

Informal Institutions and Access to Grazing Resources: *Practices and challenges among pastoralists of Eastern Ethiopia*

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Abstract

Rangeland resources in the pastoral and agropastoral system are facing new threats of numerous causes. The on-going scholarly and policy debate whether pastoralism, which entails communal use of grazing resources, has to be pursued as a livelihood or should somehow be altered needs to be supported with empirical evidence. Without taking either side of the debate, we rely on a case study conducted in three districts of Eastern Ethiopia to examine informal institutional practices that facilitate access to grazing resources and associated challenges. Understanding this provides a clue as to why such debate has emerged and how far existing pastoral traditions and norms enable them to successfully cope with newly emerging challenges. Data were collected from clan leaders and elders and individual households in 18 pastoral associations. Information on decision-making in grazing arrangement for internal management and reciprocity of access has been gathered. Logistic regression is used to complement descriptive information and to elicit the direction of influence of useful variables on access mechanisms.

The result shows that given the recurring drought causing massive devastation to the herd as exogenous factor, internal social relations and kinship structure still remain to be the most determining factors in influencing access to the commons. Within this, many forms of institutional arrangement providing different kinds of incentives exist. In places where there is ethnic difference, poor institutional arrangements prevail and the regional state lacks the capacity to enforce property rights. In such case, incursion through strengthening physical power has remained the most viable means of securing access. As a result, violent conflict is inevitable. This situation has undermined the possibility of trading rights to neighboring clans producing negative externality, livestock concentration in specific grazing area that damages the social and uneconomical way of raising assets for investment in conflict. In another instance where there is no ethnic heterogeneity, political change has affected clan relations. Despite these network density, age, internal social capital, and movement frequency are important variables influencing access to communal grazing falling under other clan's jurisdictions.

One pressing challenge having implications on the survival of communal grazing land is the development of incentives for establishing enclosure. The sources of such incentive are internal in relation to market development and external associated with expansion of farming from surrounding community. Although drought has severely damaged many pastoralists and agropastoralists, there has been a gradual increase in the area of land falling under private use on clan's communal grazing area indicating some signs of change in informal institutions to respond to changing situations despite the existence of various practices.

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1. Introduction

Change in natural environmental conditions has constantly influenced pastoral livelihoods through increasing uncertainty in behavior of resource users and causing insecurity of property rights in areas where conflict is severe (Beyene and Hagedorn 2005). As a result a reliable flow of life-sustaining goods and services from erratic rangeland ecosystems is diminishing – putting pastoral livelihoods at greater risks. Meanwhile, pastoralists' adaptation is not confined to man-land relationship in an isolated setting but influenced by demographic change, agricultural expansion, attempts to incorporate them into the national economy, and insecurity arising from conflicts and wars. The cumulative effect of these factors has led to breakdown of traditional authority, degradation of natural resources and growing vulnerability of different pastoral groups to ecological and economic stress. Instead of accepting such complex facts, East African policy makers are guided with some misunderstandings based on some erroneous assumptions concerning pastoralists including the ecological damages arising from their production system, irrationality with their herd management practices and conservation in their social structure standing against development (Manger 2000).

Putting such blame on state policy needs to be supported with some evidences on policies affecting common property rights of the pastoral society. Historically, the constitutional and legal recognition of pastoral land in the 50s and 60s, driven by the “resource-based approach”, have marginalized pastoralists (Abdulahi, 2003)². The state policy in pre-existing historical period 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 the right to the state to appropriate the grazing land to cultivators (Gebre, 2001). For instance, the 1955 constitution and related land policy indicates that all grazing lands had to be recognized as state property. The consequence of such policy was state's action in allocating pastoral land to ‘concessionaries’ (highlanders who would like to invest in the rangelands). The 1960 civil code of the country also strengthened the same since it denied possession of an immovable property for which one has not paid tax for 15 consecutive years. Such legal provision excluded pastoralists' ownership of land, as they did not qualify the constitutional requirement (Gebre, 2001).

The logic behind such constitutional rule was pastoralists' seasonal mobility that entailed their discontinued association with specific parcel of land. Even under mobility condition, the state had a taxation plan on the basis of species owned - 0.5 Birr per camel, 0.25 Birr per cattle and 0.05 Birr per small ruminant. But it was not successful due to transaction costs of appraising livestock number and collecting tax for some groups merely due to mobility (Yacob 1995, cited in Gebre, 2001). For instance, Somali pastoralists who crossed the boundary to graze in Somalia escaped from tax collection and returned after tax collectors left the grazing area. This resulted in the dispute between tax paying and tax haven pastoralists on the use of grazing land. State policy during this period emphasized on tax collection and pastoralists did not benefit from the tax paid in providing public services showing the existence of an extractive policy.

Then a new land law has been introduced subsequent to ideological change towards socialist regime in 1974 has equally recognized land use right of pastoralists. As stated in Gebre

² By resource-based approach it means policies and strategies focusing on improving range resources but with intention to convert ‘nomadic way of life’ into ‘more civilized cultivator’.

(2001: 90) article 24 in chapter 5 states ‘nomadic peoples shall have the necessary rights over the land they customarily use for grazing or any other agricultural purpose’. It ensured all kinds of rights other than alienation. Nevertheless, such change did not explicitly improve the long existed insecurity because the use rights remained effective as long as the government did not want to allocate the grazing area for other purposes. Though such an imperative is morally acceptable as long as high population pressure in the highlands pushes government to take such measure, the state made a mistake since it failed to act with the consent of the pastoralists themselves (Gebre, 2001). The formation of pastoral associations, parallel to peasant associations in the highlands, was intended to enable pastoralists to raise their concerns although it did not work out practically.

At present, state’s national poverty reduction program recognizes a rising threat to pastoral livelihoods as a result of biased policies and environmental change (MOEFD, 2002)³. The effect of environmental scarcity is increasingly being given emphasis now than ever before due to recurring drought. The change in economic policy subsequent to political change in 1991 gave development priorities to neglected regions and groups one of which was expected to be the pastoral or agropastoral group. Consequently, the prevailing constitution recognizes pastoral land as specified in article 40: “Ethiopian pastoralists have the right to free land for grazing and cultivation as well as the right not to be displaced from their own lands. The implementation shall be specified by law” (FDRE, 1994). This shows the step-wise constitutional and legal recognition of common property regime for the rangeland resources.

Common driving force to all regimes is the desire to improve land use efficiency, as traditional pastoral land use system, characterized by extensive grazing, was perceived to be ‘inefficient’. However, a number of literature on pastoralism that the variation in land productivity as influenced by the spatial and temporal disparity in rainfall and disease epidemics has historically made common property arrangements, as opposed to private, a successful risk pooling mechanism (Nugent and Sanchez, 1993, 1999). The prevailing informal institutions have long existed to adapt to such environmental conditions. The above pastoral land use policies have not considered such unique features of rangeland.

2. Aims

This paper intends to examine traditional institutional practices that facilitate access to grazing resources among various rangeland users and to reveal emerging challenges to continuity of such practices. Understanding this provides a clue on the nature of de facto pastoral property rights arrangements and insights on the performance of the existing pastoral informal institutions.

3. A Review

3.1 Property rights among pastoralists

Though state holds legal property rights to land in general, rangeland in pastoral areas of Ethiopia traditionally belongs to a clan regardless of its use. This system of ownership allows pastoralists to pool resources together and reduce the risks associated with variable forage production. Each clan or sub-clan has its traditional boundary and individuals do not own

³ It states “pastoralists have considerable expertise and know-how developed over many years of practical experience and introducing new techniques to them should be preceded by a detailed assessment of traditional practices and identify their merits and demerits” (MOFED, 2002:71-73).

land. All clan or sub-clan members utilize communally the available resources of their territory and share and protect the natural resources. For instance, Afar pastoralists have resource governors (clan heads, clan council and sanctioning unit) responsible for enacting and enforcing rules of access by different community groups (clan members and non-members) (Kassa, 2001).

Under normal conditions, members of clan are allowed to enter with their livestock into the territory of the other clan for grazing. Members of a clan are entitled to a plot of land for cultivation. Every plot of land demarcated for cultivation by a member of a clan falls under the ownership of that individual. This has become very common among Somali pastoralists (Sugule and Walker 1998). Theoretically, such mixed property rights may or may not influence productive use of the resource and will have different distributional consequences since it affects social net benefits obtainable from communal grazing (Libecap, 1989).

Pastoralists also have well established grazing and water use regulations. There is common understanding among all pastoralists that whenever a given clan members are affected by drought, they are allowed to enter others' territory in search of pasture and water. Institutions governing access to resources in this particular case have survived for decades that might relate to the argument of Williamson (1998) where informal institutions change relatively slowly. However, the recent environmental change affecting availability and distribution of resources is putting much pressure on performance of such institutions. They may also change though how often they do change, respond to heterogeneous interests and affect different wealth groups in the pastoral community are not well understood.

Which changes have taken place in Somali region and in the entire eastern Africa? Since 1970s changes in grazing resources has been observed among Somali pastoralists (Sugule and Walker, 1998). Up to 17% of the total land area in among Borana pastoralists in southern Ethiopia is enclosed and cultivated (Hogg, 1992; Luseno, et al., 1998; Kamara, 1999). Rapid spread of enclosing land for private grazing or cultivation – driven by forces of uncertainty – is in contradiction with the communal ownership pattern that clan rules (informal institutions) govern. Within the wider east African context the expansion of fodder market is an incentive for enclosing land, increasing the commercial value of land. Even poor households may benefit from selling the fodder although they do not have enough herd size to graze on the enclosed plot (Behnke, 1986). Such force of change from within reduces area of land available for communal grazing.

In general, individuals have the right to enclose a piece of land in the area controlled by their clan unless the clan disapproves such arrangement. However, in some areas there is a clan agreement that there should be no more enclosures because the negative effects of many enclosures have become noticeable. Approval of having enclosure has often led to social instability at the time of resource scarcity due to conflicts (Sugule and Walker, 1998). Exclusion is also difficult under such condition. Therefore, in pastoral production system, environmental uncertainty, market opportunities and scarcity of resource due to climate change can be a reason for insecurity of property rights posing new challenges to informal institutions.

The challenge to informal institutions can be even stronger in cases where those who enclose approach the state formal authorities for legal protection for the right to use land in this way. As state policy is towards sedentarization and private use of land, those establishing enclosure and facing resistance from clan leaders may form an interest group for the state

policy. In countries where rangeland privatization has taken place through introducing a ranching scheme and then individualization, the formation of interest groups have been crucial (Mwangi, 2004). There is a political market between the state actors and local interest group through supply of institutional change (Olson, 1982). Well-organized large groups showing motivational consistency can only succeed in such lobbying efforts for institutional change. Organized interest groups can be more influential and obtain stronger support from political actors than unorganized once. In sum the unstable nature of property rights triggered by several factors pose a fresh challenge to informal institutions and reciprocal grazing relations.

3. 2 Evidences on informal access arrangements

Due to natural aridity of the environment, erratic rainfall conditions and droughts, pastoral ecological systems operate at 'disequilibrium' (Behnke, et al., 1993). Then mobility remains a vital strategy that promotes optimal utilization of highly scattered resources. Opportunistic grazing enables pastoral groups to have access to varied pasture resources that improve livestock productivity and health. To succeed in this pastoralists are involved in multiple negotiations (even conflicts) and the rules governing access are highly flexible to meet diverse demands (Thebaud and Batterbury, 2001). According to access negotiated between users, pasture and water resources are used at different times of the year. Such institutional environment adheres to a complex set of social rules determining the length of stay in once grazing area and the amount of fodder resources that can be appropriated. The outcome of negotiation is to secure shared access to rangeland resources. This can encourage pastoral groups to maximize mobility ensuring higher degree of herd dispersion. Rules of reciprocity apply usually to those who come from a distant. Residents in an area preserve priority user-rights while adopting reciprocity arrangement. In some cases access to pasture is determined by access to wells, but this depends on contribution of inputs to the maintenance of water points or strength of relationships (Watson, 2003).

Furthermore, pastoralists are experts in their own way of living in the marginal and risky environments. Priority should be given to understanding pastoral systems from the perspective of management institutions and property rights under which resources are managed (Kamara, 1999). There is a need to recognize the role of community networks in achieving a certain distributional and management goals. Such networks among Niger pastoralists have been effective in risk management through reciprocity arrangements for the use of their tribal pastures (Vanderlinden, 1999). These are mechanisms used by pastoral communities to extend their resource availability and ensure their production strategies. In fact, informal institutions pivotal in such risk management put pastoral communities under different ownership systems and customary governance – clan leader or village chief to arrange access.

The formation of market based arrangement and contract grazing is another mechanisms of creating access options to pasture and it is mainly practiced among Moroccan and Niger pastoralists. Herders practice market based access via negotiation with farmers where farmers pay pastoralists to graze on their fields to get manure and improve land fertility. In another circumstance, farmers enter into contract to get 'one-quarter' of livestock products from pastoralists to allow access to grazing on their field (Ngaido, 1999). This shows market-based access options can replace the reciprocal access options when users livelihoods differ. Such cultivators-herders interdependence improves the livelihoods of both parties producing a

meaningful economic impact. Informal institutions play a great role in creating and enforcing such arrangements.

Moreover, in ensuring the welfare improvement of poorer households, traditional authorities allow such households to arrange grazing contracts with rich community of non-members. These contacts involve sharing of the products that helps poorer groups of a community to build their herds and exercise their access rights (Ngaido, 1999). This is preferred when richer members of a community do not have enough animals to redistribute to poor groups. The rich allows the poor to enter into contract with outsiders. It shows how specific group rules build the capability of the poor under vulnerable livelihood conditions.

The above examples and cases demonstrate the economic potential of reciprocal access mechanisms. Reciprocity has both economic and environmental impact. It is an effective strategy in rangeland improvement since it provides access to alternative pastures in which relatively overgrazed areas will rest and regenerate. Reciprocity also enables groups to create fodder banks towards which they can safely shift without significant tension for grazing at times of stress (Cousins, 1995). This is actually limited based on the time length of the stress. Acceptance and facilitation of mutually beneficial reciprocal access to grazing resources falling under different jurisdiction and governed by a distinct set of institutional arrangements is vital for reducing vulnerability to risk. Understanding these provides a clue for relevant policy choices that can contribute to sustainable resource use. Therefore, in order to manage common property regimes in rangelands of Africa, governments should focus on group rights and the internal institution-building capacity of local groups and communities. Effective group rights will lead to efficiency in resource allocation provided that there are effective mechanisms for internal governance for arranging access options to support coping with resource scarcity (Swallow and Bromley, 1995).

Despite all these successful experiences of customary institutions in organizing mobility and reciprocity as a risk management strategy in uncertain environment, there is a growing interest of political leaders and governments towards sedentarization of pastoralists. National policies aiming at sedentarizing herders that involve land use planning projects and land titling restrict mobility and reciprocity. This interest seems to arise from the need to integrate pastoralists into market economy, which is often seen as strategy of politicians to take advantage of the international trend in economic change in favor of privatization and commercializing (Grell and Kirk, 1999). However, donor countries are influencing governments to decentralize management of natural resource shifting responsibility from state to resource users, building the institutional capacity of pastoralists and reversing the past mistakes of supporting governments' sectoral policies and recognizing the ecological variability of the rangelands. This condition has been inviting for academic debate among researchers of new rangeland ecology who understand pastoralism from the perspective of ecological adaptability and those supporting the views of policy makers in Africa. Yet there is no consensus on the direction of pastoral development among various stakeholders.

4. Study Site and Empirical Methods

Politically volatile and geographically covering about 350,000 KM², the Somali region is located between 3° to 11 ° N and 39° to 48° East and shows a bi-modal rainfall with a mean annual precipitation ranging from less than 200 mm in the southeast to 600- 700 mm in the northwest. The human population is estimated to be about 3.5 million according to latest

census of which about 75 per cent are pastoralists and about 20 per cent are agro-pastoralists⁴. This study has been conducted in three districts of eastern Ethiopia. These include Mieso (Ittu, Nole and Ala clans), Kebribeyah (Abskul clan) and Harshin (Isaaq clan), where mixed group of pastoral and agropastoral households live. While Mieso and Kebribeyah are dominated by agropastoral production system, pastoralists inhabit Harshin district. Mixed ethnic groups inhabit Mieso district where there has been protracted conflict between Ittu and Issa clans both belonging to different ethnic groups – Oromo and Somali respectively. All districts have been characterized by harsh climate, unpredictable rainfall and long marginalized by past states as they were presumed to contribute little to national economy.

Data have been collected between November 2005 and May 2006 through interviews, focus group discussion and observation. In all 160 households were interviewed. Triangulations by data source (key informants, households, regional office representatives and secondary sources where available) and methods (interviews, observations, discussions) and type of data (qualitative and quantitative) have been employed to improve reliability of the information and control for major contradictions in the findings (Miles and Huberman, 1994). Telling a story, perceptions of events and processes are often slippery and can easily distort findings unless such techniques are used. Since male household heads are more informed on group or individual level property rights, more reliable and useful information is obtained by focusing on male household heads.

Focus group discussion with key informants of the different villages was organized parallel to the individual interviews during the household survey. Such combination of methods enabled comprehensive information gathering that cannot be obtained through individual surveys. While data collection through individual interviews seems to capture a static scenario, discussions with key informants supported to grasp the dynamic aspects and changes taking place. The discussions have built on information gathered during the first round group interviews. Both field transcripts from discussions and interviews were assembled and analyzed using qualitative and quantitative techniques. The latter involves use of logistic regression for the purpose of making distinction between households with respect to some variables affecting their access mechanisms – whether they respect reciprocity rules or not. The dependent variable is access to other clans' grazing land with permission or not.

5. Results

5.1 Reciprocity Grazing Arrangement

Review of the existing literature has already shown why reciprocity is important. Reciprocal grazing has been useful in providing options for different rangeland users to have access to livelihood resources. This practice is becoming progressively dynamic. An important feature reciprocity arrangement (flexible property rights) in the use of rangeland resources can be understood through analyzing institutional environment favoring mutual gains. This issue is addressed extensively here by focusing on the nature of benefits accrued to those actors practicing it as well as facilitating and restraining factors. A study in same geographical area shows reciprocity between pastoral and agropastoral groups being an important risk pooling strategy (Bogale and Korf, 2005). They indicate that reciprocity arrangements exist at both community and household levels. Members of one clan can graze livestock in the territory of

⁴ Due to shift of regional boundaries all the time, different sources report different statistics. No one can be sure of population size and geographical coverage of the region.

another clan subject to agreement (Sugule and Walker, 1998). The results presented here focus on three sites where the survey has been conducted.

a) The case of Mieso District

By postponing the discussion on conflict, which appears as a challenge, to the last section, I focus on relations among clans of Oromo. In general, reciprocity norm dominates the grazing practices of the pastoral and agropastoral households. Mieso agropastoralists migrate to others' grazing places (e.g. *Wabe* and *Galbet*) – a territory next to Mieso. Those pastorals and agropastoralists coming from these areas will be allowed to graze with prior notification of their migration plan. This is understood as a collective response to escape from the negative effect of environmental shocks and recognized by the group as a coping strategy. The production risk reducing impact of reciprocity arrangement is widely accepted and norms favoring these have existed for long time. With the expectation that the hosting group would also move to others' grazing area, they grant access. Such access to pasture may also provide an opportunity to have access to water.

In general, the period of stay of distant migrants on others' grazing land is limited to a maximum of two months. Pre-entry negotiation is required for non-members requesting access during time of environmental stress. Such action is reciprocal among the three Oromo clans in Mieso (Ala, Nole, and Ittu). The reciprocity arrangement begins with negotiation processes that involve informal talks with the clan and village leaders who will organize further discussions with community members to assess whether the available resource is sufficient for the non-members and finally makes decisions to grant or prohibit entry. Elders recall that reciprocity arrangement was more frequent in drought periods in the 50s and 60s, but today it is limited not only due to conflict and institutional constraints but also a continuous decline of livestock size attributed to recurring droughts at shorter interval. There is diversity in understanding how rules operate. Some individuals hold the impression that there is no strict rule discriminating access to different kinds of resources, whereas others observe that in areas where grazing and watering is allowed cutting trees is forbidden because very big trees serve as shade for humans and animals during dry season.

The primary factor in analysis of reciprocity is to understand whether there are variety of informal rules and norms affecting access to different kinds of resources (water, pasture, forest). The basic question can be: does use of pasture on other clan's grazing area also provide a chance to use water? This is essential to see how geographical distributional characteristics of the resource (water in this case) influence rules of access to it. Due to a difficulty of exclusion of a group of herders from using specific water source once they have been granted access to pasture, some clans do not grant rights of access to pasture for non-members when there is extreme shortage of water. This is because if access to pasture is granted with limiting use of water, it causes conflict at water points. A different arrangement exists when there is severe drought on non-members' territory. They will be granted full and equal access rights like members because members of hosting clan think that non-members do not have options other than this. Such practice in designing rules of access to resources seems to contradict the theoretical notion that explains the emergence of strict rules of access when resources become scarce and altering of property rights when the economic value of a resource change due to increasing scarcity (Demsetz, 1967). This kind of institutional environment prevails since hosting clan expects other clan members to take the same action when it faces similar environmental problems. So reciprocity is mostly confined to uneven distribution of resources.

b) The Case of Kebribeyah and Harshin

Granting access for non-members to grazing resources during periods of environmental shocks is non-conditional in Harshin. On the contrary, Harshin pastoralists need to negotiate with neighboring Ogaden clan for access. In Harshin and Kebribeyah, there is unlimited access during drought period. Such unlimited access is subject to negotiation for Kebribeyah: whereas, there is no negotiation in case of Harshin⁵. Rules vary across sites causing different levels of transaction costs in arranging access. This variation seems to follow production system than ethnicity, as most households in Kebribeyah and Mieso are agropastoralists.

Hence, different institutions produce similar outcomes. Nevertheless, under no scarcity, rules of access are dissimilar across the three study sites. When rainfall condition is normal and fodder is sufficient, Harshin pastoralists completely prohibit others' access to their grazing area. In some instances, such as disease breakout even when feed is adequate, access requires prior negotiation. Again, the nature of reciprocity in Kebribeyah varies from Mieso based on conditions of the resource as influenced by natural environmental factors and composition of a clan – pure or mixed clan. This can be categorized as normal time and risk averse reciprocity. Emphasis is given to how members of a clan deal with factors that disturb long existing norms of reciprocity grazing arrangements.

1) Normal time reciprocity: By normal time it refers to good rainfall years. The purpose of reciprocity is to secure additional grazing resource in normal years. Access to Abskul's grazing land depends on whether a household from other clans has marital or other relations from Abskul. But there is no consensus among members of Abskul whether their negotiation for access to Ogaden and Isaaq's pasture land has in the past been successful or not. Ogaden is the largest clan and sharing boundary with Abskul. The power difference (due to group size) seems to undermine access negotiation between elders and clan leaders of the three clans. This is attributed to the effect of change in governance subsequent to 1991 political change in Ethiopia. Clan leaders hold the view that inadequate representation of some clans, such as Ogaden, in the regional government has severely affected local level resource use relations between neighboring clans.

To overcome this challenge, private relationships and dealings take place between any two households of different clans in arranging grazing on the enclosed land or crop residue of each other. The village residents do not interfere such contracts as far as the animals of the non-member household entering into contractual grazing do not graze on the communal grazing area of members. Though monitoring is difficult for members whether the animals belong to the member or non-member, individual members strictly follow them up specifically when there is critical conflict between the clan of non-member and the contracting household. Trust in both pastoral and agropastoral system is a key factor in facilitating such arrangements of access between or within specified groups. Other studies show that a minimum condition for the effectiveness of internally enforced contracts is the existence of some social authority that enforces rights or rules regulating the entry of new individuals and groups and the mobility of individuals between groups (Swallow and Bromley, 1996).

⁵ Access limit in this particular case refers to the grazing length and the number of species to be allowed to graze on other clans' pasture, not in terms of quantity of resource used.

2) *Risk aversion reciprocity*: Clan-based institutions of property rights have so far been considered important in arranging access options. The linkage and networks people establish over time play significant role in the gradual emergence of institutions of reciprocity in grazing. In this case, Abskul clan grants access to grazing resources to all other clans without limiting the duration of grazing during drought period. There is no norm of discriminating among various wealth groups since both poor and better-off groups of other clans have equal chance of access to the resource. Though not exactly contradictory, the rules of Isaaq clan in Harshin district are in favor of the elites as information provision is selective during migration to ensure access to resource. Poor herders are often not informed on the location of better pasture and where to move often left behind in the village. Some wealthy households underlined that the poor do not like to move with few animals and prefer to sell them instead. Abskul enters other clans' grazing area subject to negotiation during drought unlike normal time. Reciprocity arrangement in both cases produce varied levels of transaction costs. When it comes to group based access both the poor and better off members of Abskul have equitable access to others' grazing area.

Another important aspect in reciprocity analysis is understanding how rules emerge and work. Rules for reciprocity arrangement for secondary users is developed and enforced by elders. Rules are understood here as decisions to grant access or not. The process of rule development involves initial discussion among elders of a group using a specific grazing area in order to assess the general resource condition for own use. Elders, in turn, consider community views. Then they communicate the suggestion (to grant access or reject) to the clan leader having vested power to approve or reject lower level decisions. Resource condition assessment by elders of a hosting clan is done together with messengers of the other clan requesting for temporary access to the resource. This is to convince the requesting clan in situations of negative responses. It is also a strategy to maintain positive relations between two clans and to prove that the decision is rational and genuine. This approach is designed to prevent a declining trend of reciprocity and reproduction of interclan confrontation.

The decision to grant access or not does not always end in consensus among different decision-making bodies within the clan informal governance. In cases of discrepancy or disagreements, religious leaders intervene and revisit the whole process. They usually hold a neutral position in the decision process, even if they seem to be inclined towards supporting granting access to resources outsiders need. In such traditional governance system clan leader is given full authority to decide since elders are suspected to have close connection with other clans and may favorably act without entertaining the views of the community and the resource condition. Clan leaders make thorough analysis of the decision process before approving. Hence, one interesting lesson from this is institutional development in informal institutions regularizing access follows a specific procedure relying on lower level needs. However, this may not guarantee generalization as in some cases decisions are made without the knowledge of the elders.

Theoretically, one function of institutions, which measures their quality, is the extent to which they reduce uncertainty (North, 1990). This depends on whether underlying actors respect those rules and norms (Ostrom, 1998). In some cases, there is evidence proving that Abskul hosts Ogaden to graze on its territory. But Ogaden resists Abskul's entry into its grazing area after negotiation. Due to differences in power Abskul cannot mimic Ogaden's action or some times implement what is often called a 'stick-and-carrot' punishment strategy that involves responding to others' deviation through harsh but short-lived punishment.

Abskul cannot sustain resistance for the reason already stated. This could in the future result in heightening uncertainty to practice reciprocity that supports mutually beneficial arrangement.

Morally valued conventions that are violated suddenly due to non-cooperation of one party while the other clan respects can lead to development of distrust which breeds non-cooperation. This affects what Ostrom calls the core relationship variables ‘trust, reciprocity and reputation’ facilitating cooperation (Ostrom, 1998). This undermines the self-enforcing feature of customary institutions that would otherwise provide a group with assurance of others’ cooperative behavior. Many herders point out that the absence of formal litigation can also undermine the possibility to enforce local interclan agreements. This can have direct influence on the livelihoods security of both actors. There is a mixture of penalties and rewards, associated with resistance and accommodation respectively, which complicates reciprocity. It is, therefore, useful to identify the determinants of access mechanisms – characteristics determining reciprocity.

Table 1 provides the descriptive statistics, mean and standard deviation, of those variables that are expected to affect access. The differences in means are very high for all those variables reported to be significantly associated with the dependent variables. Looking at the proportion of the sample, 64.8 per cent of the households tend to respect the rules of reciprocity and tend to practice it.

Table 1: Mean values for variables influencing access mechanisms

Explanatory variables	Entry without agreement		
	Yes (Y= 1)	No (Y=0)	Overall
Age of a household head (AGE)	37.75 (8.2)	44.3 (13.1)	41.98 (11.9)
Close relative households in other clans (CRHH)	3.2 (4.86)	6.7 (5.9)	5.5 (5.8)
Distance at furthest relative live in Km (FDRL)	17.6 (27.2)	21.5 (25.7)	20.1 (26)
Use relative grazing land (RGL, yes or no) †	0.77 (0.43)	0.6 (0.49)	0.67 (.47)
Herd ownership (in TLU)	4.37 (2.78)	5.4 (5.18)	5.01 (4.5)
Membership in varied social activities in your community as proxy for social capital (SC)	3.3 (0.65)	2.97 (0.77)	3 (.74)
Frequency of Mobility (FRMOVDR)	3.32 (1.9)	2.6 (1.75)	2.8 (1.8)
Group size in mobility (MGHH)	8.9 (7.14)	10.85 (9.4)	10.2 (8.7)
Use own water point (OWS, yes or no) †	0.25 (0.44)	0.17 (0.38)	0.2 (0.4)
Percentage of Participation in formal Meeting (MEETING)	69 (22.6)	68.1 (24.5)	68.5 (23.7)
Income levels (INCGRUP) (low if \leq 1779 birr per annum and high if $>$ 1779 birr per annum) †	0.3 (0.46)	0.39 (0.49)	0.35 (.48)
Area Fenced (ha) (AREAFENC)	1.09 (1.33)	0.83 (1.15)	0.92 (1.2)
Number of species kept (DIVERSIF)	2.27 (0.88)	2.29 (0.92)	2.2 (0.9)
Mieso dummy (MESODUMY) †	0.52 (0.5)	0.5 (0.5)	0.5 (0.5)
Harshin dummy (HARSHDUM) †	0.13 (0.33)	0.31 (0.47)	0.24 (.43)
N	56	103	159

Notes:

Covariates marked with † are categorical variables.

Figures in parentheses show standard deviation.

On the other hand, 35.2 percent of the households undertake incursion into the grazing land of neighboring clan without permission. This does not mean that they do not negotiate for access. Incursion is chosen as a solution for access either when negotiation fails or when other clan is presumed to be incapable of resisting or when access to the resource does not require negotiation like the case of Harshin under drought condition. As the majority tend to conform to it, the potential of informal institutions to arrange reciprocity in resource access is still greater.

Result in Table 2 reports on logistic regression for mechanisms of access to contested grazing area and grazing area of other clans. The dependent variable is access without agreement or permission. In this case negotiation can lead to access if agreement is reached. And conflict erupts if access is attempted without knowledge of the other clan. So the question is ‘which factors may motivate aggressive or peaceful entry or avoiding risky grazing areas?’ Here, the results give a clue on variables influencing different access strategies (Y =1 indicates enter without permission, 0 otherwise).

Table 2: Factors constraining access mechanisms through reciprocal relations (Y= 1)

Explanatory variables	Coefficient	Wald	Marginal effect
AGE	-0.053 (.021)***	6.625	-1.18
CRHH	-0.164 (.054)***	9.169	-3.29
FDRL	0.008 (.009)	0.876	0.14
RGL(1)	0.572 (.488)	1.371	9.80
TOTALLSU	-0.087 (.097)	0.815	-1.62
SC	1.056 (.404)***	6.823	17.03
FRMOVDR	0.375 (.133)***	7.920	7.10
MGHH	-0.038 (.028)	1.778	-0.83
OVS(1)	1.117 (.577)**	3.749	22.19
MEETING	-0.006 (.009)	0.410	-0.16
INCGRUP(1)	-0.361 (.473)	0.584	-6.88
^a AREAFENC	0.346 (.181)**	3.660	6.53
DIVERSIF	0.143 (.301)	0.227	1.47
MESODUMY(1)	-1.041 (.704)	2.183	-19.17
HARSHDUM(1)	-1.798 (.670)***	7.190	-35.35
Constant	-1.293 (1.605)	0.649	--

and * indicate the relationship is significant at 0.05 and 0.01 levels respectively.

Figures in parenthesis are standard errors.

The result shows presence of negative association between age of a household and larger number of relatives in other clan territories (AGE and CRHH an indicator of linking social capital) and access without permission. Young herders, those with higher bonding social capital and frequently mobile households tend to access forcefully and this is highly significant. Connectedness, networks and groups are often considered as important

mechanisms for building social capital assets to practice reciprocity (Prett and Ward, 2001). As this result indicates making distinction between types of social capital has become useful in understanding inter-group resource use relations organized either peacefully or coercively. Such social capital is acquired in informal settings and can be built during interactions for social, religious and cultural reasons (Grootaert and Narayan, 2004). The expectation is that networks built through such interactions have remarkable and measurable benefits to those involved, directly or indirectly, contributing to households' well-being.

An increase in number of relatives a household has in another clan territory by one unit, in this case, is expected the rise access to grazing land through reciprocal arrangement by 3.3 percent. An increase in age of a household by one year would have similar effect by 1.1 percent showing that elderly people tend to have stronger network compared to youngsters. On the contrary, strong internal social capital reduces the chance of having access to neighboring clans' grazing through negotiation and agreement by 17 percent. An individual in such group tends to rely on his own group members than on outsiders. This indicates that relations with other communities (linking social capital) is more important than internal bonding social capital in terms of establishing reciprocal grazing arrangements between groups. That might be one reason why they prefer coercive access mechanism.

Though not significant large herders and higher income groups tend to establish access to other clans' grazing with prior agreement. The non-significant result implies that wealth is not determining factor for the type of institutional environment adopted between any two neighboring clans. If it were statistically significant, it would mean wealthy or better off households can have better and peaceful access to others' grazing land while undermining that of the poor. How far can this be defended? This accommodating, other than isolating, role of customary institutions will have a positive impact on poor households' welfare.

The result also shows that area fenced has positive relationship as anticipated because the more area enclosed, the less communal grazing available. As fenced land is a dry season grazing, more households will be forced to move away. Hence, expansion of area enclosed will have a far reaching implication in terms of altering property rights to communal grazing land as larger area tend to be privatized. Private grazing on fenced land is not adequate to supply livestock feed at all times. Ownership of enclosure would even bring in a greedy behavior. The significant positive relationship for ownership of private water points indicates extended mobility is primarily to have access to better pasture. This is an expected relationship as more water points, due to expansion of Birkas and hand dug wells, tend to be used either privately or by small groups.

Such appropriation of other clans grazing land without clear institutional arrangement is again location specific as depicted by the location dummies (Kebribeyah is a reference). The regression result clearly indicates that more coercive access is most likely practiced in Kebribeyah in contrast to Harshin and Mieso because the reciprocity relation between neighboring clans is gradually deteriorating. This can be explained in relation to many factors. The fact that it is insignificant for Mieso shows the escalating interethnic conflict and tensions that discourage use of contested grazing area. The insignificant nature demonstrates coercive use of the grazing area currently controlled by other clans. The nearly significant value (14 percent) for this conflict prone area implies the willingness of the less powerful group to respect agreement in interclan grazing arrangements. In case of Harshin, access to resource is most likely arranged through agreements with neighboring clans. So we can see some trends of change in property rights to a specific grazing resource.

5.2 Trends of change in property rights

Information from the literature on the region particularly documented by Sugule and Walker (1998) and the results from this study show that there is a gradual change in property rights as a result of many factors, most important ones being politics affecting clan relations, resource scarcity and resulting conflict. Demographic change might have contributed. In fact, the type of property arrangement depends on the characteristics of the source and users. Based on the field inquiries and the literature section 3, Table 3 compares the rangeland resource characteristics and users' situation currently and some decades back.

Table 3: Some characteristics of trends in property rights

No.	Before 1950s	Currently
1	Many clans formed large group of users	Number or group of users become more distinct
2	Difficult to monitor and enforce management rules	Decisions made at different levels (clan and village), seasonal splitting of grazing areas and groups enforce such rules
3	Management involves rotational grazing with no investment by members	Greater investment (watering points, enclosure, opportunistic farming)
4	Large distance between users and the resource location due to unlimited mobility	Limited mobility brought resource users close to the resource, reduced chance of extensive appropriation
5	Unclear boundaries as users scattered over large area	Clans or sub-clans protect their resource and make access conditional
6	Difficult or no need to put restriction on grazing time length	Grazing length often limited depending on users' relationships and resource condition, access rules vary based on resource attributes (trees, water, grasses)
7	Clan rules in resource use invisible and practices not formally recognized	Clan rules and local norms seem to be complimented by formal rules in certain situations such as dispute resolution.

The period before 1950s is used as a reference while it coincides with the historical period when part of the Somali region was incorporated into Ethiopia at the end of Somalia independence that has brought dramatic influence on clan relation and resource use (Khalif and Doornboms, 2002). Comparing the period before 1950s and today with respect to institutions and resource users' characteristics, there is a general tend of change in property rights and role of traditional institutions in enforcing those rights. The growing scarcity and unpredictability of grazing resources are the underlying forces for the emergence of the new institutions of access such as reciprocity. This implies resource size in the case of grazing land should not be measured solely in terms of grazing area but biomass or volume of a resource available at specific time. A fixed area of grazing land can have different resource sizes in different years based on rainfall conditions. Consequently, the number of users varies

depending on such resource size. Dealing with such property rights system as resource size and user-groups' composition vary is a challenge to customary institutions.

Such understanding has brought confusion whether it is really resource size or unpredictability of resource flow that actually influence property rights in the case of grazing land. It is possible to learn that one needs to take care in identifying resource characteristics. A recent conceptual advance in analysis of institutions for common-pool resource management shows that scholars of the commons fail to consider some essential elements resource in their analysis: stationarity and storability of resources, market based change in demands for such resources, technologies for exploitation of the resource, and demographic factors (Agrawal, 2001). In this particular context, the tendency for change in property rights towards being more prohibitive or restrictive in access is resulting in resource conflict that brings in a new challenge to informal institutions. Such conflict produces various economic outcomes.

5.3 Outcomes of access conflict

After discussing on three important outcomes of conflict such as constrained access right trading, soil degradation and uneconomical way of mobilizing resources, conflict management role of institutions will be explained in the subsequent section.

a) As a constraint to trading access rights

Trading access rights refers to an informal practice where groups or individuals agree to allow others (relatives and other clan members) to graze on their pasture in exchange for some benefits (livestock and livestock products). It serves as a strategy to produce wealth through cooperation with others. And it is usually exercised when resources are commonly used on the grazing area falling under control of specific groups where members underutilize due to limited livestock. Conflict threat produces a harmful effect through constraining trading of endowment rights. It shakes up the livelihood interdependence of neighboring clans.

Table 4: Engagement in trading access rights

Districts	Engaged in trading access right		Total
	Rarely	Mostly	
Mieso	23	57	80
Kebri Beyah	13	27	40
Harshin	18	21	39
Total	54	105	159

Thus the increase in intensity of conflict between Issa and Ittu has affected Ittu's trading rights on part of the good (grazing resource) in exchange for livestock or livestock products due to insecurity of the property rights. In fact most of those who are engaged in reciprocity are involved trading access rights. There is significant correlation between the two at 5% probability level. Trading access rights has been a mutually beneficial coping practice in pastoral areas commonly organized between different pastoralists and their neighboring communities.

b) Livestock concentration and soil degradation

In agropastoral areas, where land is partly acquired through state redistribution plan large household size implies large farm size irrespective of herd size. Under normal rainfall conditions, large farms can produce adequate animal feed making entrance to contested area unnecessary. Others who cannot achieve this will still try to access the insecure area that makes them more vulnerable to the risk of conflict.

In Mieso, like highland farmers, the crop residue, which could have been used as an organic matter to improve fertility of the farm, is used as feed. This will reduce land productivity. Although this effect is clear for many agropastoral households, their focus remains on saving their livestock other than improving soil quality, as livestock is the principal source of livelihoods. Therefore, the indirect contribution of conflict to environmental degradation is obvious. This implies overcoming conflict over grazing resources through arranging reciprocity will contribute to improvement in land productivity for agropastoralists who are also involved in farming though on small scale.

c) Mobilization of resource in uneconomical way

When reciprocity institutional arrangements fail, access to the grazing resources becomes a matter of intrusion. To succeed in perpetrating violent access, resources are mobilized through religious leaders and clan elders by allocating tasks to their community members. Accordingly, four groups of actors have been identified indicating that violent conflict is characterized by collective action, in which every member of the group participates in one way or another. There is role dynamics for members falling into categories 2 to 4, as shown in Table 5 in an attempt to redistribute the threat inherent in each of the tasks performed.

What is the position of the poor herders with no or few livestock number? Poor households normally share the livestock products of the better-off producing an incentive to participate in access conflict. Successful poor members of a group who are able to either defend the herd or win attacks in mobility are given livestock from the wealthy. They also profit from self-esteem and appreciation of members, which gives them a unique social status. As a result, such non-material and material incentives would maintain their participation. Non-participation even undermines their social status among villagers. Group pressure and individual rationality (economic incentive) determine the action of the poor to join the group. Elders' council purposely designs this strategy to encourage participation of every community member. There is internal institutional arrangement in securing access.

Table 5: Division of tasks among members in securing access

<i>Actors</i>	<i>Tasks</i>
1. Elders' council (of villages)	Selection of herding group (5 per village)
2. Youth and middle aged group	Penetration into contested areas, resists raids
3. The surveillance group	Acts as a spy gathering pre-mobility information
4. Village security group	Guarding the village from incidental possible attacks

Collective preparedness to secure access to grazing and other resources for sustaining livelihoods, uncertainty in time and scale of attack by Issa has also threatened the farming activities of agropastoralists. Such strategy of human resource mobilization is highly

destructive and uneconomical contributing further to the broad based poverty. On the contrary, for the poor group obtaining livestock as a reward for their performance participation generates more wealth from within. Therefore conflict produces different outcomes including flow of benefits from the rich to the poor internally while causing access insecurity at clan level.

Conclusion

One basic conclusion is in condition where formal governance has little influence on regulating resource access and use, the results show that informal institutions enable herders to manage feed stress. Informal institutions of access are designed in a way pastoral and agropastoral households adapt to the variable resource conditions through practicing flexible access options. It is instrumental in allowing each household to buffer against the deleterious effects of drought and resource scarcity. As the role of reciprocal grazing is immense in achieving food security and protecting the environment, state support in cases where informal institutions fail is very crucial. Those who hold a pessimistic view of pastoralists damaging the natural environment need to reconsider their position and focus more on political and other factors that might affect reciprocity through destroying local networks – producing cooperative behavior. Policies that recognize informal institutions and build the capacity to enforce local agreements are required to overcome local conflict.

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