Development, Trends and Management of Rangeland Enclosures among the Hamer in Southwest Ethiopia: Prospects and Challenges

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Abstract

Predominantly being pastoralists, the Hamer for centuries utilized rangeland resources rotationally. But the frequency of droughts, induced by decades of irregular and scarce rainfall, and growing human and livestock population required more grazing land. This gradually led to the development and management of land for grazing, crop production, and income generation purposes at the individual, dyadic, and communal levels in the form of land enclosures. This paper puts enclosures at the centre of its discussion and analyses the trends and contribution of land enclosures to local livelihoods from environmental conservation and social protection points of view. Based on data from ethnographic fieldwork, the paper discusses the process involved in the development and management of enclosures. Land fragmentation, loss of biodiversity and land conflicts appeared inevitable taking into account the growing human and livestock population, urbanization and policy pressure to settle the Hamer. However, it still is early to judge enclosures to have caused significant land fragmentation and destroyed the interconnectedness of socio-ecological systems in the district.

Keywords: Commons, Enclosures; Land; Livelihood; Hamer

1. Introduction

In the Horn and East Africa, land fragmentation is leaving pastoral systems at risk of collapse, blocking access to communally held seasonal grazing and water resources (Flintan 2011). Accordingly, conversion of land to agriculture, ranching and tenure insecurity was the root causes of land fragmentation in Ethiopia, Kenya and Uganda. Invasion by alien plants, mineral extraction, protected areas, conflict and pastoralist enclosures attributed to the remaining causes of fragmentation.

Fragmentation of the land disrupts the interconnectedness between social and ecological systems, which development and land use plans often failed

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to consider (Flintan 2011). Internal and external factors can affect rangeland use.

Development plans neglect to safeguard the needs and interests of small or minor portion of socio-ecological and political groups and resource bases. Institutional and policy factors can, therefore, explain this situation from the view point of enclosures development at individual and community scales in rangelands.

In Ethiopia, national policy and development strategies have always pushed for sedentarization of pastoral and agro-pastoral communities disregarding the very nature of their livelihood, the multiple-complex networks of agency they sustain and the patterns of utilizing resources on the land. Hence, modification of the existing traditional farming system with modern agricultural inputs, mechanization, rewarding 'model farmers' (tempted pastoralists to shift focus on crop cultivation) and designing river basin irrigation-based settlement programs, leasing pastoral land for commercial food and non-food crop cultivation have become the state development agenda that internally motivate pastoralists' engagement in land enclosure activities.

The customary codes of conduct of traditional rangeland governance institutions, which saved the interest of multiple communal resources users for generations, have weakened (Wassie 2014) resulting in underutilization and loss of grazing land for invasive species such as *Prosopis juliflora*. Conflicts over resources and deteriorating co-existence relationships prevented negotiated access to resources in the commons, thereby prompting tenure insecurity and increased competition (Flintan 2011). Hence, community level set of factors can be induced, influenced and aggravated by policy driven internally operating factors contributing to failure in pastoral land use plan. This happens through their impact on sustaining interconnectedness of social and ecological systems.

Despite the legal recognition of pastoralists and their rights in the constitution (Morton 2005:13, Samuel 2014:100) and regional land administration proclamations (Abebe and Solomon 2013:189), pastoralism

continued to suffer from policy and intervention that accorded priority to agricultural modes of production (Abbink *et al*. 2014:8; Samuel 2017). Political opinions and strategic documents of the Ethiopian government in the past made assumptions that were founded on development out of pastoralism. This contributed to practical marginalization of the sector, regardless of its economic contribution to the country and beyond.

2. The Research Objectives

The purpose of this paper, therefore, is to discuss the development of enclosures in terms of processes occurring at individual, dyadic and communal scales of engagement in Hamer district. It examines the opportunities, challenges, and short- and long-term consequences related to this endeavour from both popular and environmental perspectives. The discussion in this paper treats pastoralist land enclosures at individual and communal scales.

3. Research Methods

3.1. Description of the study area

The study was conducted in Hamer district, South Omo Zone in Southern Nations, Nationalities, and People's Region (SNNPR). The Erbore, Beshada, and Kara reside along with the Hamer, sharing borders with the Ari, Benna-Tsemay, Mursi, Dassenetch, and Nyangatom ethnic groups. Figure 1 is a map of the research area[1], which is located at 5°10' N and 36° 40' E (Wikipedia 2014). According to the Ethiopian Population Census Commission report (2008), the estimated population of the Hamer people is 59,572. Farming, herding livestock, and beekeeping are basic livelihoods associated with the area's economy. Elders claim Hamer territory is located between the *Keskie* and *Balah* rivers in the district. These geographic features define territorial jurisdiction and mark the site for the rite of transition into adulthood. Vegetation in the district is mainly acacia dominated bushes and shrubs with a bimodal rain that range from 250 to 800 mm, enough to support sorghum and maize production.

Rain in September, October and November is very important for small ruminants such as goat and sheep, and its failure may induce mobility. According to the Hamer Pastoral Development Office (HPDO, 2005, 2010), the district has 8,865 hectares of arable land and 225,434 hectares of grazing land. The forest area accounts for 10,000 hectares that, when combined with area covered by bushes and shrubs, totals to 250,939 hectares.

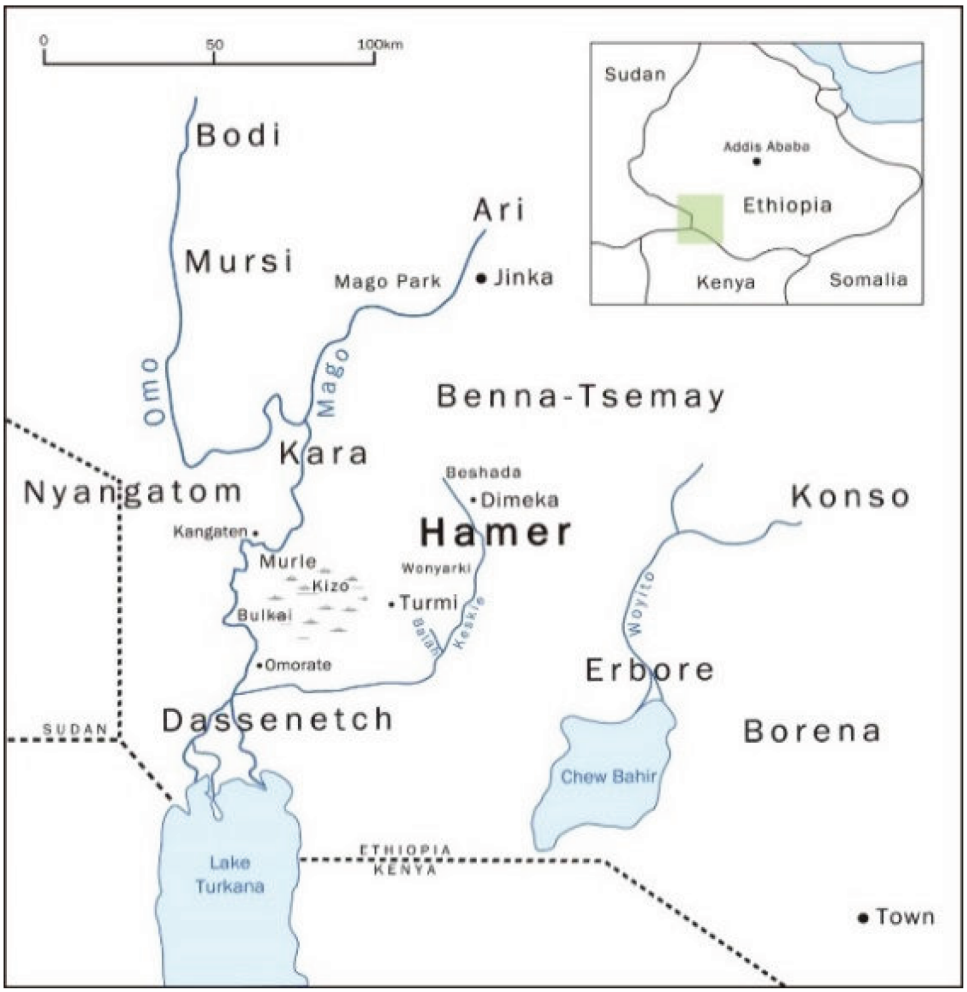

Figure 1. Location of the Study Area
Source: Wikipedia (2014)

3.2. Data collection

This study relied on both primary and secondary sources. Primary data were collected through ethnographic field research using a participant–

observation approach, supported by interviews and focus group discussions, in different villages across the district. The majority of the primary data was collected through ethnographic field research conducted from 2010 to 2013. Purposive and systematic sampling techniques were used to ensure participant representativeness and agro-ecological diversity. Structured and semi-structured questionnaires were introduced into the overall survey to generate qualitative data and personal life experiences were collected via in-depth interviews. In an effort to minimize the limitations of this research and maximize the validity of the results, personal observations, various communications, and documents were reviewed to provide triangulation and crosschecks.

4. Results and Discussion

4.1. History of enclosure development in Hamer

Rainfall over the past decade was insufficient in amount and irregular in pattern to sustain livestock production, cultivate sorghum and support grass growth (Samuel, 2014: 102). But, some people (particularly in the highlands) continued their individual and joint efforts to enclose land and saved grass for their cattle while maintaining their tradition of sorghum cultivation. Although the Hamer are predominantly pastoralist, cultivating sorghum in enclosures has been an important aspect of their production system. It was mainly taken care of by women (Samuel, 2013: 123-124). In this regard, the role of land enclosures, particularly in availing forage during the harsh, conflict-prone dry seasons, is unquestionable.

In the 1990s, the grazing areas experienced loss of useful grasses. This triggered frequent drought induced mobility to grazing plains, conservation parks and agro-pastoral areas within and outside of the district. Farm enclosures in Ari and Benna agro-pastoral neighborhoods were full of grasses and provided feed for livestock staying in the village. This observation was noted with care. Such movements and the subsequent observations taught the Hamer farming-related skills and techniques like oxen ploughing (Samuel, 2013: 122 & 126) and fattening in farm enclosures. The sorghum farms gradually started to accommodate grass production and focus on the use of enclosures attracted the attention of

many in the district. People gradually set aside space in their farms for grass production and let their livestock graze freely. They alternatively used the space in the farm by rotating crop and grass, at least once in 3 to 4 years, to get good harvest from the land. These lessons were gained through observation from their movements, experience-sharing visits to Borena, along with governmental and NGO continued efforts on rehabilitation of degraded lands. Thus, enclosure development expanded to accommodate different types and purposes that were both often cooperative and, at times, conflicting.

4.2. Existing trends in land enclosure activities

The motive behind enclosures development in Hamer district had never been to cut mobility for grazing. By creating spaces of socialization (particularly for women), enhancing local drought coping mechanisms, and financially provisioning households, mainly through the sale of grasses enclosures, supplemented the subsistence pastoral production system. Even following the expansion of oxen plough farming and subsequent increase in the coverage of land under crop cultivation, mobile pastoralism remains the dominant livelihood form in the district.

The current trends clearly show transformation of the pre-existing communal land use into a different property right regime. The practice operates under individual, joint and communal scales. The most transiting portion land is land around villages and riverbeds. Three types of enclosures have been found in the district. The characteristic features of the three types of enclosure and their benefits to the owners are described accordingly.

4.2.1. Individual enclosures

Key informant interviews held with owners of enclosures in the *woreda* indicated that individual enclosures were predominantly left for grass production. Compared to the remaining two types, they were characterized by less degree of encroachment by any other people. Better management in the highlands was attributed by availability of labour, closeness of the location of herd camps and distance from the homestead. A household with large family size had an advantage of dividing the labour between

enclosures near their settlements and herd camps without difficulty. Observations indicated that more people (agro-pastoralists) in highland part of the district acquired individual enclosures than households in the lowlands. Shortage of available labour, long distance between settlements and herd camps, and poor soil conditions were limiting factors in the dry lowlands. The holder of this enclosure, however, had an exclusive right to use and transfer it to someone else.

4.2.2. Joint enclosures

Establishment and management of such type of enclosures often involve two separate households or individuals related in different forms having shared common interests. Partnership may be arranged between in-laws, bond friends and among first, second and third wives. References, known locally as *maale,* demarcate separate holdings. A big tree or a stone serve this function. Land in joint enclosures is used rotationally for growing grasses and crops. The primary function of joint enclosures is the production of agricultural crops, mainly sorghum. People rotate spaces for grass and crops every two to three years in lowlands for reasons of harvesting better yield. In the highlands, period of rotation may extend by a year or more, mainly due to better soil and water conditions, to support crop cultivation.

Hence, there is less human and livestock encroachment, particularly in farming seasons, that runs through *sor*[2] to *halet*[3] (Samuel, 2017). 'Joint' enclosures promote mixed management practices and social cooperation through creating ways for people to interact at cooking and drinking spaces inside. Therefore, 'joint' does not only refer to the number of people involved but also the mixed management practice (crop cultivation and grass production). It was common to observe beehives hanging on trees inside joint enclosures, which were owned by a third person. Case 1 illustrates this.

Case1. Partnership in Joint enclosures

Some 2 kms away from a village near Turmi town, two women worked on a joint enclosures that was established between in-laws. One of them was a widow who owned the land and used it to mainly grow sorghum and kept her beehives in. As she was actively engaged in women development issues in the woreda, she benefited from the partnership with the other lady who often was around looking

after her sorghum from bird damage and keeping an eye on few lactating goats grazing inside. Both women did the cultivation together and the owner of land hosted her partners goats and shared the sorghum harvest.

In the highland areas of the district and few places in the lowlands, people practiced controlled grazing inside joint enclosures following harvest while free grazing was dominant in the lowlands. Hence, joint enclosures can be regarded as best protected type of enclosures here as compared to individual and communal types regardless of location. This can be attributed to the cultivation of crops, mainly sorghum, which is a staple crop that also carried ritual functions in the local custom.

The benefits of enclosures were different based on the purpose of establishment and their type. In the dry lowland kebeles of the district, for example, people often established joint enclosures alongside rivers. Enclosing land near water points was to make use of the multiple advantages of the location. By doing so, such households benefited from the alluvial deposits the river flood carried in cultivation. Moisture stress intolerant crops, like maize, could be grown easily. Some people also fenced plots of land near water wells and diverted the flow to their farm enclosures through hand dug ditches and planted fruit tress like papaya, banana and also Moringa trees.

4.2.3. Communal Enclosures

Communal enclosures involved partnerships between households of one or a number of villages and, thereby, promoted social cooperation and interaction. In 2009 to 2010, a few of such enclosures used to be established at reasonably accessible location from involved villages. These days, communal enclosures can be found in every village in the district. More communal enclosures existed in the lowland kebeles than in the highlands. This is attributed to increased provision of support from the PSNP (government led) and high NGO activity in arid lowland kebeles. Securing feed was a necessity for lowlanders who lack alternatives to dry season grazing around homesteads.

However, in the lowlands, communal enclosures were found to be encroached easily than other forms of enclosure in the highlands. Susceptibility to encroachment was also dependent on the origin of the initiative during establishment and its location. Therefore, a distinction can be made between communal enclosures the establishment of which is motivated by a request from households in a certain village or that proposed and supported by development partners of government and non-government origin.

Case2. Communal enclosures and cooperation

In one of the Kebeles in the Woreda, a communal enclosure management committee allowed an individual from a different kebele to keep his cow and a new born calf for a month during a severe draught period. Members also benefited from rotational seed money that was generated from the sale of dry and wet grasses to start miro business in and outside of the village. They covered school fees and medical expenses for their family and bought goats and sheep to restock their herd.

This promoted reciprocity and cooperation among people in the Woreda and can serve as a showcase on the positive role enclosures play to promote the existing culture of cooperation in a communal context.

4.3. Prospects and challenges of enclosure management

Table 1 summarizes the result of a survey conducted on all the households (31) at a village in November 2014 (Samuel, 2015). The case of the household, who manages an enclosure in Kara, shows that engagement in enclosure management is not only restricted to one's village. Hence, people enclose land for farming while they stay at herd camps. Communal enclosures accommodated widows and the weak that were not able to manage enclosures by themselves. Shortage of enough labour often due to small family size prevented households from participating in individual and joint enclosure activities. Incentives for involvement in enclosure activities such as clearing, fencing and soil and water activities attributed to the involvement of the five households in communal enclosure management only. All households in the village are involved in land enclosure activities with the exception of the household that had temporarily relocated to Kara.

Table 1. Household's involvement in enclosure activity at a village

Type of Enclosure	Number of households involved	Remark
(I) +(C)	7	13 I (7+6) and
(I)+(J)+(C)	6	10 J (7 J2 + 3 J3) enclosures existed
(J)+(C)	10	
Only (C)	7	5 were widowed 1 was not active 1 is farming in Kara & involved in (C)
Total	30	

Every household had stake at least in one of the three types of enclosures. Out of the thirty-one households in the village, seven households had only Individual enclosures (I), while six households had both Individual (I) and Jointly managed enclosures (J2 and J3). Ten households were only involved in Joint (J2 and J3) enclosures activities and had no Individual (I) enclosures. Only one household lacked Joint (J) and Individual (I) enclosure but was involved in the communal (C) enclosure along with all the households in the village.

Traditionally, it is common for Hamer to jointly work in the farm during farm seasons. This gave people advantage to enclose land individually for grazing purpose. While one works in the farm, the other can take care of livestock in (I) as burdens are shared by the joint management. Such a cooperative spirit was a motive behind households who refrained from enclosing land individually for shortage of deployable labour. Beyond their role to rehabilitate degraded rangeland ecosystem in the Hamer district, enclosures supported local livelihood through the provision of multiple benefits to people. These provisions could assume different forms such as house construction, social space provision, free and controlled grazing (grasses for livestock feed); grasses for construction of beehives and thatching and, most importantly, gave space for crop production.

Formation of alliance across households belonging to similar moieties was observed in the establishment of Joint enclosures (both in J2 and J3 types). But, joint partnership between households was strongly affected by the family size of the respective households for labour reasons. For example, among the seven J2 type Joint enclosures that involved fourteen households,

three out of seven enclosures were established by partnerships of households of similar moiety. Similarly, among the J3 type Joint enclosures that involved nine households, two out of the three enclosures were established by partnerships of households of similar moiety. In the relatively fertile highlands in the district, communal enclosures were alternative feed reserves for all. Individual and joint enclosures were better managed as compared to communal types. Common to both the lowlands and the highlands was that joint enclosures were predominantly left for crop production. With this shared similarity in both, however, communal enclosures were not alternative feed reserves in the dry lowlands but the only dependable sources. Hence, they were better managed for their grasses. Generally, in comparison, joint and individual enclosures in the highlands and communal and joint enclosures in the lowlands of the district enjoyed better management.

5. Conclusion

As rainfall and grazing land have declined over the past decade, the development of livestock enclosures has gradually gained momentum. Enclosures play an important role by intercepting mobility and providing weak, small, and lactating animals with grass, particularly during dry periods, which save time and labour for poor families with small herds and specifically reduces the need for emergency movement. This also gives farming households more time to till their land, tend their crops, and supply milk to small children and the elderly.

However, the increased use of enclosures may promote violent confrontations triggered by multiple claims of resource rights. Enclosures in the Hamer district can exist independently from grazing areas or as part of farms. Farm enclosures, which are found primarily in the highlands, provide space to cultivate crops, grow grass, and keep livestock.

Land enclosures brought changes to once degraded and mostly bushy and shrubby landscape. Despite arguments that treat enclosure as a practice that undermines richness of shrubby species (Oba, 2011: 7) and promotes species diversity (Haile, 2012: 15), the contribution of enclosures, particularly in reserving feed during prolonged dry periods in mobile

livelihood system, is immense. Community based enclosure initiatives benefited from high level of sense of ownership than those planned by governmental and non-governmental organizations as community based initiatives were solely motivated by own shared problems and demands. However, incentives in the form of cash, food and kind encouraged people to involve in land management activities, but did not prove to implant a sense of ownership to sustain management. Enclosures provided space for mutual support and cooperation. Particularly where the local custom condemned women to sit in *boaka* (communal space customarily reserved for men in the village) and freely held discussions, farm enclosures gave such an opportunity. For a community with huge herd size, however, the grass from enclosures was still insignificant to feed the herd.

Existing social support networks are adapting to and co-evolving with newly introduced schemes of communal resource use. Resource use interest groups are utilizing potential socio-cultural assets like traditional institutions to access resources and curb disputes on the rangeland. Hence, advisory, supervision and coordination roles of elders played an important role in maintaining controlled and regulated access to and utilization of resources. The challenge in the current trend of enclosure expansion, however, seems to affect sustenance of shifting cultivation. With a growing human and livestock population, urbanization and policy pressure to settle the Hamer, land fragmentation, loss of biodiversity and land conflicts are bound to happen. A need for land to grow grass and food crops may fuel conflicts and tempt people to demand their fair share of the communal land already enclosed for use by some.

For now, it is early to judge enclosures to have caused land fragmentation and destroyed the interconnectedness of socio-ecological systems in the district. Strong local land use and management institutions are needed to plan, monitor and implement land use activities and resolve land disputes.

Notes

[1]Modified and adopted from Sagawa (2009).

[2]It is synonymous to February where people begin sowing sorghum and maize following the rains.

[3]This is synonymous to July. It is a month where is collected and stored. People do the threshing on a spot locally called *Koyidi*.

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