

*Full Length Research Paper*

# Dismantling of common property, land use and pastoral livelihoods in eastern Ethiopia

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This paper examines the emerging challenges to common property resource management in pastoral areas of Ethiopia and a shift in livelihood strategies. Using the institutional analysis and development framework and data from three administrative districts in eastern Ethiopia, results show that traditional management of the rangeland that permits efficient allocation of resources is no longer practiced due to demographic shift and rainfall variability that undermine the regeneration capacity of grazing resources. Institutions governing communal grazing do not impose duties on members, but simply exclude outsiders who do not belong to a clan. Instead, the allocation of communal land for private use and the expansion of private cisterns as livestock watering points have caused increased shrinkage of communal land. Such a shift in land use has altered pastoral livelihoods where many were engaged in commercialization of livestock production, contractual grazing, better integrated into the formal markets had increased access to new technologies. An important lesson from this study, is that the interaction of endogenous and exogenous factors have contributed to the dismantling of common property and created a gradual shift in livelihoods that put a threat to the survival of the grazing commons. Internal sources of change are also important, contrary to the claim in the literature that state policies are the dominant ones.

**Key words:** Pastoral commons, land use, property rights, livelihoods.

## INTRODUCTION

Assertions embedded in the environmental damage by pastoralists, have paved the way for 'hegemonic' development constituting irrelevant policy interventions and practices (Sullivan and Homewood, 2003). Rehabilitation, which has been based on ecological assumptions of damage potentials of livestock grazing, the threats of degradation and desertification and the need for control of livestock numbers and grazing movement, has been one of those interventions common in East Africa (Anderson, 1999). Nevertheless, range susceptibility to degradation occurs when formerly mobile pastoral households become sedentary and overuse the resources (Hary et al., 1996). This implies that land use policy should not focus on manipulation of stock size, but rather on optimal distribution of animals in space and time. In practice, pastoralists' resource overuse potential is conditioned by other inputs – such as water and labor – and one cannot presume linear link between increases in herd size and pasture condition (Ensminger and Rutten,

1991). While evaluating retrospectively, the state policy in pre-existing historical period of Ethiopia has greatly influenced development in pastoral areas because land not entitled in the name of any individual during this period remained under state control, giving right to the state to appropriate the grazing land to cultivators (Gebre, 2001).

Historically, the constitutional and legal recognition of pastoral land in the 1950s and 1960s have marginalized pastoralists (Abdulahi, 2003). For instance, the 1955 constitution and related land policy indicates that all grazing lands had to be recognized as government property, the consequence of which involved state action in allocating pastoral land to highlanders who would like to invest in the rangelands. Political change in 1974 towards the socialist regime has introduced a land reform that has equally recognized the right of pastoralists at constitution level. For instance, it states 'nomadic peoples shall have the necessary rights over the land they

customarily use for grazing or any other agricultural purpose'. This ensured all kinds of rights other than alienation, as this was the political period when land ownership rights have been transformed from private to state. Nevertheless, such change did not explicitly improve the long existed insecurity, because the use rights remained effective as long as the government did not allocate the grazing area for other purposes. Pointing out the establishment of parks and big state farms, a recent study reveals that such an imperative is morally unacceptable because the state failed to act, at least, with the consent of the pastoralists themselves (Gebre, 2001).

In addition, the introduction of group ranches by Marxist regime in Ethiopia has excluded outsiders who previously had access to pasture. It was designed to prevent encroachment by farmers on the land traditionally occupied by pastoralists. At the same time, it was planned for pastoralists to hold land privately and changing the structure of property rights. This was done based on already established groups with the purpose of minimizing incidence of conflicts due to unclear property rights; however, it was not widely applied among other pastoralists of Ethiopia. This condition instigated the exclusion of outsiders who were formerly using the grazing land when it was communal which has made the management and sanctioning costs too high (Moris, 1988), due to the disturbance caused to the traditional system (Ellis and Swift, 1988).

Moreover, the existing land tenure policy contains potential challenge to communal pastoral grazing. This emanates from long-term provision of security to farmers whereby farmers receive land use certificates, which is an outcome of an overarching debate on property rights to land to at least achieve security if not efficiency. This policy prevents regular land redistribution for the next twenty to thirty years (MOFED, 2002). To overcome land scarcity arising from increased farming population, there is a plan to undertake resettlement on uncultivated pastoral land, increasing uncertainty on survival of the pastoral commons and raising controversies. On the one hand, land tenure policies designed for mixed sedentary farming reinforced the effects from the past regime that can adversely affect pastoralists' property rights to customary communal land. On the other hand, land suitability assessment supported by the policy retains a hope for special consideration of pastoral land, which is suitable for grazing than crop-farming, as determined by the attributes of resources.

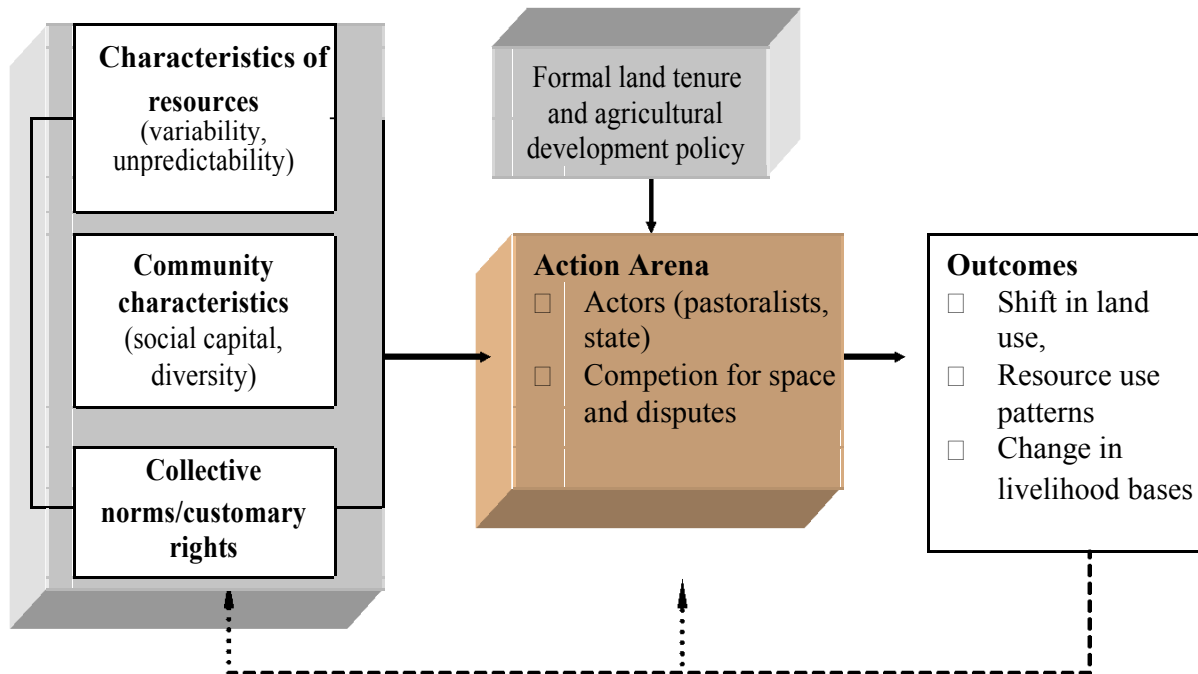
The aim of this paper is to examine the emerging challenges to common property resource management in pastoral areas of Ethiopia and the shift in pastoral livelihood strategies. While explaining a specific context, the paper contributes to the overall debate in the drivers of change in property rights and the underlying challenge to common property governance in semi-arid pastoral lands. The paper would fill the gap in the literature on

how the interplay of formal and customary systems trigger for change in land use, property rights and livelihood diversification in the pastoral production systems.

## **SOCIAL CAPITAL AND COMMON PROPERTY**

Social capital has been an important component of livelihood resources. The way it mediates livelihoods and common property resources in the context of pastoral production system has not been given sufficient emphasis in contemporary literature (Mearns, 2004). The reason lies on the underlying conceptual difference between those applying sustainable livelihoods approach and the new institutional economists who often seem to be interested in how common property is governed rather than how it contributes to attaining sustainable livelihoods and equitable distribution of benefits (Johnson, 2004). Social capital is often seen as 'shared knowledge, understandings, norms, rules and expectations about patterns of interaction that groups of individuals bring into a recurrent activity' (Ostrom, 1999). It is used as a means to improve private or collective well-being (Coleman, 1990; Katz, 2000; Cleaver, 2005). Though it is undersupplied by market and non-transferable compared to other forms of capital (Arrow, 1999), and hard to estimate the rate of return to its investment (Solow, 1999), it can also mediate exchange relations (including risk-sharing activities) in vulnerable societies, where formal insurance system is lacking.

Some evaluate the role of social capital through its contribution to transmission of knowledge and skill between generations, as well as in developing shared environmental knowledge to adapt to changes in the resource system (McCay, 2002). It assists in the development of mutually beneficial risk insurance system complementing the state and market roles (Bowles and Gintis, 2002). A number of scholars have assessed the key role played by local level institutions in building sustainable livelihoods (Grootaert and Narayan, 2004; Scoones, 1998) and collective resource management (Beyene, 2008). An extensive review on economic performance in Africa shows that informal institutions facilitate adaptation in risky environment mainly in traditional societies where "liquid" assets are limited. It is argued that establishing social connections assist livestock spread over a larger geographical area which is related to risk management activities (Collier and Gunning, 1999). In common property resource management, some argue that the role of social capital at group level is immense whereby its expression through trust and social networks increases its importance in improving coordination among resource users on the basis of established norms (Pretty and Ward, 2001; Woolcock, 1998). Where this perspective is considered, social capital is valued in laying a foundation for



**Figure 1.** Analytical framework. Source: Adapted from Ostrom et al. (1994).

monitoring and enforcement of rules, and may serve as a substitute for well-defined legal property rights (Figure 1).

By doing so, it supports efficient management of the commons through creating security of rights to common property resources where state has a little role (Grafton, 2000; Katz, 2000). A livelihood system basically indicates the characteristics of resource users, such as the pastoralists and agropastoralists, the institutions and organizations that determine access to resources to generate livelihoods and the policy environment that constrains or facilitates certain action (Scoones, 1998). Argument explaining how community characteristics influence institutional arrangements in the governance of common property resources (Agrawal, 2001) gives attention to the crucial importance of social capital to sustaining livelihoods (Figure 1). Earlier works argued that those resources with certain attributes should remain in the public domain when the gains from specification of rights are very low or the costs are expected to be higher (Barzel, 1989). Such contextual factors lead to the emergence of institutions favouring property rights structure with non-exclusive rights to the use of resources (Van den Brink et al., 1995).

There are two views dominating the literature on pastoral land use policy, both favouring different property rights regimes to the rangeland resources: conventional and opportunistic approaches. While the former advocates sedentarization and privatization, the latter supports flexibility in resource use and reciprocal access rights (Grell and Kirk, 1999). Having the conventional approach in mind, many African governments have

designed policies for rangeland management and use. For instance, private land ownership among Ugandan pastoralists was justified on the grounds of the national interest to transform livestock production and to attain equity (Muhereza, 2001). Such a practice has resulted in the redistribution of land from large individual ranchers to squatter pastoralists posing new challenge to the communal grazing land and tenure instability. These policies have undermined implementation of opportunistic approach. Under such circumstances, donors' technical and financial support along the conventional line is usually seen as a crucial reason for governments to develop and adopt policies that hardly fit into the rangeland realities (Grell and Kirk, 1999). This contradicts the argument that pastoralists require common property regimes since such tenure arrangement facilitates mobility. Indeed, through permitting an extensive resource use system, common property is argued to be associated with a lower cost of exclusion than private, because it reduces the extent of the boundaries to be monitored and enforced (Niamir-Fuller, 1999). Many studies have questioned the efficiency<sup>1</sup> of common property rights by relating communal ownership with land productivity. But efficiency in pastoral land use, which is characterized by a variable weather condition, can be achieved through retaining common property (Nugent and Sanchez, 1993).

In the rangeland resource use system where tenure

<sup>1</sup> Efficiency can be argued from the perspective of effects of private land holding on livelihood sustainability and social stability.

security is much less important than access security because of variable land productivity in space and time, communities are characterized by low population density, customary property rights are more efficient in facilitating access to grazing resources than adopting formal titling to parcels of land. Some have agreed that formal titling in such systems can be expensive and futile (Migot-Adholla et al., 1991). The formal land tenure policy that may involve the transfer of land use rights to other persons from a different clan or ethnic group can be a source of disputes (Figure 1). It may induce an offensive act by the indigenous people with customary rights to the land, since such action is often interpreted as a violation of cultural norms (Abdulahi, 2007). Moreover, a number of studies have underlined the general negative influence of land tenure policy that has contributed to marginalization of pastoralists (Helland, 2006; Gebre, 2001; Hogg, 1997). During the imperial regime, although land was private property in the highlands, the tenure policy failed to recognize communal land tenure and considered land used by pastoralists as 'open access' that can be allocated to any private cultivator or state initiated development projects (Gadamu, 1994; Gebre, 2001). For example, the state expropriated communal grazing land from pastoralists to establish national parks (Awash, Mago and Omo) and sugarcane plantation for sugar industry (Gadamu et al., 1983; Bruce et al., 1994).

The nationalization of land during the military regime subsequent to the 1975 decree and the continuation of the same equation till today have sustained the question of rights to customary communal land. The existing democratic government, upholds the status quo to secure freedom to allocate pastoral land to investors through leasehold (Berhanu, 2006). By distilling the aforementioned review, the action arena consists of pastoral and local state actors who are influenced by community characteristics, resource characteristics, collective norms and the state policy. Through time, the competition and disputes typically occurring in the action arena will contribute to the change in resource use patterns, shift in land use and livelihood bases through time that is taken together as outcome (Figure 2).

## METHODOLOGY

Close to 93% of the inhabitants of the drylands in Ethiopia are pastoral and agropastoral communities while the remaining 7% depend on hunting, petty trade and mining (FDRE, 2002). They inhabit areas below 1500 m above sea level and occupy rangelands which account for 44% of the country's land size with the annual rainfall received varying from 400 to 700 mm. They consist of over 15 ethnic groups, the major one's being Somali, Afar and Oromo (Sandford and Habtu, 2000). Historically, there were three important externally funded development interventions recorded since the late 1950s. The first one was implemented between 1958 and 1963, narrowly focusing on dairy development. The second one was in place from 1973 to 1981. It was initiated by the Ethiopian Livestock and Meat Board and gave emphasis to

expansion of marketing facilities and other infrastructure with the intention of facilitating livestock sales and processing. The third intervention took place between 1975 and 1992, consisting of three target areas (Northeast, East, South and Southeast) inhabited by pastoralists.

The aim of the three interventions was to modernize the pastoral sector. In particular, the third one was widely implemented and aimed at increasing production efficiency with special focus on natural resource management. It covered about 33,000 km<sup>2</sup> of semi-arid region of eastern Ethiopia (Coppock, 1994). The strategies employed were improving services, establishment of feedlots, providing training and introducing range management. It has covered major pastoral areas inhabited by the three ethnic groups. Even though project designers had the perception that the traditional system was inefficient and generated low output, the outcomes of these policy interventions were below what was expected for different reasons in different areas: in the east and southeast, instability due to the border war and bureaucratic hurdles and in the south, a ban on traditional range management practices (Angassa and Tolera, 2006; Berhanu, 2006; Moris, 1998).

## Data collection, sources and type

Data were collected from three purposely selected districts in eastern Ethiopia (Mieso, Kebribeyah and Harshin). These districts are characterized by the challenges inherent to pastoral commons, ethnic diversity and differences in the level of the state influence on land use and pastoral resource governance. Data collection involved some steps and mixed methods. In this case, the first few days of contacts with the villagers were spent on other matters rather than the main subjects of the study. This was essential in such social hierarchical society to establish friendly relationship with the key informants and to develop trust and making subsequent contacts easier and to prevent the key informants from constraining further contacts with the rest of the village community members. The next step was discussion with these key informants and focus group discussions on the major themes of the study. Using this method data were collected on interclan grazing arrangements, factors responsible for land use change and the state's role in agricultural technology supply.

This step assisted a lot in revising and adjusting the content of the questionnaire to fit into the realities on the ground. One of the critical challenges in data collection was that those available were hopeless due to striking level of poverty and failed to show enthusiasm. In effect, enumerators were advised to begin with questions pertinent to respondent's situation in a more flexible way so that he would be at ease. The household survey was carried out in 2006 and covered 160 households from the eight lowest administrative units (called 'kebeles'); and the issues included in the survey included livelihood sources, land use and access to land for private use and the constraints undermining the possibility to conserve the pastoral communal grazing land and the interaction between private land use and water-points and the link between property rights and livelihoods.

## Data analysis

As processes of institutional change and factors associated with change in land use, property rights and shift in livelihood strategies can be captured using a more qualitative approach, data from focus group discussions and expert key informants were mainly used to write this paper. In addition, some statistical and econometric tests were made with regard to expenditure in water and participation in enclosing land which served as a proxy for preference over property rights to land in the pastoral and agropastoral systems.

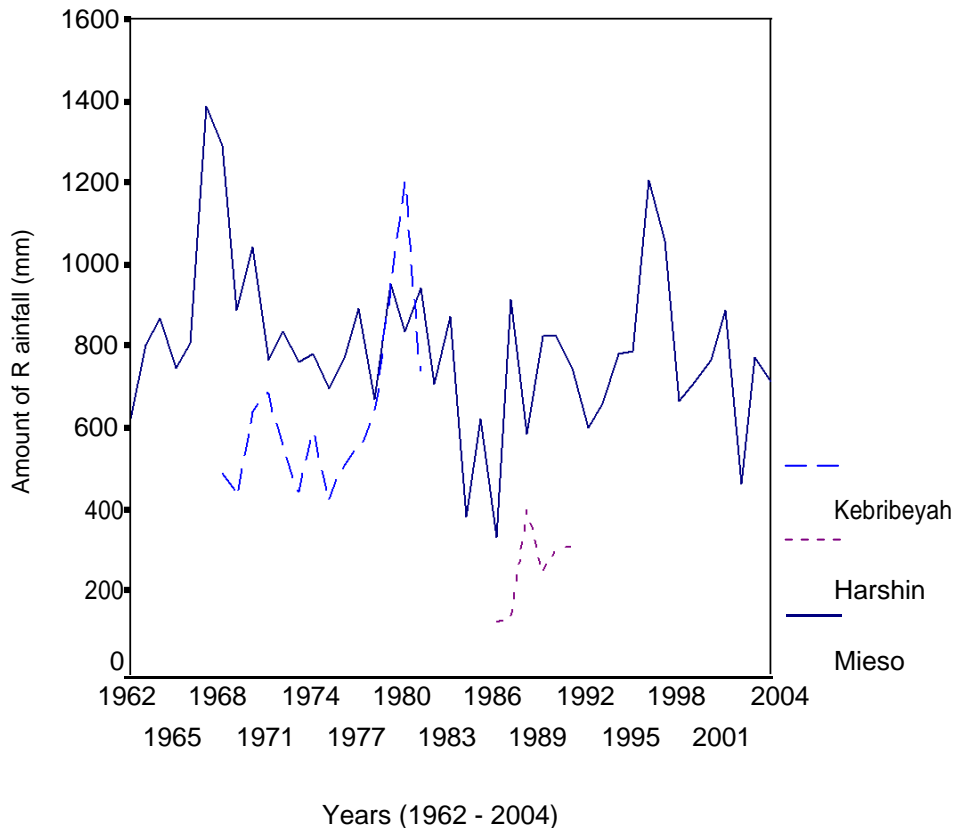


Figure 2. Rainfall patterns in the case study districts. Source: Ethiopian National Meteorology.

## RESULTS AND DISCUSSION

The results are presented as follows, first the inherent challenges and practices in managing grazing commons with specific reference to transaction costs of arranging resource access and how these costs vary in different situations was captured. Secondly, the processes that have contributed to the dismantling of the pastoral commons (including communal land) as attributed to a number of factors – internal processes and external influences were described. It emphasizes emergence of new forms of livelihoods, shift in land use and the threat this will carry for the survival of the commons. Evidence from the actual field survey substantiated the qualitative evidence generated through key informant interviews and focus group discussions.

### Institutional practices and challenges to pastoral commons

Increasing resource scarcity has brought a challenge to the management of pastoral commons. It results from the combined effect of rainfall variability and population growth. In the past, herders in eastern Ethiopia used to practice rotational grazing, since it was practiced as an

effective strategy in rangeland improvement and provided access to alternative pastures. In this practice, relatively overgrazed areas should be escaped to permit range regeneration within a large clan grazing area. Such mechanisms enabled groups to create fodder banks towards which they could easily shift without significant tension for grazing at times of stress. It is no longer practiced at present. An alternative strategy to deal with this problem<sup>2</sup> is the use of reciprocal sharing arrangement<sup>2</sup>, the situation in which users of a particular commons may be classified as primary and secondary. The distinction may go along with kinship, tribes and ethnicity and other factors. Again, each social unit might use a resource for different purposes. Differentiation in terms of users and uses can lead to a claim for the existence of various rights and obligations. The survey shows that 64.8% of the sample households benefited from being involved in reciprocal sharing of grazing commons to pursue their livelihoods. This involves herd mobility; access to a wide range of resources is required where communal lands inhabited by different clans are

<sup>2</sup> The practice of reciprocity is not confined to traditional societies. In a wider context, it exists in modern forms of life where all market exchanges such as contracts and money transactions are codified fundamentally based on this notion (Niamir-Fuller, 1999).

characterized by greater degree of spatial and temporal rainfall variability (Figure 2). The importance of such a practice lies on the fact that absence of institutions to create flexible access options triggers a group suffering from greater relative scarcity, at a point in time, to encroach upon the other with relatively better pasture. Under certain conditions, costs of mobility can be higher as permission is required, which might be subject to greater costs of negotiation, that is increasing the transaction costs of mobility. It occurs particularly when mobility extends beyond good years' grazing area and access rights become incomplete and contingent upon certain factors (such as the willingness of outsiders not to claim for access to water points). If clan association (lineage) and investment in social relationships characterize resource use relations, such incompleteness may reduce. The experiences from the three case study sites, show the difficulty of reaching at a conclusion, of whether access rights are incomplete and contingent. Hence, the transaction costs of mobility vary from one to the other location assuming that such costs are captured in the negotiations made between clans. Insights from the focus group discussion show that very mobile households tend to trespass clan boundary without agreement but by committing incursion. But frequently mobile households tend to limit their grazing points at the buffer zones or around the boundary other than extending further.

In such large sized resource use system enforcement of reciprocity rules is costly. The fugitive nature of livestock in pasture use can even increase such costs. So the incentive to deviate from the rules is high as the probability of being detected will be low. In this case, the communal land around clan boundaries exhibit characteristics of open access. This produces a temptation for the users to commit little trespass. The incentive to comply with the rules of prior agreement, therefore, corresponds to the decision on the extent of entry. If a group expects the risk of being detected by members of a clan who hold exclusive right, it may decide to negotiate through its clan other than committing incursion; otherwise, it commits intrusions, taking a risk that can be a potential source of violence (Unruh, 2006). Other important lesson from the field on the use of common property grazing resource use is the absence of restriction of clan members in the use of the resources, in that there are no customary rules that limit the number of livestock each household has to keep on the grazing commons. The rules of access are restricted only for outsiders who do not belong to a clan. This makes the empirical and theoretical explanations focusing on the management of the rangeland use for common property owners through limiting stocking rates impractical. Many have tried to portray that co-owners of the grazing commons have their own rules, in limiting the stocking rates through forming some sort of internal agreements (McCarthy et al., 2003). The results in this study shows access limits are set to non-members, in that only

exclusion rules for outsiders are functional. Common property in the cases studied shows characteristics of property rights structure that Stevenson (1991) calls "limited user open access" where members have 'exclusive rights to harvest the resource, but do not have exclusive rights to certain amount of resource extracted because any member exploits the resource at any rate desired'. In this case, property rights among the limited users are undefined posing a challenge to the management of common property grazing.

An extensive allocation of land for private use in the pastoral areas is a second source of challenge to grazing commons management. This practice is pervasive in many pastoral areas of Ethiopia. For example, 24% of land among pastoralists of southern Ethiopia has been put under private use either for cultivation or grazing. In some cases, the grazing enclosure is still being shared among immediate neighbors where group size varies based on the purpose of enclosure (for dry herds, lactating cows and calves) where the definition and enforcement rules are organized by the traditional governance system (Kamara et al., 2004).

The third challenge emanates from the lack of clear tenure policy for the rangeland that has become a source of disputes and confusions. As it stands, regional experts firmly believe in the "need to introduce legislations that support appropriate use of land, demolish the existing enclosures and convert them into the communal land". The intention of the regional state has for long been to introduce formal land use plan to an unpredictable environment. But the implementation has been delayed for years since the region developed its natural resource conservation and land use plan in 1999, which was actually copied from the national documents without considering regional realities on the ground. The traditional system is incapable to handle disputes in cases when land at clan boundary is enclosed for cultivation. In all case study districts, interclan grazing resource sharing arrangement is not as strong as in the past due to two central reasons. The first is inadequate number of livestock to move with (limited level of assets) due to frequent drought since the early 1990s. Assessment of herd ownership from survey data shows that the maximum per capita holding for Mieso is 2.23 TLU, which is far below the minimum threshold (4.5 TLU/capita), as recommended in the literature, for an individual to depend on livestock as food source (Pratt and Gwynne, 1977). The second reason is increased shrinkage of grazing land, as many households tend to enclose communal grazing. The more land each clan allocates, fenced land to private grazing or farming, the less chance to practice reciprocal sharing and the less option poor households have to keep livestock of their relatives from other clans which otherwise provided access to milk. A new development from within a clan is a contractual grazing agreement between poor households (without lactating cows, but cultivated land) and others



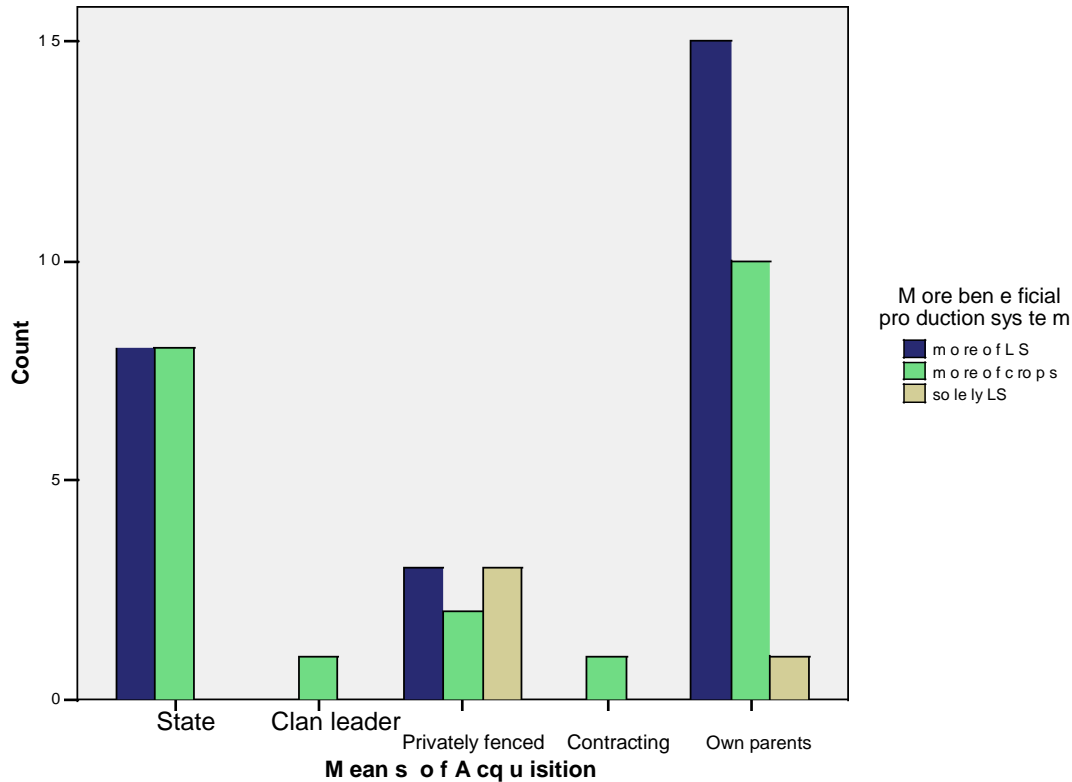


Figure 3. Preferences over production systems based on sources of rights to land.

who are better off during the dry season. This is long-existing land use practice explained in the literature (Wade, 1992; Dahlman, 1980). Overall, 42.1% of the sample households reported that they benefit from such contractual arrangement.

Nevertheless, the expansion of enclosure could contribute to overgrazing and subsequent land degradation through soil compaction unless herders change their production objectives and stocking decisions. Grazing practices that avoid livestock concentration in specific area largely supports sustainable use of resources. Contractual grazing also takes place on crop-fields when short rain season leads to crop failure where households use their cultivated field as sources of fodder. Such internal dynamics to cope with the changing state of nature is typical in Mieso district. This indicates that the integration of farming and herding enables effective use of resources even in bad rainfall years. This study also looked into the institutional dimension and the role of the different actors in land allocation/acquisition. An examination of the land acquisition means/source of land rights for those involved in water harvesting (31%) during the dry seasons shows that inheritance from parents becomes the main source of rights. Comparing the mechanisms of land acquisition for private use (grazing and/or cultivation) is necessary to understand the level of influence by the formal and informal systems. The result discloses that across the districts, inheritance is more

prevalent in Kebribeyah (67.5%), clan based rights to land in Harshin (54%) and significant role of state administration in Mieso (33%). However, comparing the sources of rights state seems to stand least (14.5%) while parents becoming the most important one (55.3%). It should, however, be noted that land under private holdings inherited from parents can be initially acquired either through the state or customary leaders. Moreover, the two systems are not necessarily mutually exclusive as land related disputes and rights to enclose in some cases involved joint decisions of the state and customary systems. A further inquiry into the comparison of the most beneficial production system indicates that a smaller proportion of the respondents (7.6%) favored a sole dependence on livestock as a livelihood source (Figure 3).

The fourth source of challenge in managing the pastoral grazing commons is the increased establishment of private water points and the failure of collective action in the management of communal water points. To locate this, it is important to assess whether those who are involved in collective action, do spend less than those who do not. The pattern of expenditure on water gives a rough indication of the likelihood of participation in water point management. The survey indicates that while the average income during the survey year was 1779, nearly 13% of the sample households have spent more than one-third of their income on purchase of water; whereas,

48.4% had access to private or communal water points. Further, those households which spent more on water had access to many water points, whereas others using private or communal, had relatively limited watering points. An independent sample t-test was carried out to examine whether there was a difference in expenditure on water between those who have access to many and a few water points. There was a statistically significant difference ( $p < 0.01$ ) between the mean values of expenditure (62.8 and 257 Birr) of the two groups. This indicates that access to fewer water points means better water management, whether it is private or communal. It implies that limited access options to water points restrict mobility and the sharing of grazing commons that can trigger land use change.

Moreover, further analysis by taking mobility behavior as a grouping variable shows that those households which practiced frequent mobility (greater than three per annum) spent less than others which moved rarely or not at all. Still less mobile herders spent less than more mobile groups. This shows that mobility rarely provides access opportunity to watering points as climate change has increased the value of water in the semi-arid regions. On average, more mobile households spent more (203 Birr per annum) than others (149 Birr). This statistic is highly supported with the fact that many water points were held in private or by close families with restricted access by others. Discussions revealed that poor households cannot establish water-well as a result of declining water table and limited capacity. This was particularly a problem in Kebribeyah unlike most other places in the region. In areas where these wells function, elders facilitate their management as water scarcity remains critical during drought. In Kebribeyah, the regional state established a large reservoir through pumping ground water, which was being used among those who did not have their own private cisterns. Water from this source is sold at different rates based on livestock species served. Turn waiters at the watering point inform fee collectors not to permit cistern owners to water their animals from this source unless they exhaust their own water.

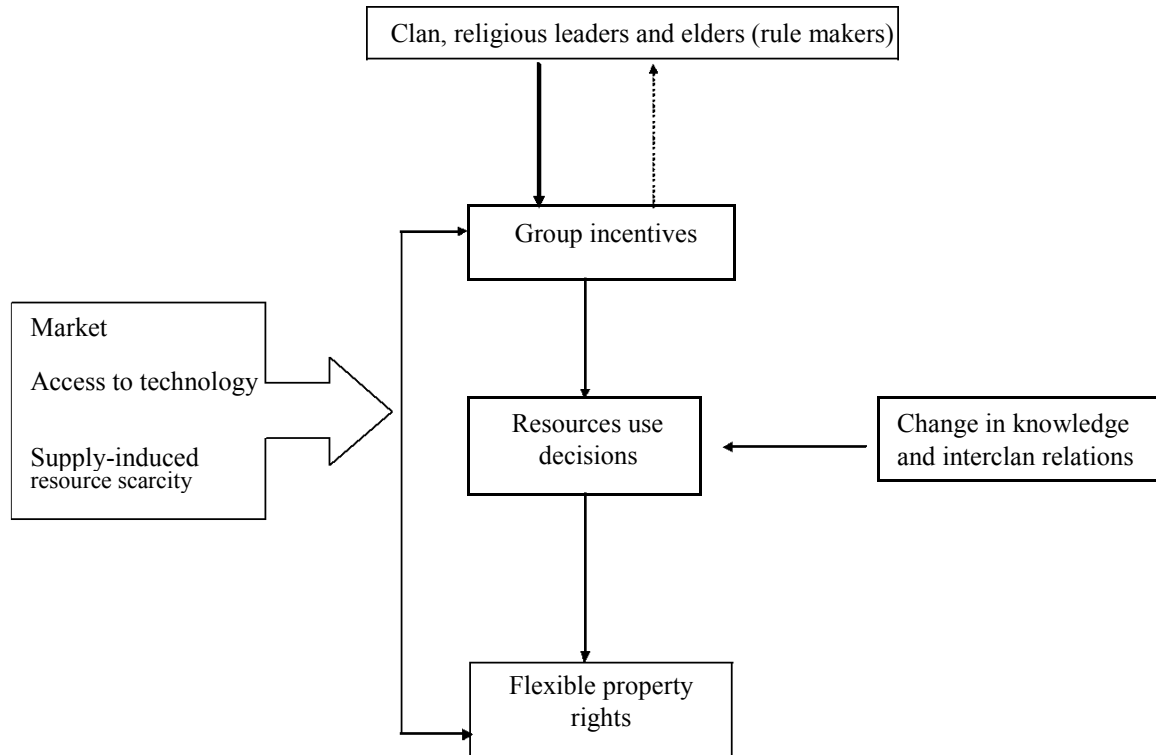
### **Linking livelihoods and property rights**

The link between livelihoods and property rights is not straightforward and many factors can affect the relationship. Here, evidence is provided on how generation of livelihoods from the pastoral commons is influenced by markets, access to technology and change in rainfall conditions. In this case, the incentives created through emergence of markets for the grazing resources and beginning of fattening programs in some places, individuals' access to technology (farm implements provided by NGOs, improved seeds and training from change agents) and change in rainfall conditions are

drivers for change in property rights. Change in knowledge of pastoralists on how to use the resource and interclan relations contribute to the emergence of new incentives. The result also shows that the need to diversify livelihood sources other than solely relying on livestock under condition of environmental uncertainty represents change in knowledge of herders. In addition, group incentives, being influenced by the traditional authority composed of clan leader, religious leader and elders have favored flexibility of rights to a resource; hence, it affects decisions on resource use. Group decisions to undertake certain activities such as sharing of the grazing commons and establishment of enclosure seek the support of traditional authority (Figure 4). Due to flexible nature of property rights on the basis of internal demands, further incentives will be created for individual resource users. This influences their production objectives and asset holdings. Individuals can be households or groups who use a specified resource in a specific land area. In this case, customary institutions assist wealth creation through promoting alternative and productive resource use. The tendency to see change in such institutions as breakdown, principally by holding static view, is currently being criticized as more dynamic view assessing their capacities to respond to emerging challenges is highly appreciated (Watson, 2003).

However, institutional change is a complicated phenomenon when seen in terms of diverse and often competing interests of different pastoral groups. For example, even if some pastoralists are involved in crop production in small scale, large herd owners who can subsist on their livestock alone can constrain flexibility in property rights in that they disfavor private land use rights. This phenomenon seems to change currently as enclosing land for grazing and crop-farming have continued to be practiced by large herders themselves. From this, one would say customary institutions define property rights. They do this by specifying differentiated rights for different groups mainly based on established social relationships, geographical proximity and kinship structure. However, imposed changes can influence these institutions in defining property rights. Figure 4 illustrates the dynamics of property rights institutions in relation to interaction of a set of factors. Knowledge change also encourages resource users to raise distributional questions because groups who are aware and have invested in managing the resource may restrict access-options for other clan or sub-clan members. The driving forces also influence the incentive structure in resource use, making the demand for property rights endogenous. For example, development of private water points in some and spread of enclosure initiatives reveal this condition. Meanwhile, development policy interventions, such as supply of improved crop technologies (to agro-pastoral households), agricultural extension services and settlement schemes, often seen as externally imposed changes, can influence the pace of property





**Figure 4.** Dynamism in property rights and land use.

rights change and shift in land use (Table 1).

Though state claim *de jure* ownership rights to the rangeland in the country as stipulated in the constitution, its governance and administration in pastoral areas seem to be left to the clan customary leaders themselves. Establishment of basic infrastructure that affects pastoral grazing land has often involved a fierce resistance from customary leaders and state officials had to negotiate with the clan controlling the land. In this case, the *de jure* landowner did not make a unilateral decision. In addition, responses from the household survey showed the presence of a firm belief that pastoral land belongs to the clan rather than to the state<sup>3</sup>. Many have simply stated, “The state has come after us and so this is our land”. In customary system, long-term occupancy is understood as a point of departure in determining rights to a given land. Hence, clan leaders and elders are the key members of the executive body exercising the Somali customary law (*Xeer*) to decide on land allocation for private use while the role of religious leader in this aspect is often limited. The regression result shows that 68.6% of the sample respondents have enclosed land. Analysis of the determinants of the decision to enclose land shows that

<sup>3</sup> One important indicator for this is it is the clan leader, not the state agent, who makes investment decisions on clan land. Any investor needs prior approval of a clan leader to begin any activity showing that, in practice, customary tenure system is much stronger than the state based tenure.

bridging social capital expressed through the number of close relatives living in another clan territory is likely of have a negative effect on the decision to enclose land. Total herd ownership is likely to have a positive influence on fencing (Table 2).

Lastly, a general approach to range management, actively in place by several NGOs and state agencies motivates different groups to make efforts to improve their own resources from within rather than relying on grazing commons of other clans and ethnic groups. This involves collective action in natural resource management and other project and development activities (establishing terraces, huge communal water-points and nursery in all the studied districts). Relevant small-scale range management projects have been undertaken through the World Food Program and International Fund for Agricultural Development in collaboration with Regional Bureau of Agriculture and district experts. These livelihood activities tend to strengthen internal social relations, while still bridging form of social capital is essential in the shared use of the pastoral commons and discouraging rangeland enclosure (Table 3). On the other hand, development intervention involving externally facilitated environmental rehabilitation programs was a clear manifestation of national policy to systematize herders’ sedentarization by improving access to feed resources through adoption of improved perennial fodder species. This could influence households to give less

**Table 1.** Land allocated to private grazing by wealth category (ha).

Districts	Wealth category			
	Small (0 to 5.01 tlu)		Better-off (>5.01 tlu)	
	Mean	S.D.	Mean	S.D.
Mieso	0.48	0.33	0.38	0.14
Kebribeyah	1.47	0.87	2.11	1.13
Harshin	2.08	1.45	1.55	1.14

Source: Household survey, 2006.

**Table 2.** Mean values for total land falling under private use by wealth category (ha).

Districts	Wealth category			
	Small (0 to 5.01 tlu)		Better-off (>5.01 tlu)	
	Mean	S.D.	Mean	S.D.
Mieso	1.76	0.74	2.17	0.57
Kebribeyah	2.45	1.02	4.24	1.97
Harshin	3.24	1.97	2.90	2.19

Source: Household survey, 2006.

**Table 3.** Determinants of participation in enclosing land.

Explanatory variables	Coefficient	S.E.	Wald	Exp(B)
Household size (number)	-0.076	0.054	2.038	0.926
Literacy†	0.466	0.418	1.242	1.593
Close relatives (number)	-0.053*	0.030	3.096	0.949
Using relatives' grazing areas†	-0.272	0.323	0.706	0.762
Livestock (TLU)	0.174**	0.061	8.014	1.190
Land for crop-farming (ha)	-0.085	0.244	0.122	0.918
Constant	0.767	0.590	1.694	2.154

\*p<10%, \*\*p<5%; † dummy variables. Source: Household survey.

emphasis to resource use relations outside their clan. In this particular case, a few individual herders have registered claiming for cultivated land to be used as permanent pasture to be controlled privately by applying to the government local authority (Figure 3). A related study among southern Ethiopian pastoralists reaffirms that though the governance of the rangeland falls in the hand of traditional (tribal or clan) leaders through the enforcement of customary rules, there has been an increase in the number of requests for private cropland, fencing certain parts of the rangelands. The expectation that any other individual will not claim the fenced part and communal lands are insecure and will be given to other potential claimants was the underlying reason for this to occur (Swallow and Kamara, 1999). While relating the conceptual framework and the results, one can learn that formal land tenure policy is much more influential in terms

of dictating the direction of land use change than the resource characteristics such as the variability of rainfall and the unpredictability of the benefit flows. As this occurs, customary norms tend to align themselves with the state policies in land appropriation for private use.

## Conclusions

The dismantling of the pastoral commons is attributed to the increased internal tensions and uncertainty, resulting from the influence of development policies that fail to carefully understand the pastoral context. The latter is argued to be a reflection of a national policy priority in encouraging pastoral herders to be involved in the market economy that in turn implies a shift in livelihood strategies and land use. If the benefits from private land use are

crucial in diversifying income sources, either through growing a few cereals or grazing, measures need to be taken to correct for externalities arising from it where fencing of privately held land could cause destruction of trees on communal land and can be a source of inefficiency in the use of already scarce grazing resources. Even though private land use is inevitable in situations when relatively reliable benefit flows prevail and households' knowledge change has greater influence, improvement of livestock market to enable the poor generate reliable income from livestock sales can be a more promising policy option.

An important lesson from this study is that even if the interaction of endogenous and exogenous factors have contributed to the dismantling of the pastoral commons and created a gradual shift in livelihoods and land use, there is a need to invest in the management of pastoral grazing commons. The regression results show that the bridging social capital still undermines investment in enclosing land, due to variability in benefits from crop-farming under variable rainfall conditions. One strategy to assist the co-existence of diverse land use systems in pastoral areas could be through investing in the capacity of pastoralists to manage communal grazing and water points and revitalizing the role of traditional leaders in managing them.

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