

***Commodity individuation of milk in the Somali Region, Ethiopia***  
*Olivia Pearson and Matthias Schmidt*

**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.

**KEYWORDS**

commodification, Ethiopia, gender, individuation, milk, pastoralism

**1 | INTRODUCTION**

In the Somali Region of Ethiopia, the livelihoods and daily routines of pastoralist communities have been commodified. Pastoralism is a livelihood practised by peoples residing in different environments (Hesse & MacGregor, 2006) that centres around animal husbandry. Livestock, the traditional commodity, provide food and monetary gain, allowing 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 (Hoffmann, 2004; Samuels et al., 2013; Schmidt & Pearson, 2016).

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 (Devereux, 2006; Feyissa, 2013; Krätli et al., 2013; Lavers, 2012; Peters, 2009; Schmidt & Pearson, 2016; Sulieman & Elagib, 2012; Yeh & Gaerrang, 2011). These changes have 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 modernisation processes have also resulted in diverse external characterisations of pastoralists. Research has been conducted on those who connect pastoralism to poverty (Krätli, 2013) and on the assumptions of governments and the World Bank, who argue pastoralists are no longer capable of managing their rangelands (Fratkin, 2014). Research has also led to an emerging push for recognition of the effectiveness of pastoralist systems, which afford greater influence to indigenous voices (Marin, 2010; Upton, 2014). 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, 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 summarises studies that address the intertwining geography and history of livestock and capitalism; and Anderson et al. (2012), who analyse 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 & Peluso, 2015).

This paper contributes to commodification processes research, in particular the processes of commodity individuation. This paper 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.

## **2 | 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, 1999; Marx, 1990 [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, p. 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, p. 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 in their physical and cultural environments (Galvin, 2009; Speranza et al., 2010).

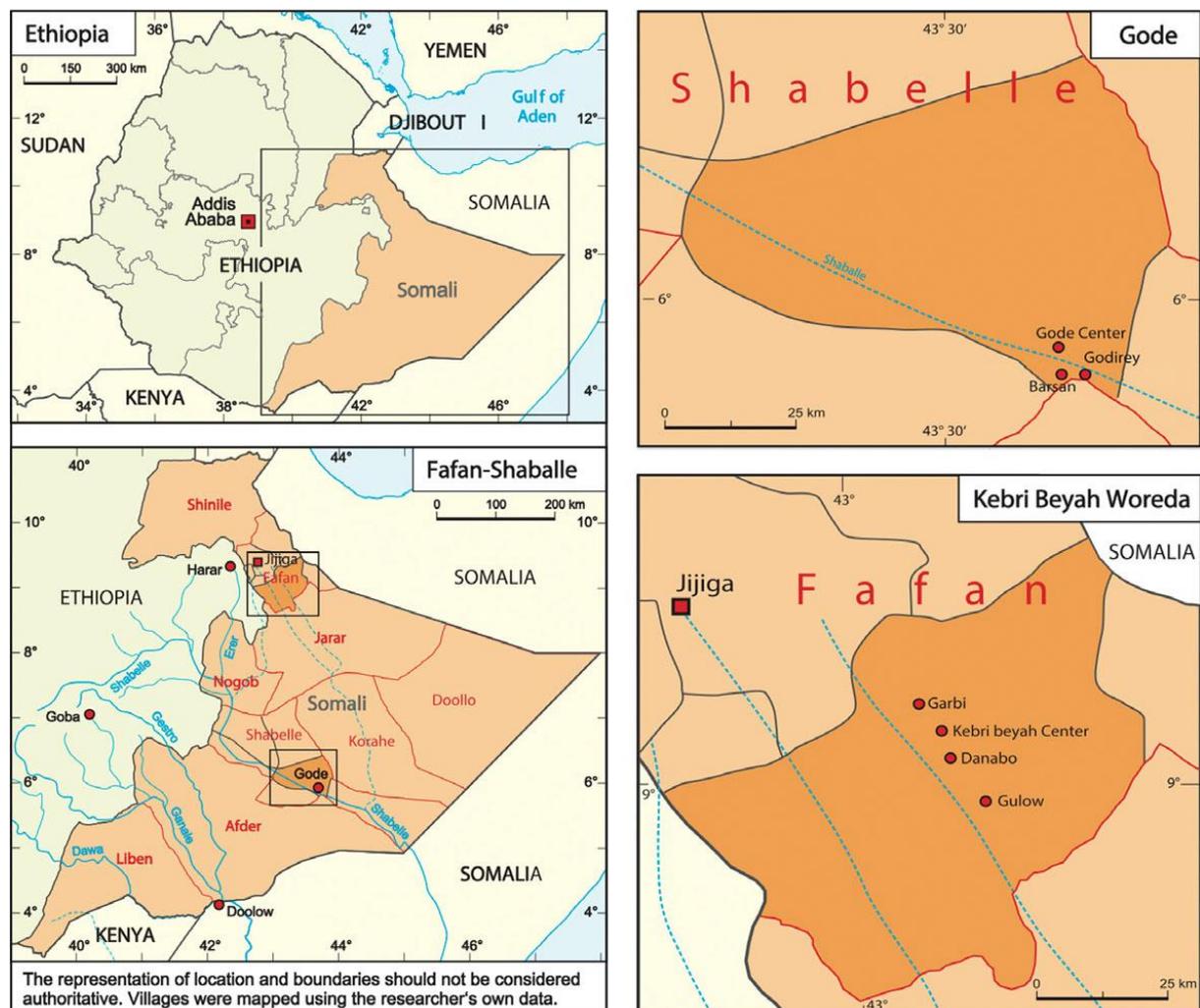
This paper uses one of Castree’s (2003) six distinct and inter-related elements of capitalist commodification, individuation, as a theoretical framework to investigate the impact of current commodification processes on households selling milk in the Somali Region. “Individuation . . . refers to the representational and physical act of separating a specific thing or entity from its supporting context” (Castree, 2003, p. 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.

## **3 | STUDY AREA AND METHODS**

The research on which this paper is based was conducted in the Somali Region of Ethiopia, with a key focus in Kebri Beyah and Gode Woredas (Figure 1). The Somali Region (279,252 km<sup>2</sup>) is subdivided into nine administrative zones (second level administrative division), 68 woredas (third level) and 786 kebeles (fourth level; BoFED, 2013; BoWR, 2010). Traditionally, the predominant livelihood was pastoralism, but 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).

Research 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 guerrilla forces and the government, such as bombing attacks, kidnapping, guerrilla attacks on government convoys and governmental targeting of communities thought to support insurgent forces.

Kebri Beyah, Fafan Zone, is 50 km south-east of Jijiga, the regional capital, and averages 1,530 metres above sea level. Gode, Shabelle Zone, is the second largest town in the Somali Region, with an average altitude of 270 metres. Kebri Beyah's predominant sub-clan is the Abaskul, who began settling in the area 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, and therefore 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 are 22% more likely to reach the age of five 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 Shebelle River. Customary rains are the Diraa (late March–late May) and the Karan (late July–September) and are found in both areas, while Kebri Beyah sees sporadic rains between early October and late December.



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

This paper draws on data collected in rural areas from June to November 2015, supported by qualitative interviews conducted with “urban based” government and non-government employees in May and June 2014. The 2014 interviews provided grey literature that substantiated and elaborated on existing academic literature,

which was vital because research in the region was limited due to security concerns. A regional risk assessment was conducted before entering rural areas. From January to June 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 (Figure 2). In July 2015, discussions with local government and non-government officials clarified the security situation. Results showed that 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 programmes 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 1983–1985, 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.



**FIGURE 2** Regional risk assessment map  
Source: Reise Know-How Verlag Rump (2008)

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 (Hay, 2000; O'Reilly, 2012).

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. Fourteen interviews were conducted with national and international NGO officers working on gender and livelihood. In 2015, kebele leaders acted as local gatekeepers, 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. Forty individuals (18 males, 22 females) 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, but it was more successful in Gode. This could be attributed to the higher urban population density and Gode women being more accustomed to interacting with outsiders because more research has been conducted there than in Kebri Beyah.

## **4 | RESULTS AND DISCUSSION**

### **4.1 | 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 (Carruth, 2014; Elhadi et al., 2015). "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 peri-urban areas, where it is difficult to maintain a herd or even a small number of animals, and abandoned 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 (Devereux, 2006; Odenwald et al., 2010). Residents reported the noticeable increasing popularity of khat (since the mid 1970s) to the point that it 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, 5 August 2015)*

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

### **4.2 | Extent of milk individuation: conduction and implementation**

Commodity individuation requires legal and/or material boundaries and regulations – limitations and restrictions – to 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 women sell milk, even when men milk animals, with these women predominately coming from low to middle income sedentarised households. Women form formal and informal milk cooperatives, 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 informant, Gode, 14 October 2015).

Members contribute pre-determined amounts; those with more livestock, upwards of eight, belong to smaller cooperatives, while those with one or two animals belong to larger cooperatives. Rosters dictate who collects and transports milk, by foot or using public transport, to sell in regional and rural marketplaces to larger cooperatives or restaurants, tea shops and stores. Milk is also sent to larger centres using public transportation with the vendor's name written on the bottle. In town it is sold by women 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 women's mobility as they travel to sell milk without male guardians. This is a significant change in Somali culture, as traditionally women 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. Government 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 affect 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 November 2015).

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 October 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 (250 ml) 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 with in 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 centres 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, 4 September 2015). In Gode, milk is sold in the morning because 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.

### **4.3 | Cultural changes and their consequences**

During the past ten years significant changes have occurred in most household management practices, with the sale of milk being a key driving force. One key change is the increase in female management of household finances. This is so prevalent that it is now considered unusual for men 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 August 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 men 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, 3 August 2015). Driven by the socially-accepted belief that women will put a child's needs before their own, men relinquish responsibility for economic management to women.

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 October 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 October 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.

## 5 | 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 is 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 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, p. 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 women the ability to provide their families with a new revenue source, gender roles have been altered, thus giving women support for and a clear reason for taking greater control over household finances. Although some changes depend 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, because, 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.

## ACKNOWLEDGEMENTS

Research was funded by the Graduate Academy of Leibniz Universitaet Hannover. Thanks go to the Somali Region Livestock, Crop & Rural Development Bureau for all of their logistical assistance, and an anonymous reviewer who helped improve this manuscript.

## REFERENCES

- Abdullahi, A. M. (2007). The Ogaden National Liberation Front (ONLF): The dilemma of its struggle in Ethiopia. *Review of African Political Economy*, 34, 556–562.
- Anderson, D. M., Elliott, H., Kochore, H. H., & 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, UK: Cambridge University Press.
- BoFED (2013). *Assessing development gaps in Somali Regional State of Ethiopia*. Jijiga, Ethiopia: Bureau of Finance and Economic Development.
- BoWR (2010). *Summary of five years strategic plan 2003–2007 EFY, Version 1*. Jijiga, Somali Region: Bureau of Water Resources.
- Callon, M., M\_eadel, C., & 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, 405–412. <https://doi.org/10.1016/j.socscimed.2014.03.007>
- Castree, N. (2003). Commodifying what nature? *Progress in Human Geography*, 27, 273–297.

- Castree, N. (2008). Neoliberalising nature: The logics of deregulation and reregulation. *Environment and Planning A*, 40, 131–152.
- 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> Accessed 4 May 2015.
- Devereux, S. (2006). Vulnerable livelihoods in Somali Region, Ethiopia. *International Development Studies Research Report 57*, Brighton.
- 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*, 5, 1–8.
- Eshete, T. (1991). The root causes of political problems in the Ogaden, 1942–1960. *Northeast African Studies*, 13, 9–28.
- 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 (Eds.), *Impacts of climate change and variability on pastoralist women in Sub-Saharan Africa* (pp. 121–153). Kampala, Uganda: Foundation Publishers.
- Fratkin, E. (2014). Ethiopia's pastoralist policies: Development, displacement and resettlement. *Nomadic Peoples*, 18, 94–114.
- Galvin, K. A. (2009). Transitions: Pastoralists living with change. *Annual Review of Anthropology*, 38, 185–198.
- Gardner, B. (2009). Are livestock a troublesome commodity? *Geoforum*, 40, 781–783.
- Hagmann, T., & Korf, B. (2012). Agamben in the Ogaden: Violence and sovereignty in the Ethiopian–Somali frontier. *Political Geography*, 31, 205–214.
- Hay, I. (2000). *Qualitative research methods in human geography*. Melbourne, Vic.: Oxford University Press.
- Headey, D., Taffesse, A. S., & You, L. (2014). Diversification and development in pastoralist Ethiopia. *World Development*, 56, 200–213.
- Hesse, C., & MacGregor, J. (2006). Pastoralism: drylands' invisible asset? Developing a framework for assessing the value of pastoralism in East Africa. *IIED Issue Paper 142*.
- 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.
- Jackson, P. (1999). Commodity cultures: The traffic in things. *Transactions of the Institute of British Geographers*, 24, 95–108.
- Kassahuna, 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.
- Kelly, A. B., & Peluso, N. L. (2015). Frontiers of commodification: State lands and their formalization. *Society & Natural Resources*, 28, 473–495.
- Korf, B., Hagmann, T., & 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. (2013). *Global public policy narratives on the drylands and pastoralism. Climate resilient drylands development*. London, UK: International Institute for Environment and Development.
- Krätli, S., Huelsebusch, C., Brooks, S., & Kaufmann, B. (2013). Pastoralism: A critical asset for food security under global climate change. *Animal Frontiers*, 3, 42–50.
- Lavers, T. (2012). Patterns of agrarian transformation in Ethiopia: State-mediated commercialisation and the "land grab". *The Journal of Peasant Studies*, 39, 795–822.
- Lysandrou, P. (2005). Globalisation as commodification. *Cambridge Journal of Economics*, 29, 769–797.

- 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, 329–336.
- Marin, A. (2010). Riders under storms: Contributions of nomadic herders' observations to analysing climate change in Mongolia. *Global Environmental Change*, 20, 162–176.
- Marx, K. (1990) [1867]. *Capital* (Vol. 1). London, UK: Penguin Classics.
- Noor, I. M., Guliye, A. Y., Tariq, M., & 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., & 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, 537–539. O'Reilly, K. (2012). *Ethnographic methods*. New York, NY: Routledge.
- 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, 1317–1325.
- Powell, B., Ford, R., & Nowrasteh, A. (2008). Somalia after state collapse: Chaos or improvement? *Journal of Economic Behavior & Organization*, 67, 657–670.
- Prudham, S. (2009). Commoditization. In N. Castree, D. Demeritt, D. Liverman, & B. Rhoads (Eds.), *A companion to environmental geography* (pp. 123–142). Oxford, UK: Wiley-Blackwell.
- Reise Know-How Verlag Rump (2008). *Äthiopien, Somalia, Eritrea, Dschibouti; Ethiopia, Somalia, Eritrea, Djibouti: Reiß- U. Wasserfest. 1:1,8 Mio.* Exeter, UK: Reise Know-How Verlag Rump.
- Samatar, A. I. (2004). Ethiopian federalism: Autonomy versus control in the Somali region. *Third World Quarterly*, 25, 1131–1154.
- Samuels, I., Allsopp, N., & 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., & 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., & 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., & 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.
- Tareke, G. (2000). The Ethiopia-Somalia War of 1977 revisited. *International Journal of African Historical Studies*, 33, 635–667.
- 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, 746–755.
- Upton, C. (2014). The new politics of pastoralism: Identity, justice and global activism. *Geoforum*, 54, 207–216.
- Watts, M. (2011). Commodity. In D. Gregory, R. Johnston, G. Pratt, M. Watts, & S. Whatmore (Eds.), *The dictionary of human geography* (pp. 99–101). London, UK: Wiley Blackwell.
- Wosene, A. (1991). Traditional husbandry practices and major health problems of camels in the Ogaden (Ethiopia). *Nomadic Peoples*, 29, 21–30.
- Yeh, E. T., & Gaerrang (2011). Tibetan pastoralism in neoliberalising China: Continuity and change in Gouli. *Area*, 43, 165–172.