), which are settlements that belong to either singular or multiple households.[6]

5 Also known as Aussa or Asayita.

6 The formation of a *metaro* does not require permission from the clan, so long as the land does not already belong to *metaro.* Examples of when it is appropriate to form a new *metaro* include for a newlywed male, who would be inclined to establish his settlement in the vicinity f his parents and close relatives. Permission is only sought when households from outside clans seek to establish their new settlement within another clan's territory. At such a time, permission from the clan leader and elders is obligatory.

As Afar law stipulates that access to rangelands cannot be completely prevented. Clans are permitted to access the *faage* of other clans, with the access type determined by their relationship with the primary owners. The relationships between the two clans, past conflicts, or failure to adhere to previous agreements will influence the decision. An orally transmitted lease (*isso*) is issued after both parties agree to specific conditions: primarily areas with access permission, time duration, and number of livestock (Flintan et al., 2008). Baring entry to those in need is a punishable offense, which can be taken to the Afar Tribunal Court. If resources are limited, then a short access period is granted. If denied entry and livestock die, then the clan that denied entry must assist in replacing dead animals.

3.2 Pastoralism in Ethiopia's Lowlands – The Somali Region

Somalis practice nomadic transhumance animal husbandry, a form that utilises local harsh environments with unreliable rainfalls (Abokor, 1987). Geographical scholars from the 13th century date the presence of the Somali in their ancestral domain since the 12th century and the presence of camels and sheep in the 13th century (Lewis, 1966). The presence of domesticated bovine fossils predates this, reaching back to 1000 and 2300 BCE in the Somali Peninsula and documented camel rock paintings found in Ethiopia date back 3000 years (Yosef et al., 2015; Lesur et al., 2014). Somali pastoralists utilise intricate caravan management strategies, including breeding programs, culling, herd diversification, and controlled management of migration to areas with specific natural resources (Marshall et al., 2016; Farah et al., 2004; Lewis, 1999).

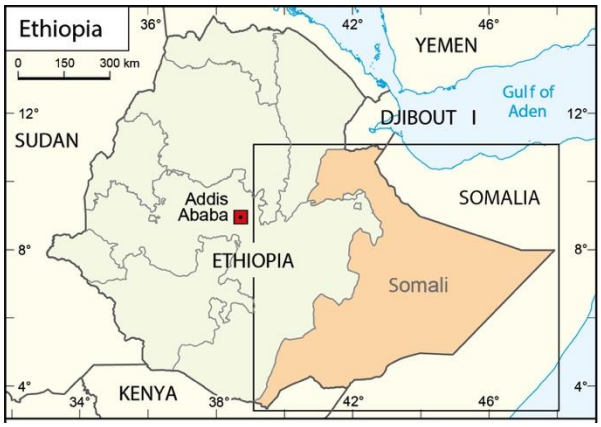

Figure 2. Somali Region

Traditionally the clan is the central element of Somali culture, and has a detailed and complex lineage structure that stipulates the predominant and important interests and practices of Somalis (Lewis, 1999; Putman & Noor, 1993; Samatar, 1992). Modern-day Somalis consider themselves decedents of a common shared mythical father figure, Hill, from whom Samaale and Sab are descended (Putman & Noor, 1993; Abbink, 1997). The Digil, Reewin, and Tunni, found in the northern parts of the Somali Peninsula and traditionally farmers rather than pastoralists, believe themselves to be descendants of Sab. Samaale is the forefather of the Irir clans: Dir and Issa in the northwest, and Hawiya in central Somalia) and Darod (Harti, Ogaden, Marehan, spread throughout the central regions of the Somali peninsula) (Abbnik, 1999). Clan structures were primarily developed through the Tol lineage (patrilineal), seldom through the Bah (uterine lineage). Abbnik (1999) identified six lineage levels: the clan family, the clan family moieties (delineating clans with territorial divisions and associations known as belonging to a specific group), the multiple clans, the sub-clans, the lineages, the sub-lineages/blood payment groups (*mag*).

Somali life is traditionally governed by the customary, undocumented law (*xeer*). Clan elders preside over cases where Somalis have broken the law, and are permitted to interpret the law

but not to create new community customs (Powell & Nair, 2012). With the introduction of Islam in the 8th century, the *xeer* began to adopt elements of Sharia law and incorporate them into Somali structures (Gundel & Dharbaxo, 2006; Samatar, 1992). Conflicts were resolved during *shir* (clan council) meetings, and when appropriate compensation was distributed through *diya* and *jifi* payment groups (Putman & Noor, 1993) (Hashi, 2005). A *diya* is a blood compensation paying group, also known as *mag*, and "…is the most stable and indeed fundamental political unit in northern Somali society" (Lewis, 1962, 38). A *diya* ranges in size, from between a few hundred to a few thousand men. Membership is drawn through lineage, spatial boundaries, or contractual agreements. Membership requires financially supporting compensation claims for injuries and death brought against fellow members from other *diya* paying groups (Putman & Noor, 1993). A *Jifi* payment group is a smaller group of people who are directly impacted by the death or injury of a group member, which receive a larger amount of the compensation (Hashi, 2005). As well as compensation made through animal exchanges, females are also used in conflict management. Fighting Somali Ogaden Clan fractions will give females to opposing sub-clans as blood money to subdue conflicts. An additional example of females being valued in terms of livestock numbers is the traditional bride price in East African pastoralist communities (Wurzinger et al., 2008); the value of the female is reflected in the number of camels or preferred livestock given by the groom's family (Abokor, 1987; Goldschmidt, 1974).

The power of the Somali pastoralist was traditionally measured by herd size, age, intellect (measured by poetry prose, religious knowledge, etc.) and the position of their ancestors (Renders, 2012; Farah et al., 2004). Livestock are essential, fulfilling numerous functions required to sustain livelihoods (Samatar, 1988), with traditional herd including camels, goats and sheep, and in certain areas cattle (Lewis, 1962). The camel plays a fundamental role in Somali culture, valuable due to its ability to survive the harsh environments, travel for more than 20 days without water and require only salt and other minerals, to carry greater weight and because of its meat and milk, and has a higher value than other livestock when paying dowries or providing compensation (Guliye et al., 2007). Milk is used as a primary food and as a traditional medicine (Carruth, 2014; Farah et al., 2004). Horses were important when cattle raiding, a role referenced in Somali poetry (Samatar, 2005).

Somalis believe that land and its resources are gifts from Allah, a belief seen through a rangeland common property regime that stipulates communal management and access to pastures and water (Lewis, 1962). Certain rangelands will be utilised by a specific clan, who use tenure systems created and managed by the clan.[7] The limited availability of natural resources enforces the need for fluid resource access agreements and practices. Agreements are dependent on the clan lineages, groups and sub-groups, and a "political alliance" that is ever changing, contingent on the current political and economic climate (Unruh, 1995, 20). While pastures cannot be owned, traditional wells belong to those who establish and maintain them (Lewis, 1999).

7 For example, what is now known as Somaliland belongs to the Issaq, the north of the Ethiopian Somali Region (Shinille Woreda) belongs to the Issa, and Gode to the Ogaden.

While the concept of belonging is traditionally derived from the clan and not from territorial or spatial claims, clans and sub-clans traditionally follow traditional migration paths to specific rangelands and semi-permanent settlements (Gundel & Dharbaxo, 2006). Somalis migrate with their *hass*, the nuclear family, typically made up of women and children as well as sheep and goats. The women will establish a *raas*, an area composed of houses and fenced off land for smaller livestock, typically near a water source and fodder (Lewis, 1999). Males will then migrate with the camels away from the *raas* (Farah et al., 2004).

4 THEORETICAL FRAMEWORK

This thesis draws on several theories to depict the current transformations in the lowlands of Ethiopia. As each paper uses a specific theory: natural resource management, institutional change, and commodification, this chapter provides an overview of commodification theory as it is the key analytical approach used in the discussion to bind all papers together.

At the core of commodification is a commodity, a thing, a good or service that is identified as useful, practical or convenient (Watts, 2009). A commodity is defined by the highly complex processes that develop it, altered by "space and place" (Leslie & Reimer, 1999, 402) and turn a thing into one that can be exchanged or is exchangeable (Appadurai, 1986). This specific series of events are dependent on the commodity's region and the practices found within, elements that are not necessarily inherent to the commodity (Castree, 2003; Callon et al., 2002). Commodities are increasingly connected to global flows and global value chains, and the interactions that drive forward the commodification process (Thrift, 2006; Gereffi et al., 2005). Polanyi's fictitious commodification highlights the changes before and after a connection was made between "economy" and "society" (Fraser, 2014, 544). A commodity capable of delivering a commercial advantage is further defined through capitalist commodification processes which assign a monetary value (Watts, 2009); it is "the process during which a thing that previously circulated outside monetary exchange is brought into the nexus of a market" (Page, 2005, 295).

A characterization of commodification includes defining the interlinked processes "whereby: production for use is systematically displaced by production for exchange; social consumption and reproduction increasingly relies on purchased commodities; new classes of goods and services are made available in the commodity-form; and money plays an increasing role in mediating exchange as a common currency of value" (Prudham, 2009, 125). These processes have two distinct moments: stretching; the expansion of exchange distances, and deepening; the increasing provision of goods and services provided systematically in a commodity-form (Prudham, 2009).

Geographic research on commodities began in the 1980s and has provided rich and diverse work on several forms of commodification (Smith et al., 2002). Research conducted on commodity chains provides an understanding of how the intended commodities are selected, gathered together, and transformed into commodities then sold onto consumers, be they territorial/local or global constructions (Smith et al., 2002; Leslie & Reimer, 1999). Examples of commodity chain research include work on UK companies who attempt to trade ethically (Hughes, 2006), cultural

commodity chains (Pratt, 2008) and using commodity chains to analyse the geographies of consumption (Hartwick, 1998). Jackson's work on consumer culture expanded on a concept of a linear commodity chain to encompass "more complex circuits and networks" (2002, 3) and also addressed the construction and recognition of commodity cultures (2000); as seen in Hughes' work on the Kenyan Cut Flower Industry (2001).

Delving deeper into commodity chains, commodity circuits incorporate the impact that culture has upon commodification, arguing that it is not a fixed process with a define end rather one that continues (Hughes & Reimer, 2004). The social geography of things highlights the importance of material production, consumption and cultural practices on a commodity, by showing how the different relationships between peoples and things impact the commodity in a different way (Jackson, 1999), i.e., imitation crab material production (Mansfield, 2003). Commodity displacements demonstrate how a commodity moves, is effected by spatial and temporal conditions, and can present itself and be presented as something else (Hudson, 2008; Castree 2003); i.e., Laguna Lake aquaculture (Saguin, 2014). Geographers have also looked into the commodification and governance of nature (Liverman, 2004), looking at direct and indirect forms both "human and non-human" (Prudham, 2009, 123); i.e., land, water, minerals, and forests (Fratkin, 2014; Lavers, 2012; Gomez-Baggethun & Ruiz-Perez, 2011; Page, 2005; Castree, 2003).

Commodification processes found within nature and the environment can be measured directly (economically measurable) and indirectly (inadvertent casualty) (Prudham, 2009). However, converting resources to commodities, water for example, is a highly-contested subject (Lu et al., 2014; Mollinga, 2008). Advocates for water privatisation see it as a waste reduction tool that recognizes value (Tempelhoff, 2005) and argue that customers and shareholders would receive a superior service (Bakker, 2007). Those against maintain that water is an essential natural resource and a basic human right, ideally one that should be available at no cost (Tempelhoff, 2005; Bond, 2004). The commodification of rural lands includes targeting areas with better accessibility and superior conditions for sedentarisation, i.e., a proximity to perennial rivers or ground water (Tonts & Greive, 2002).

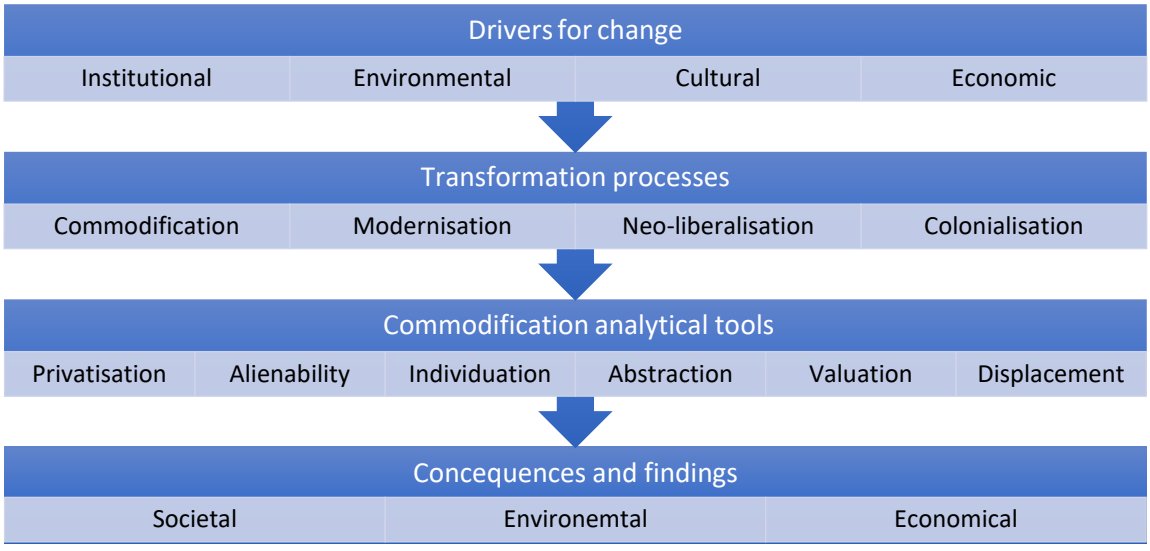

Figure 3. Research Framework

5 METHODOLOGY

5.1 RESEARCH DESIGN

Research commenced in September of 2013 was conducted in two countries: Ethiopia[8] and Germany. In Ethiopia, research was conducted in two regions: Afar[9] and the Somali Region[10]. The research design was developed using the basic structure shown in Figure 3. Table 1, details the timeline and locations of each step taken in both regions and objectives achieved to complete this dissertation.

Table 1. Research Timeline

Objectives and Outcomes
Afar Region • September 2013: Literature review and fieldwork preparation (Germany) • October -November 2013: Initial data collection (Ethiopia) • October 2013- February 2014: Data analysis and fieldwork methodology revision (Germany) • March 2014: Final data collection (Ethiopia) • January – July 2015: *Pastoral livelihoods under pressure* drafting, submission, revision and acceptance, January - July 2015 (Germany and Ethiopia) • July - July 2014: *Governance Institutional Changes* drafting, submission, revision and acceptance (Germany and Ethiopia)
Somali Region • April 2014: Literature review and fieldwork preparation (Germany) • May – June 2014: Initial data collection (Ethiopia) • July 2014- June 2015: Data analysis, theoretical and literature review, grant application, and fieldwork methodology preparation (Germany) • June to November 2015: Primary data collection (Ethiopia) • December 2015 – April 2017 - *Milk Commodity Individuation* drafting, submission, revision and acceptance (Germany)
Germany • February 2016 – January 2017: Analysis of all papers • June 2016 – June 2017: Cumulative thesis drafting, revision and submission

5.2 DATA COLLECTION METHODS

Available literature was reviewed prior, during and following all field trips, to produce a state of the art analysis of available grey and academic literature. Throughout each of the four blocks of fieldwork, additional grey literature was collected from a variety of institutions: government and non-government departments, organisations, and research institutes as well as from local universities. This review was conducted to assess the existing data and identified research gaps,

8 Research done to produce this thesis was also used to produce two baseline reports for the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

9 For a *Research Study on Natural Resource Management, Ecosystems and Biodiversity in Afar, Ethiopia: Socioeconomic Assessment,* by Matthias Schmidt and Olivia Pearson, was produced for the aid project *Strengthening Drought Resilience of the Pastoral and Agro-pastoral Population in the Lowlands of Ethiopia*.

10For a *Livelihood and Gender Analysis of the Pastoral and Agro-pastoral Areas of Somali Region, Ethiopia*, written by Laura Imburgia was produced for the aid project *Strengthening Drought Resilience of the Pastoral and Agro-pastoral Population in the Lowlands of Ethiopia*.

and was used for the construction of the research plan (Attachment one: Afar Region; Attachment two: Somali Region).

An empirical fieldwork approach was designed using a combination of different formal and informal feminist, "collaborative, nonexploitive methods" (Lawson, 1995, 450), a post-structural reflexive engagement that was also influenced by subaltern research (England, 2006; Prakash, 1994; Spivak, 1988). The post-structural method was used to support the understanding of a decentred subjectivity (Murdoch, 2006). Interviews were designed to be able to record the transformations underway in the regions, through the lens of the local historical influences and cultural systems (Pini, 2005; Agger, 1991) and adhered to assertion, that "signifier – signified relations generate meanings" (Gibson-Graham, 2000, 96); in this case the words and titles associated with Somali and Afar are not static.

Interviews were designed to follow Butler's argument that gender is "a felt sense of self, a culturally conditioned or constructed subjective identity, to speak to the regional dominant hetero-male paradigms in play" (Butler, 1990, 324). This addressed the traditionally patriarchal practices of the Afar and Somali pastoralists and research that stipulates women are those most affected by environmental and socio-economic changes (Balehegn & Tafere, 2013; Reda, 2011; Verma, 2004; Juraga, 1997), by analysing the evolution of gender identity and gender based constraints, and social power relations driven by gender that are found within the focus regions. Qualitative methods were used: open and semi-structured in-depth individual and group interviews, focus groups, and ethnographic observations.

Table 2. Qualitative Research Methods

Methods	Subjects
Literature review and document analysis	• Academic literature • Grey literature
Open and semi-structured interviews with key stakeholders, male and female	• Clan leaders and elders • Pastoralists, agro-pastoralists, 'drop-outs' • Market brokers, investors • Governmental – kebele, woreda, zone, regional • Non-governmental organisations, local universities
Focus groups, male and female	• Clan leaders and elders • Pastoralists, agro-pastoralists, 'drop-outs' • Governmental – kebele and woreda
Mapping (seasonal calendars, borders and transects)	• Livestock movements • Climatic conditions and weather • Aid dependency and food security • Communal and livelihood practices • Rangeland conditions and natural resource availability • Governmental, cultural and humanitarian borders
Case studies, male and female	• Clan leaders and elders • Pastoralists, agro-pastoralists, drop-outs • Market brokers and livestock sale worker

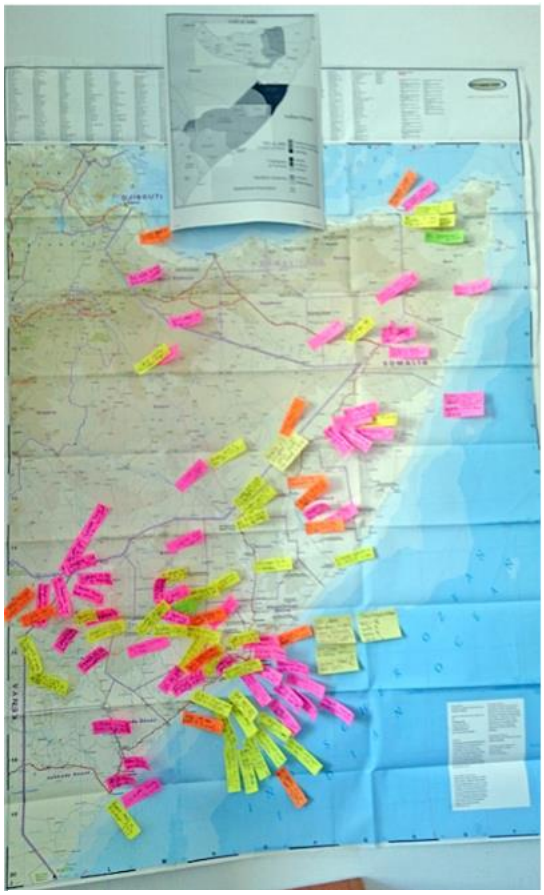

Figure 4. Risk Assessment Map

A significant step taken prior to conducting research in the Somali Region in the second half of 2015 was a risk assessment, conducted due to the previous security conditions that had plagued the region. Over a period of four months available data and reports produced by local and international organisations working in the area were compiled, not only for the Somali Region and Ethiopia but reports pertaining to the entire Somali Peninsula. Additionally, a daily Google search was conducted, targeting the following key phrases: Ogaden National Liberation Front, Somali Region, Ethiopia, Somalia, Somaliland, Ethiopia, Al shabaab. Any mention of a violent conflict or unrest was documented and marked on a map with the date, type of attack, fatalities, and source of information (Figure 4). Once in the field, discussions were held with local government and non-government officials to clarify the security situation. The combined results of this process showed that it would not be possible to work along the borders to Somalia and Kenya and in areas distant from primary roads and cities. The additional stipulation was that it was not possible to reside in rural areas overnight, rather return to Gode and Kebri Beyah towns in the evenings and travel daily to rural areas.

Prior to each block, the focus area and sub-clan were selected, and government bodies were contacted for permission to conduct research and to check the regional security levels. Upon arrival, the focus woredas were chosen using the assistance of local government and non-government officials. The selected woredas were those that met a series of conditions set to determine the current conditions and views of residents:

- classified by the government as pastoralist or agro-pastoralist (but also importantly that were populated by either pure pastoralists or agro-pastoralists,
- considered both rich and poor in terms of access to natural resources (water and fertile rangelands),
- a stronger and weaker economic standing,
- access to governmental and humanitarian aid, and
- the presence of both formal and informal institutions and the economic status of the population.

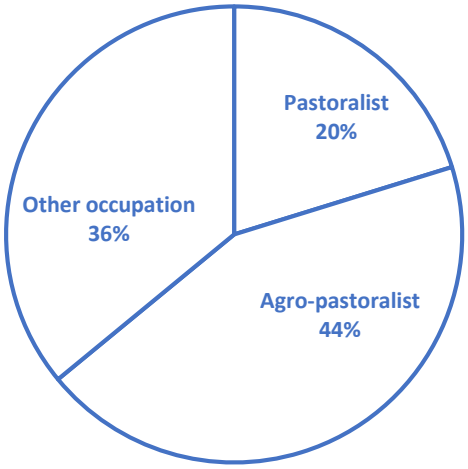

Figure 5. Interviewee Occupations

Following on from this, key informants were identified, with research targeting clan and sub-clan leaders as well as elders (male and female), regional and local government representatives, and non-government officials working in the area (both from national and international agencies), and representatives from the three predominant livelihood categories: pastoralist, agro-pastoralist, and drop out.[11] A local research assistant was identified, one who would be able to translate and who had prior experience in the focus area to establish important contacts. In each woreda focus kebeles were chosen in collaboration with local officials, with selection criteria including a present local population that had not already migrated, kebeles with stronger and weaker economic standing in the woreda, areas with and without perennial water sources. Following on from this, the security of the area was assessed.

Once the foci kebeles were established, preliminary interviews were then conducted with key informants. Key informants were selected through a reflexive approach, and employed feminist research approaches that view participants as "knowledgeable agents accepted as 'experts' of their own experience" (England, 2006, S. 288) and considered the cultural and historical belief systems in place, and their implications on the present-day conditions. After the initial interviews with clan and kebele leaders the fieldwork research framework, in particular the semi-structured interview questions, was assessed and altered when necessary. A second round of interviews was then conducted with residents who have been identified as potential key informants due to their position in the kebele (i.e. elders, committee members including those for natural resource management and farming cooperatives, local government officials including gender officers). Data was then cross-checked through focus groups held in the focus kebeles, and additional interviews conducted in neighbouring kebeles.

Field work conducted in the Afar Region was divided into two blocks, with 35 in-depth interviews conducted and 26 group interviews (Table 3). In October and November of 2014, the primary research was conducted in the focus kebeles, as well as in the Woreda centres and the Regional capital, Semara. Foci were: utilization and management of natural resources; property rights and conflicts, access to natural resources; institutions of resource management, migration corridors, indigenous knowledge, and climate change. In March of 2015, interviews were also conducted with the following foci:

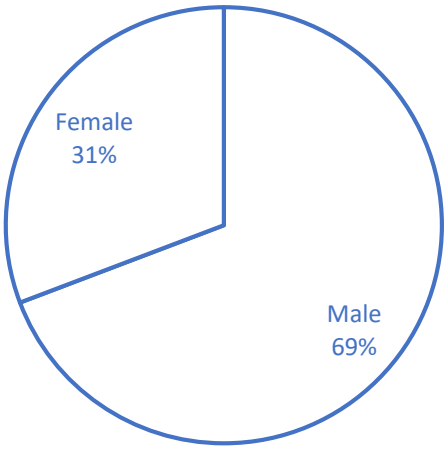

Figure 6. Interviewee Genders

[11] A dropout is local terminology, given to those who have departed from the pastoralist system, one without land or livestock. Commonly found economic activities of a drop out include collecting firewood, causal labour, and khat sales.

communication practices, rehabilitation of rangelands, and resilience practices. In Afar, data cross-checking interviews were conducted with clan and kebele leaders from six additional kebeles: Duba, Boolotamo, and Bilu of Ewa and Leekoomra, Leekora, and Alibrihi Mesgid of Awra.

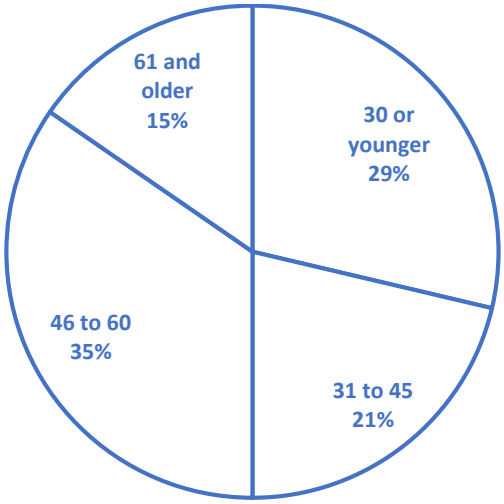

Figure 7. Interviewee Ages

Field work conducted in the Somali Region was divided into two blocks, in 2014 and in 2015. During May and June of 2014 preliminary interviews were conducted in three woredas (Kebri Beyah, Shinille, and Gode) and a heavy focus was applied to interviews with members of the civil and private sector. In Jijiga 32 interviews were conducted and the research foci were gender and livelihoods. From July to November 2015 research was predominately conducted in rural communities. It was not possible to continue research in the Shinille woreda due to an increasing shortage of water. 173 interviews were conducted and the research focus was commodification; of gender, livestock, natural resources, identity, and borders and territories. In the Somali Region data cross-checking interviews were conducted with residents from Hartasheikh, Harshin and Fafan woredas for Kebri Beyah, and in Gode with residents from Bizolow kebele, Adedle Woreda, and Hadawe and Kebele 10 in Gode Woreda.

5.1 Limitations and Problems Encountered

One key problem faced over all research blocks was obtaining the official permission required to enter the field. Without letters from the regional governments it was not possible to enter the kebeles and conduct interviews. In Afar the process was comparatively easier, due to the strong relationship between the regional government and GIZ. However, obtaining the same documentation in the Somali Region was much more complex. During both trips, it took more than a month to secure permission to enter the field. Numerous meetings were held and discussions about the research focus and approach was questioned. Additionally, during the first block of research conducted in the Somali Region federal and regional governmental agents were instructed to accompany researchers.

While this work is predominately qualitative, quantitative data was sought for background information and secondary data. Consistent data, however, was hard to source and even government documentation from different agencies was contradictory. A key example is the Somali Region rezoning, which has occurred several times and to date no official map showing the official administrative borders exists, nor a precise list of woredas and kebeles.

A key problem was encountered during the final research block, when an agreement with an international NGO fell through. Research was going to be conducted in Adadle, a woreda in the Gode Zone, however following private internal discussions it was no longer possible. Thus, research was redirected to include the Gode Woreda, which borders Gode town. While it would

have been interesting to continue working in Adadle, the ability to develop comparisons between Gode Woreda and Kebri Beyah proved to be very insightful.

Due to the varied socio-political and cultural confrontations present in both regions, a fundamental problem was the ability to conduct open and direct interviews with participants. To protect interviewees names are not given, rather their location, gender and date of interview is referenced. This was more apparent in Gode than in any other region, with the problem being compounded by issues with the local translator and a higher saturation of previous researchers. Additionally, activity in Gode was heavily monitored by several government officials, who questioned the nature research being undertaken and voiced suspicions that it was not research, rather the behaviour of a spy or foreign government agent. The monitoring of movements and who was spoken to made it harder to speak openly and directly with interviewees about all subject material. As a result, the focus of research in this area was limited to milk commodification and the empowerment of females within the community; topics that would not place more stress on a tenuous relationship with the government. However, if interviewees were responding openly and were forthcoming with information, more in-depth and controversial topics would be broached.

5.1 Data Analysis

In line with the research framework, the data analysis was designed to provide post-structural feminist reflexive analysis, to lessen the potential for ethnocentric and patriarchal research and interpretations (Verma, 2001; Del Casino et al., 2000). Research sought to identify the focus subjects' understanding of the current situation in their ancestral domain and their position within, hence knowledge was identified and characterised through a Foucaultian critical discourse analysis (Jäger & Maier, 2009; Purvis & Hunt, 1993).

Fieldwork was spread over four blocks, which assisted in detaching the researcher from the focus area through the provision of time and distance. These blocks and the analysis carried out between each provided the researcher with a greater chance to be "endlessly critical" (Wylie, 2006, 298) and provided the reminder that the researcher's subjective self is a constant component (Jäger & Maier, 2009; Purvis & Hunt, 1993). The breaks allowed the researcher to examine and contrast research from each area, then region, as well as with academic work and grey literature. During each phase, the researcher took into account that "similarities or differences between researcher and researched in characteristics such as gender, race, class and sexuality influence the nature and structure of research relationships" (Mauthner & Doucet, 2003, 417).

All interviews were transcribed and coded. Coding included the name, location, clan, age, gender, family status, occupation, and economic standing of the interviewee. Coded groups also identified the transformation processes as outlined by the research framework: natural resource management, livestock and livelihoods, and institutions and governance (Figure 3). The dynamics and interactions that took place in each interview were questioned, taking into account other

Table 3. Interviewee Data

	Afar Region					**Somali Region**						
	Hida	Hiddalu	1st Badoli	Buti	Other	Danabo	Garbi	Guyow	Barsan	Godirey	Other	**Total**
Group [a]	27	12	23	17	23	18	22	35			2	**179**
Individual [b]	8	7	4	6	12	12	25	8	14	22	15	**133**
Gender												
Male	35	9	16	14	30	19	33	33	3	14	10	**216**
Female		10	11	9	5	11	14	10	11	8	7	**96**
Age Group												
>30	6	2	4	4	4	2	9	4	6	9	4	**54**
31 to 45	16	8	10	9	19	7	11	17	5	7	8	**117**
46 to 60	8	6	10	10	9	16	16	10	3	4	4	**96**
>61	5	3	3		3	5	11	12		2	1	**45**
Livelihood												
Pastoralist		17	11	19	11				1		1	**60**
Agro-pastoralist	32		15	1	11	30	47	43	9	14	5	**207**
Other [c]	3	2	1	3	13				4	8	11	**45**

[a] Only those who actively participated were counted

[b] 22 interviewees were interviewed multiple times

[c] Government and NGO employees, and cultural experts

individuals present during the interviews (i.e., husband or wife, government official), the interviewee's personal history, past and present government affiliations, and economic standing. Coded groups were then analysed to identify the "differences" (Lawson, 1995, 453), looking at how their history and cultural standings caused their emergence.

All papers are linked and discussed in this thesis using Castree's six distinct and inter-related elements of capitalist commodification (2003). *Privatisation* represents the creation of new and exclusive property claims by an individual, a group or institution that allows for the exchange of and control over commodities. Research utilizing privatisation include work conducted on processes that globalise telecoms and water (Larner & Laurie, 2010) and how it can be used to represent local forest governance (Ece, 2015). *Alienability* facilitates exchanges, from the vendor to the buyer, an exchange only possible if the vendor is capable of detaching from the commodity, and is referenced in land ownership transitions, property sales, and by Fairhead et al. (2012) in connection to green grabbing. *Individuation* refers to physical, social or cultural processes of detaching things or items from their ecological and social context; it facilitates the juridical and material requirements for commodification. Examples here include the use of neo-liberal policies on establishing the value of nature conservation (Kay, 2016). *Abstraction* covers the procedures by which an individual commodity is incorporated into "the qualitative homogeneity of a broader type of process" (Castree 2003, 281). Abstraction has been used to demonstrate a significant commodification process that wetlands undergo (Robertson, 2006), and colonization and space (Mrozowski, 1999). *Valuation* refers to the process of assigning value to specific things; commodities can be valued, for example ethically, practically, or aesthetically, and are given 'use value', 'existence value' or 'functional value' (Foster, 1997). In capitalist societies money is the ultimate representation of value (Harvey 1996), thus capitalist commodities are monetised; as seen through the economic valuation of ecosystems (Gomez-Baggethun & Ruiz-Perez, 2011). *Displacement* refers to the (geographical) profit-driven process of commodity production, circulation, and sale, referring to the transformation commodities are subjected to once leaving the vendor and prior to being sold (Prudham 2009).

6 FOCUS AREAS

6.1 AFAR

The Afar Region is 96,707 km^2, and shares international borders with Eritrea and Djibouti and national borders with the Somali, Tigray, Amhara, and Oromia Regional States (Fig. 2). Afar is divided into five zones, 29 woredas, and 355 kebeles (Giday & Teklehaymanot, 2013). The projected 2014-17 population is 1,678,000, of which 83% live in rural areas (CSA, 2013). A comparison between the 2007 Census (1,200,329) and today shows an increase of almost half a million people over the last decade (CSA, 2007).

The agro-ecological conditions are arid to semi-arid and are a combination of hot lowlands, known as Bereha (less than 500 m), and lowlands, known as Kolla (500-1,500 m) (MoA, 2000). Although classified as a lowland region, altitudes range from 120 m below sea level to 1,500 m above sea level with temperatures ranging from between 20 to 48° C (Giday & Teklehaymanot,

2013). Although the region's mean annual rainfall is less than 500 mm, the average is brought up by higher levels reaching 800-900 mm near the highlands of Amhara and Tigray, while in the eastern regions it decreases to 150 mm (ANRS, 2012). The landscape mirrors this decreasing rainfall pattern as it changes from semi-arid to arid. Afar is home to numerous perennial rivers, one of primary importance being the Awash, and multiple seasonal rivers (Yasin, 2008). Its generalised agro-climatic conditions are primarily bimodal, with two short rainy seasons covering most of the region (Hurni, 1998). Between 1900 and 1998 the Afar Region experienced 60 years of decreased rainfall (Elsanabary et al., 2014) with documented rainy season precipitation levels with less than 3 mm per day (Reda et al., 2015). Land cover in the Afar Region is mixed: woodland, bushland, bushy grassland and scrubland, as well as bare and cultivated land (Tsegaye et al., 2010). The presence of traditional flora including acacia, *Chrysopogon plumolosus*, *Panicum coloratum* and *Andropogon canaliculatus* is decreasing and invasive plant species including *Acacia nubica*, *Parthenium*, and *Prosopis jubiflora* have an increasing presence (Schmidt & Pearson, 2014).

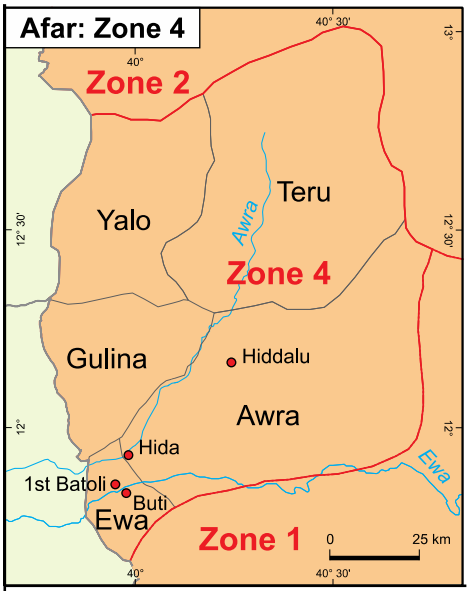

Figure 8. Afar Region Focus Area

Fieldwork was conducted in two of Zone Four's five woredas: Awra and Ewa Figure 8). Awra Woreda, 309,600 ha, is situated in Teru sub-basin and has a population of 350, 753 who are based in four agro-pastoralist kebeles and six pastoralist kebeles (ANRS, 2011; CSA, 2007). Numerous seasonal rivers run into the sole perennial river, Awra River, which originates in the Amhara Region. Stream bank and roadside erosion has occurred due to the flash floods originating in the neighbouring Tigray and Amhara regions and wind and soil erosion (splash, sheet, rill, and gulley) can be found across the study area (ANRS, 2011). The Afar Region provides an exception to the national rule of sub-kebeles, as kebeles are divided into villages and settlements, often named after land formations or flora found within the area (Yilmaz & Varsha, 2008). In Awra, agro-pastoralist Hida Kebele (population of 8,438) and the pastoralist Hiddalu Kebele (population 2,485) were selected (ANRS, 2011). The perennial Awra River runs through Hida, while Hiddalu has numerous seasonal rivers.

Ewa Woreda, a semi-arid woreda with 123,700 ha, is in the Lower Awash Sub-basin (ANRS, 2011). Ewa has eight agro-pastoralist kebeles and two pastoralist kebeles with a population of 47,195 (CSA, 2013). Ewa is considered to have greater economic potential than other woredas due to a higher presence of valuable natural resources, including the perennial Ewa River (ANRS, 2012). Ewa has low rainfall and is affected by flash floods and various forms of erosion that are also seen in Awra (ANRS, 2012). In Ewa, the agro-pastoralist 1st Badoli Kebele and pastoralist Buti Kebele met the criteria applied to the focus area selection. 1st Badoli has a population of 5,771 and in Buti 3,973 (CSA, 2013).

6.2 SOMALI REGION

The Somali Region is approximately 279,250 km^2, making it the second largest region in Ethiopia behind Oromia. It shares its international border with Djibouti, Somalia and Kenya and nationally borders the Oromia and Afar Regions of Ethiopia (Figure 2). Somali is divided into nine zones, 69 woredas and 786 kebeles (BoFED , 2013; BoFED, 2010). In 2011/12, the population was 5.1 million – an increase of almost 1.2 million people over the previous decade – with 85% living in rural areas (BoFED , 2013).

The majority of Somali Region is located, like Afar, in the Kolla (lowlands), with warm to hot semi-arid rangelands that range from 230 to 1,600 meters (CSA, 2013). The region's average rainfall varies, dependent on the locality and consistency of the two rainy seasons (Gu: April to June and Deyr: October to November), average rainfall between 200-300mm/year. The region is also susceptible to droughts, suffering through one from 2008-11 and from serious water shortages in the north of the region in 2015-16 (FEWS, 2014; Nicholson, 2014; Hillier & Dempsey, 2012). Regional temperatures range from 20-28°C in the higher regions to 32-40° C in the lowlands. The region has two perennial rivers: Shabelle and Dawa/Ganale (Devereux, 2006). The Somali Region has a mix of shrub-land, grasses, farmland and bare land; a terrain composed of pasture suitable for camels and goats. Native flora levels and rangeland degradation has occurred due, in part, to extensive wood extraction and the introduction of invasive plant specifics such as *Prosopis jubiflora*, *Parthenium* and *Lantana*, population increase and recurrent droughts (Ayele et al., 2013; Yohannes et al., 2011; Tedla, 2007). Alien plant encroachment also reduces viable pastures (Angassa et al., 2012).

The word Somali represents the people, the land, and the language (Cushitic) (Abdullahi, 2001; Appleyard, 1990). The 2007 census estimated that 98.7% of Somali practice Sunni Islam. Somalis are traditionally pastoralists, developing methods that utilises the harsh local environments and unreliable rainfalls (Abokor, 1987). While pastoralism was and remains the predominant livelihood practice in many areas of the region, agro-pastoralists and drop-outs are now commonplace and the number of (pure) pastoralists decreases as Somalis transition to other practices. Farm plots are found along perennial rivers, from piped ground water, and rain fed or irrigated crop production; the latter near perennial rivers (STC, 2008).

Fieldwork was conducted in three woredas: Shinille Woreda of Siti Zone, Kebri Beyah of Fafan Woreda, and Gode Woreda of the Shabelle Zone. While woreda selection criteria follow the same requirements as employed in Afar, it was not possible to select a pure pastoralist woreda due to security concerns.

Kebri Beyah is located 50 km south-east of Jijiga, the regional capital. It shares a national border with Oromia and an international border with Somaliland and has the highest altitude in the Somali Region, averaging around 1530 m above sea level. Although the woreda has no perennial river, voluntary settlement of the Abaskul and Issaq clans began in the early 1900s, with an estimated 95% of the population now practicing rainfed agro-pastoralists. The woreda's projected population for 2014 is 203,304 (107,287 male and 96,017 female), and 84% of the population resides rurally (CSA, 2013). It is also home to one of the remaining refugee camps in the Zone. Erosion is present in the woreda, exacerbated by the removal of flora to preparing farming land and by residents as a revenue making stream. Settlement in the area began around the start of the 20th century, with Abaskul and Issaq pastoralists voluntarily settling and claiming land throughout the woreda. This process changed the predominant livelihood in the region from pure pastoralism to agro-pastoralism; however, due to a lack of perennial rivers or irrigation projects, crops are rainfed and thus heavily dependent on the bi-annual rainy seasons. There are two rainy seasons Diraa, from late March until late May, and Karan, late July through to September, and sporadic rains between early October and late December that originate in Oromia. Three kebeles were selected in the region – Guyow (sub-kebeles Wado Abbo, Humbuq, Laas Dheere, Guyow Center, and Dubur Dalaahd), Garbi (sub-kebeles Garbi Center, Lambad, Salidlie, Bancade, and Idhan), and Danabo (sub-kebeles Istabuhd, Wadoheeban, Godenta, Koraxoor, and Hadooldil) (Figure 9) – and a total of 133 individuals - 93 males and 40 females – were interviewed from July to September 2015 (Table 3).

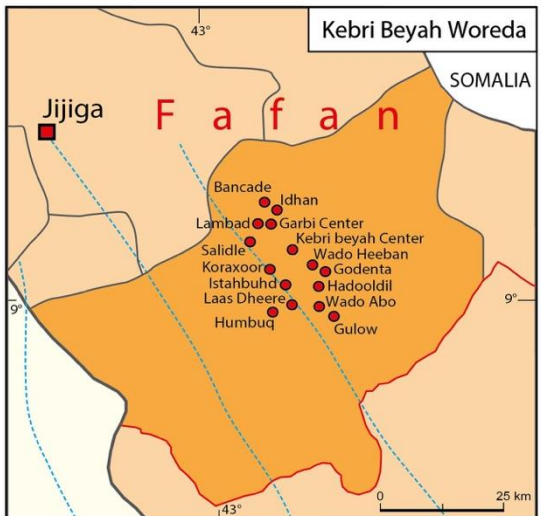

Figure 9. Kebri Beyah Focus Area

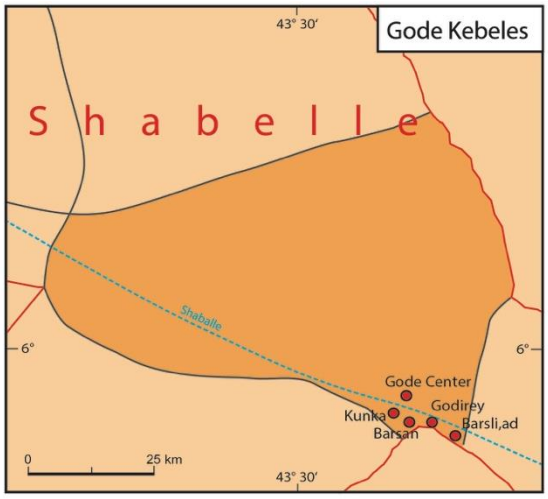

Figure 10. Gode Region Focus Area

Gode, found in the Shabelle Zone, is 270 m above sea level, with a 2014 population projection of 131,928 (73,446 male and 58,482 female) with 40% of which reside urbanely (CSA, 2013). The perennial Shabelle River cuts through the woreda, and the government run settlement project is present in kebeles with river access. Stream bank erosion is present along the Shabelle River. The area is serviced by two rainy seasons (Gu: April to June and Deyr: early October until late December). Within Gode, two kebeles were selected, Barsan (sub-kebele Kunka) and Godiery (sub-kebele Barsli,ad) (Figure 10). A total of 40 individuals were interviewed in October and November 2015, 22 females and 18 males (Table 3).

7 DISCUSSION

To expand on and discuss the three articles and verify the correlations between each, the discussion focuses on the transitions, commodities and commodification processes. Castree's six commodification processes, *Privatisation*, *Alienability*, *Individuation*, *Abstraction*, *Valuation*, and *Displacement* are applied the pastoralist setting and used as the key element of the analytical process (Castree, 2003). The following subsection addresses how the most significant transition in both regions, the move away from pure pastoralism towards agro-pastoralism, has had complex, intricate, and far reaching societal and environmental consequences. An assessment of the emerging commodification processes, their impact and how they are managed by the lowlands of Ethiopia and their residents, addresses the societal and environmental consequences of the transitions in the Afar and Somali Regions.

7.1 THE TRANSFORMATIONS AND COMMODIFICATION OF CLAN STRUCTURES

A powerful conduit to measure the impact of the transition processes in the lowlands is the transitions in valuation of traditional clan structures. Unlike a capitalist society, the valuation of traditional clan structures was not measured through monetary means, rather ethicalitly and practicalitly. Throughout the past century clan structures in the lowlands of Ethiopia have undergone significant changes. The ethical, societal, and environmental guidelines applied to the lives of the lowland pastoralists through the clan have been weakened, as the presence of external government institutions increased and their control permeated the lowlands.

The ethical guidelines that clan structures, both Afar and Somali, applied to the lives of clan members maintained social cohesion. While not heavily emphasized in the papers, it should also be noted that the weakening of the clan's ethical control also removed its ability to enforce peace and guide society as before. One of the key transitions referenced in the papers is the significant impacts seen through the removal of the clan's ability to implement environmental protection activities. As a result, key problem areas have emerged which include the removal of traditional institutions that governed over rangeland access and management, which has allowed for trees being removed on a mass scale, charcoal production, and over grazing. To say that these transitions only occurred due to a weakened clan would be inaccurate; indeed, the repeated droughts, internal and external migration, and increased population have also played a fundamental role. Land management also has an increased governmental presence, however in a landscape so sparse and with a population living both with a heavy dependence on and with a deficit in natural resource access, enforcing governmental regulations is difficult as evidenced by the illegal production of charcoal and removal of trees.

As documented through *Governance Institutional Changes*, although the clan's position in society has weakened, the clan still shapes societal interactions and development, i.e., better access to natural resources and government resources. This has also been presented in a paper on the governmental aid program Productive Safety Net Programme (PSNP) which shows how the clan structures assisted greatly in the distribution of food (Sabates-Wheeler et al., 2013). This transformation has also present in neighbouring Somalia where new governance systems

emerged, which were heavily influenced by the colonial past and post-colonial "pseudo-marxist military regimes" (Doornbos & Markakis, 1994, 85).

Additional societal impacts of clan structures still stand today and are intertwined with environmental aspects, despite the weakening of the clan system. Throughout all focus areas, the settlement of a specific region was primarily conducted by one clan. Settlement that took place prior to government programs claimed larger plots of land, land often of a superior quality. This is supported by an analysis of Kebri Beyah and Hida, two areas settled prior to the government sedentarisation program, which shows that those who settled voluntarily, prior to any government settlement program, typically belonged to one clan and would claim superior plots of land. This notion is mirrored in other research, which argued that while clan structures no longer held the primary position of power, belonging to a certain clan can award you with positionality in society: i.e., better access to natural resources and government resources (de Waal, 1996).

When assessing the commodification of clan structures, it is the valuation and devaluation of the clan that is the clear transformation. Valuation is caused by allocating value to specific things for their ethical, practical or aesthetical use. Certain aspects of the clan have been valued over others, a key example being the assimilation of clan leaders and elders into modern governance structures to perform a new role, to communicate and liaise between the government and the general population and transmit new programs, policies, and practices. This is also seen in Papua New Guinea where clan structures are used for decision making to allocate employment, training, and generate income (Ferguson & Chandrasekharan, 2005) as well as in Kenya where governmental land distribution was conducted with the guidance of clan elders (Medard, 2010). Indeed, the creation of neighbouring Somaliland was greatly strengthened through the re-emergence of clan leaders following the collapse of Somalia in 1991 (Renders, 2007).

Conversely, it is through the devaluation of the clan structure that the government has increased its own control over the region and reorganized ethical structures, as documented through the transition in reporting practices in '*Governance Institutional Changes'*. The devaluation of clan is not unique to Eastern Africa; indeed, when reflecting Max Webber's work on capitalism and individuation Siedman and Gruber argued that de jure governance was "grounded upon the historic breakdown, devaluation and depersonalization of kinship-clan structure" (1977, 499).

If one takes the position of the clan as a constant, one that does not vary, then these transitions can be concluded to have produced the displacement of role of the clan and in particular, the clan leader. Displacement calls for "something appearing, phenomenally, as something other than itself" as does the clan in this situation (Castree, 2003, 282) and the significant departure from the clan standing as the sole societal guideline creator and enforcer, towards an informal institute that has a supportive role, presents the clan in a new dimension. Likewise, does the transition for the clan leader, who now acts as an expert or a mediator and no longer has the decisive option.

7.2 TRANSFORMATIONS AND COMMODIFICATION OF GENDER

A clear transformation in gendered identities, roles, and societal positionality for females and males has occurred in the lowlands of Ethiopia. The perceived stimuli for this departure from a traditional standpoint epitomize the major transformations in the area. These stimuli include the push for modernization, transitioning livelihood practices from pure pastoralist to agro-pastoralist, the increasing scarcity of natural resource availability and the weakening of traditional, informal institutions and customs as formal institutions and laws increase their presence and strength in the lowlands of Ethiopia. This departure from indigenous knowledge and practices has also assisted in the reconstruction of traditional roles and relationships (Kassahuna et al., 2008).

The combined impetus of reducing mobility as a growing number of residents settle to take up agro-pastoralism and the increase in formalized government systems has bridged the traditional interaction gaps between females and community leaders. Government officials who are predominately hired from within the community to work as Kebele leaders and, importantly, gender officers, provide a direct and accessible way for females to communicate their issues and concerns. This specific transition, the increase of female participation and communication with community leaders, is enforced through governmental structures and procedures and has become an accepted practice, eclipsing the traditional method of male to male reporting through the clan hierarchy.

This transition, however, has not necessarily facilitated an instantaneous ability for all females to speak open and freely to those with the power to address concerns. Traditional factors such as spatial issues are still present, a pressing concern for residents and government employees who have settled in areas further away from woreda centres.

Coming at a time where pastoralist mobility is decreasing, not just in the focus areas but globally (Fernandez-Gimenez & Le Febre, 2006), one of the larger, interesting gender transitions is the increased mobility of females, specifically to mobility without a male guardian. Increased mobility is not solely due to the diminished clan influence; a predominant element is the shortage of natural resources. This shortage increases mobilisation as women are required to travel great distances to collect water, typically done without male guardians.

The second major change in mobility comes from the drive to diversify income generating activities to compensate for shrinking herd sizes. As also shown in other studies (Little et al., 2001), diversifying livelihood practices out of necessity to create income generating activities is typically conducted by the poor. For agro-pastoralists, crop production is the primary livelihood diversification activity conducted and when that fails to provide sufficient outputs, milk sales are the primary petty cash generating activity in the Somali Region. While milk sales do take place in the Afar Region, as documented through research on milk sales as a prominent income revenue around the Middle Awash Valley (Abule & Snyman, 2005), it was not as prominent in the focus area. Potential hypothesis for this include the focus areas in the Somali Region are better connected to key roads and urban areas, areas where milk sales are commonplace, while the Afar focus region is more isolated.

This change, one that saw females taking up income generating activities at a time of hardship is not unique to the lowlands of Ethiopia. Research done in neighbouring Uganda and Tanzania, showed how multiple economic and cultural shifts lead females to embracing economic activities to support their households (Tripp, 1994). When new economic endeavours come at a time when the household has limited resources is also not unique to the area, as demonstrated through a paper on the perceived altruism of females in impoverished households (Brickell & Chant, 2010).

The altruistic nature of females was also a critical element in how males perceive the newly developed gender roles. When stating categorically that females are better equipped and more invested in taking care of the household and children, a commonplace reaction from males in the Somali Region is to renounce their traditional position as economic manager of the household. This transition was not as apparent in the Afar Region. Aside from cultural differences, there are several prominent reasons why this could be the case. Research in the Afar Region was conducted in late 2013 and early 2014, while the bulk of research in the Somali Region was conducted in the second half of 2015. Although there is only a one year gap between the two, the significant changes in the Somali Regional government structure due to perceived female altruism helped reinforce the notion in the minds of rural populations.

7.3 Transformations and Commodification of Natural Resources and Natural Resource Management

Assessing the transitions in natural resource (availability) and natural resource management practices shows that the most significant transformation is the move away from managing natural resources through common property regimes and towards privatization, one of the key commodification transitions. By detaching land from its traditional boundaries, i.e., a common property that was available to all, the natural resources found in the land have also been privatized. This transformation has a twofold effect: increasing the agro-pastoralist population as the pure pastoralist decreases and dividing rangelands so they are no longer simply able to be used as common pool resources.

Land tenure practices in Ethiopia have a complex history, from the common property regimes used in Afar and Somali, to the complex ambilineal communal property practices introduced during imperial times in highland areas (Kebede, 2002). In Afar and the Somali Regions, land privatisation occurred prior and during the present and past governments' sedentarisation projects. The selected areas that have been privatized in the focus areas have contrasting settlement patterns. In the Somali Region, Kebri Beyah residents had already settled and claimed land by the start of the 20th century despite no perennial water source while in Gode settlement has dramatically increased during the present government's settlement project along the perennial Shabelle River. In Afar voluntary settlement began following the fall of the Derg along the perennial Hida River, while agro-pastoralists only began to settle in the Horongo settlement in Ewa in 2013 when the area received access to groundwater.

The referenced transitions in clan structures and gendered identities are also prevalent when assessing natural resource management transitions. Traditionally, Somali and Afar land conflicts were resolved through the clan councils, as well as territory ownership obtained by force. Present

land conflict issues unable to be resolved by those involved are now commonly reported to kebele leaders, who draw on community elders to provide information on the conflicting land claims but ultimately have the final decision.

To an extent, it is not just the privatization of natural resources that has occurred, but also the alienability of what was traditionally common property. Alienability requires a physical and moral separation of the commodity from the owner. The sale or leasing of land may not qualify as a process of alienability for a classic capitalist property sale, but in this case, due to the cultural significance of land belonging to all, it cements the detachment of the Afar and Somali from their ancestral domain as they are able to completely detach themselves from their cultural roots by selling and leasing the land.

A distinction is made here between the privatisation of land and land's alienability. Often those who claimed the land for themselves have then gone on to sell or lease it, without having the legal titles required to do so: the legal title being an integral part of privatization. While land in the Somali Region is sold, it is not a common practice in areas settled by pastoralists. A more commonplace occurrence is the distribution of land between offspring. Land in the Afar Region is not legally allowed to be sold, according to the 2008 Afar National Regional State Rural Lands Administration and Use Policy (ANRF, 2008), however it does not prevent individuals from leasing it. These practices are a continuation of the detachment from the original perception that land belongs to all.

8 Future Research

It is an interesting and suspenseful time in Ethiopian history. The protests by the larger ethnic groups, the Amhara and Oromo, against the minority ruling ethnic group, the Tigrinya, resulted in a state of emergency being declared on October 9, 2016 (HRW, 2016) and was extended in Match for an additional four months (Al Jazeera, 2017). The primary issues that protestors brought forward were centred around politics and human rights, and include the central issues presented in this thesis: land tenure rights, transitioning government structures, and the suppression of and transition away from ethnic practices and identity towards a formal government. Prior to the state of emergency, one topic that was already highly problematic is identity, problematic not only in Ethiopia as "ethnicity" and "contested identity" are core reasons for deadly conflicts in the Horn of Africa (Osman, 2008, 94). Research into how identity is perceived, utilised, and even punished following the state of emergency is important and could provide very interesting and instructive results.

The redistribution of land in the lowlands has resulted in an increasing presence of highlanders coming to the lowlands to farm or conduct business. Research on this topic provides an insight into how these changes have impacted society, and thus provide a basis and the required tools for an analysis of how these current transitions will impact the areas.

The combination of a finite resource that is no longer managed through common property regimens, with an increasing population that is encouraged to practice agro-pastoralism over

pure pastoralism and large family sizes is at odds with the increasing threat of climate induced disasters. Research conducted in other East African countries such as Kenya, Tanzania and Uganda highlights the importance of policy support for drought sensitive foods in areas that receive less than 700 mm of rain per year, areas similar to the lowlands of Ethiopia, where there is a strong desire to increase livestock numbers to diversify livelihoods (Rufino et al., 2013).

Research that builds on the growing role of females within formal governmental structures could shed light on the different gendered perceptions of the transitions of gender roles in the area. Due to the communal belief that a woman is more altruistic than a man, thus will put the community's needs before her own, there is a rise in support for females to take managerial positions within government structures. In the Somali Region, a widespread mandate by the Regional President in 2014 saw male financial officers working on the woreda level replaced by females and in Gode town females are already working as Kebele Leaders. New research could substantiate whether females are strengthening their voices not only within the house and immediate community, but also on the woreda and regional levels. A deeper analysis could also shed light on whether these developments are sustainable and the new positions provide traction for women within governmental structures, and if so, what changes have come about due to the transition from a predominately male workplace to one with an increased number of females.

Research conducted to make a comparative study between the perceptions of altruistic females in Afar and Somali, and the rise of the female economic head, would provide insights into how two regions undergoing numerous transformations have produced different gendered roles when seemingly provided the same federal guidance.

9 CONCLUSIONS

The multifaceted transformation processes found in the lowlands of Ethiopia have fundamentally altered the lives of and lands inhabited by the traditionally pastoralist Afar and Somali peoples. These changes have been driven by the varied processes of commodification, globalisation, modernisation, neo-liberalised development and climate change and have had numerous significant societal, economic, and environmental alterations. This thesis uses commodification theory to analyse the three papers through several lenses: natural resource management and livelihoods, institutions and governance, and gender.

As these once segregated areas become more integrated in global systems, the relinquishment of traditional structures becomes more commonplace as they are both replaced by and integrated into formal governance institutions. The disempowerment of clan structures has not only occurred due to the increased presence of modernisation and neo-liberalised development policies, but also the challenges brought on by climate change and population growth. As the limited natural resources are placed under greater pressure, the devaluation of traditional structures, the clan, indigenous laws and institutions, occurs as they are increasingly seen as incapable of managing modern problems and conditions. However, this devaluation is paralleled by an increase in the value of other traditional elements such as the utilisation of the clan

leader's ability to influence local communities and indigenous institutions to manage conflicts. As the clan leader's role evolves due to external influences, this position undergoes commodification displacement.

The documented move away from a common pool natural resource management system and towards the privatisation of land, a move reinforced by formal government structures, has brought on the commodification of the rangelands and the natural resources found within. As the once pure pastoralist communities begin to claim land or receive their allocated plot from government sponsored programs, the clear commodification process of privatisation takes place, but this is accompanied by the alienability of what was once a common property resource. This significant societal transition, the moral separation of the natural resources from clan ownership towards individual ownership, further separates lowland residents from their traditional relationship with the regions and their traditional structures.

The final transformation addressed is gender, which is a clear and significant movement away from traditional societal ideals and notions brought on largely due to processes of modernisation in the regions. Introduced practices have increased the ability of females to lead, communicate, and participate within their communities and households, and with local leaders. This transformation has also occurred due to changes in mobility and the move away from pure pastoralism, which provide the opportunity for females to take a greater role in the management of their households and in their community and also come at a time when the exchange of females as blood money is rare.

Ultimately it is important to note that these transformations are not static and completed actions. As areas such as the Somali and Afar Regions are increasingly connected to and influenced by outside forces and institutions, the metamorphoses that have been documented in this thesis will continue to evolve and alter the lives and livelihood practices of the lowland residents of Ethiopia's arid and semi-arid regions.

10 BIBLIOGRAPHY

Abate, T. (2016). Indigenous Ecological Knowledge and Pastoralist Perception on Rangeland Management and Degradation in Guji Zone of South Ethiopia. *Consilience: The Journal of Sustainable Development, 15*(1), 192-218.

Abbay, A. (2004). Diversity and state-building in Ethiopia. *African Affairs, 103*(413), 593-614.

Abbink, J. (1997). Ethnicity and constitutionalism in contemporary Ethiopia. *Journal of African Law, 41*(2), 159-174.

Abbnik, J. (1999). The Total Somali Clan Genealogy: a Preliminary Sketch. . Leiden: African Studies Centre.

Abdullahi, M. D. (2001). *Culture and customs of Somalia.* Westpoint: Greenwood Publishing Group.

Abokor, A. C. (1987). *The camel in Somali oral traditions.* Motala: Motala Grafiska.

Abule, E., & Snyman, H. S. (2005). Comparisons of pastoralists perceptions about rangeland resource utilisation in the Middle Awash Valley of Ethiopia . *Journal of Environmental Management , 75*, 21-35.

Agger, B. (1991). Critical Theory, Poststructuralism, Postmodernism: Their Sociological Relevance. *Annual Review of Sociology, 17*, 105-131.

Al Jazeera. (2017, March 30). *Ethiopia extends state of emergency by four months.* Retrieved May 15, 2017, from AL Jazeera: http://www.aljzeera.com/news/2017/03/ethiopia-extends-state-emergency-months-170330110807086.html

Andersson, E., Brogaard, E., & Olsson, L. (2011). The Political Ecology of Land Degradation. . *Annual Review of Environment and Resources , 36*, 295-319.

Angassa, A., Sheleme, B., Oba, G., Treydte, A. C., Linstädter, A., & Sauerborn, J. (2012). Savanna land use and its effect on soil characteristics in southern Ethiopia. . *Journal of Arid Environments, 81*, 67-76. .

ANRF. (2008). *Afar National Regional State Rural Lands Administration and Land Use Policy.* Semara: Afar National Regional State.

ANRS. (2011). *Afar Regional and National State Awra Technical Report: Land Degradation Assessment.* Semara: Afar National Regional State .

ANRS. (2012). *Afar National Regional State Land Use Land Cover Assessment .* Semara: Afar National Regional State.

ANRS. (2012). *Afar National Regional State Lower Awash Sub-Basin Integrated Land Use Planning and Environmental Impact Study Project.* Afar National Regional State. Bahir Dar: Ministry of Agriculture.

Appadurai, A. (1986). *The Social Life of Things. Commodities in Cultural Perspective.* Cambridge: Cambridge University Press.

Appleyard, D. L. (1990). Prepositional particles in Somali and their cognates in other Cushitic languages. . *African Languages and Cultures, 3*(1), 15-31.

Ayele, S., Nigatu, L., Tana, T., & Adkins, S. (2013). Impact of parthenium weed (Parthenium hysterophorus L.) on the above-ground and soil seed bank communities of rangelands in Southeast Ethiopia. . *International Research Journal of Agricultural Science and Soil Science, 3*(7), 262-274.

Ayenew, M. (2002). Decentralization in Ethiopia: Two Case Studies on Devolution of Power and Responsibilities to Local Authorities. In B. Zewde, & S. Pausewang, *Ethiopia: the Challenge of Democracy from Below* (pp. 130-148). Stockholm: Nordic African Institute .

Bakker, K. (2007). The "commons" versus the "commodity": Alter-globalization, anti-privatization and the human right to water in the Global South. . *Antipode, 39*(3), 430-455.

Balehegn, M., & Tafere, K. (2013). Gendered Impacts and Apadtation Mechanisms to Climate Change amoung Afar Pastoralists in North Eastern Ethiopia. In M. M. Mulinge, & M. Getu, *Impacts of Climate Change and Variability on Pastoralist Women in Sub-Saharan Africa,* (pp. 83-119). Kampala: Fountain Publishers.

Barich, B. E. (2002). Cultural responses to climatic changes in North Africa: beginning and spread of pastoralism in the Sahara. In *Droughts, Food and Culture* (pp. 209-223). Springer US.

Barich, B. E. (2012). Cultural Responses to Climatic Changes in North Africa: Beginning and Spread of Pastoralism in the Sahara. In F. A. Hassan, *Droughts, Food and Culture: Ecological Change and Food Security in Africa's Later Prehistory* (pp. 209-223). New York: Springer US.

Bee, B., Biermann, M., & Tschakert, P. (2013). Gender, development, and rights-based approaches: Lessons for climate change adaptation and adaptive social protection. In M. Alston, & K. Whittenury, *Research, action and policy: Addressing the gendered impacts of climate change* (pp. 95-108). Dordrecht: Springer .

Behnke, R., & Kerven, C. (2013). Counting the Costs: replacing pastoralism with irrigated agriculture in the Awash Valley. In A. Catley, J. Lind, & I. Scoones, *Pastoralism and Development in Africa: Dynamic Change at the Margins* (pp. 57-70). Oxon: Routledge.

Bekele, M., & Girmay, Z. (2014). Reading through the charcoal industry in Ethiopia: Production, marketing, consumption and impact. Addis Ababa: Forum for Social Studies.

BFED. (2010). *Five Years Development Plan: Plan for Enchanced Pastoralist and Agro-pastoralist livelihoods and Reversing Poverty (2003-2007 EFY).* Bureau of Finance and Economic Development. Jijiga: Bureau of Finance and Economic Development.

Blackwell, P. J. (2010). East Africa's Pastoralist Emergency: is climate change the straw that breaks the camel's back? *Third World Quarterly, 31*(8), 1321–1338.

BoFED . (2013). *Assessing development gaps in Somali Regional State of Ethiopia .* Bureau of Finance and Economic Development , Jijiga.

BoFED. (2010). *Five years development plan. Plan for enhanced pastoralist and agro-pastoralist livelihoods and reversing poverty (2003-2007 EFY). .* Bureau of Finance and Economic Development, Jijiga.

Bond, P. (2004). Water commodification and decommodification narratives: Pricing and policy debates from Johannesburg to Kyoto to Cancun and back. . *Capitalism Nature Socialism, 15*(1), 7-25.

Bradbury, M., Abokor, A. Y., & Yusuf, H. A. (2003). Somaliland: Choosing politics over violence. *Review of African Political Economy, 30*(97), 455-478.

Braukämper, U. (2013). Indigenous views on the Italian occupation in Southern Ethiopia: A post-colonial approach. *Aethiopica, 14*, 163-183.

Brickell, K., & Chant, S. (2010). 'The unbearable heaviness of being': reflections on female altruism in Cambodia, Philippines, The Gambia and Costa Rica . *Progress in Development Studies, 10*(2), 145-59.

Brody, A., Demetriades, J., & Esplen, E. (2008). *Gender and climate change: Mapping the linkages. A scoping study on knowledge and gaps.* BRIDGE, Institute of Development Studies, Brighton.

Bromley, D. W. (1992). The commons, common property, and environmental policy. *Environmental and Resource Economics, 2*(1), 1-17.

Bulcha, M. (1997). The politics of linguistic homogenization in Ethiopia and the conflict over the status of Afaan Oromoo. *African Affairs, 96*(384), 325-352.

Butler, J. (1990). Gender Trouble, Feminist Theory, and Psychoanalytic Discource. In L. Nicholson, *Feminism/Postmodernism* (pp. 324-340). New York: Routledge.

Callon, M., Méadel, C., & Rabeharisoa, V. (2002). The economy of qualities. *Economy and society, 31*(2), 194-217.

Carruth, L. (2014). Camel milk, amoxicillin, and a prayer: Medical pluralism and medical humanitarian aid in the Somali Region of Ethiopia. *Social Science & Medicine, 120*, 405-412.

Castree, N. (2003). Commodifying what nature? *Progress in Human Geography , 27*(3), 273-297.

Chanie, P. (2007). Clientelism and Ethiopia's post-1991 decentralisation. *The Journal of Modern African Studies, 45*(3), 355-384.

Cincotta, R. P., Yanqing, Z., & Xingmin, Z. (1992). Transhumant alpine pastoralism in northeastern Qinghai Province: an evaluation of livestock population response during China's agrarian economic reform. *Nomadic Peoples*, 3-25.

Clark, J. (1992). Debacle in Somalia. *Foreign Affairs, 72*(1), 109-123.

Clausen, M. L. (2015). Understanding the crisis in Yemen: Evaluating competing narratives. ,. *The International Spectator, 50*(3), 16-29.

Crewett, W., & Korf, B. (2008). Ethiopia: Reforming Land Tenure Wibke. *Review of African Political Economy, 116*, 203-220.

Crewett, W., Bogale, A., & Korf, B. (2008). *Land Tenure in Ethiopia Continuity and Change, Shifting Rulers, and the Quest for State Control.* CAPRi Working Paper No. 91, International Food Policy Research Institute, Washington.

Cribb, R. (2004). *Nomads in archaeology.* Cambridge: Cambridge University Press.

CSA. (2007). *Population and Demographic Census 2007; Population Estimations 2014 -2017,.* Addis Ababa: Central Statistical Agency.

CSA. (2013). *Population Projection of Ethiopia for All Regions At Wereda Level from 2014 – 2017.* Addis Ababa: Central Statistical Agency. Retrieved from www.csa.gov.et

Davies, J., & Bennett, R. (2007). Livelihood adaptation to risk: Constraints and opportunities for pastoral development in Ethiopia's Afar region. . *The Journal of Development Studies, 43*(3), 490-511.

de Waal, A. (1996). Contemporary Warfare in Africa. Changing Context, Changing Strategies. *IDS Bulletin , 27*(3), pp. 6-16.

Del Casino, V. J., Grimes, A. J., Hanna, S. P., & Jones, J. P. (2000). Methodological frameworks for the geography of organizations. *Geoforum, 31*(4), 523-538.

Desta, S., & Coppock, D. L. (2004). Pastoralism under pressure: Tracking system change in Southern Ethiopia. . *Human Ecology, 32*(4), 465-486.

Devereux, S. (2006). *Vulnerable Livelihoods in Somali Region, Ethiopia.* Research Report, Institute of Development Studies , Brighton.

Dong, S., Wen, L., Liu, S., Zhang, X., Lassoie, J. P., Yi, S., . . . Y, L. (2011). Vulnerability of worldwide pastoralism to global changes and interdisciplinary strategies for sustainable pastoralism. *Ecology and Society, 16*(2), 1-23.

Doornbos, M., & Markakis, J. (1994). Society and State in Crisis: What Went Wrong in Somalia? *Review of African Political Economy, 21*(59), 82-88.

Ece, M. (2015). *Responsive Forest Governance Initiative (RFGI) Supporting Resilient Forest Livelihoods through Local Representation .* Dakar: Council for the Development of Social Science Research in Africa.

Elhadi, Y. A., Nyariki, D. M., & Wasonga, O. V. (2015). Role of camel milk in pastoral livelihoods in Kenya: contribution to household diet and income. *Pastoralism: Research, Policy and Practice, 5*(8), 1-8.

Elsanabary, M. J., Ganb, T. Y., & Mwalec, D. (2014). Application of wavelet empirical orthogonal function analysis to investigate the nonstationary character of Ethiopian rainfall and its teleconnection to nonstationary global sea surface temperature variations for 1900–1998. *International Journal of Climatology, 34*(6), 1798-1813.

England, K. (2006). Producing Feminist Geographies: Theory, Methodologies and Research Strategies. In S. Aitken, & G. Valentine, *Approaches to Human Geography* (pp. 286-287). London: Sage.

Fairhead, J., Leach, M., & Scoones, I. (2012). Green Grabbing: a new appropriation of nature? *Journal of Peasant Studies, 39*(2), 237-261.

Farah, K. O., Nyariki, D. M., Ngugi, R. K., Noor, I. M., & Guliye, A. Y. (2004). The Somali and the Camel: Ecology, Management and Economics. *Anthropologist, 6*(1), 44-55.

Farooquee, N. A., & Nautiyal, A. (1999). Traditional knowledge and practices of Bhotiya pastoralists of Kumaon Himalaya: the need for value addition. *International Journal of Sustainable Development & World Ecology, 6*(1), 60-67.

FDRE. (1995). Constitution of the Federal Democratic Republic of Ethiopia. Addis Ababa: Federal Democratic Republic of Ethiopia.

Ferguson, I., & Chandrasekharan, C. (2005). Paths and Fitfalls of Decentralization for Sustainable Forest Management: Experiences of the Asia Pacific REgion. In C. J. Pierce Colfer, *The Politics of Decentralization: Forests, People and Power* (pp. 63-85). London: Earthscan.

Fernandez-Gimenez, M. E., & Le Febre, S. (2006). Mobility in pastoral systems: Dynamic flux or downward trend? *The International Journal of Sustainable Development and World Ecology, 13*(5), 341-362.

FEWS. (2014). *Food security outlook. Most pastoral areas to remain stressed (IPC Phase 2) even with humanitarian assistance*. Retrieved 1 7, 2014, from Famine Early Warning Systems: http://www.fews.net/east-africa/ethiopia/food-security-outlook/july-2014

Feyissa, G. (2013). Effects of climate change and variability on pastoralist women's accessibility to social services: Case of Fentalle Woreda, Central Rift Valley of Ethiopia. In M. Mulinge, & M. Getu, *Impacts of climate change and variability on pastoralist women in Sub-Saharan Africa* (pp. 121-153). Kampala: Foundation Publishers .

Flintan, F., Demlie, S., Awol, M., Humed, Z., Belete, Y., & Lemma, H. (2008). *Study on Women's Property Rights in Afar and Oromiya Regions, Ethiopia. .* USAID & CARE.

Flintan, F., Tachu, B. D., & Eid, A. (2011). *Rangeland fragmentation in traditional grazing areas and its impact on drought resilience of pastoral communities: Lessons from Borana, Oromia and Harshin, Somali Regional States, Ethiopia.* Oxford: Oxfam.

Foster, J. (1997). *Valuing nature?* London: Routledge.

Fraser, N. (2014). Can society be commodities all the way down? Post-Polanyian reflections on capitalist crisis. *Economy and Society, 43*(4), 541-558.

Fratkin, E. (1986). Stability and resilience in East African pastoralism: the Rendille and the Ariaal of northern Kenya. . *Human Ecology, 14*(3), 269-286.

Fratkin, E. (2001). East African pastoralism in transition: Maasai, Boran, and Rendille cases. *African Studies Review*, 1-25.

Fratkin, E. (2013). Seeking alternative livelihoods in pastoral areas. In M. Catley, J. Lind, & I. Scoones, *Pastoralism and development in Africa: Dynamic change at the margins* (pp. (197-205)). New York. : Routledge.

Fratkin, E. (2014). Ethiopia's pastoralist policies: Development, displacement and resettlement. *Nomadic Peoples, 18*(1), 94-114.

Galvin, K. (2009). Transitions: Pastoralists living with change. *Annual Review of Anthropology,, 39*, 185–198.

Gashaw, S. (1993). Nationalism and ethnic conflict in Ethiopia. . In C. Young (Ed.), *The rising tide of cultural pluralism: The nation-state at bay* (pp. 128-157). Wisconsin: University of Wisconsin Press.

Gebeyehu, Z. H. (2013, 11 8). Towards improved transactions of land use rights in Ethiopia. . Washington DC: Annual World Bank Conference on land and poverty.

Gebreselassie, S. (2006). *Land, land policy and smallholder agriculture in Ethiopia: Options and scenarios.* Future Agricultures Consortium. Institute of Development Studies.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The Governance of Global Value Chains. *Review of International Political Economy, 12*(1), 78-104.

Gibson-Graham, J. K. (2000). Poststructural interventions. In E. Sheppard, & T. Barns, *A Companion to Economic Geography* (pp. 95-110). Oxford: Blackwell.

Giday, M., & Teklehaymanot, T. (2013). Ethnobotanical study of plants used in management of livestock health problems by Afar people of Ada'ar District, Afar Regional State, Ethiopia. *Journal of Ethnobiology and Ethnomedicine, 9*(1), 1-8.

Gilbert, J., & Couillard, V. (2011). International law and land rights in Africa: the shift from states' territorial possessions to indigenous peoples' ownership rights. In R. Home, *Essays in African land law* (pp. 47-68). Pretoria: Pretoria University Press.

Goldschmidt, W. (1974). The economics of brideprice among the Sebei and in East Africa. *Ethnology, 13*(4), 311-331.

Gomez-Baggethun, E., & Ruiz-Perez, M. (2011). Economic valuation and the commodification of ecosystem services. *Progress in Physical Geography, 35*(5), 613-628.

Goodhue, R., & McCarthy, N. (2009). Traditional property rights, common property, and mobility in semi-arid African pastoralist systems . *Environment and Development Economics, 14*, 29-50.

Guliye, A. Y., Noor, I. M., Bebe, B. O., & Kosgey, I. S. (2007). Role of camels (Camelus dromedarius) in the traditional lifestyle of Somali pastoralists in northern Kenya. *Outlook on Agriculture, 36*(1), 29-34.

Gundel, J., & Dharbaxo, A. A. (2006). *The predicament of the 'Oday' The role of traditional structures in security, rights, law and development in Somalia.* Danish Refugee Council and Novib/Oxfam. Nairobi: DRC, & Novib/Oxfam.

Hagmann, T. (2005). Beyond clannishness and colonialism: understanding political disorder in Ethiopia's Somali Region, 1991–2004. *The Journal of Modern African Studies, 43*, 509-536.

Hagmann, T. (2012). Fishing for votes in the Somali Region: Clan elders, bureaucrats and party politics in the 2005 elections. In K. Tronvoll, & T. Hagmann, *Contested power in Ethiopia: Traditional authorities and multi-party elections* (pp. 61-88). Leiden: Brill.

Hagmann, T., & Khalif, M. H. (2008). State and politics in Ethiopia's Somali Region since 1991. . *Bildhaan: An International Journal of Somali Studies, 6*(1), 25-49.

Hagmann, T., & Korf, B. (2012). Agamben in the Ogaden: Violence and sovereignty in the Ethiopian–Somali frontier. *Political Geography, 31*(4), 205-214.

Harbeson, J. W. (1978, October). Territorial and Development Politics in the Horn of Africa: The Afar of the Awash Valley. *African Affairs, 77*(309), 479-198.

Harbeson, J. W. (1978). Territorial and Development Politics in the Horn of Africa: The Afar of the Awash Valley. *African Affairs, 77*(309), 479-498.

Hardin, G. (1968). The Tragedy of the Commons. *Science, 162*, 1243-1248.

Hartwick, E. (1998). Geographies of consumption: a commodity-chain approach. *Environment and Planning D: Society and Space, 16*, 423-437.

Hashi, A. M. (2005). *The Implication of Traditional Leadership, "Guurti" and other non-state actors in local goverance in Somaliland.* Study Report, World Bank Institute, Community Empowerment and Social Inclusion Program (CESI).

Hillier, D., & Dempsey, B. (2012). A dangerous delay: the cost of late response to early warnings in the 2011 drought in the Horn of Africa. . *Oxfam Policy and Practice: Agriculture, Food and Land, 12*(1), 1-34.

Hoffman, M. T., & Rohde, R. F. (2007). From pastoralism to tourism: the historical impact of changing land use practices in Namaqualand. *Journal of Arid Environments, 70*(4), 641-658.

HRW. (2016, 10 30). *Legal Analysis of Ethiopia's State of Emergency.* Retrieved 12 25, 2016, from Human Rights Watch: https://www.hrw.org/news/2016/10/30/legal-analysis-ethiopias-state-emergency

Hudson, R. (2008). Cultural political economy meets global production networks: a productive meeting? *Journal of Economic Geography, 8*, 421-440.

Hughes, A. (2001). Global Commodity Networks, Ethical Trade and Governmentality: Organizing Business Responsibility in the Kenyan Cut Flower Industry. *Transactions of the Institute of British Geographers, 26*(4), 390-406.

Hughes, A. (2006). Learning to trade ethically: Knowledgeable capitalism, retailers and contested commodity chains. *Geoforum, 37*, 1008-1020.

Hughes, A., & Reimer, S. (2004). *Geographies of commodity chains.* Oxon: Routledge .

Hundie, B. (2008). Property Rights Changes Among Afar Pastoralists of Ethiopia: The Role of the State. *Quarterly Journal of International Agriculture, 47*, 121–144.

Hundie, B., & Padmanabhan, M. (2008). *The Transformation of the Afar Commons in Ethiopia: State Coercion, Diversification, and Poverty Rights Change Among Pastoralists.* Collective Action and Property Rights (CAPRi).

Hurni, H. (1998). *Agroecological belts of Ethiopia.* University of Bern in association with the Ministry of Agriculture, Ethiopia. Bern: Bern: Centre for Development and Environment.

Jackson, P. (1999). Commodity cultures: the traffic in things. *Transactions of the Institute of British Geographers, , 24*(1), 95-108.

Jackson, P. (2000). Rematerializing social and cultural geography. *Social and Cultural Geography, 1*(1), 9-14.

Jackson, P. (2002). Commercial cultures: transcending the cultural and the economic. *Progress in Human Geography, 26*(1), 3-18.

Jäger, S., & Maier, F. (2009). Theoretical and methodological aspects of Foucauldian critical discourse analysis and dispositive analysis. . *Methods of Critical Discourse Analysis, 2*, 34-61.

Jahoda, G. (2012). Critical reflections on some recent definitions of "culture". *Culture and Psychology, 18*(2), 289-303.

Juraga, D. (1997). Nuruddin Farah's Variations on the Theme of an African Dictatorship: Patriarchy, gender, and political oppression in Somalia. *Journal Critique: Studies in Contemporary Fiction , 38*(3), 205-220.

Kassahuna, K., Snymanb, H., & Smit, G. (2008). Impact of rangeland degradation on the pastoral production systems, livelihoods and perceptions of the Somali pastoralists in Eastern Ethiopia. *Journal of Arid Environments, 72*, 1265-1281.

Kay, K. (2016). Breaking the bundle of rights: Conservation easements and the legal geographies of individuating nature. *Environment and Planning A, 48*(3), 504-522.

Kebede, B. (2002). Land Tenure and Common Pool Resources in Rural Ethiopia: A Study Based on Fifteen Sites. *African Development review, 14*(1), 113-149.

Kelly, A. B., & Peluso, N. L. (2015). Frontiers of Commodification: State Lands and Their Formalization. *Society & Natural Resources, 28*(5), 473-495.

Kerven, C., Steimann, B., Dear, C., & Ashley, L. (2012). Researching the future of pastoralism in Central Asia's mountains: Examining development orthodoxies. *Mountain Research and Development, 32*(3), 368-377.

Kloos, H. (1982). Development, drought, and famine in the Awash Valley of Ethiopia. *African Studies Review, 25*(04), 21-48.

Korf, B., Hagmann, T., & Emmenegger, R. (2015). Re-spacing African drylands: territorialization, sedentarization and indigenous commodification in the Ethiopian pastoral frontier. *Journal of Peasant Studies, 42*(5), 881-901.

Krätli, S. (2013). *Global public policy narratives on the drylands and pastoralism.* Edinburgh: International Institute for Environment and Development.

Krupnik, I. (2000). Reindeer pastoralism in modern Siberia: research and survival during the time of crash. . *Polar Research, 19*(1), 49-56.

Lambin, E. F., Turner, B., Geist, H. J., Agbola, S. B., Angelsen, A., Bruce, J. W., . . . Xu, J. (2001). The causes of land-use and land-cover change: moving beyond the myths. *Global Environmental Change, 11*(4), 261-269.

Larner, W., & Laurie, N. (2010). Travelling technocrats, embodied knowledges: Globalising privatisation in telecoms and water. *Geoforum, 41*(2), 218-226.

Latham Brown, D. J. (1956). The Ethiopia_Somaliland Frontier Dispute. *International and Comparative Law Quarterly, 5*(2), 245-264.

Lavers, T. (2012). Patterns of agrarian transformation in Ethiopia: State-mediated commercialisation and the 'land grab' . *Journal of Peasant studies, 39*((3-4)), 795-822.

Lawson, V. (1995). The Politics of Difference: Examining the Quantitative/Qualitative Dualism in PostStructuralist Feminist Research. *The Professional Geographer, 47*(4), 449-457.

Leslie, D., & Reimer, S. (1999). Spatializing commodity chains. *Progress in Human Geography, 23*(3), 401-420.

Lesur, J., Hildebrand, E., Abawa, G., & Gutherz, X. (2014). The advent of herding in the Horn of Africa: New data from Ethiopia, Djibouti and Somaliland. *Quaternary International*(343), 148-185.

Lewis, H. S. (1966). The origins of the Gaala and Somali. *Journal of African History, 7*(1), 27-46.

Lewis, I. M. (1962). Historical Aspects of Genealongies in Northern Somali Social Structure. *Journal of African History, 3*(1), 35-48.

Lewis, I. M. (1999). *A Pastoral Democracy: a study of pastoralism and politics among the northern Somali of the Horn of Africa.* Münster-Hamburg: Lit Verlag.

Lewis, I. M. (2003). Djibouti: Physical and Social Geography. In K. Murison, *Africa South of the Sahara* (32 ed., p. 333). London: Europa Publications.

Little, P. D., Smith, K., Cellarius, B. A., Coppock, D. L., & Barrett, C. (2001). Avoiding disaster: diversification and risk management among East African herders . *Development and Change, 32*(3), 401-433.

Liverman, D. (2004). Who Governs, at What Scale and at What Price? Geography, Environmental Governance, and the Commodification of Nature. *Annals of the Association of American Geographers, 94*(4), 734-738.

Lu, F., Ocampo-Raeder, C., & Crow, B. (2014). Equitable water governance: future directions in the understanding and analysis of water inequities in the global South. . *Water International, 39*(2), 129-142.

Mace, R. (1993). Transitions between Cultivation and Pastoralism in Sub-Saharan Africa. *Current Anthropology, 34*(4), 363-382 .

Mansfield, B. (2003). 'Imitation crab' and the m aterial culture of com m odity production. *Cultural geographies, 1*, 176-195.

Mapinduzi, A. L., Oba, G., Weladji, R. B., & Colman, J. E. (2003). Use of indigenous ecological knowledge of the Maasai pastoralists for assessing rangeland biodiversity in Tanzania. *African Journal of Ecology, 41*(4), 329-336.

Marin, A. (2010). Riders under storms: Contributions of nomadic herders' observations to analysing climate change in Mongolia. *Global Environmental Change, 20*(1), 162-176.

Marshall, K., Mtimet, N., Wanyoike, N., Ndiwa, N., Ghebremariam, H., Mugunieri, L., & Costagli, R. (2016, June). Traditional livestock breeding practices of men and women Somali pastoralists: trait preferences and selection of breeding animals. *Journal of Animal Breeding and Genetics*, 1-14.

Mauthner, N., & Doucet, A. (2003). Reflexive Accounts and Accounts of Reflexivity in Qualitative Data Analysis. *Sociology, 37*(3), 413-431.

McKune, S. L., & Silva, J. A. (2013). Pastoralists under Pressure: Double Exposure to Economic and Environmental Change in Niger. *The Journal of Development Studies, 49*(12), 1711-1727.

Medard, C. (2010). "Indigenous" land claims in Kenya: A case study of Chebyk, Mount Elgon District. In W. Anseew, & C. Alden, *The Struggle of Land in Africa: Conflicts, Politics & Change* (pp. 19-26). Cape Town: Human Science Research Council Press.

Menkhaus, K. (2014). Calm between the storms? Patterns of political violence in Somalia, 1950–1980. *Journal of Eastern African Studies, 8*(4), 558-572.

Miran, J. (2009). *Red sea citizens: cosmopolitan society and cultural change in Massawa.* Indiana: Indiana University Press.

MoA. (2000). *Agroecological Zonations of Ethiopia. .* Addis Ababa : Ministry of Agriculture.

Mollinga, P. P. (2008). Water, politics and development: Framing a political sociology of water resources management. *Water Alternatives, 1*(1), 7-23.

Moritz, M., Scholte, P., Hamilton, I. M., & Kari, S. (2013). Open access, open systems: pastoral management of common-pool resources in the Chad Basin. *Human Ecology, 41*(3), 351-365.

Mrozowski, S. A. (1999). Colonization and the commodification of nature. *International journal of historical archaeology, 3*(3), 153-166.

Muhe, B. (2014). 'Wandering Capitals' and the Genesis of Addis Ababa . In L. V. Barbera, *L'architettura delle città: The Journal of the Scientific Society Ludovico Quaroni. The City in the Evolutionary Age* (pp. 75-86). Rome: Edizioni Nuova Cultura.

Müller-Mahn, D., Rettberg, S., & Getachew, G. (2010). Pathways and dead ends of pastoral development among the Afar and Karrayu in Ethiopia. *European Journal of Development Research, 22*(5), 660-677.

Murdoch, J. (2006). *Post-structuralist geography.* London: SAGE Publications.

Neely, C., Bunning, S., & Wilkes, A. (2009). *Review of evidence on drylands pastoral systems and climate change. .* Land and Water Discussion Paper 8, Food and Agriculture Organization of the United Nations, Rome.

Nega, B., Adenew, B., & Gebre Sellasi, S. (2003). *Current land use policy issues in Ethiopia.* Ethiopian Economic Policy Research Institute, Addis Ababa.

Niamir-Fuller, M. (2000). Managing Mobility in A frican Rangelands: The Legitimization of Transhumance. In N. McCarthy, B. Swallow, M. Kirk, & P. Hazell, *Property Rights, Risk, and Livestock Development in Africa* (pp. 102-131). Washington: International Food Policy Research Institute.

Nicholson, S. E. (2014). A detailed look at the recent drought situation in the Greater Horn of Africa. *Journal of Arid Environments, 103*, 71-79.

Nori, M., Kenyanjui, M. B., Yusuf, M. A., & Mohammed, F. H. (2006). Milking drylands: the marketing of camel milk in North-east Somalia. . *Nomadic Peoples, 10*(1), 9-28.

Novati, G. C. (2008). Italy and Africa: how to forget colonialism. *Journal of Modern Italian Studies, 13*(1), 41-57.

Oba, G. (2012). Harnessing pastoralists' indigenous knowledge for rangeland management: three African case studies. *Pastoralism, 2*(1), 1-25.

Ongoro, E. B., & Ogara, W. (2012). Impact of climate change and gender roles in community adaptation: A case study of pastoralists in Samburu East District, Kenya. *International Journal of Biodiversity and Conservation, 4*(2), 78-89.

Osman, A. A. (2008). Cultural diversity and the Somali conflict: Myth or reality? . *African Journal on Conflict Resolution, 7*(2), 93-134.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action. .* Cambridge: Cambridge University Press.

Ostrom, E., Dietz, T., Dolšak, N., Stern, P., Stonich, S., & Weber, E. (2002). *The Drama of the Commons. .* Washington D.C. : National Academy Press.

Oumer, S. (2007). Privatisation of Somali Region's rangelands. . In A. Ridgewell, M. Getachew, & F. F (Eds.), *Gender & Pastoralism. Rangeland & Resource Management in Ethiopia* (Vol. 1). Sahel: SOS.

Page, B. (2005). Paying for water and the geography of commodities. *Transactions of the Institute of British Geographers, 30*(3), 293-306.

Peters, P. E. (2004). Inequality and social conflict over land in Africa. *Journal of Agrarian Change, 4*(3), 269-314.

Peters, P. E. (2009). Challenges in land tenure and land reform in Africa: anthropological contributions. *World Development, 37*(8), 1317-1325.

Pini, B. (2005). Interviewing Men Gender and the collection and intrepretation of qualitative data. *Journal of Sociology, 41*(2), 201-216.

Powell, B., & Nair, M. (2012). On the governance of "not being governed". *Rev Austrian Econ, 25*, 9-16.

Prakash, G. (1994). Subaltern studies as postcolonial criticism. *The American Historical Review, 99*(5), 1475-1490.

Pratt, A. C. (2008). Cultural commodity chains, cultural clusters, or cultural production chains? . *Growth and Change, 39*(1), 95-103.

Prudham, S. (2009). Commoditization. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads, *A Companion to Environmental Geography.* (pp. 123–142). Oxford: Wiley-Blackwell.

Purvis, T., & Hunt, A. (1993). Discourse, ideology, discourse, ideology, discourse, ideology... . *British Journal of Sociology, 44*(3), 473-499.

Putman, D. B., & Noor, M. C. (1993). *The Somalis: Their History and Culture. CAL Refugee Fact Sheet Series, No. 9.* Center for Applied Linguistics. Washington, DC: Refugee Service Center.

Rahmato, D. (2014). The perils of development from above: land deals in Ethiopia. *African Identities, 12*(1), 26-44.

Reda, D. T., Engida, A. N., Asfaw, D. H., & Hamdi, R. (2015). Analysis of precipitation based on ensembles of regional climate model simulations and observational databases over Ethiopia for the period 1989–2008. *International Journal of Climatology, 35*(6), 948-971.

Reda, K. T. (2011). Conflict and alternative dispute resolution among the Afar pastoralists of Ethiopia. *African Journal of History and Culture, 3*(3), 39-47.

Reda, K. T. (2011). Social organization and cultural institutions of the Afar of Northern Ethiopia. *International Journal of Sociology and Anthropology, 3*(11), 423-429.

Rembold, F., Oduori, S. M., Gadain, H., & Toselli, P. (2013). Mapping charcoal driven forest degradation during the main period of Al Shabaab control in Southern Somalia. . *Energy for Sustainable Development, 17*(5), 510-514.

Renders, M. (2007). Appropriate 'Governance-Technology'? Somali Clan Elders and Institutions in the Making of the 'Republic of Somaliland'. *42*(3), 439-459.

Renders, M. (2012). *Consider Somaliland: State-Building with Traditional Leaders and Institutions.* Leiden: Koninklijke Brill NV.

Robertson, M. M. (2006). The nature that capital can see: science, state, and market in the commodification of ecosystem services. *Environment and Planning D: society and space, 24*(3), 367-387.

Rufino, M. C., Thornton, P. K., Mutie, I., Jones, P. G., Van Wijk, M. T., & Herrero, M. (2013). Transitions in agro-pastoralist systems of East Africa: impacts on food security and poverty. *Agriculture, ecosystems & environment, 179*, 215-230.

Sabates-Wheeler, R., Lind, J., & Hoddinott, J. (2013). Implementing Social Protection in Agro-pastoralist and Pastoralist Areas: How Local Distribution Structures Moderate PSNP Outcomes in Ethiopia. *World Development, 50*, 1-12.

Saguin, K. (2014). Biographies of fish for the city: Urban metabolism of Laguna Lake aquaculture. *Geoforum, 54*, 28-38.

Samatar, A. I. (1992). Destruction of State and Society in Somalia: Beyond the Tribal Convention. *The Journal of Modern African Studies, 30*(4), 625-641.

Samatar, A. I. (2004). Ethiopian Federalism: Autonomy versus Control in the Somali Region. *Third World Quarterly, 25*(6), 1131-1154.

Samatar, A., Salisbury, L., & Bascom, J. (1988). The political economy of livestock marketing in northern Somalia. . *African Economic History, 17*, 81-97.

Samatar, S. S. (2005). Somalia's horse that feeds his master. In R. J. Hayward, & I. M. Lewis, *Voice and Power* (pp. 157-173). London: Taylor and Francis e-Library.

Samuels, I., Allsopp, N., & Hoffman, M. T. (2013). How could herd mobility be used to manage resources and livestock grazing in semi-arid rangeland commons?. African Journal of Range & Forage Science, . *30*(1-2), 85-89.

Schmidt, M., & Pearson, O. (2014). *Research Study on Natural Resource Management, Ecosystems and Biodiversity in Afar, Ethiopia .* Socioeconomic Assessment, Institute for Economic and Cultural Geography, Leibniz Universitaet Hannover, Hannover.

Siedman, S., & Gruber, M. (1977). Capitalism and Individuation in the Sociology of Max Webber. *The British Journal of Sociology, 28*(4), 498-508.

Smith, A., Rainnie, A., Dunford, M., Hardy, J., Hudson, R., & Sadler, D. (2002). Networks of value, commodities and regions: reworking divisions of labour in macro-regional economies. *Progress in Human Geography, 26*(1), 41-63.

Spivak, G. (1988). *Can the subaltern speak?* London: Macmillan.

Stark, J., Terasawa, K., & Ejigu, M. (2011). *Climate change and conflict in pastoralist regions of Ethiopia: Mounting challenges, emerging responses..* Foundation for Environmental Security and Sustainability. Washington, D.C: USAID.

STC. (2008). *Livelihoods and vulnerabilities: An understanding of livelihoods in Somali Regional State, Ethiopia.* Disaster Preparedness and Prevention Agency. Addis Ababa: Save the Children UK.

Stellmacher, T. (2007). The historical development of local forest governance in Ethiopia: From imperial times to the military regime of the Derg. . *Africa Spectrum, 42*(3), 519-530.

Stokes, J., Gorman, A., & Newman., A. (2009). Encyclopedia of the Peoples of Africa and the Middle East. 7-8. New York: Infobase Publishing Inc.

Swallow, B. M., & Bromley, D. W. (1995). Institutions, Governance and Incentives Common Property Regimes for African Rangelands . *Environmental and Resource Economics, 6*, 99-118.

Swift, J. J. (1977). Pastoral development in Somalia: herding cooperatives as a strategy against desertification and famine. In M. H. Glantz, *Desertification. Environmental degradation in and around arid lands.* (pp. 275-305). Boulder: Westview Press.

Tareke, G. (2000). The Ethiopia-Somalia War of 1977 Revisited. *The International Journal of African Historical Studies, 33*(3), 635-667.

Tedla, S. (2007). *Environment and natural resources as a core asset in wealth creation, poverty reduction, and sustainable development in Ethiopia.* Nairobi: IUCN.

Tempelhoff, J. (2005). The commodification of water in the arid and semi-arid parts of South Africa: A preliminary historical exploration. *Historia, 50*(1), 123-146.

Tena, E., Mekbib, F., & Ayana, A. (2016). Heritability and Correlation among Sugarcane (Saccharum spp.) Yield and Some Agronomic and Sugar Quality Traits in Ethiopia. *American Journal of Plant Sciences, 7*, 1453-1477.

Tesfay, Y., & Tafere, K. (2004). *Indigenous Rangeland resources and Conflict Management by the North Afar Pastoral Groups in Ethiopia.* Norway: Drylands Coordination Group .

Thébaud, B., & Batterbury, S. (2001). Sahel pastoralists: opportunism, struggle, conflict and negotiation. A case study from eastern Niger. *Global Environmental Change, 11*, 69-78.

Thrift, N. (2006). Re-inventing invention: new tendencies in capitalist commodification. *Economy and Society, 35*(2), 279-306.

Tiruneh, A. (1993). *The Ethiopian Revolution 1974-1987: A Transformation from an Aristocratic to a totalitarian autocracy.* Cambridge: Cambridge Universtiy Press.

Tonts, M., & Greive, S. (2002). Commodification and Creative Destruction in the Australian Rural Landscape: The Case of Bridgetown, Western Australia. *Geographical Research, 40*(1), 58-70.

Tripp, A. M. (1994). Gender, Political Participation and the Transformation of Associational Life in Uganda and Tanzania. *African Studies Review, 37*(1), 107-131.

Tsegaye, D., Moe, S. R., Vedeld, P., & Aynekulu, E. (2010). Land-use/cover dynamics in Northern Afar rangelands, Ethiopia. *Agriculture, ecosystems & environment, 139*(1), 174-180.

Turton, E. R. (1972). Somali resistance to colonial rule and the development of Somali political activity in Kenya 1893–1960. *The Journal of African History, 13*(1), 119-143.

Tyler, N. J., Turi, J. M., Sundset, M. A., Strom Bull, K., Sara, M. N., Reinert, E., . . . Corell, R. W. (2007). Saami reindeer pastoralism under climate change: applying a generalized framework for vulnerability studies to a sub-arctic social– ecological system. *Global Environmental Change , 17*, 191–206.

Unruh, J. D. (1995). The Relationship between Indigenous Pastoralist Resource Tenure and State Tenure in Somalia. *31*(1), 19-26.

Verma, R. (2001). *Gender, land, and livelihoods in East Africa.* Ottawa: International Development Research Centre.

Verma, V. (2004). Engendering Development: Limits of Feminist Theories and Justice. *Economimc and Political Weekly, 39*(49), 5246-5252.

Watts, M. (2009). Commodity. In D. Gregory, R. Johnston, G. Pratt, M. Watts, & S. Whatmore, *The Dictionary of Human Geography* (pp. 99-101). Chichester: Wiley-Blackwell.

Weber, K. T., & Horst, S. (2011). Desertification and livestock grazing: The roles of sedentarization, mobility and rest. *Pastoralism, 1*(1), 1-11.

Woodhouse, P. (2003). African enclosures: a default mode of development. *World Development, 31*(10), 1705-1720.

Wurzinger, M., Ndumu, D., Okeyo, A. M., & Sölkner, J. (2008). Lifestyle and herding practices of Bahima pastoralists in Uganda. *African Journal of Agricultural Research, 3*(8), 542-548.

Wylie, J. W. (2006). Poststructuralist Theories, Critical Methods and Experimentation. In S. Aitken, & G. Valentine, *Approaches to Human Geography* (pp. 298-310). London: Sage.

Yasin, Y. M. (2008). Political History of the Afar in Ethiopia and Eritrea. *Africa Spectrum, 43*(1), 39-65.

Yeh, E. T. (2011). Tibetan pastoralism in neoliberalising China: continuity and change in Gouli. *Area, 43*(3), 165-172.

Yilmaz, S., & Varsha, V. (2008). Local Government Discretion and Accountability in Ethiopia. Georgia: Andrew Young School of Policy Studies, Georgia State Univertiy.

Yohannes, T., Awas, T., & Demisew, S. (2011). Survey and documentation of the potential and actual invasive alien plant species and other biological threats to biodiversity in Awash National Park, Ethiopia. *Management of Biological Invasions, 2*, 3-14.

Yosef, T., Mohammed, Y. K., Mengistu, U., Solomon, A., Kefelegn, K., & Tadelle, D. (2015). Distribution, characteristic features of camel populations (Camelus dromedarius) and the unseen treasures of rock-shelters in relation to camel domestication in Ethiopia. *Global Journal of Animal Science, Livestock Production and Animal Breeding, 3*(3), 145-155.

11 PAPERS

11.1 PASTORAL LIVELIHOODS UNDER PRESSURE: ECOLOGICAL, POLITICAL AND SOCIOECONOMIC TRANSITIONS IN AFAR (ETHIOPIA)

By Mattias Schmidt (Lead Author) and Olivia Pearson

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Abstract

The Afar pastoralists that reside in arid and semi-arid regions of Ethiopia have fallen under increasing pressure as rangelands and natural resources are affected by recurrent droughts, overgrazing, erosion processes, alien plant invasion and governmental land policies. This paper investigates the impact of these environmental, institutional and cultural changes on natural resource management strategies, using empirical research undertaken in four villages of western Afar (Ethiopia) to assess the related challenges to local livelihoods. Qualitative interviews with various stakeholders reveal that the authority and use of traditional common property regimes have been considerably diminished and traditional livelihood practices threatened. Many pastoralists have adopted agriculture in a move away from pure pastoralism to agro-pastoralism, a transition exaggerated by changing property rights and the Federal Government's sedentarisation program, which is presented as a means of reducing poverty. On-going land privatisation and an increased government presence in the region weaken indigenous institutions and cultural practices, with no clear local understanding of the impact on future generations and Afar identity.

Keywords:

Pastoralism; Indigenous knowledge; Natural resource management; Property rights

1.Introduction

The arid and semi-arid regions that cover close to one third of land worldwide are challenging living spaces that offer limited resources and require elaborate adaptation measures. Over centuries people residing within such harsh environments have developed appropriate livelihood management strategies (Berhanu et al., 2007; Mwangi and Dohrn, 2008; Nassef et al., 2009; Tsegaye et al., 2013). However, as a consequence of recent processes such as climate change, population growth, environmental deterioration, modernisation efforts, and growing state influence, these livelihoods have fallen increasingly under pressure (Meier et al., 2007; Kassahun et al., 2008; Okello et al., 2009; Sulieman and Elagib, 2012).

Worldwide, sparsely populated semi-arid regions are gaining more attention than in the past, when state policies were often characterised by ignorance towards such peripheries (Nassef et al., 2009; Whitfield and Reed, 2012). This increased awareness is connected to an enhanced ability of governments to implement widespread changes in infrastructure, education, and

political control, as well as growing interest in the emerging risks and potentials of these environments.

The effects of climate change processes such as rising maximum temperatures and increasingly irregular rainfall are particularly pronounced in semi-arid areas (Ayantundea et al., 2011; Sietz et al., 2011). Exacerbated by population growth and environmental degradation, natural resources essential for rural livelihoods have become scarcer, resulting in a deterioration in living conditions (Sietz et al., 2011; Headey et al., 2014) and a potential increase in conflict (Raleigh and Kniveton, 2012). Areas seen as unused or only marginally utilised – at least in the eyes of external actors such as national governments – have become attractive for politicians and investors, leading to large-scale investments and restructuring projects that combine physical measures on the ground with political and institutional changes (MFEDEPPD, 2003; Galaty, 2013; Easdale and Domptail, 2014).

In recent years, the formalisation of property rights has allowed for large-scale land acquisitions – often termed as land grabbing – in sub-Saharan Africa (Borras et al., 2011; Cotula, 2012; Lavers, 2012a; Smalley and Corbera, 2012; Woodhouse, 2012; Peters, 2013). Investment in land, promising new infrastructure and employment, is attractive for governments of financially poor, but land-rich countries (ANRS, 2008; Alden Wily, 2011; Galaty, 2013). Land privatisation, i.e. transferring ownership rights, encourages interest in agriculture by stimulating a move from semi-nomadic pure pastoralist livelihoods to agro-pastoralism, a combination of arable farming and animal husbandry (Sonneveld et al., 2010). Land privatisation is also justified as a means of enhancing agricultural productivity "based on the assumption that land titling will lead farmers and herders to make greater investments in their production systems" (Bassett 2009, 756).

The trend towards formalisation of property rights poses serious, sometimes existential, threats to local inhabitants. As traditional land use is usually based on customary law without formally secured property rights, indigenous land titles are often viewed as tenuous and local utilisation practices ignored (Alden Wily, 2011; 2012). Governmental influence through the establishment of infrastructures, irrigation schemes or reserve zones means a de jure change in property rights and a de facto expropriation from the people who formerly used these lands. However, while there are undoubtedly vast areas in sub-Saharan Africa that seem only marginally used and where productivities could be enhanced, they are almost never completely idle and remain significant for local livelihoods (Bassett, 2009; Odote, 2013). In particular, pastoralists in (semi)-arid regions with sparse vegetation cover require large ranges for animal husbandry (Onono et al., 2013).

Natural resources such as rangelands are often classified as common pool resources and are used and managed by local communities through common property regimes. Management and utilisation of these relatively low-productivity resources normally necessitates extra labour input, joint efforts, and regulations. Other attributes of common property regimes include the costly exclusion or problematic control of user access and subtractability, by which each user is capable of subtracting from the welfare of other users (Berkes, 1989; Ostrom et al., 2002). However, in contrast to Garrett Hardin's famous Tragedy of the Commons (1968), which states that utilisation

of natural resources by groups inevitably leads to overuse and degradation, Elinor Ostrom (1990; 2009; Ostrom et al., 2002) and many other scholars (Berkes, 1989; Hanna et al., 1996; Agrawal, 2001, 2014; Araral, 2014) show that in certain circumstances management of natural resources by groups or communities is superior to both individual ownership and state ownership. Worldwide, numerous local institutions use common property regimes to successfully and sustainably regulate land and natural resources, regimes essential to the livelihoods of millions of people.

In semi-arid areas of Africa, pasture is traditionally managed through common property regimes that are highly adapted to difficult environmental conditions. The mobility of pastoralists and their herds as well as the flexibility of their common property regimes are rational strategies to withstand droughts, in spite of the variable nature of semi-arid rangelands (Behnke et al., 1993). Institutions regulating access and utilisation of grazing lands are usually flexible and retained through complex social networks and negotiations (Cousins, 2007).

Ostrom (1990) emphasised that trust, reciprocity, and communication are required for successful common property regimes and identified eight design principles for successful common property regimes: clear boundaries, congruent rules, collective choice arrangement, monitoring, graduated sanctions, conflict resolution, organisation rights, and nested units. Without going deeper into the discussion and critiques of the design principles (Agrawal 2001; Quinn et al., 2007; Cox et al., 2010) Ostrom's principles not only help to identify threats to existing common property regimes undergoing current transformation processes but they may also be used to address problems associated with designing fair and sustainable resource management institutions. On the basis of investigations in Tanzania, Quinn et al. (2007) stress the importance and need for flexibility in areas characterised by ecological uncertainty and state the usefulness of the design principles as a framework but warn against using them as a blueprint.

Despite being flexible, pastoral commons, described by Agrawal (2014) as "coupled natural and human systems", and their property regimes have fallen increasingly under pressure due to the aforementioned convergence of external influences (e.g., climate change, state interventions, profit-oriented measures by private actors) and internal developments (e.g., population growth, environmental degradation, conflicts). Bennett el al. (2010) see the inability to define and enforce user rights, inadequate local institutions, diffuse user groups, and ethnic and political divisions as barriers to common rangeland management in South Africa, where the transformation from traditional to new management practices has led to greater economic disparities (Lebert and Rohde, 2007). Mwangi (2007) uses the example of the Maasai in Kenya to show how land privatisation can destabilise land holdings and promote inequality, while Bassett (2009) outlines how new land law leading to modified access and control of lands for pastoralists threatens livestock raising systems in Côte d'Ivoire.

The lowlands of eastern Ethiopia epitomise these transitions as environmental changes and government modernisation efforts challenge pastoralists' traditional livelihood practices (Abule et al., 2005; Davies and Bennett, 2007; Riché et al., 2009; Tsegaye et al., 2010a, b; 2013). Using the example of the Afar people from one of Ethiopia's four pastoral regions, this paper assesses

current transitional processes in (1) Natural Resource Management, (2) Property Rights, and (3) Livelihoods by asking the following questions: What are the current transitions of natural resource management in Afar, both as adaptation strategies to environmental and socioeconomic changes and as consequences of political initiatives? And how do institutional changes like transforming property rights and the government sedentarisation scheme alter traditional authorities, autochthonous common property regimes, and local communities? The results show how challenges to and the impact of current socio-economic conditions are perceived by the Afar, and how they are managed by the various institutions. The discussion outlines the connotations of pastoralist and agro-pastoralist livelihood types and their effect on Afar culture. The conclusions describe the steps that should be considered when redesigning natural resource management systems in Afar.

2. Research Methodology

This study refers to the Afar National Regional State (96,707 km²) of the Federal Democratic Republic of Ethiopia. Research was conducted in four kebeles (villages) of Ewa and Awra Woreda (district) within Zone Four (Fig.1). According to the latest official numbers (ANRS, 2011a, b), around 47,000 inhabitants live in Ewa (127,700 ha) with a population density of 37 persons per square kilometre, while Awra (309,600 ha) is less populated with around 36,000 inhabitants or 12 persons per square kilometre. Kebeles were selected with the cooperation of government and NGO officials working in the region to ensure that those with different subsistence bases were studied, i.e. they had been classified by the government as either "agro-pastoralist" or "pastoralist". For each kebele we documented the availability of natural resources, the presence of indigenous knowledge and local institutions, access to governmental and humanitarian aid, and the perceived economic standing of the community. Through this process, we sought insight into the complex convergence of factors affecting local life. Four kebeles were chosen: Hida (agro-pastoralist) and Hiddalu (pure pastoralist) in Awra, and 1st Badoli (agro-pastoralist) and Buti (pure pastoralist) in Ewa.

Primary qualitative data were generated from fieldwork conducted during October and November 2013 and March 2014. Ethnographic rural fieldwork included 20 semi-structured qualitative group interviews (12 male, four female, and four male and female) and 27 in-depth, semi-structured qualitative interviews with key informants (22 male, five female). Rural key informants include local stakeholders, village elders and clan leaders, with informal interviews and conversations also carried out at social gatherings, during meals, and at watering points to obtain the female perspective. The formal institutional perspective comes from 15 in-depth interviews (14 male, one female) and one focus group (male) held in both the field and the cities of Semara, Logia, and Addis Ababa with representatives from the Bureau of Pastoral and

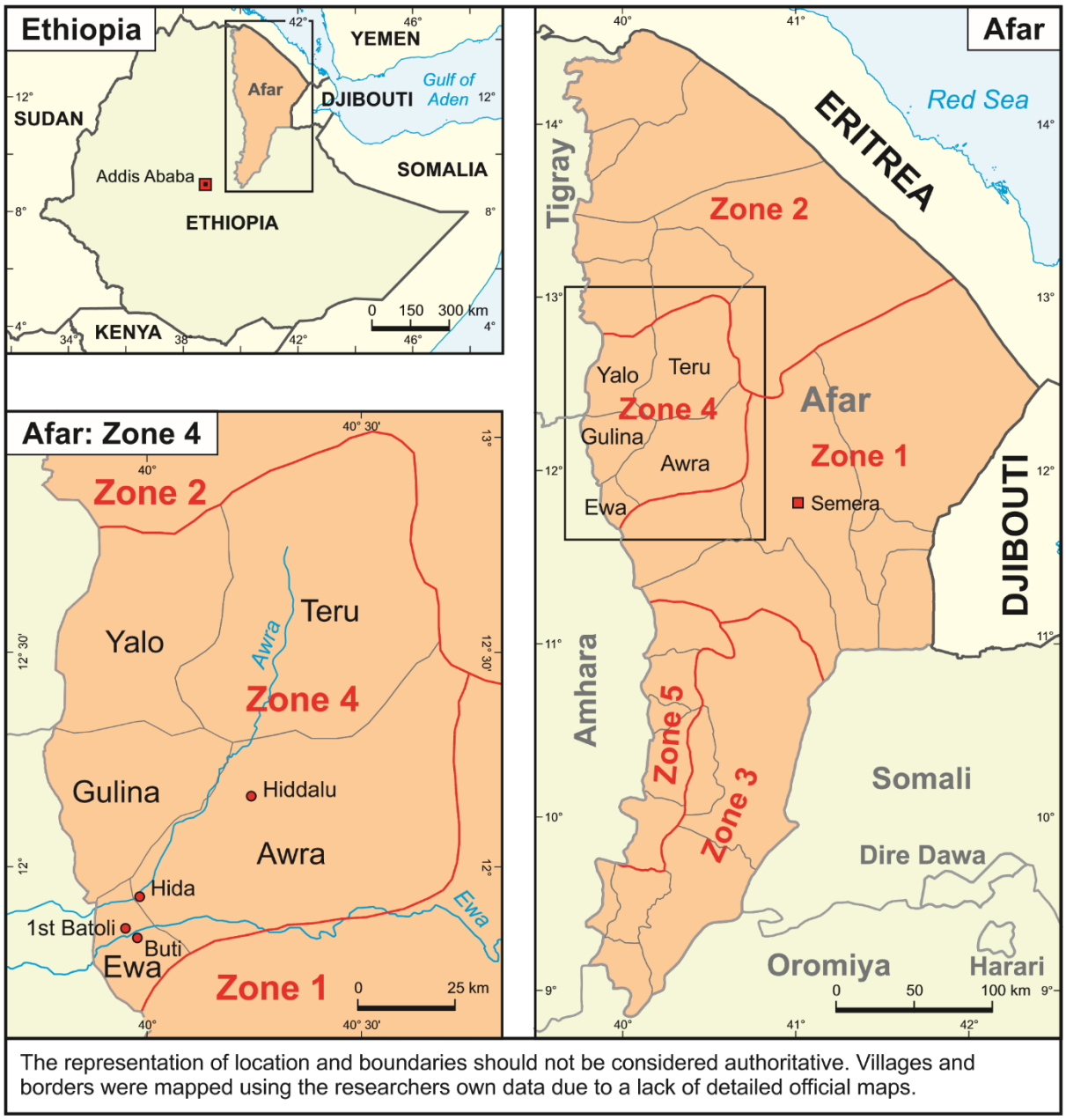

Fig 1. Location of the study area in Afar

Agricultural Development (BoPAD), the Water Department and NGOs. Table 1 provides a list of the gender, age and occupation of those who participated in formal interviews and focus groups. Researchers also reviewed previous studies, relevant policies, legislation and reports pertaining to natural resource management and property rights in Afar.

To analyse present threats to and influences on the Afar pastoral commons as well as the transition of pastoral livelihoods, we used three significant interacting indicators: environmental, institutional, and cultural change. These indicators were used to identify the differences between the past and present states of our research foci.

Table 1: Demographics of formal interview participants

	Hida	Hiddalu	1st Badoli	Buti	Other rural areas	Non-rural	Total
Total interviewed	35	19	27	23	27	8	139
Individual Interviewee [a]	8	7	4	6	7	5	37
Group Interviewee [b]	27	12	23	17	20	3	102
Gender							
Male	35	9	16	14	23	7	104
Female		10	11	9	4	1	35
Age							
30 <	6	2	4	4	2	2	20
31 to 45	16	8	10	9	15	4	62
46 to 60	8	6	10	10	9		43
61 >	5	3	3		1	2	14
Occupation							
Pastoralist		17	11	19	11		58
Agro-pastoralist	32		15	1	11		59
Other [c]	3	2	1	3	5	8	22

a. 14 interviewees were interviewed multiple times
b. Only those who actively participated in the focus group were counted
c. Government and NGO employees, and cultural experts

Pastoralist livelihoods are intrinsically connected to and heavily dependent on the availability of and access to natural resources. Recognised environmental changes in the Afar region include recurring droughts, degradation of rangelands, soil erosion, and flash flooding, changes aggravated by deforestation and overgrazing (Tsegaye et al., 2010a; Aynekulu et al., 2012). Each informant was questioned about the past and present state of natural resources and was asked to describe the landscape of their youth compared with today. Native and alien plants were listed, with information sought on their previous and current prevalence, their uses, and the impact of their loss or introduction on the land and people. Participants provided their understanding of why availability and quality of natural resources have changed, the catalysts for these changes, and their ramifications. Each participant was asked to describe what natural resource management techniques are used in the region, the processes that lead to a change in preferred techniques, and their outcomes.

Numerous formal and informal institutions influence natural resource management in Afar through the creation and enforcement of guidelines and arrangements that define access, use, and ownership of natural resources (Mwangi and Dohrn, 2008). Formal institutions include government departments, NGOs, and foreign government agencies. Informal institutions include those functioning within clan structures, with significant actors being clan leaders, respected elders, and the members of various committees. Informants were asked to indicate the past and

current relevance of these institutions and how they impact their lives and the area. Rural participants reflected on the validity and strength of formal and informal institutions, while institution employees detailed their job specific duties as well as their perception of their institution's role and impact.

Cultural change is the third indicator. It is used in this paper to address the influence of complex transitions on Afar lives and livelihood practices to see how they make sense of and adapt to their changing surroundings. Cultural change highlights how clan life and traditions are not static but rather are in a constant state of transformation due to internal and external processes. Participants reflected on past and present cultural beliefs and practices, the significance of changes to these practices, how these changes were brought about, and their future impact. The shift from communal to private land management and its related cultural repercussions were also addressed. This indicator facilitated an enhanced understanding of the pastoralist perspective, enabling greater insight into the actions of Afar pastoralists and their reactions to introduced policies and humanitarian aid.

Data obtained during fieldwork were recorded and analysed, a process combining observations with the results of formal and informal interviews and focus groups. Kebeles were assessed independently and then in relation to each other. Results compiled after initial fieldwork were discussed with (agro)-pastoralists from the focus kebeles then crosschecked through interviews held during the second fieldwork block with local leaders from six additional kebeles. A post-structural engagement, i.e. a discourse analytical view, was applied to document the pastoralists' perspective; this allows for a greater understanding when assessing the actions and reactions of Afar pastoralists to introduced policies and humanitarian work.

3.Study Area and Traditional Natural Resource Management

The research site is located in Zone Four of the Afar National Regional State at the foot of the Ethiopian Highlands at altitudes between 800 and 1,200 m and has a semi-arid climate (ANRS, 2011a, b). Two perennial rivers, Ewa and Awra, are found in the study area and are accompanied by several temporary water courses that appear after strong rainfalls. Flash floods originating in the highlands – previously a vital tool for rangeland regeneration – and various forms of erosion detrimentally affect pasturelands.

An understanding of traditional natural resource management is required in order to evaluate the impact of introduced management methods. The following section documents traditional natural resource management practices with data primarily derived from interviews held with local leaders, elders and cultural experts. The nomadic Afar culture has created tools to sustain livelihoods based around mobility and resource access. The Afar migrate not only because of water and fodder scarcity, but also to allow rest periods for vegetation regeneration and to provide animals with a variety of fodder types. Iddo, the process of reconnaissance, is implemented prior to movement, with routes carefully plotted to maximise livestock and pastoralist security. "Afar don't look for one place, they go to four or five. They say this is the number one, two, three, four" (Cultural Expert, Logia, 7.11.2013). Potential stations (areas with water and/or fodder) are investigated then ranked against imperative criteria like the presence

and level of resources and conflicts. Scouts use daagu (knowledge exchange) to communicate with each other, thereby accessing existing knowledge of rangeland conditions.

The Afar strategically mix their herds, which include camels, cattle, goats and sheep, to utilise various types of pasture and for security reasons; the loss of a specific group of livestock does not then automatically equate to the loss of a household's entire herd. Pastoralists use the condition of their livestock, their body shape, and milk quality to gauge pasture suitability and determine when movement should occur. They migrate with herds of varying size depending on the amount, strength and health of their livestock, e.g., whether they have just given birth and/or have young animals.

Afar customary law states that the wammo (primary residents) have preeminent ownership of their ancestral domain, with proprietary rights that are communal and non-transferable (Hundie and Padmanbhan, 2008). Secondary access is granted to neighbouring pastoralists. Completely barring access to rangelands is forbidden, but restrictions can be applied. Desso (traditional rangeland management), for example, allows clans to regulate access to designated areas to prevent overgrazing. "Everyone has the right to protect his land for grazing, but desso can bring on fights with sticks, guns, knives. If someone gets hurt, the clan of the injured person will enact their revenge" (Female Elder, Hiddalu, 29.10.2013). It is a punishable offense to completely deny entry to rangelands; if access is restricted and animals die as a result, the deaths are attributed to those who imposed the restrictions.

Traditional water utilisation and management is centred on access to perennial and seasonal rivers and the construction of water points. The most commonly constructed is the buyyi, a shallow temporary well dug along riverbanks. An ela, a well often deeper than ten meters, is a more permanent structure and less common. Boodas, uncovered wells in flooding plains, are created to catch water coming from the highlands.

Coox dacayri, the protection of trees and rangelands, centres around a sound knowledge of the status of existing flora on rangelands within a clan's ancestral domain. "Traditionally it is a crime to cut trees, but during drought times trees are cut for animals" (Clan Leader, Buti, 14.11.2013). Alterations to vegetation must be carried out with consent, and clan members or outsiders who remove or damage flora without permission are punished.

4. Results

4.1 Transitions of Natural Resource Management: Changes and Adaptation Strategies

"During the past 10 years, all land and rains have changed. When we tried to create wells or prevent further erosion, the water power was too great and we failed. One month after rains, we feed our animals from tree cuttings, no grass is found on the ground. So we cut the trees and shortly all trees are gone and we must go to the highlands for food" (Male Elder, Hiddalu, 31.10.2013).

Both female and male residents stated that a lack of water and recurrent droughts are the most detrimental threats. The repeated and lengthy nature of these droughts – the last serious one,

Arkakis ("Terrifying"), 2002/3 to 2007/8 (ANRS, 2008) – strengthen their belief that droughts are no longer abnormal occurrences. Rainy seasons have changed too; Karma (June to September) and Sugum (March to April) are shorter and Dadda (December) has disappeared. The increase in sporadic and variable rainfall patterns has been instrumental in the diminished capacity of soil to absorb water (Meze-Hausken, 2004). The amount of time that water remains in seasonal rivers following rains has decreased, from up to three months to only three days. "When rains come, they pass too quickly. In the morning maybe you can find water, once rain stops you can only find water in wells and pits. Water doesn't remain, only stays for one day" (Male Elder, Hiddalu, 29.10.2013). This has led to a stark reduction in the capacity of traditional water points, or buyyi, to produce water and increased the frequency with which residents lacking permanent, nearby water sources have to travel. The effects on males and females differ; males must spend more time finding suitable watering points for animals, and females must spend more time collecting water for human consumption. All females interviewed reported that the time and/or distance required to collect water has increased over the past 10 years and continues to increase annually. As local points dry up, more time is spent collecting water both due to an increase in distance between the points and, when drawing from wells or tanks, an increase in people using one water source. Hiddalu females without a permanent water source make return trips of up to eleven hours every two to three days to collect water; "we wake up at 3 am and come back at 2 pm, sometimes every second day and sometimes every third" (Hiddalu Females, 27.10.2013). While this trip was previously only done between rainy seasons, the disappearance of the December rains and shortening of the other rainy seasons mean the trip is made almost all year long, the exception being during rains and the days immediately following.

The second largest threat reported by residents is erosion. "The land is thirsty and crying like the kid that misses its mother. It needs water but we don't know what to do." (Male Elder, Buti, 14.03.14). Residents reflected on the recent inability of rangelands to retain flash flood water, water previously utilised for regenerative purposes. The amount of water funnelled directly into seasonal and perennial rivers and not absorbed by pastures is increasing annually, and flash floods also exacerbate erosion caused by road construction. Increased stream bank erosion removes riverbank flora that formerly provided fodder and fruits for human consumption. The most common example of residents working to restore or prevent further destruction is when communal buildings in settlement centres are threatened by extreme weather events, such as flash flooding. Other limited restoration attempts include hillside terracing, filling in gullies, and local gabion construction in riverbeds and erosion gullies, however they are insufficient. Erosion is difficult to curtail partially due to the size of the rangelands and low population density. Several governmental and non-governmental projects deal with erosion control but a preference for techniques that function in the Ethiopian Highlands, including hillside terracing and gabion construction, cannot adequately address problems forged in the lowlands. Gabions are either washed away or water erodes surrounding land; each year, gullies extend further, wider, and deeper. For example, an irrigation weir gabion constructed in 2012 in Ewa was damaged during the following rainy season and locals have been unable to repair it due to a lack of appropriate equipment and knowledge.

Throughout the focus region residents reflected on a stark decrease in availability and quality of pastures over the past three decades. The lack of rains and increased erosion have worsened rangeland conditions, a change perceived by the Afar to be the prime catalyst for decreasing herd sizes (Meze-Hausken, 2004; Tsegaye et al., 2010a). "Lots of people and animals were here [...] They started to disappear 20 years ago. Trees and grasses are gone due to a lack of water and no one has done anything to bring them back" (Male Elder, 1st Badoli, 11.11.2013). Residents across all four kebeles reported that the initial signs of decreasing grass regeneration were seen in 1996 but have increased in severity since 2007. Rangelands now provide less essential grazing pasture, such as durfu (Chrysopogon plumolosus) and malif (Andropogon canaliculatus), and weakened livestock die due to the increased distances between overcrowded and overgrazed stations. A local preference for cattle, combined with a lack of suitable fodder, contributed to livelihood vulnerability after prolonged droughts caused livestock to die and inhabitants unable to restock animals. This brought about a preference for browsers, which are more apt at digesting dry-matter pasturage and can survive longer without water.

Another rangeland management challenge throughout Afar is the widespread invasion of alien flora such as Prosopis (Rettberg and Müller-Mahn, 2012) and Partinium, plants that grow in abundance in poor soil. Partinium, locally known as "democracy", threatens farming and when consumed by livestock turns milk bitter. Residents stated that a hectare plot can become overrun in a month if not strictly controlled. The expansion of Garunta (Acacia nubica), while a native plant, is also perceived as detrimental to crops and livelihoods. "Garunta is not interesting for humans or livestock. It provides cover for hyenas and other animals that attack livestock, and grass can't grow in the same area" (Male Elder, 1st Badoli, 11.11.2013). Residents of 1st Badoli removed Acacia nubica plants from their settlement in 2011, but the plant's proliferation into rangelands was too severe and widely dispersed to effectively manage.

In contrast to other areas within Afar and the Somali Region where charcoal production is prominent and exacerbates rangeland degradation (Devereux, 2006; Kassahun et al., 2008; Oduori et al., 2011), in the study region deforestation is primarily performed for local use only. Cutting down trees for firewood is more severe near kebele and woreda centres, while the breaking of tree branches to provide fodder for livestock is more prominent in remote areas. Traditional leaders in Ewa have relinquished their control over traditional deforestation prevention practices, placing responsibility upon government officials. "We know it is bad for the land, but we must feed our animals. [...] Before, people used to take permission from clan leaders; that time is passed. Now it is the time of the government" (Buti Clan Leader, 14.11.2013). Permission is no longer sought from clan leaders, and leaders no longer punish culprits; the presence and importance of coox dacayri has deteriorated. The reduction in phytomass also leads to changes to traditional housing construction; due to insufficient quantities of the local grass gorrobu (Panicum coloratum), structures are now supplemented by woven mats, plastic sheeting, and fabric.

A major shift in rangeland use regulation, previously officiated by clan officials, was the removal of desso in 2004 by government officials. When desso is implemented, those guilty of enforcing it are punished by the government through non-traditional channels. This occurred in Hiddalu in

2009, when the clan and youth leaders were found guilty of applying desso and sentenced to four months in prison. Rangelands and pastures once locally managed are increasingly run by government officials, with clan leaders engaged for cultural support.

A decline in the number of functioning and accessible stations and rangelands causes migration problems and promotes hostility. For example, changes to rangelands have sent the Afar into neighbouring Amhara and Tigray highland regions, increasing conflicts. In 2012/13, Ewa pastoralists preferred to go to Amhara, particularly Habru, Kamise, and Kobo Woredas, despite entrance restrictions placed upon highland rangelands by the Amhara; i.e., access taxes. While no complete official records exist detailing the number of deaths, casualties, or acts of livestock theft, between 2006 and 2010 there were 22 reported Afar deaths in the highlands, and livestock raiding was rampant. Kebele government officials, not clan, travel with their constituents into neighbouring ethnic regions prior to any major migration to facilitate official introductions and establish access guidelines. While these formal introductions have diminished conflict frequency and intensity, violence has not been eradicated. Rangeland use inside and outside of the Afar Region during the 2013 dry season resulted in conflicts, some of which ended in murder, assault, and theft of weapons and livestock.

4.2 Changes in Property Rights and the Governmental Sedentarisation Scheme

Formally defining property rights for one group often leads to the exclusion of others, thereby creating a new potential conflict source. The move away from communal tenure over rangelands to land privatisation bestows control to a smaller group, even allocating individuals the right to exercise excludability. The privatisation and fragmentation of land restricts access to natural resources and leads to the overgrazing of available rangelands (Hagmann and Alemmaya, 2008), thus increasing competition and conflict potential.

A strong economic push drives the privatisation commonplace in various African countries (Mwangi, 2007; Mwangi and Dohrn, 2008) as governments benefit from leasing land to foreign countries and the conversion of land to state farming. Land grabs in Afar include those done to facilitate large-scale sugarcane plantations (Müller-Mahn et al., 2010), a change that damages the local ecosystem. This form of privatisation also impacts livelihood practices, as land bordering perennial rivers provides dry season sustenance to locals and those originating from more arid regions. However, this paper focuses on the consequences of land privatisation through sedentarisation and small-scale farming.

The Ethiopian Government's sedentarisation policy, an attempt to improve livelihood security and decrease reliance on government support, was created in 2003 after deeming that rural agricultural efforts were inadequate and unable to provide sufficient food for those in drought-afflicted regions (GFDRE, 2003). But sedentarisation also increases the state's control over nomadic peoples (Lavers, 2012b), enhances the potential to tax rural peoples, and impacts socio-cultural practices (Stratford and Davidson, 2002). This policy has been accompanied by modernisation efforts (Makki, 2012) such as amendments to property rights, and has brought on the types of challenges around land tenure reform already witnessed in numerous African countries (Peters, 2008). An example is South Africa's Namaqualand region, where a

formalisation of the commons that was designed to curb land degradation and decrease poverty actually increased impoverishment (Lebert and Rohde, 2007).

The 2008 Afar National Regional State Rural Lands Administration and Use Policy, which introduced codified property rights, facilitates a move away from the traditional understanding of communal natural resource ownership towards one of privatised ownership. It entails the privatising of rangelands through the regulation of grazing rights and resource access down to a household level. Rural regions and rangelands in Afar that do not have codified ownership rights are the common shared property of the Ethiopian Government and the Afar. Article 40(5) of Ethiopia's constitution states: “Ethiopian pastoralists have the right to free land for grazing and cultivation as well as the right not to be displaced from their own lands” (ANRS, 2008, 7). The policy aims to provide a legal tenure over the commons, reiterating that traditional property rights in Afar are not perceived to be tantamount to modern laws as seen in other sub-Saharan countries (Alden Wily, 2011). However, the processes undertaken to privatise land are not well understood by local residents (see also Mwangi, 2007). Unlike under past policies, i.e., during the Derg Regime (Rettberg, 2010), land titles awarded to outside bodies (e.g., for large-scale agricultural investments) should be granted in conjunction with compensation paid to clans with ancestral claim over the land; those with secondary level access receive no remuneration (ANRS, 2008).

Changes to property rights allow for private ownership, permitting land to be leased, bequeathed, and inherited but not sold (ANRS, 2008). The Government’s position is that the prevention of sales will protect the impoverished (GFDRE, 2003). But while this step may preclude the immediate sale of land, it has not stopped the unofficial leasing of lands to highlanders, which could potentially result in more displaced peoples, as seen in other sub-Saharan countries (Peters, 2008). An additional concern that has not been addressed is whether the current allocated plot size will be able to produce adequate crops once divided between heirs. The sustainability of this approach is thus questionable, particularly in regions with limited water access where the potential for future conflicts is high once all appropriate land has been allocated.

Current government practice awards plots of between 0.5 and 1.5 to households based on their size; households are traditionally determined around a male, his wife or wives, and their children. Government cleared and irrigated land is given to applicants on a ‘first come, first served’ basis (Woreda Head, Awra, 20.10.2015). The regional government’s focus on the agro-pastoralist kebeles whose residents are the only ones awarded land titles. To be constitutionally classified as a resident, one must reside in the area for four years or more. While it is permitted for females to own land, un-married women or widows with children are able to register for land ownership, they are granted smaller plots as they are deemed less capable than men. Gender equality with regards to formal property rights is lacking in Ethiopia (Crewett and Korf, 2008) as in other African dryland regions (Mwangi and Dohrn, 2008).

Land chosen for settlement projects should be ‘unoccupied land’ (GFDRE, 2003, 41), however this is not the case in the focus areas. In Awra, the chosen settlement zone Hida has functioned as an

agro-pastoralist kebele for more than 12 years, with residents holding both codified and unofficial land titles. In Ewa, the Horongo settlement site has been constructed on a traditional rangeland; in March 2014 rangeland access was still possible for pastoralists because only approximately 1,000 households had been settled. However as the program continues complete access will be denied once the whole rangeland is converted into farmland, as seen already in some places of the Somali Region (Devereux, 2006).

"Today the rich man is the one who owns the farm" (Agro-pastoralist, Hida, 19.11.2013). Public interest in the settlement scheme stems from more than governmental guidance and there is a difference in how sedentarisation is perceived by each gender. Males see it as necessary response to the failing pastoralist system, while females emphasise the additional services it can provide and are drawn to visible rural development; i.e., education, health services, and specifically access to clean water. Another mitigating factor is a proximity to roads, allowing for faster access to delivered food aid. Residents and government officials alike reflect the growing dependence on food aid during dry seasons and extended periods of drought.

While farming is not representative of Afar culture, it is not a new concept. In the focus area land was originally cultivated during the Derg Regime in 1972; however, after the regime fell the area became overgrown. Farming is dependent on a proximity to a perennial water source. Attempts to cultivate land through rainwater harvesting were thwarted due to insufficient water, and Hiddalu residents endeavoured unsuccessfully for two years to produce crops (2006-7). Importantly, land with perennial water sources does not ensure success. Crops can fail when too many farms rely on irrigation water sources or from poor water management.

5. Discussion: Pastoralist to Agro-pastoralist

"Pastoralism is honey because man is able to get the financial support he needs from the sale of livestock. Agriculture is like milk because when you drink milk your stomach is full and it cools you down. Both do not share the same advantages, but when the two are combined the quality of life improves." (Clan Leader, Hida, 10.10.2013)

Empirical data show that intensified needs for livelihood diversification and interests in sedentarisation and agriculture are the result of changes in access to, the conditions and governance of natural resources. Residents turn to introduced livelihood practices, which do not address the increasing problem of rangeland degradation as a whole. Two key transitions, from traditional to formal governance and from pastoralism to agro-pastoralism, have created an ownership gap in natural resource management; neither pastoralists nor agro-pastoralists believe themselves to be responsible for and in charge of rangeland management. Traditional leaders increasingly denounce indigenous practices, deeming them insufficient, and assert that management is the government's responsibility. Within Zone Four a prominent resident belief exists that land management is the duty of the sedentary Afar. While agro-pastoralists do utilise introduced techniques to protect land when farming, these techniques are typically only applied to their immediate surroundings and not into adjacent rangelands where pure pastoralists no longer use traditional practices. Thus the role of local land management is left unattended and rangelands continue to deteriorate. Additionally, privatisation reduces accessible rangelands and

the removal of traditional exclusion activities has lead to the intensified usage of the remaining communal rangelands. This results in deteriorated pastoralist livelihoods and worsening livestock conditions.

Land privatisation for small-scale farming, although not proportional to large-scale agricultural investments, impacts the present population and most importantly, future ones through restricted access. Advocating agriculture leads to barring pastoralist entry into rangelands designated for small-scale farming. Agro-pastoralism is perceived to be capable of providing greater livelihood security, and typically granting secured access to land serviced by either perennial rivers or ground water sources. As agro-pastoralist numbers grow, increasing the presence of farmland and decreasing access for pastoralists to fertile areas, so does the potential for a new form of land and natural resource based conflicts.

Changes in property rights, transitioning from a culture where land was neither private nor able to be bequeathed, to one where it is possible, occur seemingly without recognition of the consequences. Afar culture doesn't embody property inheritance; traditionally land belongs to the clan as a collective. However, land now obtained through sedentarisation can be legally bequeathed. Just how land sufficient to provide for one household will be divided up between offspring and allocated, be they male or female, has not been determined. What bearing this will have on large households that rely solely on farming has not been factored into the settlement project. Worryingly, there is a lack of local awareness as to what impact these significant changes will have in the future.

The superficial prescribed terminology of pastoralist and agro-pastoralist, introduced by the government, simplifies and generalises peoples utilising diverse livelihood practices, resulting in a weak categorisation that does not allow for the complex nature of livelihood practices to be understood. External stakeholders state pastoralist represents those who only carry out animal husbandry and do not incorporate non-traditional practices into their daily lives; a pure pastoralist still utilises indigenous practices. An agro-pastoralist has begun the modernisation process by adopting sedentary livelihood practices; primarily agriculture. An agro-pastoralist utilises animal husbandry and farming to diversify income-generating activities.

Numerous factors are neither included nor determined by these two terms: how the change is decided and by whom as well as the ramifications felt by the individuals, their families and communities. An agro-pastoralist may belong to a pure-pastoralist family and be the sole household member who has adopted agriculture. Livestock numbers are not necessarily reduced through the conversion, rather absorbed into the family's herd thus the pressure on rangelands is not diminished. What is not taken into account when using these livelihood classifications is the fact that, within Afar, the term pastoralist symbolises much more than a livelihood practice. Since time immemorial the Afar have perceived pastoralism to be an embodiment of the people and synonymous with their identity, a trait shared by other ethnic pastoralists (Upton, 2014). This correlation between a livelihood practice and an ethnic group demonstrates the cultural importance of the heterogeneous relationships between the Afar, their land and herds. Even some urban Afar residing in Logia still identify as pastoralists.

How households begin to farm, either voluntary or involuntary, impacts how they fare. Those who voluntarily take up farming are more likely to succeed while failure is more prevalent with those forced to change livelihood patterns, either through the loss of their herd or by external influences. “Treat them where they are. Don’t address the position they’re not in. Address them in their own address. These people are pastoralists.” (Cultural Expert, Logia, 7.11.2013). Whether agriculture will be a temporary measure that ceases once herds are restocked, as with the Maasai (Upton, 2014), or a permanent move remains to be seen.

6. Conclusions

Climate change, an increasing government presence, the transition away from common property regimes and modernisation processes are transforming Afar landscapes, culture, and livelihoods. Recurrent droughts, decreasing rains, erosion processes, rangeland degradation or the loss of rangelands through land acquisition and small-scale farming threaten Afar livelihoods. Several of these threats have not been witnessed during the lifespan of current elders and indigenous management systems previously sufficient are now deemed incapable of curbing physical alterations or the increasing pressures on rangelands. Changes to Afar culture have been driven by the demotion of pastoralism as the preferred livelihood practice and the devaluation of the traditional governance systems. As traditional management techniques loose popularity and relevance, the control that traditional governance institutions wield weakens. Pastoralism is no longer seen as the paramount livelihood practice, a shift influenced by the mentioned environmental changes, sedentarisation schemes, and institutional alterations.

To deal with the deteriorating state of natural resources, numerous issues need to be addressed so that the most suitable management regimes can be put into practice. Lessons learnt from and the appropriation of methods found in similar arid and semi-arid environments would be more suited to Afar, as opposed to those used in the Ethiopian highlands. Management regimes must also consider workforce availability in the sparsely populated vast Afar lowlands and individual goals of the concerned. Programs paying residents to work on natural resource management, while temporarily assisting their economic well-being, increase local reluctance to act without external support or payment. This constrained level of participation is further weakened by the pastoralists’ belief that land management is the duty of agro-pastoralists.

The transition from communal land to private ownership has, partially, been done under the guise of improving the welfare of the Afar. Institutional change in Afar has diminished the strength of traditional leaders and empowered the government. Altering the common property regime used by the Afar reduced the power of customary institutions and has been a driving force behind the diversification of livelihoods; private land ownership draws the Afar away from pure pastoralism and towards agriculture. Small-scale farming reduces pastoralist access to natural resources, as do unprecedented changes in property rights. Transitioning from a common property regime towards land privatisation, without considering conceivable future negative repercussions, has clear potential to increase natural resource conflicts within an already conflict-laden region. Local comprehension of the possible consequences is worryingly low to non-

existent. For current settlement programs in Afar to be successfully implemented and utilised by future generations, inheritance concerns need to be realised and addressed.

Livelihood changes also alter the cultural identity of the Afar. No longer is pastoralism synonymous with Afar livelihoods. If and how pastoralists and agro-pastoralists are capable of adjusting to fit into a changing Afar, both now and in the future, is still to be seen. Further studies would be required to expand on how the introduced livelihood classification, 'agro-pastoralist', impacts Afar culture and identity.

Institutional and policy support of traditional pastoralism practices, which would strengthen and assist the Afar, is insufficient. As the fragmentation of communal lands through privatisation does not necessarily enhance livelihoods (Bassett, 2009), as seen in other regions (Bennett et al., 2010), official institutional rangeland management needs to be appropriately addressed in order to sustainably utilise this sparse semi-arid region and provide secure livelihoods for its residents.

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References

Abule, E., Snyman, H.A., Smit, G.N., 2005. Comparisons of pastoralists' perceptions about rangeland resource utilisation in the Middle Awash Valley of Ethiopia. Journal of Environmental Management 75, 21–35.

Agrawal, A., 2001. Common property institutions and sustainable governance of resources. World Development 29, 1649–1672.

Agrawal, A., 2014. Studying the commons, governing common-pool resource outcomes: Some concluding thoughts. Environmental Science and Policy 36, 86–91.

Alden Wily, J., 2011. The law is to blame: the vulnerable status of common property rights in Sub-Saharan Africa. Development and Change 42, 733–757.

Alden Wily, L., 2012. Looking back to see forward: the legal niceties of land theft in land rushes. Journal of Peasant Studies 39, 751–775.

ANRS (Afar National Regional State), 2008. Afar National Regional State Rural Lands Administration and Land Use Policy. Semara, Ethiopia.

ANRS (Afar National Regional State), 2011a. Afar National Regional State Awra Technical Report: Land Degradation Assessment. Semara, Ethiopia.

ANRS (Afar National Regional State), 2011b. Afar National Regional State Ewa Technical Report: Land Degradation Assessment. Semara, Ethiopia.

Araral, E., 2014. Ostrom, Hardin, and the Commons: a critical appreciation and a revisionist view. Environmental Science and Policy 36, 11–23.

Ayantundea, A.A., de Leeuwb, J., Turner, M. D., Said, M., 2011. Challenges of assessing the sustainability of (agro)-pastoral systems. Afar National Regional State Livestock Science 139, 30–43.

Aynekulu, E., Aerts, R., Moonen, R., Denich, M., Gebrehiwot, K., Vågen, T., Mekuria, W., Boehmer, H.J. 2012. Altitudinal variation and conservation priorities of vegetation along the Great Rift Valley escarpment, northern Ethiopia. Biodiversity and Conservation 21, 2691-2707.

Bassett, T., 2009. Mobile pastoralism on the brink of land privatization in Northern Côte d'Ivoire. Geoforum 40, 756–766.

Behnke, R., Scoones, I., Kerven, C. (Eds.), 1993. Range Ecology at Disequilibrium: New Models of Natural Variability and Pastoral Adaptation in African Savannas. Overseas Development Institute, London.

Bennett, J., Ainslie, A., Davis, J., 2010: Fenced in: Common property struggles in the management of communal rangelands in central Eastern Cape Province, South Africa. Land Use Policy 27, 340–350.

Berhanu, W., Colman, D., Fayissa, B., 2007. Diversification and livelihood sustainability in a semi-arid environment: A case study from southern Ethiopia. Journal of Development Studies 43, 871–889.

Berkes, F. (Ed.), 1989. Common Property Resources: Ecology and Community-based Sustainable Development. Belhaven Press, London.

Borras, S.M., Hall, R., Scoones, I., White, B., Wolford, W., 2011.Towards a better understanding of global land grabbing: an editorial introduction. Journal of Peasant Studies 38, 209–216.

Cousins, B., 2007. More than socially embedded: the distinctive nature of 'communal tenure' regimes in South Africa and its implications for land policy. Journal of Agrarian Change 7, 281–315.

Cotula, L. 2012. The international political economy of the global land rush: A critical appraisal of trends, scale, geography and drivers. Journal of Peasant Studies 39, 649–680.

Cox, M., Arnold, G., Tomás, S.V., 2010. A review of design principles for community-based natural resource management. Ecology and Society 15 (4), 38.

Crewett, W., Korf, B., 2008. Ethiopia: Reforming land tenure. Review of African Political Economy 35, 203–220.

Davies, J., Bennett, R., 2007. Livelihood adaptation to risk: Constraints and opportunities for pastoral development in Ethiopia's Afar region. Journal of Development Studies 43, 490–511.

Devereux, S., 2006. Vulnerable Livelihoods in Somali Region, Ethiopia. Institute of Development Studies Research Report 57, Brighton.

Easdale, M.H., Domptail, S.E., 2014. Fate can be changed! Arid rangelands in a globalizing world: a complementary co-evolutionary perspective on the current 'desert syndrome'. Journal of Arid Environments 100-101, 52–62.

Galaty, J., 2013. Land grabbing in the Eastern African Rangelands. In: Catley, A., Lind, J., Scoones, I. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins. Routledge, New York, pp. 143–153.

Government of the Federal Democratic Republic of Ethiopia (GFDRE), 2003. Rural Development Policy and Strategies. Addis Ababa.

Hagmann, T., Alemmaya, M., 2008. Pastoral conflicts and state-building in the Ethiopian lowland. Afrika Spectrum 43, 19–37.

Hanna, S., Folke, C., Mäler, K.-G. (Eds.), 1996. Rights to Nature: Ecological, Economic, Cultural, and Political Principles of Institutions for the Environment. Island Press, Washington D.C.

Hardin, G., 1968. The tragedy of the commons. Science 162, 1243–1248.

Headey, D., Taffesse, A. S., You, L., 2014. Diversification and development in pastoralist Ethiopia. World Development 56, 200–213.

Hundie, B., Padmanabhan, M., 2008. The transformation of the Afar commons in Ethiopia: State coercion, diversification, and property rights change among pastoralists Collective Action and Property Rights. IFPRI No. 87, Washington D.C.

Kassahun, K., Snyman, H.A., Smit, G.N., 2008. Impact of rangeland degradation on the pastoral production systems, livelihoods and perceptions of the Somali pastoralists in Eastern Ethiopia. Journal of Arid Environments 72, 1265–1281.

Lavers, T., 2012a. 'Land grab' as development strategy? The political economy of agricultural investment in Ethiopia. Journal of Peasant Studies 39, 105–132.

Lavers, T., 2012b. Patterns of agrarian transformation in Ethiopia: State-mediated commercialisation and the 'land grab'. Journal of Peasant studies 39, 795–822.

Lebert, T., Rohde, R., 2007. Land reform and the new elite: exclusion of the poor from communal land in Namaqualand, South Africa. Journal of Arid Environments 70, 818–833.

Makki, F., 2012. Power and property: commercialization, enclosures, and the transformation of agrarian relations in Ethiopia. Journal of Peasant Studies 39, 81–104.

Meier, P., Bond, D., Bond, J., 2007. Environmental influences on pastoral conflict in the Horn of Africa. Political Geography 26, 716–735.

Meze-Hausken, E., 2004. Contrasting climate variability and meteorological drought with perceived drought and climate change in northern Ethiopia. Climate Research 27, 19–31.

Ministry of Finance and Economic Development Economic Policy and Planning Department (MFEDEPPD), 2003. Rural Development Policy and Strategies. Addis Ababa.

Müller-Mahn, D., Rettberg, S., Getachew, G., 2010. Pathways and dead ends of pastoral development among the Afar and Karrayu in Ethiopia. European Journal of Development Research 22, 660–677.

Mwangi, E., 2007. Subdividing the commons: Distributional conflict in the transition from collective to individual property rights in Kenya's Maasailand. World Development 35, 815–834.

Mwangi, E., Dohrn, S., 2008. Securing access to drylands resources for multiple users in Africa: A review of recent research. Land Use Policy 25, 240–248.

Nassef, M., Anderson, S., Hesse, C., 2009. Pastoralism and climate change: enabling adaptive capacity. Humanitarian Policy Group. Overseas Development Institute, London.

Odote, C., 2013. The dawn of Uhuru? Implications of constitutional recognition of communal land rights in pastoral areas of Kenya. Nomadic Peoples 17, 87–105.

Oduori, S. M., Rembold, F., Abdulle, O. H., Vargas, R., 2011. Assessment of charcoal driven deforestation rates in a fragile rangeland environment in North Eastern Somalia using very high resolution imagery. Journal of Arid Environments 75, 1173–1181.

Okello, M.M., Ole Seno, S.K., Nthiga, R.W., 2009. Reconciling people's livelihoods and environmental conservation in the rural landscapes in Kenya: Opportunities and challenges in the Amboseli landscapes. Natural Resources Forum 33, 123–133.

Onono, J. O, Wieland, B., Rushton, J., 2013. Constraints to cattle production in a semi-arid pastoral system in Kenya. Tropical Animal Health and Production 45, 1415–1422.

Ostrom, E., 1990. Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge University Press, Cambridge.

Ostrom, E., 2009. A general framework for analyzing sustainability of social–ecological systems. Science 325, 419–422.

Ostrom, E., Dietz, T., Dolšak, N., Stern, P.C., Stonich, S., Weber, E. (Eds.), 2002. The Drama of the Commons. National Academy Press, Washington D.C.

Peters, P., 2008. Challenges in land tenure and land reform in Africa: anthropological contributions. World Development 37, 1317–1325.

Peters, P., 2013. Land appropriation, surplus people and a battle over visions of agrarian futures in Africa. Journal of Peasant Studies 40, 537–562.

Quinn, C., Huby, M., Kiwasila, H., Lovett, J., 2007. Design principles and common pool resource management: An institutional approach to evaluating community management in semi-arid Tanzania. Journal of Environmental Management 84, 100–113.

Raleigh, C., Kniveton, D., 2012. Come rain or shine: an analysis of conflict and climate variability in East Africa. Journal of Peace Research 49, 51–64.

Rettberg, S., 2010. Contested narratives of pastoral vulnerability and risk in Ethiopia's Afar Region. Pastoralism-Research, Policy and Practice 1, 248–273.

Rettberg, S., Müller-Mahn, D., 2012. Human-environment interactions: the invasion of Prosopis Juliflora in the drylands of Northeast Ethiopia. In: Mol, L., Sternberg, T. (Eds.), Changing Deserts. Cambridge Whitehorse Press, Cambridge, pp. 297–316.

Riché, B., Hachileka, E., Awuor, C. E., Hammill, A., 2009. Climate Related Vulnerability and Adaptive Capacity in Ethiopia's Borana and Somali Communities. Final Assessment Report. International institute for Sustainable Development, Winnipeg.

Sietz, D., Lüdeke M.K., Walther, C., 2011. Categorisation of typical vulnerability patterns in global drylands. Global Environmental Change 21, 431–440.

Smalley, R., Corbera, E., 2012. Large-scale land deals from the inside out: findings from Kenya's Tana Delta. Journal of Peasant Studies 39, 1039–1075.

Sonneveld, B.G., Pande, S., Georgis, K., Keyzer, M.A., Seid Ali, A., Takele, A., 2010. Land degradation and overgrazing in the Afar Region, Ethiopia: a spatial analysis. In: Zdruli, P., Pagliai, M., Kapur, S., Faz Cano, A. (Eds.), Land Degradation and Desertification: Assessment, Mitigation and Remediation. Springer, Dordrecht, pp. 97–110.

Stratford, E., Davidson, J., 2002. Capital assets and intercultural borderlands: socio-cultural challenges for natural resource management. Journal of Environmental Management 66, 429–440.

Sulieman, H.M., Elagib, N.A., 2012. Implications of climate, land-use and land-cover changes for pastoralism in eastern Sudan. Journal of Arid Environments 85, 132–141.

Tsegaye, D., Moe, S. R., Vedeld, P., Aynekulu, E., 2010a. Land-use/cover dynamics in Northern Afar rangelands, Ethiopia. Agriculture, Ecosystems and Environment 139, 174–180.

Tsegaye, D., Haile, M., Moe, S.R., 2010b. The effect of land use on the recruitment and population structure of the important food and fodder plant, Dobera glabra (Forssk.) Poir., in northern Afar, Ethiopia. Journal of Arid Environments 74, 1074–1082.

Tsegaye, D., Vedeld, P., Moe, S.R., 2013. Pastoralists and livelihoods: A case study from northern Afar, Ethiopia. Journal of Arid Environments 91, 138-146.

Upton, C., 2014. The new politics of pastoralism: Identity, justice and global activism. Geoforum 54, 207–216.

Woodhouse, P., 2012. New investment, old challenges. Land deals and the water constraint in African agriculture. Journal of Peasant Studies 39, 777–794.

Whitfield, S., Reed, M., 2012. Participatory environmental assessment in drylands: introducing a new approach. Journal of Arid Environments 77, 1–10.

11.2 REPERCUSSIONS OF GOVERNANCE INSTITUTIONAL CHANGES ON COMMUNICATION PRACTICES IN THE AFAR NATIONAL REGIONAL STATE, ETHIOPIA

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Abstract

Formal and informal institutions guide and shape communities and communication practices worldwide. Colonization, modernization and political transformation processes changed and questioned the role and relevance of informal institutions and strengthened the position of formal institutions. This paper looks at institutional governance transitions and the increasing presence of formal as opposed to informal clan based practices in the pastoralist lowlands of the Afar Region, Ethiopia, by analysing its impact on communication practices. Afar is governed by numerous multi-scale institutions; a complex network of governmental and traditional, formal and informal bodies at different scales. The region witnessed the devaluation of indigenous and traditional customs, which altered how and with whom pastoralists and agro-pastoralists communicate. The paper's case study shows that although residents now report their concerns to formal institutional representatives, traditional institutions are still functional. This change allows females to take a more active role in reporting concerns and communicating with authority figures. However, spatial disadvantages are present in this vast and sparsely populated region as those based further away from government representatives are disadvantaged. The relevance for a clear understanding of communication methods on the ground is stressed, in particular for implementing and disseminating programs and policies in this aid-dependent area.

Introduction

Formal and informal institutions, 'rights, duties, and obligations' (Searle, 2005: 11) shape relationships, and guide and limit lives worldwide. 'Institutions are the humanly devised constraints that structure political, economic and social interaction' (North, 1991: 97). Institutions help to form societal norms and structures by determining what is and is not acceptable and thus impact future actions (Newenham-Kahindi, 2015). The legal recognition of formal institutions, including documented laws and policies, is typically deficient in informal institutions that traditionally function through de facto means. This has led to the perception that informal institutions lack legitimacy, thereby potentially minimizing their power and influence. A good example is the critical interrelationship between formal, documented land rights and indigenous or traditional land rights, the latter being orally transmitted over generations and followed by various groups (Ensminger, 1997).

Institutions are not static and changes to an institution's 'value structure' (Bush, 1987: 1099) will alter institutional dynamics and practices, e.g., the introduction of new laws. Institutions must adapt to economic developments, technological innovations or changing external circumstances like climate change (Rodima-Taylor *et al.,* 2012). People are managed through institutions (Kamoche *et al.,* 2015) and adjustments of both formal and informal institutions are promoted as tools that can assist developmental endeavours in the Global South. Both formal and informal

rural institutions can be useful to strengthen the adaptive capacities of local communities faced with change (Agrawal & Perrin, 2009). Theories such as new institutional economics have been used to highlight the importance of formal and informal institutions for 'political and economic development' (Tamanaha, 2015: 89).

Across Africa, governments define how they will relate to, work with or exclude traditional structures (Hinz, 2007). In areas where traditional and informal institutions are characterized as weak, ineffective or irrelevant, formal institutions are introduced as a strategic tool that can empower developing communities. The introduction of formal institutions to replace traditional has been analysed in the Usangu Basin in Tanzania (Cleaver, 2002) and in south-eastern Nigeria, where the Igbo women lost their power when traditional institutions were replaced during British colonization (Van Allen, 1972). Informal institutions can also influence the creation and development of formal institutions (Casson *et al.,* 2010). This was documented in Somaliland where, following the fall of Somalia in 1991, clans and their informal institutions helped to establish a new government (Renders, 2007).

Institutional transformations are driven by various elements and the analytical approaches to explore institutional change vary. Agrawal (2010) analyses local institutions and climate change adaption practices by classifying historically observed adaptation practices. Forest governance is addressed by Schmidt (2012) through a political ecology approach and by Wakjira *et al*. (2013) with the theoretical concept of institutional adaption, while Beyene and Koch (2013) apply a multinomial regression model to study community forest institutions. Young (2010: 279) analyses the dynamics of institutional environmental and resource regimes through a framework derived from 'resilience, vulnerability, and adaptation in socio-ecological systems'. Donor interventions in Mongolia are analysed by Upton (2012) using a grounded theory approach, new institutionalism is employed to power and the political environment in pastoral commons in African floodplains (Haller *et al.,* 2013), land privatization in Kenya's Samburu region is investigated through an analysis of exogenous and endogenous factors (Lesorogol, 2003) and Turner (2011) explores the new pastoral development paradigm found in various Africa's dryland property institutions.

Our paper addresses the current state of institutional governance in the Afar Regional State of Ethiopia. Historically this semi-arid lowland was governed by the traditional institutions of the Afar people who predominantly lived as pastoralists and practised animal husbandry, customising mobility and migration practices in order to live within their harsh environments (Harbeson, 1978). Those institutions, deeply entrenched in and supported by cultural practices of their inhabitants, include traditional laws, courts and conflict management methods, natural resource management and specific communication techniques (Sansculotte-Greenidge & Fantaye, 2012; Reda, 2011a, b; Kassa, 2001). However, as traditional institutions are confronted by external forces, i.e., colonization, modernization or globalization, new formal and informal governance procedures that govern all aspects of society are created. Existing studies on transitioning institutions in lowland Ethiopia include those by Unruh (2005), who addresses how conflict resolution institutions are changing, and Kamara *et al.* (2004), who focus on pastoral resource management by addressing the emerging development pathways and their influential forces. Comprehensive research has not been conducted, however, on how institutional change is

interpreted and understood at the community level and how this transition impacts communication practices.

The objective of this paper is to examine how alterations in governance practices are currently modifying the roles of formal and informal institutions. Qualitative research was conducted with rural pastoralists and agro-pastoralists (those who derive an income from both animal husbandry and agriculture) as well as with government officials to shed light on their interpretation of the institutional changes in the region. We analyse how the introduced governance systems have been interpreted and utilized by rural Afar and document local perceptions of the clan's role in terms of governance and communication practices. Three indicators assess how the local population perceives the impact of institutional change: community leadership, communication patterns, and local awareness of policies and programs in the area. Our paper seeks to answer three key questions: (1) What are the repercussions of governance institutional changes on communication practices in Afar? (2) How do the Afar perceive their concerns and demands to be communicated and met? (3) What is the relevance for the implementation of development programs and policies? We began with an introduction to formal and informal institutions, followed by a description of the study area and methods. Traditional Afar institutions and the governance transitions in the area are summarized using primary data and supported by existing literature. The results precede the discussion which (i) presents an analysis of the data while comparing results to those derived from similar areas and (ii) provides recommendations based on our results. The paper ends with concluding remarks.

Study area and methods

Study area

The Afar National Regional State is located in Ethiopia's north eastern lowlands and inhabited by around 1.7 million people, mainly belonging to the Afar ethnic group (CSA, 2013). Their primary livelihood is a multi-species transhumant pastoralism formed over time so that residents can reside in a region with harsh, hostile conditions and limited natural resources (Schmidt & Pearson, 2016). The Afar utilize complex herd management strategies, including breeding programs, culling, herd diversification, and controlled management of migration practices routes (Tesfay & Tafere, 2004). This livelihood is currently threatened by numerous challenges such as worsening rangeland conditions due to over-grazing and land degradation, population growth (Sonneveld *et al.,* 2010; Abule *et al.,* 2005), changing property rights and sedentarization practices (Hundie & Padmanabhan, 2008; Tsegaye *et al.,* 2010), as well as increasing state interventions and modernization efforts (Makki, 2012; Schmidt & Pearson, 2016).

Research was conducted in a semi-arid region at the foot of the Ethiopian Highlands at altitudes between 770–1000 meters above sea level. Data were collected in four kebeles (lowest administrative unit in each district) in Ewa and Awra Woredas (district) (Figure 1) in order to identify potential differences between the different woreda and kebele governments. According to the latest official population numbers (CSA, 2013), Ewa has around 54,000 residents over 127,700 ha, a population density of 42 persons per square kilometre, while Awra (309,600 ha) is

less populated with an estimated 40,000 inhabitants or 13 persons per square kilometre (ANRS, 2011a, b). Kebeles were selected with the cooperation of government and NGO officials working in the region according to the following criteria: different livelihood practices, i.e., those that had been classified by the government as either 'agro-pastoralist' or 'pastoralist', access to governmental and humanitarian aid, and the presence of both formal and informal institutions, and the perceived economic standing of the community. Using these selection criteria, four kebeles were chosen: Hida and Hiddalu in Awra, and 1st Batoli and Buti in Ewa. For each kebele, the presence, relevance, and practices of indigenous and local institutions were documented.

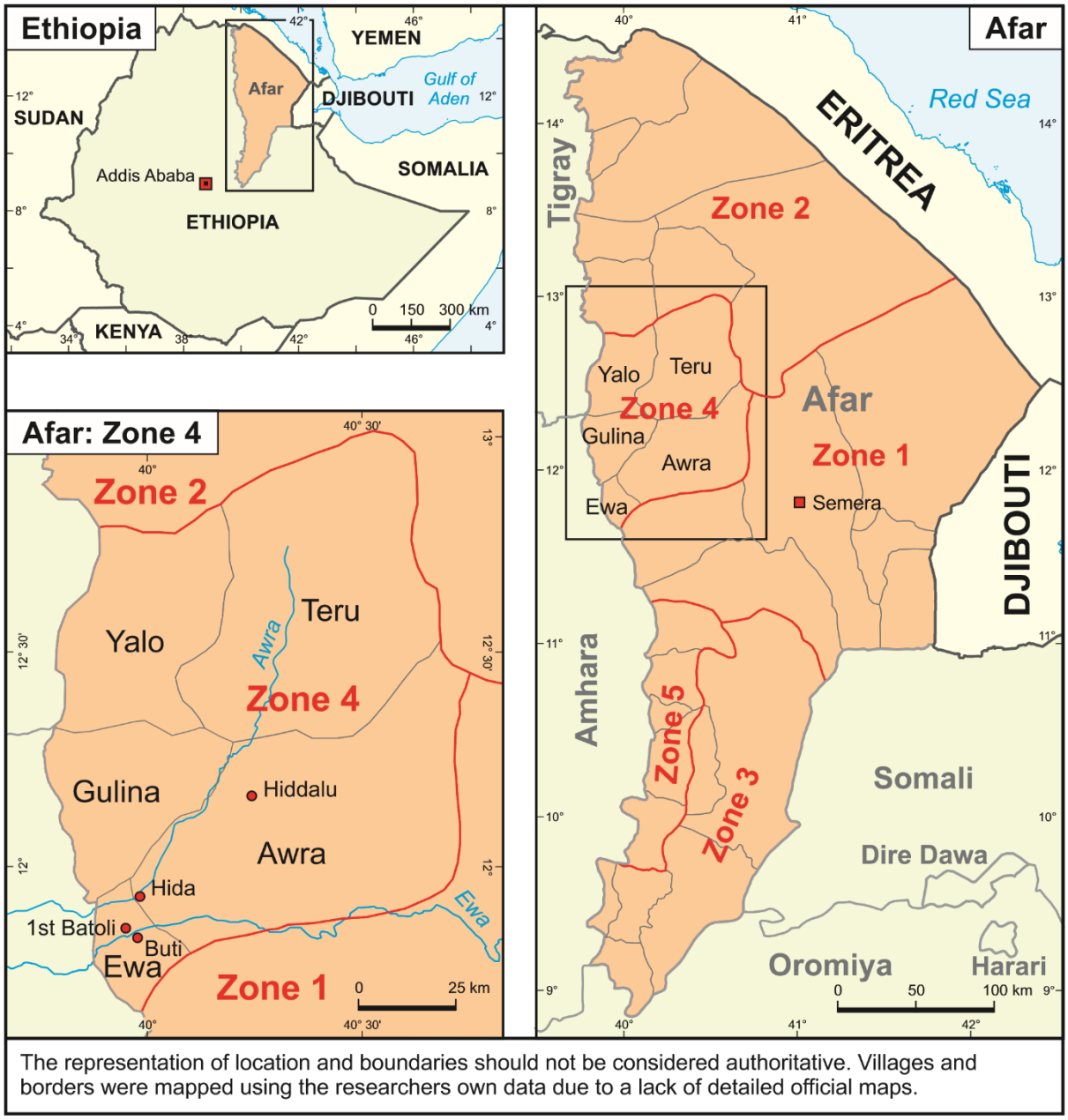
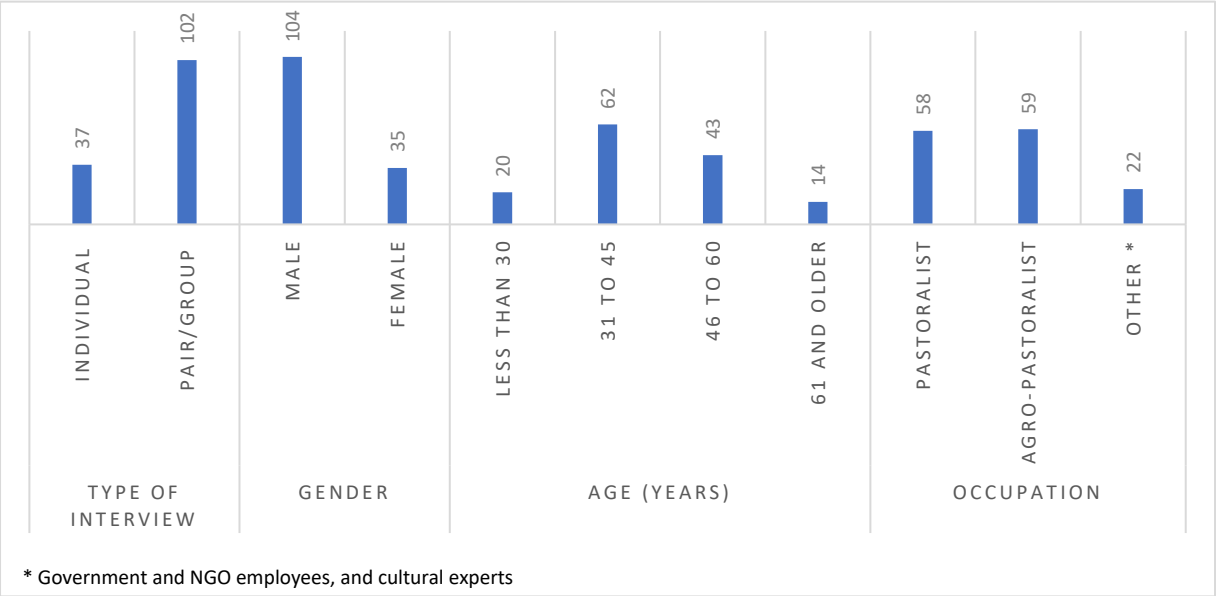


Fig 1. Location of the study area in Afar

Sampling procedure and data collection methods

Qualitative reflexive ethnographic fieldwork (Mauthner & Doucet, 2003) was conducted in October/ November 2013 and in March 2014 to collect primary data. The period between 2013 and 2014 was used to analyse the initial data and to identify gaps and conflicting information. This time was also used to examine and contrast initial data with academic work and grey literature. Qualitative methods were selected since they allow interviewees to provide more detailed answers which can show how transitions impacted perceptions of local communities and how they could influence reactions to future changes. A qualitative approach provides greater depth to the reasoning behind the changing perceptions.

Figure 2. Demographics of formal interview participants.



* Government and NGO employees, and cultural experts

Twenty seven in-depth semi-structured qualitative interviews were conducted with key informants (22 males, five females), with 14 participants interviewed multiple times. Gender, age and occupation of the interviewees are listed in Figure 2. Initial interviews were carried out with clan and kebele leaders in order to gain access to the area with a second round of interviews being conducted with residents who were identified as potential key informants due to their position in the kebele (elders, committee members including those with natural resource management and farming cooperatives and local government officials including gender officers). The sampling selection was driven by the availability of participants and their willingness to engage in open discussions with the researchers as opposed to establishing specific targets for interviewee quotas. The increased presence of male interviewees is symptomatic of the patriarchal practices in the region, as females were reluctant to be interviewed when males were present. Therefore, informal techniques (conversations during social gatherings, meals, and at watering points) were utilized specifically to obtain the female perspective.

Interviewees were asked to describe the current and past communication practices used to address, report, and solve problems, as well as the role and relevance of traditional and introduced institutions. Interviewees reflected on the different methods used when communicating with informal and formal institutional members, their strengths and weaknesses, and to what extent they felt that authorities listened to and worked towards resolving their

demands and interests. Interviewees were asked to list (i) the regional and national development policies and strategies in their area, (ii) whether their concerns are respected and included once reported to institutional authorities and (iii) whether regional activities are relevant and/or meet (agro)-pastoralist demands and interests. Data were then cross checked through 20 semi-structured qualitative group interviews held in the focus kebeles with additional interviews conducted in neighbouring kebeles.

The formal institutional perspective is derived from 15 in-depth interviews and one focus group held in the field as well as in the cities of Semara, Logia, and Addis Ababa with officials from the Bureau of Pastoral and Agricultural Development (BoPAD) and the Water Department as well as with NGO employees. Diminished female representation, with only one of the 15 participants interviewed being female, was due to the predominately male staff at the selected departments and organizations. Interviewees reflected on the past and current role of their institution, its services and projects, and its geographical coverage. Participants were questioned about their knowledge of other regional institutions, both formal and informal, and their interaction with said institutions. Previous studies, relevant policies, legislation and reports pertaining to natural resource management and property rights in Afar were also reviewed.

The unit of analysis for this paper is the kebele, with notable differences within the kebele referenced, e.g., gender based, formal or informal institutional management. Interviews were coded into groups which included the name, location, clan, age, gender, family status, occupation and economic standing of each interviewee. The dynamics and interactions that took place in each interview were questioned, taking into account other individuals present during the interview (e.g., husband or wife, government official), the interviewee's personal history, past and present government affiliations and economic standing. Coded groups were then analysed to identify the 'differences' (Lawson, 1995: 453), looking at how their background and current situation could have influenced differing opinions on the institutional changes in the region.

Conflicting institutions and governance in the Afar Region

Traditional institutions, governance and representation practices in Afar

Traditionally the Afar lands are divided into sultanates run by the Sultan (*dardar*), the religious and political leader of the clan (Stokes *et al.,* 2009). Over a hundred clans (*mela*) are formed through patrilineal ancestral structures and affinal connections in each sultanate (Reda, 2011a). Clans are composed of related sub-clans (*khida*) which are groups of extended family units (*dahla*) (Markakis, 2011). Clans are divided between the Asaimara (the red/nobles) and the Adoimara (the white/commoners) (Lewis, 2017).

In Afar, the organization and governing of community concerns and needs are traditionally managed by the clan leader (*makaban*), sub-clan leaders (*khida aba*) and clan elders (Kassa, 2001). The male head of the household traditionally handles problems within families and households. However, if he is unable or unwilling to resolve a problem, additional male family members are brought in. Intra-clan concerns and conflicts are managed within the clan with residents, typically males, reporting their problems, demands, and interests to their clan or sub-

clan leaders, depending on the nature of the issue and those involved. The leaders would then act as they saw fit and draw on the support of neighbours, relatives, and friends of the parties concerned in an attempt to mediate and prevent the issue from escalating (Sansculotte-Greenidge & Fantaye, 2012). When the issue crossed sub-clan or clan borders and members of other clans and ethnic groups were involved, leaders from all affected groups were brought in. Problems that violated Afar customary law (*ma'ada*) were handled by an indigenous court (*mablo*) and resolved through negotiations, with compensation paid to those who were wronged (Reda, 2011b).

Other Afar institutions include the *finaa*, 'of equals', an informal institution made up of males of varying ages. The primary role of the *finaa* is to enforce the sanctions passed by clan authorities, including the confiscation of livestock or fines, and to maintain peace in the community. Members should be honourable men who believe and live by Afar ethics and cultural norms (Kassa, 1997). Other institutions utilize traditional reciprocal social security systems, the 'accrual of debts and obligations that can be recalled during crisis' (Davies & Bennett, 2007: 496). They ensure that the weakest members of society receive support when needed, for example, after a household loses its herd due to drought, theft, or other unexpected setbacks. Clan and community members are required to donate when they are able to and, in turn, will call on others to donate when they require assistance. If community members do not comply, clan leaders are called in to impose sanctions. Commonly found forms include *iribu*, conducted within a sub-clan and close family network, and *'ala*, a less formal agreement between unrelated Afar (Davies & Bennett, 2007).

Religion also plays an important role in social support networks. One of the key religious events is *zakat,* which occurs yearly and asks of wealthier members of society to donate a set percentage of their wealth. The percentage determined by the number of livestock found in each household. Donations are then distributed within the community.

Governance changes in the Afar Region

Significant institutional governance changes have occurred over the past three centuries altering formal and informal institutions as new administrations intertwined with and replaced the traditional. Historically the Afar have fought neighbouring ethnic groups and highland imperial agents both in defence of their rangelands and when invading and conquering neighbouring territories (Markakis, 2011; Yasin, 2008). During the turn of the 19th century, Emperor Menelik expanded Imperial Ethiopia using 'diplomacy, infiltration, or cohesion' (Shehim 1985: 332) to officially include the Afar Region and other periphery areas. However, the vast and (semi)-arid landscape meant that imperial agents had limited interactions with those who did not live along the base of the highland mountains (Markakis, 2011; Thesiger, 1935). The interactions which did occur, successfully removed several sultanates, leaving the Aussa Sultanate with its capital in Asaita as the primary functioning sultanate within Ethiopian borders (Puddu, 2016).

The attempted colonization by the fascist Italian government (1935–41) increased communications between the ruling Habasa leaders of the highlands with traditional periphery leaders of the Afar lowlands, such as the Aussa Sultanate of Afar. This was done to increase the

control and influence that the Habasa had in the lowlands, and to form working relations by utilizing traditional structures (Puddu, 2016; Braukämper, 2013). Haile Selassie's absolutist state attempt to homogenize Ethiopia drove one of the most fundamental changes in Afar livelihoods; an instigation to transfer communal to private property through the introduction of plantations (cotton and sugarcane) along the Awash River and to promote private over communal land ownership (Abbay, 2004; Shehim, 1985).

The imperial government of Ethiopia was overthrown in 1974 by the military and socialist Derg Regime which strengthened governmental control and authority through the removal of customary ethnic practices (Abbink, 1997; Mengisteab, 1997). The present ruling party, the Ethiopian People's Revolutionary Democratic Front (EPRDF), came to power in 1991 and, unlike the previous two governing institutions, practiced ethno-regional federalism utilizing ethnic identity to gain and maintain control of the country (Samatar, 2004). The 1995 constitution created nine Regional States and two administrative districts, with regional boundaries following the distribution of the 80 various ethno-linguistic groups, and was designed to give each region a greater level of autonomy through decentralization (Abbink, 1997).

The EPRDF has created numerous formal institutions designed to address the pastoralist regions. Prominent examples include the Pastoralist Standing Affairs Committee with attendees being parliamentarians from areas primarily populated by pastoralists, several sedentarization programs that utilize groundwater and perennial rivers, the Sustainable Development and Poverty Reduction Program (SDPRP), the Five-Year (2000-2004) Development Plan which includes policies aimed at developing rural areas through strengthening agricultural strategies and implementing capacity building strategies, the subsequent Growth and Transformation Plan (2010/11-2014/15) as well as social protection interventions aimed at poverty reduction such as the Productive Safety Net Programme (PSNP) (Gilligan *et al.,* 2009; Lister, 2004; FDRE 2010, 2002). Current governance practices have installed government representations at every political level—federal, regional, zonal, woreda, and kebele. This transition, the replacement of clan and traditional leaders by government officials, the interactions between woreda/kebele leaders and community members, are the focal points of our paper.

Results

Community leadership and institutional management transitions

When discussing leadership at the community level, one of the key transitions has been the emergence of the kebele leader, a governmental position that has replaced the clan leader as leader of the community. All interviewees—both government officials and community members—recognize that the kebele leader must belong to and be a respected member of the community, and have a strong influence over the kebele: 'When they speak, others should listen. He should be able to sensitize and mobilize the community' (Government employee, pers. comm., Awra, 22 October 2013). This transition still leaves traditional leaders in a position of power, albeit with different roles. 'Before 1990 everything was done by the clan leader, but now

by the kebele leader who uses the clan leader as an assistant' (Male pastoralist, pers. comm., Buti, 13 March 2014). The kebele leader's assigned duties include implementing federal and regional projects and distributing items given by the state, e.g., agricultural tools and products, as well as the allocation of aid, including food, water and health services.

Despite the changes to institutional governance, control and influence over the local population has not been completely driven from indigenous to governmental institutions and the divide between formal and indigenous management mirrors the divide between modern and traditional. The management of remaining traditional practices such as migration is initially facilitated and regulated through clan structures. Group interviews showed that pure pastoralists still prefer to move to areas where they have clan connections as it decreases conflict potential. Agro-pastoralists do not charge their clan members when allowing them into farming plots during the harvest season so that animals can feed off the unwanted produce (Pastoralists, pers. comm., Hida and Hiddalu, October 2013). Regardless of age or livelihood, interviewees agreed that conflicts that arise from this form of migration are managed locally while migration outside of Afar is dealt with by governmental agents. This sentiment was clarified during an interview conducted with the Head of the Ewa Peace Committee who advised that conflicts between different ethnic groups were the primary focus of government's conflict management (pers.comm, Ewa, 21 March 2014).

Informal institutional representations and practices help to integrate new formal institutions into the community by utilizing traditional techniques. A strong example of the mixing of traditional with formal is the 'Water Usage Management Committee', a committee created to maintain and control water usage. This type of committee is backed by the government and can take action against those who break their rules. However, these committees apply traditional laws and punishments to resolve the situation; problems are typically not brought before the government but rather, the community and committee. If the situation is beyond their control or management, then it is brought before the government. However, in Awra kebeles where these committees are in place, the regional government has not had to assist in solving any conflicts (Woreda Head, pers. comm, Awra, 20 October 2013).

Transitioning institutional communication practices

The introduced institutional governance practices stipulate that communication between residents and the regional government follows a precise chain, a chain understood by all participants. Community demands and interests are reported 'to one person, the kebele leader. Because he lives in my area he knows my problems' (Male pastoralist, pers. comm., Buti, 14 March 2014). Kebele leaders report to the woreda, woreda to regional government—and it is the Afar Regional Government that has the authority to take concerns to the federal bodies. 'All communication is done through the woreda: health, education, conflict, and agriculture. Once I went directly to the regional head to report hunger problems, but was sent back to the woreda and told to report to him' (Kebele Leader, pers. comm., Hiddalu, 17 March 2014).

Similarities between the formal and informal systems are present, a key being the leader's ability to measure the importance of issues and the appropriate solution. Traditional problem reporting

and resolution processes allowed residents to participate but the ultimate decision was reserved for the clan leader(s), whose word was final. Those who 'wanted to take their problems into their own hands, … would have to deal with the clan leader who would punish them' (Agro-pastoralist, pers. comm., Hida, 19 March 2014). The change in institutional governance bestows this power on the kebele leader, who then 'decides what problem to take to the government. He decides what issues to address, what problems are important' (Clan Leader, pers. comm., Hiddalu, 16 March 2014).

Management of reported concerns and demands

The increased communication between community members and their representatives, and the effectiveness of it resulted in a number of different perspectives. Younger residents and females were more likely to state that zero or insufficient solutions were provided for commonly reported problems. This subgroup stated that infrequent concerns such as intra-clan conflicts or problems within the household were resolved by kebele leaders. Reported concerns that remain unresolved include those that impact the whole community, centring on (i) a lack of water and food for humans and livestock and (ii) insufficient or missing health and veterinary supplies and services. 'Everything goes through the kebele leaders. They listen and act when conflicts happen. But not really for primary things, such as food or animal health' (Female pastoralist, pers. comm., Hiddalu, 29 October 2013).

Older community members were more inclined to view this inability to successfully address and solve community concerns as not solely associated with the transition from informal to formal institutional governance. The changing natural and socio-economic conditions and the problems that accompany them also play a significant role. 'Ten years ago, I didn't need to speak to the leaders. I didn't have these problems' (Male pastoralist, pers. comm., Buti, 14 March 2014). They acknowledge the introduced systems, not based on their merit, but rather because they perceived that they did not and still do not have a choice in the matter. 'I think the laws are good, but they are not my laws. They are the laws of the government' (Male pastoralist, pers. comm., Hiddalu, 17 March 2014).

Females were more likely to feel empowered by the change in reporting practices as they have enabled more women to voice their concerns directly to those who have the ability to act on them; kebele leaders. They see the new system as capable of reducing the gender imbalance by increasing the ability of females to report their problems directly to the kebele leader or gender officers, as opposed to going through their male relatives. 'Women can speak directly with the government and they get an answer. For example, if someone forces marriage, we can go to the kebele leader for help' (Female pastoralists, pers. comm., 1st Badoli, 15 March 2014).

Spatiality is another important factor in communication specifically perceived in larger kebeles where residents at peripheral locations felt disadvantaged. A key concern for residents is that for a problem to be solved, it must be reported repeatedly to the kebele leader. 'Only those who live close and repeatedly report their problems get help. People who live far away can't report every day so their problems are not answered' (Agro-pastoralist, pers. comm., 1st Badoli, 16 March 2014). In large and sparsely populated kebeles such as Hiddalu, those based far away from the

kebele centre are clearly disadvantaged. The institutional perspective mirrors the community concerns when kebeles are situated further away from the woreda centres. Leaders who have to travel greater distances to speak with officials feel disadvantaged and believe that an inability to repeatedly report issues decreases the chances that the issues will be addressed.

Awareness of policies and programs in the area

After reviewing the program and policies in the area, awareness of them was used as indicator to gauge the top-down flow and comprehension of information from the regional and federal agencies and NGOs towards rural areas. Results showed that a difference exists between those in a position of power (government and traditional leaders) and community members.

Pastoralists and agro-pastoralists demonstrated limited awareness of the policies and programs that had been implemented in their area such as education programs, settlement projects, health (specifically anti-female genital mutilation) projects, and anti-conflict regulations. The policies and programs that pastoralists were aware of were seen as beneficial, but only when fully implemented. 'Everything has a law, but the laws are not actioned' (Male pastoralist, pers. comm., Buti, 14 March 2014).

Knowledge and awareness of locally applicable policies differed between pastoralists and agro-pastoralists. Sedentarized Afar typically had a greater understanding of new and changing programs and policies compared to pure pastoralists, however their level of program and policy comprehension was minimal. Residents were typically unaware of the responsible stakeholder(s) implementing a specific project, be it the government, a donor, or the private sector. One governmental project referred to by all participants from all four kebeles is the sedentarization program, identifying it as one clearly owned and implemented by the government. Interviewees stated that kebele leaders are the gate keepers for project participation. The leaders of agro-pastoralist kebeles with sedentarization projects are responsible for allocating farming plots while those from pure pastoralist kebeles select participants for sedentarization schemes.

While prominent community members, such as clan and kebele leaders, were able to name and identify more projects and policies present in the region, their comprehension of these activities was limited and vague. Traditional leaders were also unconvinced that present programs and policies would be able to resolve what the local population sees as its major problems, i.e. a lack of water and food and worsening natural resource conditions.

> Yes, I know of the new laws. Laws for education, peace, to stop harming ladies. These laws are helpful for my soul, but not for eating, for sleeping. I think government programs are insufficient. We always ask the woreda for more, but get no answer. (Clan Leader, pers. comm., Awra, 19 March 2014)

An example of knowledge being restricted to government and quasi-government workers is the Productive Safety Net Programme (PSNP) which was cited by government employees and two agro-pastoralists who also worked for a local NGO but could not be identified by any other interviewees, even when prompted. While it would be expected that knowledge of locally applicable policies and programmes is proportionate to the individual's position on the

information chain, it is also apparent that, at the grass-roots level, knowledge relates directly to the application of these policies to the gaining of day-to-day livelihood.

Discussion

The aftermath of institutional change

While the primary governance institution is now the formal government rather than clan based structures, government officials still recognize the important role of traditional leaders and elders in mediation and communication between clans and ethnic groups. The amalgamation of traditional and formal institutional management is also recognized by other studies—for example, Homann *et al.* (2008) analyse institutional rangeland management transitions in the Borana Region of Ethiopia. It is also documented in the management of grazing conflicts. that smaller internal conflicts are more likely to be managed through clan structures while conflicts with bordering neighbouring ethnic groups are managed by formal institutions (Markakis, 2011). Tesfay and Tafere (2004) show that along the border between Afar and Tigray, a mutually established organizational system titled *Gereb*, composed of elders from Afar and Tigray, is used to enforce laws and bring about peace in bi-clan conflicts at monthly meetings. Yami *et al.* (2011) advocate providing policy and developmental support to informal institutions in Tigray that manage communal grazing lands as it could increase their capacities. In the Somali Region, elders collaborate with government officials, acting as peacemakers (Hagmann, 2007).

As shown, the repercussions of changes in governance institutions include opening the lines of communication by facilitating an increase in communication between women and their local officials. This opening increased the perception females had, that their problems and demands are being communicated, thus increasing the chance that they will be addressed. The opening of such institutional communication patterns is important due to the impact of increasing droughts and environmental deterioration in the region. Notably, 'poor and marginal populations whose livelihoods are primarily natural resource based' are heavily impacted by climate change (Rodima-Taylor *et al.,* 2012: 107), as are females due to the gender specific tasks connected with natural resource management (Denton, 2002). Stronger communication pathways that allow females to report concerns directly, strengthen the potential for direct interaction with the gender most affected by climate related changes (Arora-Jonsson, 2011; Goh, 2012). Recognizing and identifying the strengths and weaknesses in the changing communication patterns is also highly relevant in an area as susceptible to rapid environmental and socio-economic changes as the Afar Region where formal and informal institutions play an integral role in collecting and disseminating information. Based on our results, we have derived a number of recommendations that highlight the strengths and weaknesses on the aforementioned transitions. These recommendations may be employed to strengthen the implementation of future development programs and policies.

Gendered communication paths

Improved female communication paths could help to address an inbuilt gender inequality in formal property rights in Afar. Although males and females can both be awarded farming land, females are given less than males due to their perceived inability to maintain the same plot as men (Schmidt & Pearson, 2016), hence females could benefit from better access to those with the ability to action their concerns and problems. Results found here may also be relevant in other pastoralist areas with increasingly settled agrarian populations, where improved gendered communication practices could help to tackle inequitable gender land ownership and access practices (Carr & Thompson, 2014).

The opening of communication paths for women is also important in light of the increasing commodification of females in humanitarian and development work. This form of commodification is increasing due to the perceived connection between traditional gender roles and aid work, e.g., water collection for household purposes, females being more inclined to think of the future and put families first (Westermann *et al.*, 2005). Thus, projects increasingly require a certain number of participants to be female in order to fill gender-based quotas, often using buzzwords such as empowerment to support this requirement. Stronger communication patterns with the female participants' development agencies will increase the understanding of the current needs of the population, as well as strengthen the understanding of the appropriate ways to engage with the different genders. What should not be forgotten is that the push for modernization in humanitarian and development work through the modernized woman can also result in gender commodification (Pearson & Schmidt, 2017; O'Reilly, 2006) or the production of token female members in projects.

Rural understanding of programs and policies

The lack of rural understanding of new policies relevant to rural Afar inhibits implementation processes. Harnessing the strengths of and relationship between governmental and non-governmental institutions and their ability to communicate directly with rural residents can be incorporated into good governance designs (Cleaver *et al.,* 2013). Project designs could be strengthened by drawing the focus towards how governance changes are perceived and implemented by both pastoralists and agro-pastoralists. This would highlight the relevant communication practices needed to reach both and the weaknesses described by each group. Additionally, as the Horn of Africa is recognized as having an increased vulnerability to drought (Gan *et al.,* 2016), the need for timely and informed aid work is likely to increase.

An increased rural understanding of pertinent regional projects and policies, such as sedentarization and formal natural resource management, would strengthen implementation processes as participants would have a greater awareness of a project's relevance and its direct impact on their livelihoods. Rural members holding powerful positions are more likely to be aware of the most prevalent concerns and problems; however, if they are unable to speak with the relevant parties then the knowledge remains with them. Additional broadening and opening of communication channels would reduce the present limited information flow described earlier. Among those who live in the area, rural members with power are aware of the most prevalent concerns and problems. However, if they are unable to speak with the relevant parties, this

awareness remains with them. Their understanding could be fed directly into project design or monitoring and evaluation to improve the relevance of future regional projects.

Conclusion

Institutional governance practices have transitioned in Afar through the introduction of the new and the restructuring of the old. Traditional, clan based institutions and leadership roles have been redirected and adapted to meet introduced formal government institutions. The traditional clan institutions that lacked de jure legitimacy are still functional, but their role and duties within society have changed. No longer are they the primary agents responsible for upholding traditional values and practices through the enforcement of cultural laws and the implementation of clan imposed sanctions. Instead, clan institutions now support government institutions and provide guidance to the new community leader; the kebele leader.

This paper argues that such shifts in institutional governance, from informal clan to formal government control, can be clearly documented when analysing the way rural Afar pastoralists, agro-pastoralists and local leaders communicate with each other. Problems are now predominately reported to and answered by kebele leaders rather than clan leaders and elders, with the clan providing assistance and guidance for control and management concerns. Some see this transition as a positive one, as it has opened up paths for groups who traditionally may not have been able to speak with leaders. Introduced communication practices now allow females to directly communicate with their local representatives, thus increasing the perception by female community members that their interests are heard.

Changes to institutional governance have transformed the flow of information, both from the community to institutional structures and vice versa. This means, however, that if the necessary community leaders are not involved or are misinformed, residents will remain uninformed about projects and programs relevant to their existence and livelihoods. This transition is relevant not only for the Afar, but also for the implementation of development programs and policies. As strong and effective formal and informal institutions are endorsed as tools that can assist and strengthen developing communities, a greater comprehension of changes to institutional control and management would improve policy design and program implementation in the focus area. This could be achieved by clarifying the tasks ascribed to each institution, how they are carried out, and their effectiveness.

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References

Abbay A (2004) Diversity and state-building in Ethiopia. African Affairs 103 (413), 593–614.

Abbink J (1997) Ethnicity and constitutionalism in contemporary Ethiopia. Journal of African Law 41 (2), 159–74.

Abule E, Snyman HA, Smit GN (2005) Comparisons of pastoralists' perceptions about rangeland resource utilisation in the middle Awash Valley of Ethiopia. Journal of Environmental Management 75, 21–35.

ANRS (Afar National Regional State) (2011a) Afar National Regional State Awra Technical Report: Land Degradation Assessment. ANRS, Semara.

ANRS (Afar National Regional State) (2011b) Afar National Regional State Ewa Technical Report: Land Degradation Assessment. ANRS, Semara.

Agrawal A (2010) Local institutions and adaptation to climate change. In Mearns R, Norton A (eds) The Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World, 173–97. The World Bank Group, Washington, DC.

Agrawal A, Perrin N (2009) Climate adaptation, local institutions and rural livelihoods. In Adger WN, Lorenzoni I, O'Brien KL (eds) Adapting to Climate Change: Thresholds, Values, Governance, 350–67. Cambridge University Press, New York.

Arora-Jonsson S (2011) Virtue and vulnerability: discourses on women, gender and climate change. Global Environmental Change 21 (2), 744–51.

Beyene AD, Koch SF (2013) Property rights, institutions and choice of fuelwood source in rural Ethiopia. Forest Policy and Economics 30, 30–38.

Braukämper U (2013) Indigenous views on the Italian occupation in Southern Ethiopia: a post-colonial approach. Aethiopica 14, 163–83.

Bush PD (1987) The theory of institutional change. Journal of Economic Issues 21 (3), 1075–116.

Carr ER, Thompson MC (2014) Gender and climate change adaptation in agrarian settings: current thinking, new directions, and research frontiers. Geography Compass 8 (3), 182–97.

Casson MC, Della Giusta M, Kambhampati US (2010) Formal and informal institutions and development. World Development 38 (2), 137–41.

Cleaver F (2002) Reinventing institutions: bricolage and the social embeddedness of natural resource management. The European Journal of Development Research 14 (2), 11–30.

Cleaver F, Franks T, Maganga F, Hall K (2013) Institutions, security, and pastoralism: exploring the limits of hybridity. African Studies Review 56 (3), 165–89.

CSA (Central Statistical Agency) (2013) Population Projection of Ethiopia for all Regions at Wereda Level from 2014–2017. CSA, Addis Ababa.

Davies J, Bennett R (2007) Livelihood adaptation to risk: Constraints and opportunities for pastoral development in Ethiopia's Afar region. Journal of Development Studies 43, 490–511.

Denton F (2002) Climate change vulnerability, impacts, and adaptation: why does gender matter? Gender & Development 10 (2), 10–20.

Democratic Republic of Ethiopia (FDRE) (2002) Ethiopia: Sustainable Development and Poverty Reduction Program. Federal Ministry of Finance and Economic Development (MOFED), Addis Ababa.

Democratic Republic of Ethiopia (FDRE) (2010) Growth and Transformation Plan (2010/11-2014/15). Federal Ministry of Finance and Economic Development (MOFED), Addis Ababa.

Ensminger J (1997) Changing Property Rights: Reconciling Formal and Informal Rights to Land in Africa. In Drobak, JN, Nye JV (eds) The Frontiers of the New Institutional Economics, 165–96. Academic Press, San Diego

Gan TY, Ito M, Hülsmann S et al. (2016) Possible climate change/variability and human impacts, vulnerability of drought-prone regions, water resources and capacity building for Africa. Hydrological Sciences Journal 61 (7), 1209–26.

Gilligan DO, Hoddinott J, Taffesse AS (2009) The impact of Ethiopia's Productive Safety Net Programme and its linkages. The Journal of Development Studies 45 (10), 1684–706.

Goh AH (2012) A literature review of the gender-differentiated impacts of climate change on women's and men's assets and well-being in developing countries. CAPRi Working Paper No. 106. International Food Policy Research Institute, Washington DC.

Hagmann T (2007) Bringing the Sultan back in: elders as peacemakers in Ethiopia's Somali Region. In Buur L, Kyed H (eds) State Recognition and Democratization in Sub-Saharan Africa: a New Dawn for Traditional Authorities? 31–51. Palgrave McMillan, New York.

Haller T, Fokou G, Mbeyale G, Meroka P (2013) How fit turns into misfit and back: institutional transformations of pastoral commons in African floodplains. Ecology and Society 18 (1), 34–49.

Harbeson JW (1978) Territorial and development politics in the Horn of Africa: the Afar of the Awash Valley. African Affairs 77 (309), 479–98.

Hinz MO (2007) Traditional governance and African customary law: Comparative observations from a Namibian perspective. In Bosl N, Horn A (eds) Human Rights and the Rule of Law in Namibia, 59–87. Human Rights and Documentation Centre, Windhoek.

Homann S, Rischkowsky B, Steinbach J, Kirk M, Mathias E (2008) Towards endogenous livestock development: Borana pastoralists' responses to environmental and institutional changes. Human Ecology 36 (4), 503–20.

Hundie B, Padmanabhan M (2008) The Transformation of the Afar Commons in Ethiopia: State Coercion, Diversification, and Property Rights Change among Pastoralists. CAPRi Working Paper No. 87. International Food Policy Research Institute, Washington DC. Kamara AB, Swallow B, Kirk M (2004) Policies, interventions and institutional change in pastoral resource management in Borana, southern Ethiopia. Development Policy Review 22 (4), 381–403.

Kamoche K, Qixun Siebers L, Mamman A, Newenham-Kahindi A (2015) The dynamics of managing people in the diverse cultural and institutional context of Africa. Personnel Review 44 (3), 330–45.

Kassa G (1997) A note on the Finaa (Fimaa) institution among the pastoral Afar of the Middle Awash Valley, North Eastern Ethiopia. Journal of Ethiopian Studies 30, 1–26.

Kassa G (2001) Resource conflicts among the Afar of North-East Ethiopia. In Salih M, Dietz T, Ahmed AG (eds) African Pastoralism: Conflict, Institutions and Government, 145–71. Pluto Press, London.

Lawson V (1995) The politics of difference: examining the quantitative/qualitative dualism in poststructuralist feminist research. The Professional Geographer 47 (4), 449–57.

Lesorogol CK (2003) Transforming institutions among pastoralists: inequality and land privatization. American Anthropologist 105 (3), 531–41.

Lewis IM (2017) Peoples of the Horn of Africa (Somali, Afar and Saho): North Eastern Africa, Part 1. Routledge, New York.

Lister S (2004) The processes and dynamics of pastoralist representation in Ethiopia. IDS Working Paper No. 220. Institute of Development Studies, Brighton.

Makki F (2012) Power and property: commercialization, enclosures, and the transformation of agrarian relations in Ethiopia. Journal of Peasant Studies 39, 81–104.

Markakis J (2011) Ethiopia: The Last Two Frontiers. James Currey, London.

Mauthner N, Doucet A (2003) Reflexive accounts and accounts of reflexivity in qualitative data analysis. Sociology 37 (3), 413–31.

Mengisteab K (1997) New approaches to state building in Africa: the case of Ethiopia's ethnic-based federalism. African Studies Review 40 (3), 111–32.

Newenham-Kahindi A (2015) Managing sustainable development through people: implications for multinational enterprises in developing countries. Personnel Review 44 (3), 388–407.

North DC (1991) Institutions. The Journal of Economic Perspectives 5 (1), 79–112.

O'Reilly K (2006) 'Traditional' women, 'modern' water: linking gender and commodification in Rajasthan, India. Geoforum 37 (6), 958–72.

Pearson P, Schmidt M (2017) Commodity individuation of milk in the Somali Region, Ethiopia. Area. DOI: 10.1111/area.12359

Puddu L (2016) State building, rural development, and the making of a frontier regime in Northeastern Ethiopia, c. 1944–75. The Journal of African History 57 (01), 93–113.

Reda KT (2011a) Social organization and cultural institutions of the Afar of Northern Ethiopia. International Journal of Sociology and Anthropology 3 (11), 423–29.

Reda KT (2011b) Conflict and alternative dispute resolution among the Afar pastoralists of Ethiopia. African Journal of History and Culture 3 (3), 39–47.

Renders M (2007) Appropriate 'governance-technology'? Somali clan elders and institutions in the making of the 'Republic of Somaliland'. Africa Spectrum 42 (3), 439–59.

Rodima-Taylor D, Olwig MF, Chhetri N (2012) Adaptation as innovation, innovation as adaptation: an institutional approach to climate change. Applied Geography 33, 107–11.

Samatar AI (2004) Ethiopian federalism: autonomy versus control in the Somali Region. Third World Quarterly 25 (6), 1131–54.

Sansculotte-Greenidge K, Fantaye D (2012) Traditional authority and modern hegemony: peacemaking in the Afar Region of Ethiopia. In Sansculotte-Greenidge K, Mutisi M (eds) Integrating Traditional and Modern Conflict Resolution: Experiences from Selected Cases in Eastern and the Horn of Africa. Africa Dialogue Monograph Series No. 2/2012.

Searle JR (2005) What is an institution? Journal of Institutional Economics 1 (1), 1–22.

Schmidt M (2012) Changing human-environment interrelations in Kyrgyzstan's walnut-fruit forests. Forests, Trees and Livelihoods 21 (4), 253–66.

Schmidt M, Pearson O (2016) Pastoral livelihoods under pressure: ecological, political and socioeconomic transitions in Afar (Ethiopia). Journal of Arid Environments 124, 22–30.

Shehim K (1985) Ethiopia, revolution, and the question of nationalities: the case of the Afar. The Journal of Modern African Studies 23 (2), 331–48.

Sonneveld BG, Pande S, Georgis K, Keyzer MA, Seid Ali A, Takele A (2010) Land degradation and overgrazing in the Afar Region, Ethiopia: a spatial analysis. In Zdruli P, Pagliai M, Kapur S, Faz Cano A (eds) Land Degradation and Desertification: Assessment, Mitigation and Remediation, 97–110. Springer, Dordrecht.

Stokes J, Gorman A, Newman A (2009) Encyclopedia of the Peoples of Africa and the Middle East, 7–8. Infobase Publishing Inc, New York.

Tamanaha BZ (2015) The knowledge and policy limits of New Institutional Economics on development. Journal of Economic Issues 49 (1), 89–109.

Tesfay Y, Tafere K (2004) Indigenous rangeland resources and conflict management by the North Afar Pastoral Groups in Ethiopia. Dryland Coordination Group Report No. 31. DCG, Mekelle, Ethiopia.

Thesiger W (1935) The Awash River and the Aussa Sultanate. The Geographical Journal 85 (1), 1–19.

Tsegaye D, Moe SR, Vedeld P, Aynekulu E (2010) Land-use/cover dynamics in Northern Afar rangelands, Ethiopia. Agriculture, Ecosystems and Environment 139, 174–80.

Turner MD (2011) The new pastoral development paradigm: engaging the realities of property institutions and livestock mobility in dryland Africa. Society and Natural Resources 24 (5), 469–84.

Unruh JD (2005) Changing conflict resolution institutions in the Ethiopian pastoral commons: the role of armed confrontation in rule-making. GeoJournal 64 (3), 225–37.

Upton C (2012) Adaptive capacity and institutional evolution in contemporary pastoral societies. Applied Geography 33, 135–41.

Van Allen J (1972) 'Sitting on a man': colonialism and the lost political institutions of Igbo women. Canadian Journal of African Studies 6 (2), 165–81.

Wakjira DT, Fischer A, Pinard MA (2013) Governance change and institutional adaptation: a case study from Harenna forest. Ethiopia Environmental Management 51 (4), 912–25.

Westermann O, Ashby J, Pretty J (2005) Gender and social capital: the importance of gender differences for the maturity and effectiveness of natural resource management groups. World Development 33 (11), 1783–99.

Yami M, Vogl C, Hauser M (2011) Informal institutions as mechanisms to address challenges in communal grazing land management in Tigray, Ethiopia. International Journal of Sustainable Development & World Ecology 18 (1), 78–87.

Yasin M (2008) Political history of the Afar in Ethiopia and Eritrea. Afrika Spectrum 42 (1), 39–65.

Young OR (2010) Institutional dynamics: resilience, vulnerability and adaptation in environmental and resource regimes. Global Environmental Change 20, 378–85.

11.3 COMMODITY INDIVIDUATION OF MILK IN THE SOMALI REGION, ETHIOPIA

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Abstract

Livestock is traditionally the central commodity for the Somali pastoralists of Ethiopia, a commodity that fulfils numerous purposes required to sustain livelihoods. Livestock commodification, however, is not limited to animal sales. Milk is a fundamental element of Somali life, used as a primary source of food for young animals and for human consumption. In the Somali Region, herders now sell milk, an act that was traditionally taboo, to supplement their income. Thus commodity individuation, processes that detach a thing from its traditional context and purpose and convert it into a commodity, has occurred. This paper deals with the recent phenomenon of commodification processes by identifying the degree of and reasons for milk individuation in the Somali Region of Ethiopia. The analysis shows the extent milk has been separated from its traditional context and addresses the cultural and economic impacts of milk individuation.

Key words:

Pastoralism, commodification, individuation, milk, Ethiopia, gender

Introduction

In the Somali Region of Ethiopia, the commodification of livelihoods and daily routines of pastoralist communities has occurred. Pastoralism is a livelihood practiced by peoples residing in different environments (Hesse and MacGregor 2006) that centres around animal husbandry. Livestock, the traditional commodity, provide food and monetary gain, allowing traditional pastoralists to live off limited natural resources while moving through harsh geographical and climatic conditions (Mapinduzi et al. 2003; Wosene 1991). Specific local governance or internal leadership arrangements combined with common property regimes facilitate the required spatial mobility needed for herd migration, allowing pastoralists to find sufficient water and fodder or to sell livestock (Schmidt and Pearson 2016; Samuels et al. 2013; Hoffmann 2004).

Pastoralist livelihood systems in semi-arid areas of the Global South have been altered by numerous factors, including modified access to and decreasing availability of natural resources, climate change, population growth, changes to property rights and subsequent land acquisitions by international and national investors, neo-liberal policies, and the push for modernisation (Schmidt and Pearson, 2016; Feyissa 2013; Krätli et al. 2013; Lavers 2012; Sulieman and Elagib 2012; Yeh 2011; Peters 2009; Devereux 2006). These changes transformed resource management and, in turn, reconstructed traditional roles and relationships in pastoralist communities (Headey et al. 2014; Kassahuna et al. 2008).

The transition and modernization processes have also resulted in diverse external characterisations of pastoralists. Research has been conducted on those who connect

pastoralism to poverty (Krätli 2013), on the assumptions of governments and the World Bank, who argue pastoralists are no longer capable of managing their rangelands (Fratkin 2014), and has led to an emerging push for recognition of the effectiveness of pastoralist systems, which afford greater influence to indigenous voices (Upton 2014; Marin 2010). These processes also lead to traditional livelihoods, goods, and practices undergoing commodification, a process that assigns a specific value to an object, entity, service, knowledge, an appearance, or practice and converts it into something that can be exchanged or is exchangeable; a commodity (Appadurai 1986).

Commodification processes are not inherent but, rather, dependent on what is being commodified, its region and the specific practices and processes associated with its use (Callon et al. 2002; Castree 2003). Varied studies conducted in arid and semi-arid environments illuminate the variety of commodification processes, including Turner (2009) who uses the example of the Maasina Region, central Mali, to illustrate the evolving livestock and pasture related geographies, Gardner (2009) who summarizes studies that addressed the intertwining geography and history of livestock and capitalism and Anderson et al. (2012), who analyses the implications of milk commodification transitions that pastoralists in northern Kenya have undergone. Recent research on sedentarisation and territorialisation details the commodification of indigenous knowledge by state run development projects in the Somali Region, Ethiopia (Korf et al. 2015) and questions how the formation of state lands has shaped new frontiers in Cameroon, Indonesia, and Ethiopia (Kelly and Peluso 2015).

This paper contributes to commodification processes research, in particular the processes of commodity individuation. Research aims to identify the extent of and reasons for milk commodity individuation in the Somali Region of Ethiopia. Milk (caanaha) is a traditional and essential Somali pastoralist livelihood staple that supports transhumant movements throughout the arid to semi-arid region, as well as providing nutritional benefits (Wosene 1991). To achieve this aim, three research objectives were established: 1) To assess the traditional role of milk in Somali culture; 2) to understand the transitions in the region that brought on milk commodification; and 3) to emphasise the processes used to facilitate milk commodification. Data were collected by extensive empirical field research in the region to test the hypothesis that milk individuation has taken place, specifically seeking to assess to what extent milk has been separated from its traditional context and the resulting cultural and economic impacts.

Commodification and Commodity Individuation

Commodification occurs as a result of interlinked processes that transform and interject commodities into the present dominant capitalist model which encompasses omnipresent modernisation and globalisation processes (Lysandrou 2005; Jackson 1998; Marx 1867). A commodity, in this case milk, is typically characterised as advantageous, practical or convenient, capable of delivering a commercial advantage (Watts 2011). Commodification assigns monetary value; it is 'the process during which a thing that previously circulated outside monetary exchange is brought into the nexus of a market' (Page 2005, 295). These interlinked processes are increasingly connected to and strengthened by global flows and interactions (Thrift 2006).

Increased interest in direct and indirect forms of commodification, both of 'human and non-human' (Prudham 2009, 123) and of nature (Castree 2008) has broadened the scope of research conducted in pastoralist settings in (semi)-arid lands. Several studies analyse specific historical events or changes to the natural and social environment and demonstrate how indigenous peoples are influenced by and adapt to changes to their physical and cultural environments (Speranza et al. 2009; Galvin 2009).

This paper uses one of Castree's (2003) six distinct and inter-related elements of capitalist commodification; individuation, as a theoretical framework to investigate the impact of current commodification processes on households selling milk in the Somali Region. 'Individuation ... refers to the representational and physical act of separating a specific thing or entity from its supporting context' (Castree 2003, 280). Individuation addresses the physical and cultural processes involved in commodification from an ecological and social perspective; it facilitates the juridical and material requirements for commodification. The framework also employs one of Prudham's (2009) moments of commodification, stretching, to address how this phenomenon occurs; i.e., how milk based exchange relations expand to cover greater distances. Thus, the framework examines the reasons for milk commodification processes as well as their implementation and impact.

Study Area and Methods

The selected study area is the Somali Region of Ethiopia, with a key focus in Kebri Beyah and Gode Woredas (Figure 1). The Somali Region (279,252 km2) is subdivided into nine administrative zones (second level administrative division), 68 woredas (third level) and 786 kebeles (forth level) (BoWR 2010, BoFED 2013). Traditionally the predominant livelihood was pastoralism, however the number of agro-pastoralists – people whose livelihood is derived from livestock herding and agriculture – is increasing. While no recent concise survey of the population has been conducted, the 2014 estimated population was 5.5 million with 86% living in rural areas and an average population density of 20 people per square kilometre (CSA, 2013). Works by Eshete (1991), Tareke (2000), Samatar (2004), Abdullahi (2007), Powell et al. (2008), and Hagmann and Korf (2012) demonstrate how regime changes, from clan to imperial to socialist and to the present government, the fall of the Somali Democratic Republic in 1991, autonomy seeking agents in the Ogaden including the Western Somali Liberation Front (WSLF) and the Ogaden National Liberation Front (ONLF), and Al-Shabaab created a volatile and complex security situation. These transitions and interactions have resulted in fatal conflicts between rurally-based guerilla forces and the government, such as bombing attacks, kidnapping, guerilla attacks on government convoys and governmental targeting of communities thought to supporting insurgent forces.

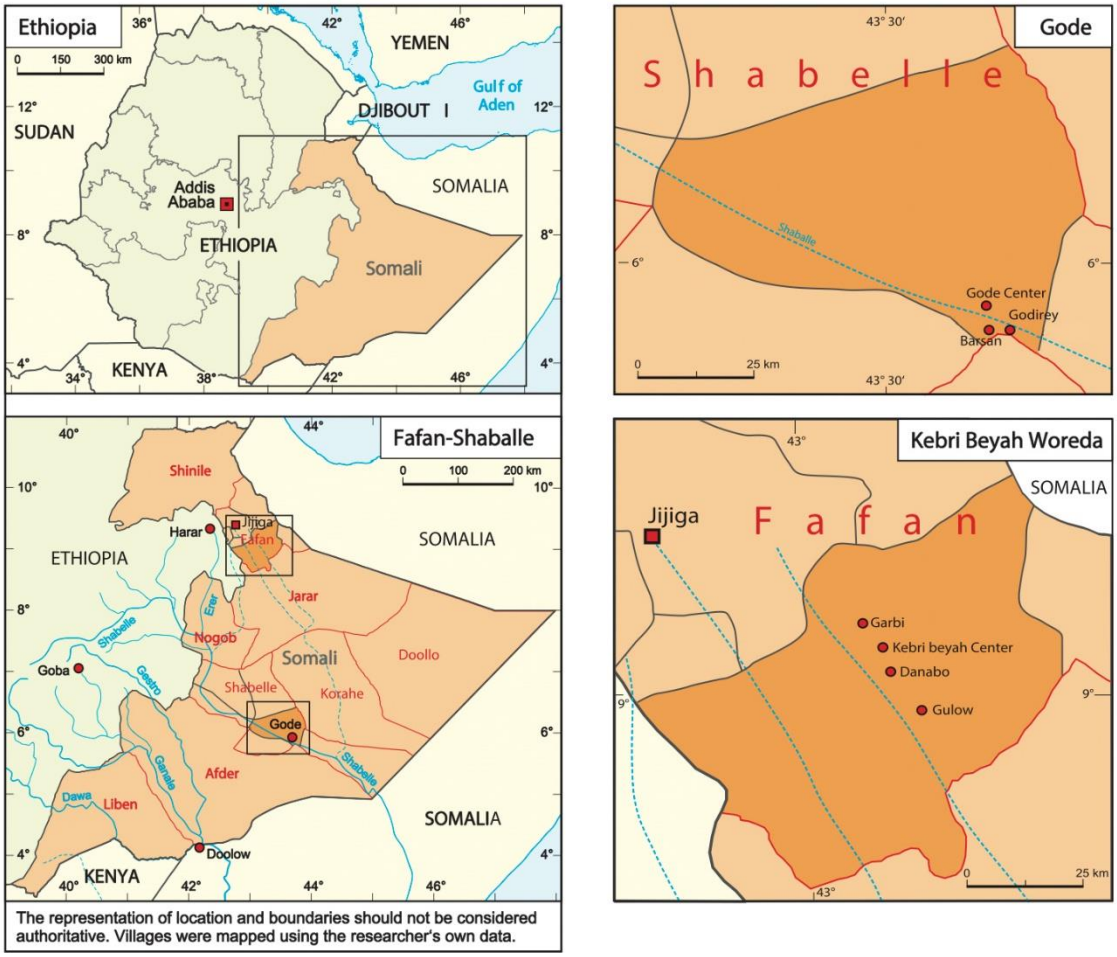

Figure 1. Location of the study area in the Somali Region, Ethiopia

Kebri Beyah, Fafan Zone, is 50 km south-east of Jijiga, the regional capital, and averages 1530 meters above sea level. Gode, Shabelle Zone, is the second largest town in the Somali Region with an average altitude of 270 meters. Kebri Beyah's predominant sub-clan is Abaskul who began settling at the start of the 20th century; however, kebeles bordering Somaliland are populated by the Issaq sub-clan. In Gode the predominant sub-clan is Ogaden, but the sedentarisation projects included, thus settled, other sub-clans in the area. The 2014 projected population for Kebri Beyah was 203,304 (107,287 male, 96,017 female), 84% rural, and for Gode 131,928 (73,446 male, 58,482 female), 40% urban (CSA, 2013). This large gender disparity can be attributed to numerous factors: boys 22% more likely to reach the age of 5 than girls, security concerns when compiling data preventing some areas from being counted, higher mobility and migration rates of males, and the regional gender bias as seen in the 1997 census (Devereux 2006). Both woredas are mainly populated by agro-pastoralists. With no perennial river in Kebri Beyah crops are rain fed while Gode is serviced by the Shabelle River. Customary rains are Diraa (late March – late May) and Karan (late July – September) and are found in both areas, while Kebri Beyah sees sporadic rains between early October and late December.

This paper draws on primarily data collected in rural areas from June to November, 2015 and supported by qualitative interviews conducted with government and non-government employees in May and June, 2014 (urban). 2014 interviews provided grey literature that substantiated and

elaborated on existing academic literature, vital as research in the region was limited due to previous security concerns. A regional risk assessment was conducted prior to entering rural areas. From January to June of 2015, the security situation was monitored as closely as possible from abroad, with web searches conducted daily on specific themes: Ogaden National Liberation Front; Somali Region of Ethiopia; Somalia; Somaliland; Ethiopia; and Al shabaab. Mentioned conflicts in the Somali Peninsula were mapped, with the date, type of attack, fatalities, and source of information (Image 1). In July, 2015, discussions with local government and non-government officials clarified the security situation. Results showed that along the East Somalia and Southern Kenyan borders and areas distant from primary roads and cities should be avoided. Gode and Kebri Beyah were classified as secure, so long as the researcher travelled daily to rural areas and returned to the woreda centres nightly.

With a qualitative analysis methodology approach the interface between forms of commodification and current pastoral systems was investigated. Open and semi-structured interviews with key stakeholders of both genders were conducted on five pre-assigned themes: identity, gender, livestock and livestock markets, borders and territories. Before conducting any interviews, permission was obtained from the regional president's office, which was then provided to officials at the zone, woreda, and kebele levels, the gatekeepers to local communities. Woreda selection criteria included locality security and government permission, as well as rain-fed and river-fed farms, areas within and without government sedentarisation programs, and weather constraints. The likelihood of resident attendance was an important consideration as the growing pressure of drought, described by authorities as more severe than that of 1983-85, reportedly caused significant migration in search of water and pastures. Results were cross-referenced at several points throughout the research process using expert and group interviews with elders, respected community members and government and non-government officials.

In order to adhere to ethical research practices, subject material and interview guidelines were reviewed by university staff, regional government and non-government officials and cultural experts. Interviewees were advised in advance about the research objectives and researcher's background, and while personal details were documented when possible, to respect participant privacy names are not provided in this paper (O'Reilly 2012; Hay 2000).

In 2014, 18 government officials working in the regional and woreda levels bureaux of women and children; water; livestock, crop, and rural development; pastoralist and agro-pastoralist research institutes; and community development projects were interviewed. 14 interviews were conducted with national and international NGO officers working on gender and livelihood. In 2015 kebele leaders acted as local gate keepers, selecting elders for primary interviews. These elders' recommendations helped shape subsequent interviewee selection. Interviews were conducted with pastoralists and agro-pastoralists, and small business owners (i.e., milk vendors, local store owners), and ethnographic observations were made with the assistance of local guides and translators. In Guyow, Garbi, and Danabo kebeles (settlements) of Kebri Beyah 133 individuals (93 males, 40 females) were interviewed from July to September, and in November 2015. 40 individuals (22 females and 18 males) were interviewed in October and November in

Barsan and Godiery kebeles, Gode. Across all settlements efforts were made to increase the number of female interviewees, however it was more successful in Gode. This could be attributed to the higher urban population density and Gode females being more accustomed to interact with outsiders as more research has been conducted there than in Kebri Beyah.

Results and Discussion

Origins of milk commodification

Origins of milk commodification Milk (caanaha) plays a fundamental role in Somali livelihoods and culture. 'People consumed butter and milk like it was water' (Male elder, Kebri Beyah, 15 August 2015). Consumed raw or converted into butter (subagga), milk, camel milk in particular, sustains Somali pastoralists moving through areas with limited water and food and provides varied nutritional and medical benefits (Elhadi et al. 2015; Carruth 2014). 'When you're a pure pastoralist and you have enough animals ...their milk and butter mean that you don't need extra food and farming' (Male elder, Kebri Beyah, 21 July 2015). Importantly, milk was not traditionally sold as 'culturally it was a shame to sell the milk' (Female elder, Kebri Beyah, 13 August 2015). Residents reported that milk began exceeding its traditional pastoralist purpose in the mid 1990s. Catalysts that engendered the need to sell milk are varied and interdependent. Herd sizes began to decrease along with natural resource availability, in particular water and fodder, while sedentarisation processes intensified and market demands increased. More rural Somalis began moving to urban and periurban areas, where it is difficult to maintain a herd or even a small number of animals, and abandoning traditional livelihood practices. 'We settled in [Guyow] 1960 because everyone had taken the land, then our animals died because of drought and the increasing population' (Male elder, Kebri Beyah, 31 August 2015). Cultural preferences and trends, however, were not abandoned – in this case, milk consumption. Migration from rural to urban areas and the resulting market growth was further intensified by refugee camps established when the civil war started in Somali. A driving factor in milk commodification is the increased presence of khat (Catha edulis), a natural psychostimulant widespread throughout the Somali Region and commonly consumed by the male population (Odenwald et al. 2010; Devereux 2006). Residents reported the noticeable increasing popularity of khat (since the mid 1970s) has accelerated to the point that khat has permeated regional culture and practices. Purchasing khat, time spent cultivating it in the higher plains of the region and consuming the stimulant negatively impact a household's economic standing.

> 'This [modern Somali] man doesn't think like that [the traditional Somali man]. He just does everything to get khat, and if he gets it he'll eat it. If not, he'll sleep.' (Male informants, group discussion, Kebri Beyah 05.08.2015)

As resources grow scarcer and males become preoccupied with obtaining and consuming khat, fewer males provide their families with the essentials needed to sustain livelihoods. Thus females look for new sources of income to provide for their families; resulting in increased milk sales.

Extent of milk individuation: conduction and implementation

Commodity individuation requires legal and/or material boundaries and regulations – limitations and restrictions – be put into play or altered. In the study regions, boundaries applied to milk sales are informal, created by and for the community, influenced by supply and demand, cultural practices introduced by local and foreign governments as well as non-governmental agencies. All interviewees agreed only females sell milk even when males milk animals, with these females predominately coming from low to middle income sedentarised households. Females form formal and informal milk co-operatives, typically between three to seven members, to facilitate distribution and for social security.

> 'If my animals don't have milk then the other people support me until my animals have milk again.' (Female information, Gode, 14.10.2015)

Members contribute pre-determined amounts; those with more livestock, upwards of eight, belong to smaller co-operatives, while those with one or two animals to larger co-operatives. Rosters dictate who collects and transports milk by foot or using public transport to sell in regional and rural marketplaces, to larger co-operatives, or restaurants, tea shops and stores. Milk is also sent to larger centers using public transportation with the vendor's name written on the bottle. In town it is sold by females who then return profits, typically with the bottle via public transportation, minus their cut, similar to practices in other pastoralist areas (Noor et al. 2013). Thus, milk sales have also increased female mobility as they travel to sell milk without male guardians. This is a significant change in Somali culture, as traditionally females moved with male family or clan members.

Governmental juridical control increases yearly with specific foci: regulating livestock and commodity chains, managing live export markets and reducing illegal trade over the region's international borders. Governmental employees advised that implementing governmental regulations and resources to regulate milk sales comes second to addressing revenue lost through illegal international livestock trade. Spatial issues also hamper implementing official regulations, as the physical areas where animals are milked and where milk is sold are not fixed. Areas are large and sparsely populated and once resources, water and fodder, start to disappear, pastoralists and livestock migrate to find water and fodder and remaining lactating animals have reduced milk outputs.

The decrease in natural resource availability during the dry season, deteriorating grazing and drinking conditions, also impacts milk prices. Milk quantities are connected to the rain and 'if it rains well, the price will decrease. If the shortage of rains worsens, the price will increase.' (Focus group with female participants, Kebri Beyah, 11.11.15).

Camel and cow milk are sold but rarely goat milk, as those who milk goats use it 'for the kids or for tea' (Female informant, Gode, 19.10.2015). Resident reported milk prices are not uniform in Kebri Beyah and Gode, due to the changing seasons and natural resource availability, demands and requirements of milk vendors and buyers. In and around Kebri Beyah, cow milk costs 0.25 to 0.30 € per cup (250ml) during and after the rainy season, increasing to 0.40 to 0.60 € during the dry season. In Gode, one cup of cow milk costs 0.20 to 0.40 € but jumps to 0.80 € during the dry

season. The lower price in Kebri Beyah stems from a larger (agro-pastoralist) population compared to Gode and vendors have easier access to primary roads where milk is sold.

Milk is sold in the morning and not in the evening. Animals are milked twice daily, from 6 to 7 am and from 6 to 7 pm. In Kebri Beyah, sales are conducted in the kebele and woreda centers and along the road that connects Jijiga to Gode and other major Somali towns. As public transportation decreases at night, milk is consumed by family members in the evening. 'This morning I got eight cups. We kept one cup for tea, all the other seven we will sell. We drink the night milk. (Female informant, Kebri Beyah 04.09.2015). In Gode, milk is sold in the morning as strict security measures around the town shut the bridge connecting southern kebeles to the centre at 5 pm. Milk is also consumed by families in Gode during the evening.

Cultural changes and their consequences

Milk sales have driven significant changes to most households during the past ten years; in particular, the increase in female management of household finances. This is so prevalent that it is now considered unusual for males to perform this role and 'we now think it is strange when a man won't give the woman the money' (Male Focus Group, Gode, 12.08.2016). Foremost among the numerous factors is the higher number of female primary day-to-day breadwinners, largely due to the greater prevalence of rural women selling milk. The trend has been re-enforced through the social perception that males lack the self-control and restraint that prevents them from squandering money when the family is in need, while a woman will 'keep the money for the household… Since they don't chew, they keep the resources and give it to the children' (Male informant, Kebri Beyah 03.08.2015). Driven by the socially-accepted belief that women will put a child's needs before their own, males relinquish responsibility for economic management to females.

> 'Previous times men managed the money, but now we've developed so we have more power. Now men are happy for their wives to manage the money. Women don't actually have the power to say to their husbands 'Hey, I want to manage the money' but we have a discussion and men let the women have power.' (Female informant, Gode, 29.10.2015)

Although milk sales reduce household milk consumption, milk vendors stated that they 'get more advantages from selling milk. We can buy shoes, sugar, vegetables and spices, tomatoes and peppers' (Female informant, Gode, 14.10.2015). Profits from milk sales are typically spent on sugar and tea in Kebri Beyah, and on pasta, rice, vegetables and legumes in Gode. In both areas profits are also spent on basic household goods: soap, clothing, and housing materials.

Conclusion

As has been shown, milk is an influential commodity in Somali culture, traditionally and currently. Traditionally either consumed as milk or converted into butter, milk was a source of food in a harsh environment where natural resources are limited. This analysis of the changing role of milk documents the transitions in the Somali Region that facilitated the conversion of an essential food into a new commodity and extricated it from the traditional settings. Key catalysts include

the decrease in herd size and natural resource availability, combined with an increasingly sedentarised population and growing market demand. Importantly, the processes that facilitated milk commodification in the Somali Region show how commodity individuation ascribed milk with a monetary value. The role of milk within society has been stretched and deepened with the commodification process strengthened through 'social consumption and reproduction' (Prudham 2009, 125). As per Castree's individuation requirements, the material boundaries of milk as a commodity have been broadened, separated and extracted from its original social and cultural contexts as a result of the fundamental transitions, to become not just a source of nutrition, medication, and sustenance while migrating, but also income. Exchanges that facilitate milk sales have altered physical and material boundaries and created intricate and personalised networks of female buyers and vendors stretching over great distances, from the rural to the urban.

By allowing females the ability to provide their families with a new revenue source gender roles have been altered, thus giving females support for and a clear reason for taking greater control over household finances. Although some changes are dependent on the locality of the residents and are not all uniform, the commodification of milk has significantly contributed to a transition from a male to a female economic head of the household. This, paired with growing mobility, has dramatically changed gender roles in the Somali Region.

However, comprehensive individuation has not taken place, as, despite the creation of de facto regulations by vendors and buyers, governmental laws have not been created or implemented. This is not to say that it is necessarily required, and further research could ascertain the valuation of complete individuation through governmental regulations. A key question would be whether formal regulations would result in negative or positive changes for local sellers (an increase or decrease in profit), and how the implementation of de jure laws would impact governmental revenue streams.

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References

Abdullahi A M 2007 The Ogaden National Liberation Front (ONLF): the dilemma of its struggle in Ethiopia Review of African Political Economy 34 556–62

Anderson D M, Elliott H, Kochore H H and Lochery E 2012 Camel herders, middlewomen, and urban milk bars: the commodification of camel milk in Kenya Journal of Eastern African Studies 6 383–404

Appadurai A 1986 The social life of things. Commodities in cultural perspective. Cambridge University Press, Cambridge

BoWR 2010 Summary of Five Years Strategic Plan 2003 – 2007 EFY, Version 1 Bureau of Water Resources Jijiga, Somali Region

BoFED 2013 Assessing development gaps in Somali Regional State of Ethiopia Bureau of Finance and Economic Development Jijiga, Ethiopia

Callon M, Méadel C and Rabeharisoa V 2002 The economy of qualities Economy and Society 31 194–217

Carruth L 2014 Camel milk, amoxicillin, and a prayer: Medical pluralism and medical humanitarian aid in the Somali Region of Ethiopia Social Science & Medicine 120 405–12

Castree N 2008 Neoliberalising nature: the logics of deregulation and reregulation. Environment and Planning A 40 131–52

Castree N 2003 Commodifying what nature? Progress in Human Geography 27 273–97

CSA 2013 Population projection of Ethiopia for all regions at woreda level from 2014–2017 [Data file] Central Statistic Agency, retrieved from http://www.csa.gov.et/

Devereux S 2006 Vulnerable livelihoods in Somali region, Ethiopia. International Development Studies Research Report 57, Brighton

Eshete T 1991 The root causes of political problems in the Ogaden, 1942–1960 Northeast African Studies 13 9–28

Elhadi Y A, Nyariki D M and Wasonga O V 2015 Role of camel milk in pastoral livelihoods in Kenya: contribution to household diet and income Pastoralism: Research, Policy and Practice 5 1–8

Feyissa G 2013 Effects of climate change and variability on pastoralist women's accessibility to social services: Case of Fentalle Woreda, Central Rift Valley of Ethiopia in Mulinge M Getu M eds Impacts of climate change and variability on pastoralist women in Sub-Saharan Africa Foundation Publishers, Kampala 121-153

Fratkin E 2014 Ethiopia's pastoralist policies: Development, displacement and resettlement Nomadic Peoples 18 94–114

Gardner B 2009 Are livestock a troublesome commodity? Geoforum 40 781–783

Galvin K A 2009 Transitions: pastoralists living with change Annual Review of Anthropology 38 185–98

Hay I 2000 Qualitative research methods in human geography Oxford University Press, Melbourne

Hagmann T and Korf B 2012 Agamben in the Ogaden: Violence and sovereignty in the Ethiopian–Somali frontier Political Geography 31 205–14

Headey D, Taffesse A S and You L 2014 Diversification and development in pastoralist Ethiopia World Development 56 200–13

Hoffmann I 2004 Access to land and water in the Zamfara Reserve. A case study for the management of common property resources in pastoral areas of West Africa Human Ecology 32 77–105

Hesse C and MacGregor J 2006 Pastoralism: Drylands' invisible asset? Developing a framework for assessing the value of pastoralism in East Africa. IIED Issue Paper 142

Jackson P 1999 Commodity cultures: the traffic in things Transactions of the Institute of British Geographers 24 95–108

Kassahuna K, Snymanb H A and Smit G N 2008 Impact of rangeland degradation on the pastoral production systems, livelihoods and perceptions of the Somali pastoralists in Eastern Ethiopia Journal of Arid Environments 72 1265–81

Kelly A B and Peluso N L 2015 Frontiers of commodification: State lands and their formalization Society & Natural Resources 28 473–95

Korf B, Hagmann T and Emmenegger R 2015 Re-spacing African drylands: territorialization, sedentarization and indigenous commodification in the Ethiopian pastoral frontier The Journal of Peasant Studies 42 881–901

Krätli S, Huelsebusch C, Brooks S and Kaufmann B 2013 Pastoralism: A critical asset for food security under global climate change Animal Frontiers 3 42–50

Krätli S 2013 Global public policy narratives on the drylands and pastoralism. Climate resilient drylands development International Institute for Environment and Development, London

Lavers T 2012 Patterns of agrarian transformation in Ethiopia: State-mediated commercialisation and the 'land grab' Journal of Peasant Studies 39 795–822

Lysandrou P 2005 Globalisation as commodification Cambridge Journal of Economics 29 769–97

Marin A 2010 Riders under storms: contributions of nomadic herders' observations to analysing climate change in Mongolia Global Environmental Change 20 162–76

Mapinduzi A L, Oba G, Weladji R B and Colman J E 2003 Use of indigenous ecological knowledge of the Maasai pastoralists for assessing rangeland biodiversity in Tanzania African Journal of Ecology 41 329–36

Marx K 1867 (republished 1990) Capital, Vol 1 Penguin Classics, London

Noor I M, Guliye A Y, Tariq M and Bebe B O 2013 Assessment of camel and camel milk marketing practices in an emerging peri-urban production system in Isiolo County, Kenya Pastoralism 3 1–8

Odenwald M, Klein A and Warfa N 2010 Introduction to the special issue: the changing use and misuse of khat (Catha edulis) – tradition, trade and tragedy Journal of Ethnopharmacology 132 537–39

O'Reilly K 2012 Ethnographic Methods Routledge, New York

Page B 2005 Paying for water and the geography of commodities Transactions of the Institute of British Geographers 30 293–306

Peters P E 2009 Challenges in land tenure and land reform in Africa: anthropological contributions World Development 37 1317–25

Powell B, Ford R and Nowrasteh A 2008 Somalia after state collapse: Chaos or improvement? Journal of Economic Behavior & Organization 67 657–670

Prudham S 2009 Commoditization in Castree N, Demeritt D, Liverman D and Rhoads B eds A Companion to environmental geography Wiley-Blackwell, Oxford 123–42

Samatar A I 2004 Ethiopian federalism: Autonomy versus control in the Somali Region Third World Quarterly 25 1131–1154

Samuels I, Allsopp N and Hoffman M 2013 How could herd mobility be used to manage resources and livestock grazing in semi-arid rangeland commons? African Journal of Range & Forage Science 30 85–89

Schmidt M and Pearson O 2016 Pastoral livelihoods under pressure: Ecological, political and socioeconomic transitions in Afar (Ethiopia) Journal of Arid Environments 124 22–30

Speranza C I, Kiteme B, Ambenje P, Wiesmann U and Makali S 2010 Indigenous knowledge related to climate variability and change: insights from droughts in semi-arid areas of former Makueni District, Kenya Climatic Change 100 295–315

Sulieman H M and Elagib N A 2012 Implications of climate, land-use and land-cover changes for pastoralism in eastern Sudan Journal of Arid Environments 85 132–41

Tareke G 2000 The Ethiopia-Somalia War of 1977 revisited International Journal of African Historical Studies 33 635–67

Thrift N 2006 Re-inventing invention: new tendencies in capitalist commodification Economy and Society 35 279–306

Turner M D 2009 Capital on the move: The changing relation between livestock and labor in Mali, West Africa Geoforum 40 746–55

Upton C 2014 The new politics of pastoralism: Identity, justice and global activism Geoforum 54 207–16

Watts M 2011 Commodity in Gregory D, Johnston R, Pratt G, Watts M and Whatmore S eds The dictionary of human geography Wiley Blackwell, London 99–101

Wosene A 1991 Traditional husbandry practices and major health problems of camels in the Ogaden (Ethiopia) Nomadic Peoples 29 21–30

Yeh E T and Gaerrang 2011 Tibetan pastoralism in neoliberalising China: continuity and change in Gouli Area 43 165–172

12 ATTACHMENTS

12.1 ATTACHMENT ONE: AFAR REGION

Semi-structured Interview Questionnaire – (Agro)-pastoralist interview questions

1) *Interviewee Introduction*
   a) Describe the changes to the landscape over the past 20 years
   b) Interviewee introduction
   c) Background, livelihood practice
   d) Family status and household details
2) *Utilization and management of natural resources*
   a) Who manages the water, land, and plant life in your area? What are their jobs? What are your responsibilities?
   b) What are the most important resources for you and your family? How are they used and how are they managed?
   c) What techniques do you use to look after your lands? How have they changed?
   d) What natural resources do you have access to? How has access changed? How do the changes in weather affect resources?
   e) How do you respond to a drought?
   f) What causes clans to move towards a sedentary lifestyle and away from a nomadic one?
   g) What do you think of agro-pastoralists? Are you one? If yes, why. If no, why not?
   h) How do the different times of the year change the resources? Does it change in different areas of your pastoral grounds?
   i) How are you affected by changes in governmental and non-governmental resource management policies and programs? Are you aware of them?
   j) How has the presence of outsiders, such as immigrants, government officials and other clans change NRM and who they're managed by?
3) *Property rights and conflicts*
   a) How do you define your water and property rights? How do you enforce then?
   b) What groups have a say over property rights? Do you feel that your opinion is given the same level of importance as others? Which groups are new and which are old?
   c) Are there different levels of land ownership?
   d) Do all clan members share the same level of ownership?
   e) Under which conditions are you able to use someone else's land?
   f) What role does the government play in defining property rights? How often to do you encounter government officials working on property rights? Do you discuss options or are you told the new laws?
   g) Are you challenged by other clans when defining your property rights? Other groups? How do you manage these challenges?
   h) What are the key conflicts between your group and others in the Afar? How have they changed over the past 10 years?
   i) How have property rights changed over the past 10 years?
   j) Do you see conflicts between your clan and the state or conflicts with other clans more significant?
   k) Have you changed the way you behave because of changes in property rights? How and why?
   l) How have the changes in property rights affected how you manage the resources you rely upon? How has access changed?
4) Sedentarisation Scheme
   a) What is your perception of the sedentarisation scheme and what does it involve?
   b) What can it do for you?
   c) Will you or members of your household settle? How do you decide if you will or will not?
   d) Do you want to be settled? Who wants this and who does not?
   e) How and where is it implemented?
   f) Who can be settled? What are the requirements and conditions?
   g) What happens to those who settle without government permission? Are they awarded land titles?
5) *Access to natural resources*
   a) What resources can you access now? During the last 6 months? Five years? Ten years?
   b) How long to do you have to travel to reach water? Pasture for livestock? How has this changed?

c) How do differing levels of access affect the livelihoods of your clan? Are you aware of other clans with better access and how does this affect your relationship with them?
d) How is access defined? What does access to a resource bring (food, water, migration corridors, transportation channels)?
e) What changes when you can't access a certain resource?
f) Within your clan, who is most affected by new restrictions to a natural resource? How does it affect different members: women, children, men?

6) *Institutions of resource management*
a) Who managed natural resources in the past and who does now?
b) Who has the power to decide on access rights, utilization and management rights of a resource?
c) How and why are they given this right? How do you feel about the change in management?
d) What are normal conflicts, how are they solved and who is responsible for resolving them? What are you responsible for?
e) What means a conflict that has gotten out of hand? At what point do you feel that you've lost control over the situation?
f) How have conflict resolution practices changed? What aspects have been lost and introduced?
g) Do you rely on introduced methods or still use traditional practices? Have the two joined together, if yes how if not why not.
h) Where is their room for improvement in the management of resources?

7) *Migration corridors and access to resources*
a) Where are your migration corridors and routes? Where are your pastoral grounds? What level of access to natural resources do you have along those routes and within those grounds?
b) Who else has access to your lands and do you use the lands of others?
c) How are they defined/identified? Legally? With traditional laws? What time of year do you use them?
d) How are the routes and grounds protected? By whom?
e) What dangers does your clan face along routes and in protecting grounds? What conflicts occur as a result of movement along or living within your pastoral grounds?
f) What interactions occur between pastoral groups and sedentary groups?
g) How strong is the security of routes and grounds and how can boundaries be enforced?
h) Are livestock broken into groups or do they all remain together? How do you decide what livestock goes where?

8) *Indigenous Knowledge for NRM*
a) What traditional methods do you still use and why?
b) What traditional methods have you abandoned and why?
c) What local knowledge/skills are incorporated into your management of natural resources?
d) What local skills are utilized for (rangeland assessment and) monitoring efforts.
e) Do you feel that traditional skills encouraged or discouraged, both within your clan and by outsiders?
f) Define your clan's local customs and practices in relation to resource management? What other local cultures impact them?

9) *Changes to Landscape*
a) Describe the changes to the landscape in the past 20 years? What plants have gone and what have come? Changes to water and land?
b) How do changes in weather affect you, your household, and animals, and the land and resources?
c) When did you notice weather was changing?
d) Has the presence of outsiders become stronger since the stronger changes in weather came along? How have outsiders affected the way you assess the situation?
e) How has a change in the climate affected the way in which you work?

Semi-structured Interview Questionnaire – Government and NGO Key informants

1) Introduction
a) Interviewee introduction
b) Position
c) Background, area of expertise
d) Roll of institution
e) Structure of institution (Zone, Woreda, Kebele level)

2) *Utilization and management of natural resources*
a) Who are the primary natural resource management stakeholders in Afar? Define their roles, and yours.

b) What determines how the natural resources in the Afar are managed and who they're managed by? What effect do changes in weather conditions, the presence of immigrants, the political climate, and the presence of different governmental and NGOs have?
c) What are the key natural resources in Afar, and what is their level of merit to each stakeholder?
d) What is the discrepancy in resource management when looking at each resource as an individual entity? How do changes in availability affect each resource?
e) Define what role different resources play for the local population?
f) How is the importance of a resource and its utilization judged by yourself/team/department? How does it differ in different areas of the Zone?
g) What is unique to NRM in Afar, compared to elsewhere in the country/Horn of Africa?
h) How does the changing of the seasons effect the management of natural resources conducted by local and external agents?
i) What is your response to a drought?
j) How are pastoralists impacted by changes in governmental and non-governmental resource management policies and programs? How have they been in the past?
k) What makes pastoralists move away from pure pastoralism and towards a more sedentary lifestyle? How many contributing elements are there? Are some more significant than others?
l) Do changes in the political climate play a large part in how your change your management practices?

3) *Property rights and conflicts*
a) How are water and property rights defined? What methods are employed to, first define then enforce the definition? Are oral rights given the same importance as written?
b) Are there differing levels of ownership over the land? What categories are they broken down into?
c) Do all members from a single clan share the same level of ownership?
d) What are the prime conflicts between pastoral groups based around? How have they changed over the past 10 years?
e) How have property rights changed over the past 10 years?
f) What groups have a say over property rights? What level of importance is given to their opinion and how is this judged? Which groups have recently emerged, which have a weakened level of power, and which are seen as permanent?
g) What role does the government play in defining property rights? Which levels of government are seen to be key actors?
h) Are conflicts between the state and pastoralists more commonplace or pastoralist to pastoralist?
i) What conflicts exist between groups when looking into property rights, between whom and how are they managed?
j) How have changes in property rights effected the management of natural resources and local practices? How is the demand for natural resources affected?

4) Sedentarisation Scheme
a) What is your perception of the sedentarisation scheme and what does it involve?
b) What does sedentarisation provide pastoralists?
c) How and where is it implemented, specifically with regards to Zone Four
d) Who can be settled? What are the requirements and conditions?
e) What happens to those who settle without government permission? Are they awarded land titles?

5) *Access to natural resources*
a) How can a group be defined by their level of access to a natural resource?
b) How do differing levels of access affect livelihoods?
c) How is access defined? What does access to a resource bring (food, water, migration corridors, and transportation channels)?
d) What are the short and long term imacts of differing levels of access to a resource on a clan: restricted v's ample?
e) Who is most affected by a restriction to a natural resource? How does it affect different members of the society: women, children, men?

6) *Institutions of resource management*
a) What are the past and present institutions dealing with natural resource management?
b) How many bodies have the power to decide on access rights, utilization, and management rights of a resource? How and why are they given this right?
c) What are commonplace resource based conflicts, how are they solved and who is responsible for resolving them?

d) How has conflict resolution changed? What aspects have been lost and what has been introduced?
e) Is there a stronger reliance on introduced methods or do traditional practices still play an important role? Have the two joined together, if yes how if not why not.
f) Where is there room for improvement in the management of resources?

7) *Migration corridors and identification of routes and pasture grounds of local pastoralists*
   a) Where are the migration corridors and routes that local pastoralists use? Where are their pastoral grounds? What level of access to natural resources occurs?
   b) How are they defined/identified? During what time of year are they used?
   c) How are the routes and grounds protected and those who use them?
   d) What dangers occur along routes and in protecting grounds? What conflicts occur due to movement along or living within the pastoral grounds?
   e) What interactions occur between pastoral groups and sedentary groups?
   f) How strong is the security of routes and grounds and how can boundaries be enforced?
   g) Are routes legally defined? If yes, when and how. If not, what would the consequences be and is it a plausible approach to improving security?
   h) Are livestock broken into groups or do they all remain together? How is it decided what livestock goes where?
8) *Indigenous Knowledge*
   a) What role does traditional knowledge play and how can it be strengthened?
   b) What local knowledge/skills are incorporated into the management of natural resources?
   c) What local skills are utilized for rangeland assessment and monitoring efforts.
   d) Are traditional skills encouraged or discouraged? What role do they play?
   e) Define the local customs and practices of the Afar people? What other local cultures effect the Afar peoples?
9) *Changes to Landscape*
   a) Describe the changes to the landscape over the past 20 years.
   b) What are the new risks and challenges in Afar, i.e., climate change, population growth, and institutional changes.
   c) What is the biggest change to the land?
   d) How do different stakeholders perceive changes to the landscape?
   e) How are different actors affected by climate change and what effects are they experiencing?
   f) How has a change in the climate affected the way in which natural resources are managed? Have differing strategies been put into action?

12.2 ATTACHMENT TWO: SOMALI REGION

Semi-structured Interview Questionnaire – (Agro)-pastoralist interview questions

Block one. Identity

1) *Somali Identity*
   a) What does Somali mean to you and what does it mean to be Somali?
   b) Who is a Somali?
   c) How has this changed from your childhood to now?
   d) What are the advantages/disadvantages of being Somali?
2) *Traditional forms of commodification*
   a) How did people traditionally get money? What were the different steps taken, the processes?
   b) What were the things sold, bought, made, exchanged etc? Who put a price on the things?
   c) Where did traditional practices come from? How were they passed onto the next generation?
   d) How did clan structures help?
3) *Current forms of commodification*
   a) How do people presently get money? What are the different steps taken, the processes?
   b) What are the things sold, bought, made, exchanged etc? Who prices the things?
   c) Do people still do the same things, or has it changed? What is the same, what is different?
   d) Where did new ideas of getting come from?
   e) What happened to the old processes? Why are they not used anymore?
   f) Are clan structures still used and helpful?
4) *External influences*
   a) How do the other people in the Somali Region get money?
   b) Who are they where do they come from, and what are their practices?
   c) What interactions do you have with them? How do they interact with the clan system?
   d) What do they sell, buy, make, exchange, etc?
5) *Clan*
   a) What is the role of the clan?
   b) How does the clan function? What are clan structures?
   c) How has the role changed over the past 10, 20, 30 years?
   d) What influences the change in clan structures?
   e) What does it mean to belong to a clan? What does it mean to be a Somali without a clan?
   f) How do households cope with conflicts between clans? Which is the role of the men? And the women? How does conflict affect family dynamics?
6) *Social Change*
   a) How has society changed? From your childhood to now, from your grandparents' childhood to your childhood?
   b) What brought on these changes? How were they introduced?
   c) Did they remain, why or why not? Those that stayed, why did they stay? Were they liked or disliked, and why?
   d) Do they mix with traditional society? How are people different now, because of these changes?
7) *Economic chance*
   a) How has the economic situation changed? From your childhood to now, from your grandparents' childhood to your childhood?
   b) What brought on these changes? How were they introduced?
   c) Did they remain, why or why not? Those that did, why? Were they liked or disliked, and why?
   d) Do they mix with traditional economic practices? How are people different now, because of them?
8) *Environmental Change*
   a) How has the environment changed? From your childhood to now, from your grandparent's childhood to your childhood?
   b) What brought on these changes? How were they introduced?
   c) Why did they stay? How are they managed?
   d) How do they impact the environment? How are people different now, because of these changes?
9) *Pastoralist*
   a) What is a pastoralist and what do they do? Now, during your childhood, during your grandparents' childhood, in ancient times?

b) What does it mean to be called a pastoralist?
c) Why do people practice pastoralism?
d) What do you think of pastoralists/pastoralism?
e) What does the Somali society think of pastoralists/pastoralism?
f) What are pastoralists allowed to do and what are they not allowed to do? Past, present, future?
g) Who supports pastoralists and pastoralism? How are they supported?
h) Can you identify well-being classification for pastoralists? Past and present (E.g. Rich, medium, poor, destitute, etc.)

10) *Agro-pastoralist*
a) What is a pastoralist and what do they do? Now, during your childhood, during your grandparents' childhood, in ancient times?
b) What does it mean to be called a pastoralist?
c) Why do people practice agro-pastoralism?
d) What do you think of agro-pastoralists/agro-pastoralism?
e) What are agro-pastoralists allowed to do and what are they not, compared to other livelihoods? Past, present, future?
f) Who supports agro-pastoralists and agro-pastoralism? How are they supported?
g) Can you identify well-being classification for agro-pastoralists? Past and present (E.g. Rich, medium, poor, destitute, etc.)

11) *Conflicts*
a) Can you describe the situation between pastoralists and agriculture, drop-outs, the government, NGOs?
b) Agro-pastoralists and pastoralists, drop-outs, the government, NGOs?
c) Drop-outs and pastoralists, agro-pastoralists, the government, NGOs?
d) Are there conflicts and what starts the conflict?
e) Where are they and how are they managed?

Block two. Gender

1) *Gender perception*
a) What does it mean to be male?
b) What do you think a male can/can't do? Should /shouldn't do? Will/won't do?
c) How is it advantageous to be a man? Disadvantageous?
d) What does it mean to be female?
e) What do you think a woman can/can't do? Should /shouldn't do? Will/won't do?
f) How is it advantageous to be a woman? Disadvantageous?

2) *Male and female roles and responsibilities*
a) Pastoralism
b) Agro-pastoralism
c) Drop-outs
d) Farmers
e) Other livelihoods
f) In the household
g) What about widowed and divorced?
h) What about young people who aren't married yet?
i) Income generating activities?

3) *Decision making*
a) Who decides about buying/selling animals?
b) Who decides how much milk sell and when?
c) Who decides about planting crops? Which crops?
d) Who decides on moving to another place?
e) Who decides who moves and who stays when migrating?
f) Who decides to remain pure pastoralist and who decides to incorporate agriculture?

4) *Commodification of gender roles*
a) When do NGOs/the Government want men to work on programs? Why? What kind of programs?
b) Why and under what conditions would a man work with outsiders? And why not?
c) How has this changed from your youth to now? Is the change good or bad?

d) When programs only want men, what happens? How are they accepted?
e) When do NGOs/the Government want women to work on programs? Why? What kind of programs?
f) Why and under what conditions would a woman work with outsiders? And why not?
g) How has this changed from your youth to now? Is the change good or bad?
h) When programs only want women, or at least some women, what happens? How are they accepted?

5) *Changing gender roles*
   a) How were men treated by Somalis when you were a child? When your grandparents were children? How are they treated now?
   b) Why has this changed? When alterations occur, how are they enforced and what is their impact?
   c) What do you think about the change, good or bad, and why?
   d) How were women treated by outsiders when you were a child? When your grandparents were children? How are they treated now?
   e) Why has this changed? When alterations occur, how are they enforced and what is their impact?
   f) What do you think about the change, good or bad, and why?
6) *Loss of masculinity*
   a) What happens to men when they lose their animals? How do they act? What can they do?
   b) What should they do/what does society think they should do?
   c) How has this changed since you were a child, since your grandparents' time?
   d) What do people think of someone who has lost his herd? Has a very small herd?
   e) How has this changed since you were a child, since your grandparents' time?

Block three. Livestock

1) *Traditional livestock management*
   a) What did people traditionally do with livestock?
   b) What did your parents and elders teach you? Was anything different from traditional management?
   c) What do you think about traditional livestock activities? Why are they still relevant or not relevant?
   d) Do people still do the same activities?
2) *Introduced livestock management*
   a) Are there any new livestock activities?
   b) Why are there new activities? Who/what introduced them?
   c) What are the implications of the new activities? How have the new activities changed the way you think about your livestock?
   d) What do you think about new activities? Do you prefer new or old, why?
3) *Personal livestock activities*
   a) What livestock do you have? Did you have?
   b) What do you do with them and why? Activities from birth to death (not heavy focus on daily management steps, rather stages of livestock lives)?
   c) What have you personally changed, in terms of livestock management? What about your family members? Sub-clan members?
   d) As you see your neighbours change their livestock management practices, what do you do and think?
   e) Why have changes occurred in your area?
4) *Market place activities*
   a) Where do you prefer to sell your livestock and why?
   b) What are your marketplace practices? Who do you speak with, how often do you go, where do you go?
   c) How much control do you think you have over the sale of your animals? Since your grandparents' time? Your parents' time?
   d) How have marketplaces changed since your grandparents' time? Your parents' time?
   e) Who are the most important people in the marketplace and what are their roles? How has this changed since your grandparents' time? Your parents' time?
   f) Why are the Derg time marketplaces different to the current marketplace? What do you think about when comparing the two?
5) *Milk sales*
   a) Do you sell milk? Why or why not? Since when?
   b) Do your neighbours sell milk? Why or why not? Since when?
   c) What has changed in your family because of milk sales?
   d) Who buys your milk?
   e) Do you like the practice and ways of selling milk? How could it be better?

f) Would you prefer it if milk sales were done in bulk, or just when you want to sell it?

6) *New major introduced livestock practices*
   a) How did they begin?
   b) Can you describe how they function, why people do them, why you do or don't.
   c) What is their impact on: individuals, households, men, women, children, kebeles etc.
7) *Crop selection*
   a) How do agro-pastoralists decide on what to grow?
   b) Who helps agro-pastoralists decide what to grow?
   c) What do you think is the best crop, and why is it the best?
   d) If an agro-pastoralist - what do you grow and why? What do your neighbours grow?
   e) How do you sell your crops? What is the percentage of your crop sold, use at home?
8) *Seasonal calendars:*
   a) Describe the typical activities of the pastoralists/agro-pastoralists/drops-outs during the year? (livestock sales, crop cultivation, fodder collection, migration, labour, etc.)

Block 4. Natural Resources

1) *Water use*
   a) Where do you get your water from?
   b) How has this changed since you were a child, since your grandparents' time?
   c) How do you use rivers?
   d) How do your Somali neighbours use rivers?
   e) How does the government use rivers?
   f) What kind of interactions do you have with other people using rivers? How have these interactions changed since you were a child, since your grandparents' time?
   g) How is your clan's relationship with neighboring clans when getting water? How has it changed?
   h) Who do you generally meet at rivers? Clan members, other Ethiopian Somalis, Somalis from Somalia, Somalis from Somaliland?
   i) What are the different kinds of interactions that you have? How have they changed?
2) *River Commodification*
   a) What do you know about changing water practices? Who is making changes, who is making sure changes happen?
   b) How do you think these changes will impact you and your family?
   c) How do you find out about changes?
   d) Have your water use practices changed?
3) *Land use*
   a) What do you know about changing land management and ownership? Who is making changes, who is making sure changes happen?
   b) How do you think these changes will impact you and your family?
   c) How do you find out about changes?
   d) Have your land use practices changed?
4) Sedentarisation Program
   a) What do you know about the sedentarisation program?
   b) What do you think about it? Would you or would you not participate, and why?
   c) What do you get when you settle down?
   d) Who owns the land that people have settled on? Are there different types of ownership? How do you get a certain type? Who decides?
   e) What is needed for settlement to be done properly?
   f) What is happening right now in your area?
   g) How has it affected you and your everyday life? Your yearly schedule?
   h) What happens to the people who don't settle?
5) *Sedentarisation and livestock*
   a) When someone settles, what happens to their livestock?
   b) Why would someone with livestock settle? When they do, what happens to their livestock?
   c) Why would someone without livestock settle?
   d) If more people settle down, will there be less livestock? Why or why not?
6) *Conflict*
   a) What is the most common type of conflict and why?

b) What is the most important type of conflict for you and why?
c) How are conflicts resolved? How has this technique changed?
d) Who do you report things to? When different things happen, i.e., murder, stolen livestock, broken water systems, etc.
e) Water access conflicts: reasons for conflict, how often, between whom, resolved by whom, how have they changed since your childhood, grandparents' time?
f) Land access conflicts: reasons for conflict, how often, between whom, resolved by whom, how have they changed since your childhood, grandparents' time?

Block 4. Natural Resources

1) *Border perception*
   a) What kind of borders and territories exist in your community? Who made them?
   b) What are the most important borders for you and why?
   c) What border is not important and why?
   d) What borders stop you doing things that you used to do, things that you want to do? How do they stop you?
   e) Who manages the borders?
   f) If you wanted to move to another area permanently, who would you speak to about moving/give you permission?
2) *Border mapping*
   a) Can you draw the borders in your area: *Kebele*, *Woreda*, Zone. Sub-clan, clan.
3) *Funding*
   a) Where do projects go? Why do you think they go to certain places?
   b) Who chooses where projects go?
   c) What kind of livelihood is supported by projects? Why are some chosen and others not?
   d) If another kind of livelihood is supported (not yours), what do you think and how would you respond?
   e) If your livelihood is supported, what do you think? Is it helpful, what kind of help do you get? How do other people respond?
4) *Somali Region Land Use and Administration Plan*
   a) What is the *Somali Region Land Use and Administration Plan?*
   b) What does it mean for you? Your community?
   c) What does it stop you doing? What does it let you do?

Focus Group Questions

1) *Milk sales*
   a) When did people start selling milk and why?
   b) Is selling milk taboo for Somali culture? Why was it not sold in the past?
   c) What households sell milk? Are they wealthy? Poor?
   d) Does it make a difference, camel or cattle milk? Do you prefer to sell one?
   e) Where do you sell milk? What is important when selling milk? Price, security that it will always be bought, location where you sell, person you sell to?
   f) Who manages the money made from milk sales and what is it used for?
   g) Who decides how much milk to sell and when to sell?
   h) How are households that sell milk affected by the sale of milk? Economic gains, health changes?
2) *Crop selection*
   a) How do you pick a crop to grow? Who in the household decides?
   b) Do you prefer to sell your crops, keep it? Why? Does this change each year/season?
   c) Is it better to sell crops as fodder, or for human consumption in town? Why?
3) *Gender roles*
   a) How have traditional gender roles changed? Do men and women still do the jobs that they used to do 100 years ago, or have they changed? What are the new jobs that women and men do?
   b) Why are more women in charge of the HHs economic management? Who introduced this change, where does it come from?
   c) What benefits are there for the new gender based jobs and roles?
   d) What are the social consequences of the new gender roles?
   e) Who accepts the new roles/jobs and who does not? Certain social groups – older men, older women,

younger men, younger women?

f) What happens in the household when only women, or only men can participate in a development project? When it first occurred (when was this) compared to now? Did it change the way the household functioned?

4) *Female kebele leader*
   a) What do you think of the idea of a female kebele leader? Good or bad, why?
   b) Where does the idea of a female leader come from? Who introduced it to society and why did they introduce it?
   c) What can a female leader do that a male leader can't?
   d) What can a male leader do that a female leader can't?
   e) Why have no females been elected as leaders in your kebele? What prevents them from leading? How can this be changed?
   f) Are there certain social groups – older men, older women, younger men, younger women, that oppose female leaders?
   g) When do you think they will have a female leader in your kebele?
   h) Would you want your wife/daughter to lead? Why or why not? (for males)
   i) Would you want to be the kebele leader? Or your daughter to be the leader? (for females)
5) *Settled people and their livestock*
   a) Once someone settles, do they decrease their livestock herd? What causes them to do this and are they happy to do so?
   b) If a farmer is successful and has a good crop, what do they want to do with the profits? Expand the farm, increase the number of livestock, move into town?
   c) Is there a difference between the people who have settled here, and those who have been settled in the sedentarisation program and their management of livestock?
   d) Since the initial settlement in your kebele, have more people come here to settle, or are the present population the relatives of the initial settlers? How would new settlers be welcomed/treated?
   e) Since settling, what kind of livestock do you prefer to have? How do you manage them, now that you're settled?
6) *Property rights*
   a) What kind of property rights do people have? A certificate? Verbal agreement with your family and your neighbours? Clans?
   b) What is the most important way to ensure that you land remains with you?
   c) What is the biggest threat to your land, human threat?
   d) How do you manage conflicts over your borders?

Semi-structured Interview Questionnaire – Government and NGO Key informants

Block one. Gender

1) *Gender perception*
   a) What does it mean to be male?
   b) What do you think a male can/can't do? Should /shouldn't do? Will/won't do?
   c) How is it advantageous to be a man? Disadvantageous?
   d) What does it mean to be female?
   e) What do you think a woman can/can't do? Should /shouldn't do? Will/won't do?
   f) How is it advantageous to be a woman? Disadvantageous?
2) *Male and female roles and responsibilities*
   a) Pastoralism
   b) Agro-pastoralism
   c) Drop-outs
   d) Farmers
   e) Other livelihoods
   f) In the household
   g) What about widowed and divorced?
   h) What about young people who aren't married yet?
   i) Income generating activities?
3) *Decision making*
   a) Who decides over buying/selling animals?

b) Who decides on how much milk sell and when?
c) Who decides over planting crops? Which crops?
d) Who decides on moving to another place?
e) Who decides who moves and who stays when migrating?
f) Who decides to remain pure pastoralist and who decides to incorporate agriculture?

4) *Commodification of gender roles*
a) When do you want men to work on your programs? Why? What kind of programs?
b) Why and under what conditions would a man work with you? And why not?
c) How has this changed over the past 10, 20, 30 years? Is the change good or bad?
d) When you only want to work with men, what happens? How is the project accepted?
e) When do you want women to work on your programs? Why? What kind of programs?
f) Why and under what conditions would a woman work with you? And why not?
g) How has this changed over the past 10, 20, 30 years? Is the change good or bad?
h) When you only want women, or require at least some women, what happens? How is the project accepted?
i) What projects are more successful? Those with only men, mixed men and women, only women? Less successful? Why?
j) What drives you when thinking about gender quotas? How has this changed?

5) *Changing gender roles*
a) How have men been treated by Somalis over the past 10, 20, 30 years?
b) Why has this changed? When alterations occur, how are they enforced and what is their impact?
c) What do you think about the change, good or bad, and why?
d) How have women been treated by Somalis over the past 10, 20, 30 years?
e) Why has this changed? When alterations occur, how are they enforced and what is their impact?
f) What do you think about the change, good or bad, and why?

6) *Loss of masculinity*
a) What happens to men when they lose their animals? How do they act? What can they do?
b) What should they do/what does society think they should do?
c) How has this changed over the past 10, 20, 30 years?
d) What do people think of someone who has lost his herd? Has a very small herd?
e) How has this changed over the past 10, 20, 30 years?

7) *Additional documents*
a) Could you provide any documents related to your services/reports/project evaluation reports, background studies, etc?

Block two. Livestock

1) *Traditional livestock commodification*
a) What are the traditional forms of livestock commodification?
b) How have they changed and what influenced this change?
c) What is the present relevance of livestock?
d) How does your institute work with livestock? How has this changed over in the past 10/20 years?
e) Are traditional livestock practices still relevant and encouraged by institutions? Why or why not? What encouragement or discouragement are they given?

2) *Institutional role*
a) How does your institution work with livestock and livestock management?
b) What drives and influences your institution's programs and policies?
c) How are your programs and policies received by the public? How does the reception change in different areas?
d) Can you provide any information or data on your institutions policies and programs, i.e., outlines, objectives, results of past activities, etc.

3) *Introduced livestock management*
a) Are there any new livestock activities?
b) Why are there new activities? Who/what introduced them?
c) What are the implications of the new activities? How have the new activities changed the way Somalis think about livestock?
d) What do you think about new activities? Do you prefer new or old, why?
e) Can you describe how they function, why people do or do not practice?

f) What is their impact on: individuals, households, men, women, children, kebeles etc.

4) *Market place activities*
   a) Where are the popular marketplaces and what makes them popular?
   b) How is a successful marketplace run and how is an unsuccessful one run?
   c) What are the marketplace practices of the local markets? Who controls them and what level of control do pastoralists have?
   d) How have marketplaces changed since the fall of the Derg? What are the key differences between the two? Strengths and weaknesses of the two?
   e) What do you see the future of the marketplace to look like?
5) *Milk sales*
   a) Who sells milk? Why and when did this emerge?
   b) How is it sold and bought, what are the weaknesses of the current system and how could it be improved? And why do you think when you think of an improved market?
   c) What impact have milk sales had on communities?
   d) What other new practices have emerged that you can compare to the sale of milk? What are the impacts of these practices?
6) *Crop selection*
   a) How do agro-pastoralists decide on what to grow?
   b) Who helps agro-pastoralists decide what to grow?
   c) What do you think is the best crop, and why is it the best?
   d) How are crops sold? What is the percentage of crops sold or used at home?
   e) Who manages the crop marketplaces? Different to the livestock marketplaces?
7) *Seasonal calendars:*
   a) Describe the typical activities of the pastoralists/agro-pastoralists/drops-outs during the year? (livestock sales, crop cultivation, fodder collection, migration, labour, etc.)

Block three. Natural Resources

1) *Water use*
   a) Where do (agro)-pastoralists get water from?
   b) How has this changed over the past 10, 20, 30 years?
   c) How are rivers utilised?
   d) How do neighbouring Somali countries use rivers coming from Ethiopia?
   e) How does the government use rivers?
   f) What kind of interactions does your institute have with other people using rivers? How have these interactions changed over the past 10, 20, 30?
2) *Water Commodification*
   a) What changes in water management practices does your institute work with? Who makes changes, who makes they happen?
   b) How do these changes impact rural Somalis? Their relations with Somalis from neighbouring countries?
   c) How do these changes impact Ethiopia?
   d) How do broadcast these changes, and to whom?
3) *Land use*
   a) What changes to land management and ownership have occurred? Who makes changes, who makes they happen?
   b) How are these changes publicised? Accepted?
   c) What percentage of the population is aware of them, in your opinion? What kind of people (in terms of livelihood practices)?
   d) How sustainable are these changes?
4) *Sedentarisation Program*
   a) What is the sedentarisation program?
   b) What do you think about it? Why (or why not) would people participate?
   c) What does one get when settling down?
   d) Who owns the land that people have settled on? Are there different types of ownership? How do you get a certain type?
   e) What is needed for settlement to be done properly?
   f) What is happening right now in your area? Is it relevant to your work, and why?
   g) What happens to the people who don't settle?

5) *Sedentarisation and livestock*
   a) When someone settles, what happens to their livestock?
   b) Why would someone with livestock settle? When they do, what happens to their livestock?
   c) Why would someone without livestock settle?
   d) If more people settle down, will there be less livestock? Why or why not?
6) *Conflict*
   a) What is the most common type of conflict and why?
   b) What is the most important type of conflict for you and why?
   c) How are conflicts resolved? How has this technique changed?
   d) Who do you go to when something happens? When different things happen, i.e., murder, stolen livestock, broken water systems, etc.
   e) Water access conflicts: reasons for conflict, how often, between whom, resolved by whom, how have they changed since your childhood, grandparents' time?
   f) Land access conflicts: reasons for conflict, how often, between whom, resolved by whom, how have they changed since your childhood, grandparents' time?
7) *Additional documents*
   a) Could you provide any documents related to your services/reports/project evaluation reports, background studies, etc?

Block four. Borders and territories

1) *Allocation of projects*
   a) How is it decided where a project will go? Who has spatial control? Thematic?
   b) Who influences the process? What are the varying degrees of contract over the different stages?
   c) What level of participation does the community have and when? The government? The NGO? The foreign government agencies?
   d) How do the different agencies interact with each other?
   e) What are the more popular areas (thematic and spatial) to work in, and why?
   f) What livelihood is the preferred focus for governmental support? Aid work?
   g) Over the past 5 years, where has infrastructural development been deployed?
   h) How does infrastructural development impact livelihood practices?
2) *Borders*
   a) What borders exist within the Somali Region? How were they created?
   b) What do the different borders control/manage, and how?
   c) How relevant are indigenous borders? To Somalis, NGOs, Government, foreign govt.
   d) How relevant are government borders? To Somalis, NGOs, Government, foreign govt.
   e) How relevant are aid borders? To Somalis, NGOs, Government, foreign govt.
   f) How relevant are _____? To Somalis, NGOs, Government, foreign govt.
   g) What kind of border is the most important when designing and implementing a project?
   h) Do new borders inhibit traditional practices, such as migration? Why and how or why not?
3) The *Somali Region Land Use and Administration Plan*
   a) At what stage is the Plan?
   b) Who is involved in its design? Implementation?
   c) How has a lacking Plan impacted pastoralists who want to settle?
4) *Additional documents*
   a) Could you provide any documents related to your services/reports/project evaluation reports, background studies, etc?
   b) Can you provide copies of any border maps that you have?