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Sub-Title: An Indigenous Water Management System, the case of Borana (Oromo) People

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Abstract

Water is one of the precious natural resources required by human beings and other living organisms. The shortage of water sources has serious impacts in the developing world in general and pastoral areas in particular because it traps the people of the region in the cycle of poverty by undermining economic development and health. Explicitly the pastoral groups of the Horn of Africa are severely suffering from the catastrophe. The Oromo people are one of the societies occupying the Horn. The Borana people are among the Oromo clans for whom pastoralism is a dominant way of life. As the pastoralists' land is highly drought-prone, their livelihoods are extremely vulnerable to climate change led water scarcity and environmental degradation. A scarcity of the basic natural resources (water and pastureland) is the major problem both for the people and its cattle especially in an adverse climatic condition. Wells are the permanent water sources for the pastoral group and have a central position in the social, economic and politics of the Borana. A long-term consumption of natural resources is predominantly important for humans' sustainability. A development explicitly interlinks with socio-economic, cultural and ecological issues of human societies. The arrangements of using scarce natural resources, like water, require robust management and conservation for present and future generations. Human societies deal a sustainability of resources use with multiple management laws and property rights arrangements. Legal pluralism deals with interdependent diverse legal forms that do exist in a society. Hence, this study aimed to explore the ways in which the Borana people have adjusted themselves to water source scarcity by analyzing its indigenous water harvesting knowledge, management institutions and property rights arrangements. It also analyzed the relevance and reliability of the plural legal forms exist in governance, property rights arrangements for a sustainable resource use and conflict resolution during adverse climatic conditions. This study pointed out that the Borana people have exercised a customary legal order that rooted to its culture to cope with social orders, social pressure and environmental limits. Traditionally, under the sprite of common property rights, a well is privately owned by a clan for which the inclusion/exclusion principles apply. Amid a harsh drought, the communities used to rely on wells that guided by an indigenous harvesting knowledge, management system, property rights arrangements and conflict resolution under the Gadaa institution for centuries. The effectiveness of these customary laws is based on the strong social networks across the clans, kinships, ready-made social structures, and power and authority vested on clan leaders and elders. But un-negotiated statutory laws and practices that introduced by other stakeholders are also visible in the Borana. The governments have developed a new resource management and property rights regulation laws and institutions. Climate change, political marginalization and population increase are the other factors that affect the effectiveness and efficiency of indigenous practices of the people.

Key Words: indigenous, customary, statutory, scarcity, institutions, social organizations, power, authority, kinships, property rights, legal pluralism

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Chapter 1: Introduction

1.1 Background

Water security is the essential part of human precautions that makes human beings certain to lead healthy and productive life, while sustaining environmental services and biological lives. It is recognizable that there is a lot of water in the world “but that not very much of it available to us for daily water supply needs” (www.epa.gov no date, p.1). Nowadays, about 1 billion people in the developing countries do not have the access for water (The Water Project no date). The lack of sufficient water limits citizens to adequately access the resource so as to attain their fundamental demand, socio-economic development. That is why it is affirmed that the lack of water jeopardizes one of the basic principles of social justice, “the social minimum”. 20 liter water per day is the social minimum requirement that one person ought to obtain (UNDP 2006). But the world is still not in a position to provide adequately to its populace in many regions. Particularly, water scarcity is one of the major challenges for development in arid and semi-arid parts of the globe. However, as a matter of fact humans have experienced indigenous knowledge and practices to deal with the problem. Alike other pastoral groups, water has a decisive role in determining the social and economic developments of the Borana pastoralists (Emiru 2010).

The Oromo people are the single largest ethnic group both in Ethiopia and East-Africa constituting about 40 million. The people inhabit in Ethiopia, northern Kenya and Somalia. The people have had difficult relationships with the successive Ethiopian regimes in sense that the ethnic group protests the dispossession of its freedom and self-governance by Abyssinians (Amhara and Tigray ethnic groups from the North). This researcher ethnically belongs to the Oromo and also shares the colonization feelings of the Oromo and other nations, nationalities and peoples of Southern Ethiopia. The Borana people are one of the Oromo clans occupying arid and semi-arid parts of the southern Oromia regional state and northern Kenya. The people have been suffering from periodic drought. The global climate change exacerbated water scarcity, the consequence of which is life menacing in the area (New Agriculturalist 2009a; cited by PAR no date). Maintaining adequate water has been a critical challenge for the pastoral group. As a result, the people have devised an indigenous governance system for the natural resources (water, land and forests) that has endured for centuries (Watson 2001).

Anthropologists acknowledged that integrated human knowledge, beliefs, traditions, practices, attitudes, values, norms and goals are the elements of culture that characterize an institution or organization of a society. For many development agencies indigenous institutions are the major resource that could realize development in the pastoral areas because the communities have a traditional natural resource management system by which they have been addressing their demand and sustain the environmental services through open and participatory decision making ways (Watson 2003). In the Borana context, the indigenous institution, knowledge and practices that the community has experienced through time are seen as the main natural resource management and conflict resolution mechanism (Emiru 2010). Traditionally, the society collects

water predominantly from wells, ponds, earth dams, rain, depressions and boreholes. In the midst of worse climate changes, they have been relying on the permanent water source (wells). The pastoral group has clusters of the traditionally made tulas (wells) which have never run dry even during severe drought seasons (Emiru 2010).

Thus, this study examined the potential of the Borana's indigenous institution (Gadaa institution) and practices in relation to water sources management, rationing/allocation and tenure rights systems that the people used to address their needs, development and environmental resources conservation.

1.2 Problem Description

Water is one of the world's most precious natural resources that human beings and other life forms rely on. Humans' water supply demand for domestic use and economic production is basically important for human development (UNDP 2006). Some say access to water for basic human needs is a fundamental human right. However, most of the people in the dry and semi-dry regions of the world have difficulty of getting access to this natural resource. Its unavailability and deficit undermine economic development, negatively affect health, and trap families in the cycle of poverty. The quantity and quality of water available for human-consumption and economic development is not something undependable. Getting reliable water sources in developing countries is very time consuming and expensive. Studies show that every day many women and young girls travel distant to collect water for their families, which in turn has ill impacts in the millennium development goals: in gender, health, economic and education arenas. According to the fourth assessment report of the intergovernmental panel on climate change (AR4 IPCC 2007), the negative effect of global warming is already manifested in the Africa in the form of scarce water supply but high demand. The report estimated as the land-based water sources in many countries in the continent will exceed their limits before 2025. Further, the report projected that 75-250 million African populations could be exposed to water shortage by 2020. Water scarcity affects not only the human societies but also animals and other living organisms. For instance, in 2006, the prolonged drought lost about 70% of the Horn of African pastoralists' livestock (Milmo 2006; cited by Temesgen 2010).

In the Borana context, water has predominant roles in all spheres of their lives. Its scarcity is alarmingly increasing. Together with economic and socio-political factors, the environmental degradation and harsh climate condition have aggravated the shortage of water in the region. According to the Central Statistical Agency of Ethiopia (2007), the Borana population has increased from 300, 000 in the 1980s to about a million in 2007. This implies that the increased human population generated an enhancement in cattle breeding, which in turn accelerated pressure on natural resources, water and pasture. As Edossa (2005) and Emiru (2010) stated, rainfall, temporary ponds and rivers are the provisional water sources for the Borana during non-dry seasons. But less rainfall and prolonged drought have resulted in a reduced amount of precipitation and soil moisture in the region. The recorded data on the trends of rainfall in the zone shows that the precipitation in the area has firmly declined for the last fifty years (ibid).

When rain comes early and/or stops late, the Lake Shala in Ethiopia shrinks and the lake Paradise in North Kenya runs dry; the lives of the pastoral community and their animals are exposed to troubles (Temesgen 2010). When the natural water resources retreat, the Borana pastoralists migrate along with their thousands of livestock to the traditionally developed wells or riverbeds. However, on the way to search for water, weak animals die out earlier and are sometimes sold prior to death to grasp a few incomes. These conditions reduce the number of the assets, cattle. As a result, humanitarian crisis (lack of pasture, water and cattle became weak), less saving and immediate assistances needs have started to emerge (ibid). Albeit the region has been repetitively affected by inadequate water supply, the Borana had not been accustomed to external humanitarian aid for many years. Rather, their cultural social security system in which anyone in their clan suffering from drought or other natural calamity would be assisted for a while (Taye 2002; cited by Temesgen 2010). Yet, the pastoral community still remembers the first time when a foreign aid was offered by the Norwegian Church Aid during harsh climate calamity (ibid).

Wells are the permanent water supply sources for the Borana pastoral group. Amid harsh climate conditions, the community used to rely on their wells, which were developed by indigenous knowledge and managed by traditional institutions, principles and social structure. As the land is highly drought-prone, their livelihoods are extremely vulnerable to environmental changes. Nowadays, their customary safety nets are also affected by the climate change and other limiting factors. Traditionally, the Borana deal with the inconsistency of natural resources through a complex natural resource management system. For instance, wells are strongly guided by the rules and principles of customary institution that is designed for this resource management and conflict resolution (www.cgiar.org no date). The Gadaa system is an egalitarian, indigenous and multi-headed governance institution of the Oromo people (Legesse 2001). It is an age-grade social organization that goes after one another every eight year with economic, political, social, cultural, spiritual and judicial responsibilities. Although it is either weakened or disappeared in many parts of the Oromia region, empirical evidence illustrates that the Gadaa institution is presently functioning in the Borana society. Based on the rules and principles of this institution, the Borana have devised the customary laws, called “*Aadaa seeraa Boran*” (the Borana customary laws) for sustainable natural resources use, governance, rationing, allocation and responsibility arrangement (Dupret no date and Legesse 2001). This customary law maintains peace and tranquility within every Borana clan and with neighboring fellow pastoral groups by granting access to the water sources (both *temporary and permanent*) and pasture (Wario 2006; cited by Temesgen 2010).

According to Durkheim’s legacy, law is a social phenomenon, and any society can possess plural interacting legal systems. Malinowski, et al. (no date) also acknowledged that in a society law has a function of maintaining social order that is performed by social institution, cited by Dupret (no date). In the Borana context, there is an indigenous legal form through which the group maintains social order which is constructed by traditional institutions and social organization. This customary law has the function of maintaining social principles, norms, order and rules which are performed by the institution, known as Gadaa (Temesgenn 2010). Cultural anthropologists state that laws have pluralistic forms of existences in any society in relation to

social, economic, institutional or other defined spheres. As Malinowski (1926) stated, before the introduction of the modern (European) laws to the Africa and Asia, tribal peoples and village communities of the regions had used indigenous laws to maintain social order-social pressure, social control, customs, values, norms, and judiciary procedures; cited by Merry (1988). The same source further stated that before colonization these indigenous peoples had gradually developed customary laws, on which the statutory laws were later imposed by the colonialists.

The Borana people are one of the societies who possess customary laws and institutions that have enabled them to reliably use the scarce water sources during unfavorable climate conditions. The society has traditional water harvesting knowledge, rationing practice, property right, task division and social organization that have served for centuries. Nowadays, plural natural resources management laws and property right forms exist in the Borana. On one hand, the pastoral group possesses indigenous natural resources management institution with comprehensible property right and responsibility arrangements, which had helped them relay on the wells for years (Emiru 2010). According to the Borana natural resources tenure system, under the spirit of common property right, the permanent water sources (wells) are privately owned by clans, to which every member of the clan has obligation to contribute labor, has access right and control over; whereas, the temporary (wet-season) water sources are open-access to every member of the pastoral communities nearby, regardless of clan membership (Coppock 1994; Emiru 2010). Nevertheless, conflicts among diverse pastoral groups in the region have been frequently occurring during a prolonged drought. As result, Borana have devised a traditional conflict resolution system through which they used to maintain peace (ibid). On the other hand, there are modern laws by which the Ethiopian governments have been regulating the management and allocation of the natural resources in the region. The statutory laws are different in type and structure from conventional laws in the sense that the states' policies changed the communal property right form of the community to the public type (Coppock 1994; Watson 2001). None of the successive Ethiopian regimes has recognized the customary principles of pastoral groups. Instead, the community is legally dispossessed of its land, as new settlement programs, land allocation policy and administration structures are introduced to the region (ibid). The governments imposed a developmental policy without any consideration of the traditional rules, norms and practices that the indigenous peoples devised for natural resource and livestock. As the result, the interference policies have never attained the desired goal, development and sustainable water provision to the region. Rather, conflicts among different pastoral groups have been emerged and environmental degradation is exacerbated (Coppock 1994; Watson 2001).

Furthermore, in 20th C, the statutory laws imposed by colonizers on the indigenous people were in favor of industrial capitalism rather than the pastoral way of life which virtually follow different principles, norms and customs (Malinowski 1926; cited by Merry 1998). When we see the case of the Borana people, political changes in the country (they can be changes in regimes or investment policies) have negatively influenced the customary water governance system and property rights arrangement of the pastoralists (Edossa, et al. 2005). Eventually, the intervention policy led to conflict on natural resources among the sub-clans, newcomers and other ethnic groups. In this case, individuals have legal alternatives between customary law and statutory

law regarding access to, control over and tenure right (Edossa, et al. 2005). In relation to resources allocation, responsibility arrangement and governance of natural resources, indigenous peoples prefer customary laws and institutions to the introduced ones (ibid).

In general, these imply that presently multiple legal systems in natural resources management and tenure rights arrangements exist in the Borana society. Scholars termed the existence of multiple forms of laws in a given society as 'legal pluralism'. Legal pluralism deals with interdependent diverse legal forms (official and customary) that do exist in a society (Merry 1988). Legal pluralism focuses not only on the state form of governance but also different social order, laws, arrangement and institutions that a society possesses (ibid). The indigenous natural resources management system of the Borana is also influenced by the introduced technologies and other stakeholders like NGOs, private investors, international institutions, immigration of non-Borana ethnic groups and etc. Hence, the concepts legal pluralism and property rights are helpful to study the indigenous knowledge, practice, and institution that the Borana people have devised to adapt to adverse environmental change, scarce natural resources, socio-economic and demographic limiting factors for development. More on the relevance of the two concepts, legal pluralism and property rights, is elaborated in chapter 2.

1.3 Research Objective

Climate change is already happening and has the potential in the arid and semi-arid land of the Borana to aggravate water scarcity and deteriorate livelihoods. Wells have been the permanent water sources for the pastoral group amid diverse climatic condition on which human and livestock population rely.

Thus, the objective of this study is to be able to explore the ways in which the Borana people have adjusted themselves and their livestock to a scarce water source by analyzing its indigenous water sources management institutions, harvest knowledge and property rights arrangements. It also aims to analyze the relevance and the reliability of the multiple resources management laws and property rights forms for a sustainable resource use and conflict resolution during adverse conditions. Besides, it describes the socio-economic, demographic and environmental factors that put pressures on these systems.

1.4 Research Questions

To achieve the planned goal, the following research questions are set:

The main research question: what are the indigenous institutions, knowledge and practices of the Borana people for sustainable water use? What are the diverse management systems existing for equitable distribution of access to water sources amid worsening climate condition?

Sub-research questions:

- What are the major socio-environmental limiting factors that influence the economic development of the Borana pastoral communities?
- How do the Borana people traditionally adjust themselves to a scarce water source during unfavorable climate conditions? What are the conventional sources of water for the pastoral group? What are the existing legal forms in the governance and property rights arrangements for water sources?
- What are the alternative water sources and legal systems for a reliable water use in future for the Borana pastoralists?

1.5 Research Methodology and Design

Due to multiple constraints the researcher was unable to collect primary data from the field. Instead, desk research methodology has been used for the study. Hence, secondary data are utilized in the research. Literatures and websites are the main sources of information for the study.

1.6 Reading Guide

The theories used in this study, legal pluralism and property right, are explicitly elaborated in chapter 2. Chapter 3 gives the concise info on the Horn of African nations in general, and Ethiopia and the Oromo people in particular. Of course, the chapter also comprises the description of social organization and indigenous institution of the Oromo people as a whole and the difficult relationships between the Ethiopian regimes and the Oromo ethnic group in brief.

Chapter 4 zooms in on the social structure and indigenous institution of the study arena, the Borana pastoralist (one of the Oromo clans). Chapter 5 closely takes a look at the existing statutory and indigenous natural resources management and property right arrangement systems in the Borana region. The analysis of the study and conclusion are presented in chapter 6 and 7 respectively.

Chapter 2: Conceptual Framework

In this study, two important concepts are utilized: legal pluralism and property rights. The first part of this chapter elaborates the implication of the existences of the multiple legal forms in the context of natural resources management arenas, whereas the second section considers the existing property rights arrangements in the zone.

Legal pluralism reshapes the natural resources management system; property rights claims, and conflict resolution mechanisms through negotiations among diverse parties in a given pastoral society (Meinzen-Dick and Pradhan 2006). Political changes (changes in regimes or investment policies) would reform a management system and affect decision making in natural resources allocation mechanism of a society. None of the Ethiopian regimes has secured the customary knowledge and practices of the Borana people (Helland 200; cited by Temesgen 2010 and Bassi 2007). In contrary, the statutory laws transferred the communally owned pastoral lands to the hands of the government, non-Borana immigrants, investors, and as the result bred conflicts among different groups (Hagmann and Mulugeta 2008; cited by Temesgen 2010). Moreover, as Mesfin (2000); Helland (2000); Hagmann and Mulugeta (2000) stated, the land and developmental policies of the successive Ethiopian governments have weakened the indigenous natural resources management institutions, knowledge and practices of the pastoral communities, and eventually exacerbated environmental change, cited by Temesgen (2010). These are the reasons why the two conceptual frameworks are used and how they are relevant for this study.

2.1 Legal Pluralism and Resources Management

Intellectuals in the field have defined the concept legal pluralism as the multiplicity forms of law existent in any social arena. Studies also indicate that in a situation in which plural legal forms exist, there is a way in which state laws penetrate and restructure the normative laws, and at the same time there is a means in which the non-state normative orders repel and avoid the attempt by state laws. Multiple legal systems exist when countries or societies have two or more sources of laws in their legal forms that have been devised over time from a colonial heritage, religion and/ or deep rooted socio-cultural elements (Adejumo no date). According to the same source, though it is not widely common in the western world, plural legal systems are prevalent in the hitherto colonized countries. For instance, an African country could have different laws: a customary law that relates to a cultural heritage of its indigenous society, a common law that was introduced by colonial power, a statutory law that mostly developed after independence, and religious legal forms. Albeit plural legal systems seem as a rational, non-discriminatory and reflection of history, culture and development of a nation or society, significant problems that are detrimental to development are observed in the continent (ibid). A society is legally plural in the sense that the relationships between society and laws have plural forms. An existence of plural legal orders could have cultural dimensions that associate with a given social order, institutions or norms of a society (Link 2000). Tribal communities and indigenous people have managed to maintain their social order, social pressure and environmental limits through multiples of

indigenous knowledge, cultures and institutions (Merry 1988). Alongside these non-state legal forms, the peoples have also exercised state laws (statutory legal system) in every sphere of their lives (ibid). Scholars state that over a long period of time, such legal differences inclined to break down and individuals could prefer to take their legal claims to the system that they believed could offer them the best advantage.

Furthermore, multiple laws or norms befall in various environments. For instance, where: diverse family laws apply to a particular ethno-cultural group, indigenous conflict resolution systems apply without government consent, non-state legal orders (like courts) are formally sanctioned, and /or quasi-legal orders (such as alternative dispute resolution mechanisms) are established (International Council on Human Rights Policy 2009).

An environment provides essential goods and services to human beings. A long-term maintenance of human consumption of natural resources is predominantly important for humans' sustainability. In semi-arid areas, like the Borana land, the scarcity of natural resources-water and pastureland, is the major limiting factor in socio-economic, environmental, cultural and political arenas mainly during harsh climate conditions. The Borana people have indigenous normative natural resources governance system that helped them adapt to the awful conditions without any external aid for many years. Sustainability explicitly interlinks with social, cultural, environmental and economic issues of humans. The patterns of using a scarce natural resources require a robust management and protection for present and upcoming generations. The most quoted definition of sustainable development is that of World Commission on Environment and Development called "our common future" of the Brundtland report. According to Brundtland (1987), sustainable development is fulfilling the needs of the present without compromising the ability of the future generation to meet up their demands. Development consists of two impression, need and inadequacy of the environmental resources (www.iisd.com no date). Culture has considerable inputs to economic development and help individual and communities enhance their life style and adapt to changes (UNESCO2005). The Borana rely on their culture-indigenous water harvesting knowledge, rationing practice, task division, social structure and governance institution that has enabled them reliably use the natural resource (Coppock 1994; emiru 2010).

Leach et al.(1999:226) broadly defined natural resource management institution as "the structures and practices that influence who has access to and control over what resources, and arbitrate contested resource claims", cited by Watson (2003, p.289). According to Watson (2003), indigenous institutions include conventional knowledge, organizations, customary rules, and practices, which every one of these needs to be signified by policy-makers as an important asset for development process. In the past, traditional practices and indigenous knowledge were seen as backward but nowadays it is considered as a means to minimize risk, sustainable development and adapt to environmental problems (Chambers, 1983, 1997; Reij, et al. 1996; Richards, 1985; cited by Waston2003).

According to Boef et al. (1993), indigenous practices and customary rules are the accumulations of experiences for many years and adaptive in nature. For example, customary laws, traditional

natural resource tenure rights and management are considered as flexible and negotiable in the societies vulnerable to a scarcity (Bruce and Migot-Adholla, 1994; Delville, 2000; cited by Watson 2003). In addition, Warren et al. (1995) stated that indigenous organizations are considered as a ready-made power structure that helps groups of human societies to: organize themselves, take decisions, implement regulation and settle conflicts on natural resources, cited by (Watson 2003).

According to Merry (1988), “legal pluralism” deals with different legal systems that are characterized by mutual influences and interdependence between official legal system and customary rules, norms and practices regulated by institutions of a nation or society. Hence, legal pluralism focuses on other than only the state forms of governances situated in a social organization (arrangement) and institution (ibid). From environmental (natural resources) and cultural perspectives, the Borana people are one of the societies who possess these social capitals. According to Durkheim’s legacy, within a society there can be many interrelating legal systems. In the Borana too, plural legal forms, the customary and statutory laws exist. The society has an indigenous water harvesting knowledge, task division, rationing practice and natural resources management institution that have been preserved for centuries (Emiru 2010 and Bassi 2007). Besides, nowadays, state-policies and institutions also have significant interferences in the natural resources regulation system (Temesgen 2010).

Despite the fact that the socio-economic, spiritual, environmental and political affairs of the Borana society are predominantly guided by cultural norms, practices, values and principles, studies point out that the customary natural resources management and resource allocation system of the society are negatively influenced by the imposed policies. The Borana are an egalitarian society where open discussions and decisions in natural resource management arenas are made at both micro-levels (individual, household, kinship, community) and macro-level (Abbaa Gadaa and its councils, zone) (Bassi 2007 and Coppock 1994). This is further elaborated in chapter 5. The indigenous natural resources management institutions of the community promote participatory approach in a way that every clan member has responsibility to contribute in the management activities, decision making, and get the rights to own and access the natural resources (Basi 2007 and Coppock 1994). Traditionally, every family member considers land, forests and water sources as their common goods, feels accountability to protect and use in a responsible ways. It is very common to hear the plural possessive forms like “ours or our” in their daily communications. They always say our cows, our house, our grass, our well, our land, our forests, and so on. The social norms and values shared among the community members also promote cooperation and trust in all their daily lives activities. This implies that the Borana’s social capital can be considered as an asset for sustainable natural resources use or management.

Legal anthropologists state as multiple legal orders endorse alternative property rights. In other words, in maintaining tenure right there is co-existence of multiple legal forms. But the co-existence does not necessarily indicate that all laws are equally powerful (Meinzen-Dick and Pradhan 2006). Despite the fact that traditionally the Borana used to control natural resources by indigenous principles, social organizations and institutions, studies indicate that nowadays

plural legal forms also exist in the region. The successive governments have imposed resource regulation laws and institutions that are basically different from the customary ones in type and structures. This implies that individuals have alternatives to follow any one of these legal frameworks in incase of conflict. However, the customary governance form is more accepted by the indigenous society than the statutory ones (Temesgen 2010 and Edossa et al. 2007). Traditionally, the Borana pastoralists have three parts of water management bodies: Konfi (the founder of the well), the wells council (which has full authority on the management of the wells) and Abbaa Herregaa (daily supervisor) (Aredo and Ame no date). The roles of these management bodies are also explained in chapter 4.

The development of human society has socio-economic, environmental, political and cultural dimensions that necessitate attention to be more reliable for humans' benefit (Bossel 1999). As water tenure-right associates with all these arenas, the issue of water is a subject matter for everyday debates in the most part of the globe (ibid).

2.2 Property Rights

Claiming access and property rights over natural resources have a direct connection to exercising power and authority of institutions, in the sense that the course of looking for authorization over natural resources has an authority legitimizing effect on politico-legal institutions of a society or state (Sikor and Lund 2009). According to the same source, in societies that characterized by normative and plural legal forms, the transmutation of natural resources and cultural values by political forces have resulted in cleft and conflict among diverse stakeholders in several countries. "Property is property if socially legitimate institutions sanction it, and politico-legal institutions are only effectively legitimized if their interpretation of social norms (in this case property rights) is heeded" (Lund 2002; cited by Sikor and Lund 2009, p.1). Whether legally accepted or not a property right is a wider image of an access to natural resource or an advantages obtained from it. Though not all forms of access to resources are assured by politico-legal institutions, they have important roles in the lives of a society (ibid). Von Benda-Beckmann et al. (no date) stated that property relates to the organization and legitimization of rights and responsibilities with respect to goods that are considered as valuable. Property rights structure a system in which a resource can be attained, used and reassigned, and is a key to all political economies but it cannot be reduced to the economic. Property can be inherited and constitutes the identity off an individual or group. Segal and Whinston (2010) stated that whether it is an organization, a society or a government, each faces with two main interrelated problems within itself: the ability to create incentives for efficient behavior among its members and effective distribution of the available to and \or produced goods. One of the measures to deal with these problems is by allocating decision rights to the members. Property right is one of the measures to deal with such issue. According to these authors, tenure rights offer owners the rights to use and profit the goods; the rights to exclude others from the assets, and the freedom to transfer the rights to others. In general, they defined property rights over resources "as a bundle of decision rights involving the asset (entitlements), which provide the rights to take certain actions (rights of access) and to prevent others from taking certain actions (exclusion), including the right to take the profit generated by use of the

asset and prevent others from doing so” (p.2). Further, the Harris Consultancy (2003) stated as tenure rights can be emerge from customs or tradition, law and use, whereas a state defined and enforced water property rights can be used as a starting point to analyze rights in water. In this study, the concept of property rights is used in the context of indigenous resources allocation (access) system in association with a statutory policy in the framework of social, environmental and economic perspective rather than pure legal term granting natural resources ownership.

Commonly, there are four types of tenure rights: private, common, public and open-access, whereby the characteristic and ability to control over and access to the resources vary accordingly. The Harris Consulting group (2003) acknowledged the characteristics of these property rights as follows:

- Private-the individual owner has the right to access and management of the resources;
- Common-is owned by group in which access right and management activities are of the group;
- Public-is owned by state. Resource allocation and management responsibilities are in the hand of a government; and
- Open-access-the resource is owned by no-one, uncontrolled access and nobody is in charge of management.

Based on Scott (1988), Guerin (2002) explained the characteristics of property rights as the following, cited by Harris Consulting (2003):

- Divisibility- the capability to create joint possession, to share the property spatially or function, to create sequential succession of rights;
- Exclusivity-excludability, specificity, number of stakeholders or actors agreed on;
- Transferability-assignability, tradability, exchangeability;
- Flexibility-the degree to which the owner can change the style or purpose of the property without losing the rights;
- Quality of title-enforceability, security for the future, certainty and easy of creating ownership; and
- Duration-permanence, length and provisions for renew.

The above mentioned characteristics of property rights over assets are neither completely independent nor exclusive, rather the values of all categories increase when the duration enhances (Scott 1988; cited by Harris Consultancy 2003). According to Harris Consultancy, the purpose of property rights system is to maximize incentives of the owners to make best use the resource in the long period of time plus increases owners' efficiency to give decision. The incentives are maximized when rights: exist infinitively; are flexible, certain, secure, easily transferable, and when others are totally excludable to make use of the rights (ibid).

One of the basic principles of the theory of common property rights is that private property rights work out to conserve natural resources. However, evidences indicate that when externalities exist, this form of tenure rights could lead to over utilization of common goods (Acheson 2000). For instance, as the same source stated, there is growing evidence that large forest areas in Maine are getting diminished because of over exploitation by private land owners, paper companies and forest contractors, who are highly motivated by short-term benefits from cutting the trees. Hence, private property rights alone will not be sufficient to conserve natural resources (ibid). In the Borana context property ownership system is by large clan affiliated depending on the nature of the resource. Aiming to better manage pastoralism and increase productivity, Ethiopian states have dictated new developmental policies and land tenure rights systems to the region. The introduced natural resources management policies favored agricultural expansion while the tenure rights policy forced to change the common land of the pastoral group under the public property rights form. One of the reasons behind “this property rights policy was misunderstanding the Tragedy of commons Theory proposed by Hardin” (Tache and Irwin 2003, p.11).

Traditionally, the Borana natural resources tenure rights systems have both open-access and common forms. The short-term water sources (wet-season water) are open-access in nature and everybody has a right to water his cattle regardless of clan and ethnicity. But in the case of the permanent water sources (wells), grass and forests, no man or family could claim an exclusive right over the natural resources because the goods are collectively owned by clans to which customary management and access rules apply (Bassi 2007). The property rights over natural resources are complex and their relationships are flexible. Borana possess cultural based social institution that endorses an equitable water rationing practice based on labor contributions of every clan member. Studies pointed out that the existing wells in the region have served as the reliable water sources during harsh climatic conditions for years. The wells are excavated traditionally knowledge and are common properties of the clans who dug them. Yet, there is also a traditional system in which a watering request from outside a clan is managed accordingly (Watson 2003). The amount of water available in tulas (wells) during dry season determines the watering request by non-clan members. Alike other arid and semi-arid pastoral communities in Africa, the Borana are also experienced with a variety of governance systems regarding sharing natural resources during hardships as an alternative to some rules that exclude others during normal climatic conditions (Meinzen-Dick and Pradhan 2006). The same source further states that the Borana water property rights system highly associates with pastureland, livelihood, religion, and identity-through lineage ownership. Contrary to this, a governmentally defined natural resource tenure rights form also exists in the area. The statutory policy has changed the commonly owned natural resources to the public form. This is due to the lack of understanding the pastoral ways of life that basically depend *on clan based property rights form under the sprite of common property* (Dida 2008; cited by Temesgen 2010). Subsequently, inter and intra-ethnic group conflicts have been occurring. However, the Borana deal with such kind of conflicts through traditional dispute resolutions mechanism (negotiation) according the Aadaa Seeraa Borana (the Borana customary laws).

Therefore, the two conceptual frameworks workout for this study because exploring how the competition for the fundamental natural resources (water and pasture) in the Borana pastoralists is organized and structured requites understanding how the customary and statutory legal forms are exercised; how groups of haves and have-nots are through; how resources are distributed, and how governance and property rights legitimization, inclusion, exclusion and dispute resolution mechanisms are arranged by the indigenous and state institutions. Firstly, the study utilized the concept of legal pluralism because it is found helpful in understanding the existing multiple legal forms (customary and statutory laws) in the governance of natural resources. The complex indigenous water management institutions, harvesting knowledge, rationing practice and responsibility arrangement systems devised by the Borana communities are vivid in the society. The concept also helped study the social, economic and environmental factors that affect the customary management form and the correlations between the traditional and governmental legal systems that exist in the Borana. Further, the concept enabled to distinguish the alternative water resources and legal system for robust water availability in the area. Secondly, the property rights conceptual framework is applied in the research so as to know the existing property rights forms. Through its indigenous property rights arrangement the Borana used to adapt to scarce water sources. There are state regulated property rights policies and institutions in the region as well. Besides, it helped study the correlation between the statutory and customary property rights systems in the context of development and environmental resources management for reliable use. Furthermore, the concepts helped explore how power and authority are sanctioned by the societies and institutions (customary and politico-legal).

Chapter 3: General Overview of the Horn of Africa and the Ethiopia-Oromo Relationships

In this chapter, an overview of the Horn in general and the relationships between the Oromo and the Ethiopia in particular are portrayed. The geographic location and ecological similarities between the countries in the region are briefly presented. Besides, to be able to zoom in to the study theme, the interactions between the Oromo people and the Ethiopian empire in the geographical, demographic, economic, political and cultural arenas are briefly discussed.

3.1 The Horn of Africa

The Horn of Africa is the region of eastern Africa located between the Indian Ocean and Gulf of Aden. The section is inhabited by Ethiopia, Eritrea, Somalia and Djibouti. The term sometimes comprises Sudan and other adjacent nations. The Horn is situated between the equator and the Tropic of Cancer. The region lies in the Great Rift Valley. Despite the fact that the section is near to the equator and consists of many mountains, it is mostly characterized as semi-arid and arid climatic conditions. As result of less moisture in the atmosphere, the region often gets low rainfall during the monsoon season. Consequently, low agricultural production and drought are the recurrently occurring phenomena in the region (Anyango 1997). For instance, in the year 2011 about 12 million population of the sub-region are at the risk of drought led hunger (www.guardian.co.uk 2011; Oxfam international 2011). The Horn of Africa also consists of one of the hottest places (the Red Sea) in the world. According to archaeologists, the horn is the place where the oldest remains of human ancestor (Lucy) were discovered, in the Ethiopian Awash valley.

In addition, the peoples of the nations in the Horn have linguistic, cultural and ethnic interconnections. The most belonging to the Afro-asiatic family languages (the Oromo, Somali, Saho and Afar) are spoken in Ethiopia, Somalia, Djibouti and Eritrea. The Semitic languages, Amharic and Tigrigna are spoken in Ethiopia and Eritrea. Other linguistic groups like, Nilo-Saharan, Kunama and Nara are also spoken in the region (www.asnwars.com 2011). It can be considered as the region has contribution to the ancient and modern achievements, like agriculture, art, music, education, literature, cuisine, and technology (ibid). For instance, coffee Arabica and Teff (type of cereal crop) originate from the Horn. Particularly coffee is from the Oromo region, Ethiopia. Economically, the states of the Horn of Africa depend on agriculture. Coffee is the major export good for Ethiopia (www.sitesatlas.com 2008). Livestock production is another source of income for the states and populations of the region. Nowadays, the Horn is suffering from drought. Climate change, marginalization, conflict and lack of investment have exacerbated the impacts of the current drought in the sub-region (Oxfam international 2011). Population growth in the region also aggravates the catastrophe and the pressure on natural resources.

3.2 The Country's Profile: Ethiopia

Ethiopia is located in the sub-Saharan region of Africa and adjacent to Somalia, Eritrea, Djibouti, Kenya, North Sudan and South Sudan. The country is a federal republic consisting of nine regional governments: Oromia, Amara, Somali, Gambela, Tigray, Benshangul-Gumuz, Afar, Harari; and South People Nations, Nationalities and Peoples Region (SNNPR) plus the two chartered cities-Addis Ababa and Diredawa (Ethiopian Government Portal 2011). The country is the ninth largest nation from the continent with a total area of about 1.1 million km² (ibid).

3.2.1 Physical Features

Ethiopia is the home to many big rivers. For instance, Blue Nile (Aby), Awash, Baro, Gibe, Genale, WabeShebele, Omo and Tekeze are some of the major ones. Topographically, the nation can be considered as high plateau ranging from 100 meters below sea level in the Dankal or Dallol Depression of Afar in the East to 400 meters above sea level in the North Mountains (Ethiopian government portal 2011). The same evidence states that the Bale Mountains and the Ras-Dashen Mountain are the highest peaks from the South and North angles respectively. The Great Rift Valley divides the eastern and the northern mountains and extends to wards the low eastern and southern parts of the country. The climate in Ethiopia differs from place to place based on the topography. It is hot in the eastern (Afar and Somalia regions) and southwest (Gambela) borders, whereas cold in the North and the South high mountains. While the central and western plateaus mostly get high annual rainfalls, the northern part receives less precipitation. Based on altitude the Ethiopian climate is categorized into four (ibid):

- Cool-cold temperature-the average annual temperature is 10°C-16°C. The altitude is more than 2,500m above sea level;
- Warm-cool temperature-average annual temperature is 16°C-20°C. The altitude is 1,500-2,500m above sea level;
- Warm-hot temperature-average annual temperature is 20°C-30°C, the altitude ranges between 500 and 1,500m above sea level; and
- Hot-arid climate-average annual temperature more than 30°C. The topography covers desert lowland areas below 500m above sea level.

3.2.2 The Peoples, Culture and Languages

According to the Ethiopian government portal (2011), the nation comprises of more than 80 ethnic groups with language and cultural differences. Numerical figures from the government website indicate that the Ethiopian population is about 80 million, of which 66.8 million people inhabit the rural areas. The Oromo are the single largest ethnic group in the country constituting more than 35% of the total population (Ethiopian Government Portal 2011; the National regional Government of Oromia portal no date). As Melbaa (1988) explained, the Oromo land stretches from the North (Wollo) to the South (Borana) and from the East (Hararge) to the West (Walaga)

and south west (Ilubabora) parts of Ethiopia. The Amhara are the second largest ethnic group occupying in the Northern part of the country, in Gojjam, Gonder and some parts of the Shoa and Wollo (Ethiopian Government Portal 2011). This portal further states that the Tigre people reside in the North part (Tigray region) but the Somali, Afar, Harari, and Argoba peoples live in the eastern part of the nation. The Nilo-Saharan ethnic group peoples occupy the western side of the country.

It is possible for strangers to observe great ethnic differences based on their cultures and languages in Ethiopia. Linguistically, the country has four major language families which altogether encompass about 80 different languages (Ethiopian Government Portal 2011):

- The Semitic languages: Have relations with the Hebrew and Arabic languages. It is spoken mainly in the northern part by Tigray (Tigre) and Amara people, in the South by Gurage people and East by Harari. This language is derived from the Ge'ez, which was used by ancient Axumite kingdom but is currently limited in the Orthodox Church;
- The Cushitic languages: This family constitutes the widest language in the country. It is spoken by the Oromo (largely), Afar, Somali, Sidama, Saho and Agawu in Ethiopia; Eritrea, Somalia, Djibouti and Kenya;
- The Omotic languages: comparatively represents fewer speakers than the Cushitic or the Semitic language speakers. It is spoken mainly in the South-West region (Gamo Gofa); and
- The Nilo-Saharan languages: widely spoken in the Sudan frontiers by Nuer, Anuak, Gumuz, Berta and other ethnic groups.

Though Afan Oromo (the Oromo language) is widely spoken in the country, the former successive Ethiopian regimes have consistently endorsed only the Amharic language (the mother tongue for 20% of the population) as a national, educational, media and literature language while de-promoted Afan Oromo and the other languages (Bulcha 1997). However, in the present Ethiopian ruling system each regional state has its own work language. Nowadays, the country has no a national language but only a federal government administrative language (official), which is Amharic (Ethiopian government Portal 2011). Amharic is also the official language for the Amhara region and the capital city, Addis Ababa.

3.2.3 Geographic Features of the Oromo Land

The Oromo people call its country Biyya Oromo (Oromo land) or Oromiyaa (Oromia). Oromia was independent land until it was colonized by the Abyssinians (Amhara and Tigre) in the late 19th C (Melbaa 1988; Oromia online 2011). In addition, Melbaa (1988) stated that the size of Oromia is about 600,000 km² that is located between 2° and 12° N and 34° and 44° E of Africa. The land is bordered in the West by the South and North Sudan, in the South by Kenya, in the East by Djibouti and Somalia, in the North by Amhara and Tigre. The same source claimed that only 17 African countries are larger than Oromia. The following figure indicates the map of Oromia within the Ethiopian empire (the green colour) and the Horn of African countries that have boundaries with Ethiopia/Oromia. The map excludes the land of Oromo people who reside

in the northern Kenya. The map also consists of Ogadenia, Afar; Southern Nations, Nationalities and Peoples (SNNP), Amhara, Tigray, Benshangul and Gambela regional states that make up the current Ethiopian state.

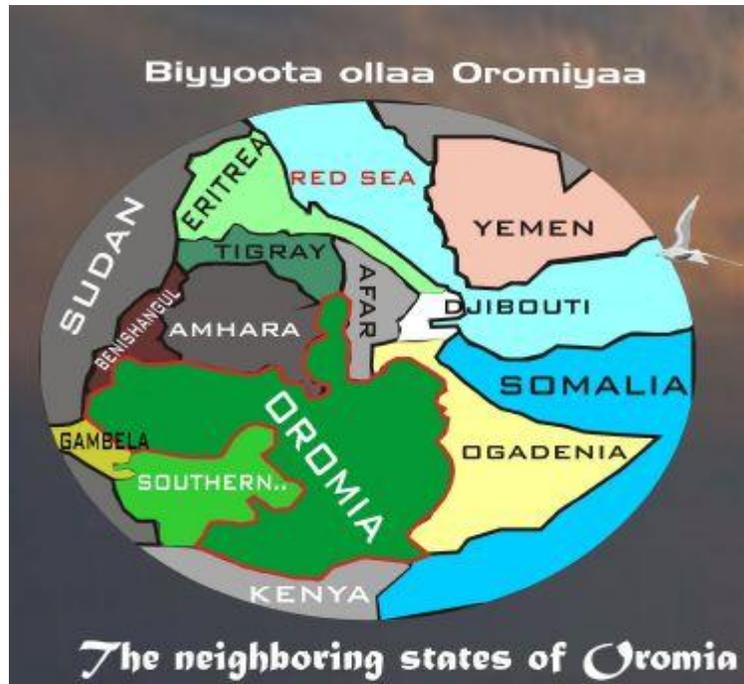


Figure 1: The geographical location of Oromia in the Horn of Africa.

Source: <http://gadaa.com/oduu/2644/2010/02/28/documentary-on-the-roya-azebo-oromo-of-oromias-northernmost-territory/>

Ecologically, Oromia has a varied physical geography that ranges from very high mountains in the centre and North to flat grass-land in the East, South and West parts. Karra (in Arsi zone), Baatu (in Bale zone), Enkelo (in Arsi zone), Mula'ata (in Hararge zone) and Baddaa Roggee (in Shoa) are some of the main mountains found in Oromia. Oromia is also home to many internationally known rivers. For instance, Abbaya (the Blue Nile), Hawas (Awash), Genale, Wabe, Dhidheessa, Gibe and Baaroo are the ones that flow towards the Sudan and Somalia. Oromia is also the source of fresh water for Somalia, Djibouti and Afar. In the region, there are many other rivers that have most important roles in hydroelectric power (Qoqaa, Fince'a, Malka-Wakenna and Gibe dams), irrigation and sugarcane plantations for Ethiopia. Abbaya, Qoqaa, Bishoftu, Langano and Shaalaa are also some of the nation's famous lakes. Likewise the physical geography, Oromia has varied climatic conditions that range from high altitude and vegetation cover with mild climate to arid and semi-arid in the East and South. The West, South and central Oromia are relatively warm and humid. The Baatu and Karra mountains hold snow. About 80% of the population live in the medium altitudes (1800-2500m), this makes favourable climatic condition for agriculture throughout a year (Melbaa 1988).

3.2.4 The Political Setup of the Ethiopian Regime: the Oromo People-Ethiopian State Relationships

It is stated in section 3.2.2 that more than 80 diverse ethnic groups constituted modern Ethiopia, of which the Oromo is the single largest people occupying the widest ecological areas of the country. As Holcomb and Ibssa (1990) and Jalata (1993/2005) confirmed, the contemporary Ethiopia was created in the end of the 19th C by Habesha (Semitic ethnic groups-the Amhara and Tigre) warlords from the North through colonization with technology, military, weapons and administrative assistances from the European powers of the then, more specifically the Britain, France and Italy, cited by Jalata (2008). Further, Bulcha (1997) affirmed that along with the other ethnic groups from the southern part of the country, the Oromo were colonized by the Abyssinians in the last quarter of the 19th century. The boundary of the present Ethiopian empire was carved by the Abyssinian ruler, the so called Menilek II who conquered the southern nations "through treaties signed with the Britain, Italy and France between the year 1897-1907" (Melbaa 1988, P.37; Holcomb and Ibssa 1990; cited by Jalata 2008). Just like the other modern African states, the current Ethiopia is the result of the colonialism by the Abyssinian (Amhara and Tigre) ethno-national groups. As the result, free and independent states and peoples like the Oromo became the object of the Abyssinian invaders. The boundary demarcation made among the Abyssinians and their western collaborators consolidated the Oromo and other peoples into Abyssinia (now called Ethiopia (ibid)). In some literature it is stated as the name Abyssinia and Ethiopia are one and the same, and also interchangeably used. However, as Melbaa (1988 p.33) explained, after self-governing for centuries, the "Abyssinian kingdoms of Tigre, Gojjam, Gondar and Shoa were forcefully united by Emperor Tewodros between 1855 and 1865". Further, Huntingford (1955) stated that it was only after the second half of the 19thC that "the king of Abyssinia occupied the independent Galla (Oromo) and bring them under his control by modern weapons' (cited by Melbaa 1988 p.37) and Bulcha (1997). Hence, through colonization and destructions of various indigenous peoples and institutions, gradually Abyssinia became Ethiopia (ibid). Despite the fact that the real meaning of the name Ethiopia refers to all black peoples, due to history distortion made by Abyssinian's elites and their foreign supporters, the current meaning applies to Amhara and Tigre ethno-nationals (Jalata 1988). As Budge (1928) confirmed, the classical Greek writers, like Homer, Herodotus, Diodorus and others described the term Ethiopia as a vast country inhabited by dark-faced people, cited by Jalata (2008). It is referred by the ancient writers and even stated in the Bible that the name Ethiopia entirely referred to the land of Kush, not Abyssinia. For instance, Houston (1926) illustrated as Ethiopia was a land between the Nile and Abyssinia that extended to ward the lower northern part of Egypt; and the Nubians or Barabra are the indigenous Ethiopians, cited by Melbaa (1988). It is stated in section 3.2.2 that the Semitic peoples include Amhara and Tigre whose land was called Abyssinia. They are commonly called Habesha. The Habesha have duality of Ethiopianism in the sense that because of their Semitic blood relationship with the Hebrew and Arabs, Christianity, and motivation to join western forces; they grasp Euro-American supports, and at the same time because of their blackness they behave as an African for political, cultural and socio-economic missions (Jalata 2008).

The cultural practices and self-governance systems of the conquered nations, like the Oromo and others were forced to be forgotten and replaced by that of the invaders from the North (Melbaa 1988; Jalata 1993 and Bulcha 1997). The political and military elites of the Amhara and Tigre ethnic groups used to prohibit the Oromo to exercise their history, culture, language, politics and socio-development (ibid). In general, the Oromo people have had difficult relationships with the successive Ethiopian regimes. The expansion of the western supported Abyssinian leaders to the current southern part the country for slave and natural resources exploitation reduced the Oromo population by half (from 10 million to 5 million by then) and sustained the suppression of the Oromo people and others in the constituency (Jalata 2008).

As the area of my research focuses on the Oromo ethnic group in general and the Borana pastoralists in particular, an indigenous institution, social structure and economic issues of the ethnic group are illustrated in the next section.

3.3 The Socio-economic and Cultural Profile of the Oromo People

Anthropologically, the Oromo people are one of the Afro-asiatic families who are indigenous to the north-eastern Africa. For example, Bates (1979) and Prouty, et al. (1981) confirmed that the Oromo are the very ancient Cushitic race that lived for many thousand years in the region, cited by Melbaa (1988). The people have many clans (gosa, qomo) who descended from the two major groups or moieties called Borana and Barentu (Legesse 1997 and Melbaa 1988). The former is senior while the latter is junior. Such dichotomy is very common in the Oromo society and applicable in every social and political lives of the ethnic group. Just for the sake of illustration, here are the names of some of the Oromo clans: the Borana, Macha, Tuullama, Wallo, Garrii, Gurraa, Jile, Arsi, Karrayyu, Itu, Ala, Qaloo, Anniyyaa, Gujii, Liban, Sooddo, Galaan, Orma, Akkichuu, and many more (ibid). Despite these clans reside on a wide geographical area that stretched from the South (Borana region) to the North (Wallo) and East to West borders, all share the same language and culture. Linguistically, all Oromo clans have a common language, called Afaan Oromoo (Oromo language). As Gragg (19882) acknowledged, the Afaan Oromoo is one of the most widely spoken from the 1000 indigenous African languages, cited by Melbaa (1988). In terms of the size of the population who speaks Afaan Oromoo, the language ranks third, just after Arabic and Hausa in Africa. It is the single most widely spoken language in the Horn both by the Oromo and non-Oromo groups (Melbaa 1988). Cerulli (1922) stated that neither the Sabeian (Semitic language) nor the Roman's letter fits well the Oromo language, cited by Melbaa (1988). Hence, Oromo Scholars have suited the Latin Alphabets for Oromo language, which is currently officially functioning in the region, Oromia. The nation's culture is expanded from the southern highlands to the current geographical occupations of the ethnic group. For instance, Coppock (1994) assured that the original Oromo culture expanded to the half of the present Ethiopian territory in 1500s from the southern highlands of the Borana plateaus where the historical Oromo holy places are still worshipped by the people.

3.3.1 The Economy

By the 16th C, "Pastoralism was the dominant way of life by which the Oromo people used to determine and regulate the broader social, political and economic relations among itself as well as with neighbours" (Ta'a, no date p.24). In the century, the Oromo were a very itinerant people with vast livestock, the foremost backbone of its socio-economy. The people were survived in the Horn of Africa for centuries on very large territory with ample pasture, water and freedom of movement (ibid). Though crop farming and mixed-agriculture are the dominant livelihood for the majority of the Oromo people, still cattle breeding is the foremost source of income for pastoral communities, like the Borana Oromo. Agricultural sector is a source of an employment for about 85% of the current population and 65% of the gross domestic income of the region (The National Regional Government of Oromia Portal no date). Oromia provides the lion share for the national agricultural export by providing coffee, hides and skins, pulses, oils, cereal crops, flowers and diverse minerals (Melbaa 1988). Oromia is a home for varieties of crops or plants and animals. Its favourable climatic conditions and fertile soil enabled the land suitable for agriculture. For example, cereal crops, fibre crops, root crops, cash crops, pulls, oil crops, fruit trees, spices and many endemic vegetables-like okra and others. The common domestic animals in the region are: cattle, sheep, goats, donkeys, horse, mules and chickens. The people are renowned for cattle husbandry. Hence, pastoral way of life is still the common occupation in arid and semi-arid parts of Oromia (Melbaa 1988). The Oromo farmers have contributed to the world agriculture by introducing the cash crops (coffee and chat-a stimulant plant) (ibid). Coffee Arabica originated from the forests of Oromia in the South-west part, called Kafa and Limmu areas. Oromia is also rich in various types of wild animals like, lion, leopard, rhinoceros, buffalo, giraffe, wild ass, zebra, Columbus monkey and elephants. Nyala, bush-buck and fox are indigenous to the land (Melbaa 1988). Many kinds of fish, Hippopotami, crocodiles and different birds inhabit in the country.

Albeit many forests have been destroyed by the consecutive Ethiopian regimes (for expansion, settlement program, government farm and private mining companies), Oromia still has huge forests that could be used for habitat, timber, myrrh, frankincense and gum Arabic, medicine, conservation of ecosystem service and aesthetic values (Melbaa 1988). The region is also known for its vast natural resources: gold (mainly in Gujii and Walaga zones), platinum, sulphur, iron-ore, silver, salt, natural gas and oil (in Bale and Hararge areas), etc. Further, the same source indicates that there is high potential for geothermal energy and tourist attraction sites in the region. Though ecologically and demographically Oromia has a largest share in Ethiopia, the output productions and productivity in the region are constrained by many factors. For instance, use of traditional farming, lack of modern technology, political problems, population growth, environmental degradation, and climatic change are among the major driving forces. Chapter 4 deals more deeply about these issues.

3.3.2 Indigenous Institutions: Organizational Structure of the Oromo People in the Gadaa System

Likewise any the pastoral groups of East Africa, for instance, the karimojong, Masai, Nuer, Pokot and Samburu, the Oromo also have had well-developed age-based social organizations or institutions by which the social, political, economic, cultural and spiritual practices have been traditionally performed (Scupin and DeCorse 1995; cited by www.golaabayioromomittii.com no date). Before the Abyssinian colonizers conquered Oromia, the Oromo people were culturally homogenous with common lineage and had maintained social, economic, political and legal systems that helped self-govern for centuries based on the indigenous and egalitarian socio-political institution, called Gadaa system (Ta'a no date; Legesse 2000; Melbaa 1988). According to Ta'a (no date), being a unique in form and structure of governance; the Gadaa institution has attracted the attention of quite a number of foreign travellers, historians, anthropologists and other scientific communities. Studies indicate that before the migration of Oromo from the Walabu area (south-east Oromia, in Bale zone) to the current geographical occupation, the Oromo people used to fully self-govern by the Gadaa system. Albeit the Gadaa institution is currently either not well-functioning or disappeared in many parts of the region, still it is operational in the Borana, some central and south-eastern parts of Oromia. The Gadaa system is the mega indigenous institution that had major roles in regulating the social, economic, ecological, cultural, religious and judicial affairs of the entire Oromo society for centuries (Ta'a no date; Edossa, et al.2005). According to the same sources, the Gadaa officials, who hold most political power, are elected for a time period of eight years, after which they have to handover the power to their successors and retire peacefully. In the Gadaa system there are power checks and balances in which no one could permanently holds power or abuses his authority. If a party (ruling Gadaa) fails to defend the territory or national integrity of the society, it can be demolished at very early or the mid-term of its work. Hence, the institution has similar characteristics to "what Engels called 'gentile constitution' of the ancient societies" (Ta'a no date p.24). In the Gadaa system, all men born or adopted by Oromo parents are routinely placed in the ready-made social structure in which everybody has a responsibility (different public services) and positive incentives or privileges. Beginning from the day born, every Oromo man must pass through a series of five age-grades or categories called Gadaa grades in which each age-set has a period of eight years long (Gumii Bilisummaa Oromiyaa 2000; cited by Edossa, et al. 2005; Legesse 2000; Melbaa1988). The institution arranges obligatory tasks for all males that vary according to the age-grade each belongs to (ibid). The table on the next page illustrates the names of the Gadaa grades in the age-limits.

Table 1: The Gadaa grades or stages of development through which a Gadaa class passes.

| Gadaa grades | Age-limit in year |
|------------------------|-------------------|
| Dabballee | 0-8 |
| Foollee/Gaammee xiqqaa | 8-16 |
| Qondaala | 16-24 |
| Kuusaa | 24-32 |
| Raabaa Doorii | 32-40 |
| Gadaa | 40-48 |
| Yuuba I | 48-56 |
| Yuuba II | 56-64 |
| Yuuba III | 64-72 |
| Gadaamojji | 72-80 |
| Jaarsaa | 80+ ages |

Source: Melbaa (1988). P. 11, with slightly improved

It is possible to state that the Gadaa institution has multiple-functions in the sense that it has a unity of integral parts in terms of socio-economic, spiritual and political arenas. As indicated in table 1, the system organizes social order by grouping men into age-based categories and sets tasks, instructions, laws and rules for each category. The Dynamics of the Gadaa system has a constant movement of men through series of the set cycles. The following points are the most important features of the Gadaa system (www.gumii.org no date; Edossa, et al. 2007; Jalata 1998):

- Groups of men pass through series of age-categories, eight years long each period;
- The relationship among people in different grades;
- The rules for behaviour, the rights, and the tasks to be performed by men in every category; and
- The process by which groups or parties move from one age-grade to the next.

As indicated in the table 1, when an Oromo man passes from one social stage (Gadaa grade) to the next, his responsibility also changes along with his age (Edossa, et al. 2005; Legesse 1997/2000). For instance, Melbaa (1988) stated that in the stages of the 3rd (Qondaala), 4th (Kuusaa) and 5th (Raabaa Doorii) the young men learn war tactics, Oromo history, politics, ritual, laws and administration affairs. At the end of the Raabaa Doorii stage or at age of 40, the Gadaa (Luba) system begins and they are ready for leadership or take the position of governance (ibid). There are five Gadaas (parties) in a cycle of 40 years (Melbaa 1988). According to the same source, though the names sometimes slightly vary from one clan or region to another, the following are the five common names of the Gadaa parties, which deal with the socio-economic, political, cultural and environmental issues of the Oromo people:

1. Birmaji,
2. Melba,
3. Muudana,
4. Roobale, and

5. Duuloo

The five Gadaas mentioned above could be considered as the parties who take power every eight years in turn by election. There are many reasons for the decline of the Gadaa form of governance. As Melbaa (1988) stated the invasion of foreign powers (protracted wars with Abyssinians), admittance of new believes and religions, and changes in modes of living within many Oromo communities are some of the major driving forces for the decline of the essential features of the Gadaa system. Among the men in leadership in the Gadaa system, there are divisions of political powers. The following are the Gadaa officials that run the institution (www.Golaabayioromtittii.com no date):

- Abbaa Bokkuu-is carrier of the sceptre holding a position similar to that of a magistrate;
- Abbaa Caffee-is the father of legislative assembly;
- Abbaa Alange-is an attorney general;
- Abbaa Sa'aa-is a ministry of economic affairs;
- Abbaa Seeraa-is a parliamentarian; and
- Abbaa Duulaa-is war leader

According to Gumii Bilisummaa Oromoo (www.Gumii.org no date), Oromo people who are nowadays positioned simply peasant and forced to pay tribute to the Ethiopian government in which they could say nothing, compare the current statutory law which is totally different from that of the Gadaa system. The concept of democracy and participation in statehood system is not new to the Oromo people. In the Gadaa system of governance, officials are changed democratically and peacefully in every eight years through popular elections based on the ability and experiences of the candidates from the five parties mentioned above. In the Gadaa system of governance, political power of the officials is separated from wealth, food never stay in storage while people starve, and there is equality among every member of the society regardless of gender (ibid). Despite the fact that women lack age-based social categories in the Gadaa system, there are conventional ways of classifying them in relation to youth, adulthood and old-age that enable women to enjoy different rights and privileges based on their age-seniority (Bernardi 198; Prins 1953; cited by www.golaabayioromtittii.com no date).

3.4 Conclusion

The Horn of Africa comprises of different countries with a changing climatic condition and more frequent droughts. The region is a home to pastoralists, agro-pastoralists, and traditional agriculturalists. The Horn provides a good case study for indigenous knowledge and practices in scarce natural resources management arenas. Ethiopia is one of the Horn of African countries consisting of more than 80 different ethnic groups that possess its own language and culture. The Oromo people are the single largest ethnic group both in Ethiopia and the Horn. As evidences pointed out, the Oromo were independent nation until the last-quarter of the 19th century, when the European backed Abyssinian war elites conquered the Oromia and the rest southern peoples. The Oromo people make up a significant portion of the population of the Horn. In Ethiopia alone about 40% of the population is Oromo.

Oromia, which is the homeland to the Oromo people, is one of regional states that constitute the current Ethiopian ruling system. The region has huge natural resources. It also has geographical boundaries, cultural and socio-economic interactions with almost all the regional states in Ethiopia and many countries of the Horn. The Oromo people sustain homogenous culture, language, history, lineage and independent geographical location. Oromo language is the third widest spoken language in Africa, just after the Arabic and the Hausa languages. The Oromo people have developed indigenous institutions and social organizations that enabled them to self-govern for years. The Gadaa system is an indigenous institution that regulates social, economic, political, and legislative aspects of the people. Every man born or adopted by the Oromo families is a member of any one of the five Gadaa parties. From the day borne until death all men pass through series of age-grades that has specific duration (eight years each grade) with specific tasks or responsibilities and privileges. A male is responsible for public services, defence, and political works. At age 40 (Gadaa stage) everyone is ready to take the governing roles from a predecessor, peacefully. Albeit the institution is apparently weak and even disappeared in many parts of Oromia, still it has major roles in the social, political, economic, ritual, natural resource management and conflict resolution arenas in the Borana community.

Hence, the next chapter takes a close look at the features of the Gadaa institutions in the case of Borana society in relation to natural resource management and allocation practices. In addition, the indigenous social structures (organizations), the interactions between customary laws and statutory laws, and factors that exacerbate ecological problems in the Borana region are discussed.

Chapter 4: Understanding the Social Structure and Traditional Institution of the Borana Society

The Borana people are one of the Oromo clans with preserved cultural heritages. Many traditional practices and indigenous institutions that vanished in some parts of Oromia are presently functioning in Borana. So as to understand the social, economic, cultural and ecological aspects of the Borana society, this chapter deals with the indigenous institutions, social organizations, the relationship(s) between customary laws and statutory laws, and the foremost factors that limit the economic development of the pastoral group.

4.1 Background

The Borana zone, consisting of thirteen districts, is one of the Oromia zones. It is located in the southern edge of Oromia/Ethiopia . It shares borders with Somali regional state, the Southern Nations, Nationalities and Peoples (SNNP) regional state in Ethiopia, and Kenya. According to the statistics from the Bureau of Finance and Economic Development of the Oromia Regional State (www.oromiabofed.org no date), the Borana zone:

- Covers a total area of 63,939 sq.km and is geologically famous in its oldest rocks;
- Has lowland and highland agro-climatic zones with no very low or very high plateau
- Has largest portion of lowland area (10 districts) with arid and semi-arid climatic conditions, less than 1500m altitude;
- Has plenty mineral deposits;
- 88% of its total area is classified under hot climate condition;
- Has about one million population, where the majority live in rural areas with poor infrastructures and social services.

The Borana people are demographically a major pastoral group residing in the dry lands of the southern Oromia (Edossa et al. 2005). As the evidence from the Bureau of Finance and Economic Development of Oromia indicates, the largest portion of the Borana zone is lowland categorized under arid and semi-arid climatic zones. Hence, pastoralism is a dominant way of live and livestock breeding is the principal source of income for the majority of the community, whereas the people who reside in the highlands are experienced with mixed-agriculture (ibid). The next figure shows the geographical location of the Borana, at the South edge of Ethiopia. The map does not include the territory which the Borana Oromo occupy in the northern Kenya.

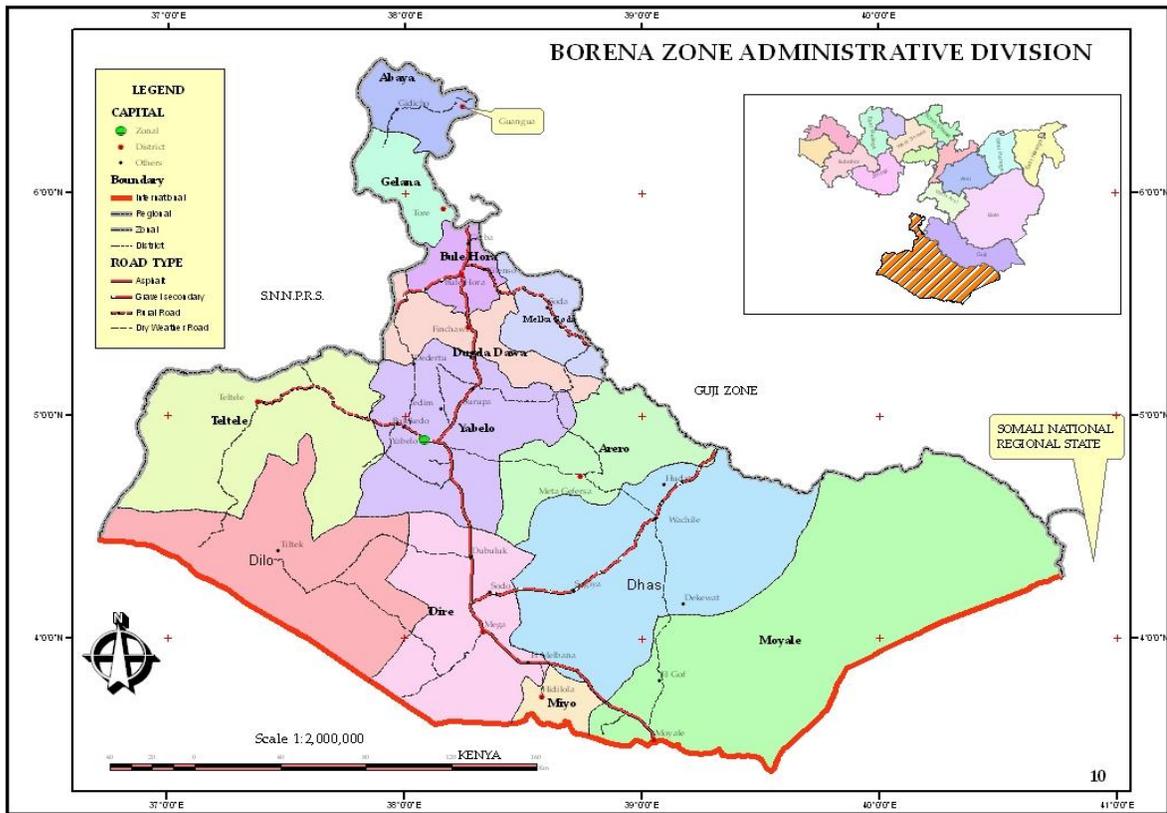


Figure 2: The map of Borana zone with its thirteen administrative districts

Source: Oromia BoFED (2008)

As Amend et al. (no date) illustrate, the customary territory of the Borana corresponds to the southern part of the former Sidamo region of Ethiopia. The distinctive province of the people extends from the confluences of the Gannaalee and Dawa rivers in the East to the Lake Chew Bahir in the West. In northern Kenya too, the Borana dwell in the Moyyale, Marsabit and Isiolo districts (ibid). The Borana have handled to sustain their customary governance system, Gadaa, which is nowadays limited to pastoral issues and Borana internal affairs. Under this governance system a large portion of the Borana territory is conserved by communities (Amend et al. no date).

4.2 Social Organization of the Borana Society within the Gadaa Institution

As stated in chapter 3, the Gadaa system used to play a very important role in the social, economic, political and spiritual lives of the Oromo people. However, slight differences are observed in the ways they practice across Oromia. As of their relative isolation from external influences, the Gadaa institution is still well functioning in Borana. Every public affair of the indigenous people: social, political, economic, ecological and ritual are primarily regulated by the institution (Legesse 1997, 2000; cited by Edossa et al. 2005). Coppock (1994 p.39) affirmed that the Borana social structure includes “two moieties, five sub-moieties, twenty clans and about sixty lineages” that are primarily based on the prototype of male descent. The two moieties (Sabbo and Gona) represent the highest rank of social division; have equal population, and the power relations between the moieties saturate all aspects of collective decision making including natural resource management (Legesse 1973; cited by Coppock 1994).

The public affairs of the Borana people are primarily maintained by the Gadaa institution. Through time the Gadaa system “was able to organize the Oromo social life around a series of generational grades” or age-sets (Edossa et al. 2005, p. 29-6). In the Borana community decisions on the essential social issues are made based on consensus through open discussion and participatory approach under the assembly called “peace of the Boran” that has direct correlation with “the enforcement of traditional social values, rules and norms” or customary laws (Coppock 1994, p.40). According to Coppock (1994), in the division of social rights, responsibilities and control of human reproduction, the Borana society has two types of social structures or peer-groups arrangements for all males: the age-set system called *hiriyyaa* and a generation system called *Gadaa*. Both systems have multiple similar features and interrelated duties. For example, Legesse (1973) stated that members of each grade share series collective economic, political, social, cultural, military and ritual tasks together with the right to pass from one stage to the next with its privileges, cited by Coppock (1994). According this source, men in both categories have the following task divisions:

- Young boys herd stock;
- Younger men act as warriors and livestock herders;
- Adult men qualified for herd ownership and marriage; and
- Older men recommence ritual and political leadership responsibilities.

The Borana have five Gadaas or parties that succeed one another for a position of governance or public services every eight year. As Edossa et al. (2005) and Legesse (2000) explained, the five commonly known Gadaa names are Birmaji, Horata, Bichile, Duuloo and Roobale. According to Melbaa (1988), there are nine Gadaa officials, called Salgan Yaa’ii Borana, which comprises of:

1. Abbaa Bokkuu-president, the chief in command
2. Abbaa Bokkuu-first vice president,

3. Abbaa Bokkuu-second vice president,
4. Abbaa Chaffee-chairman of the assembly ,
5. Abbaa Dubbii-speaker who presents the decision of the presidium to the Assembly,
6. Abbaa seeraa-memorizer of the laws and the results of the Assemblies deliberations,
7. Abbaa Alanaga-judge who executes a decision,
8. Abbaa Duulaa-in charge of army or just as a minister of defence, and
9. Abbaa Sa'aa- in charge of livestock (economy).

Scholars noted that the Gadaa system of the Borana is an age-based social arrangement or class that follow one another every eight years in performing socio-economic, cultural and political duties. The following table illustrates the transformation age system or social structure of the Borana Oromo and the tasks performed in each age-grade.

Table 2: Different Gadaa grades with respective roles in the Borana Oromo

| Stage | Designation | Age-limit | Remarks | Specific Role in Society |
|-------|------------------------------|-----------|---|--|
| 1 | Dabballee | 0-8 | Child is born | Child is born. Would stay with family |
| 2 | Foollee (Gaammee xixiqoo) | 8-16 | Naming ceremony at home or Nura Shrine in Liben if Ilmaan jaarsaa or Ilmaan Kormaa, respectively | Some look after small stock around Ollaas (neighbours) |
| 3 | Qondaala (Gaammee gurguddoo) | 16-24 | Intensification of the 2 nd Stage | Takes livestock further away from Ollaas and begins drawing water from Ellas (wells) |
| 4 | Kuusaa | 24-32 | Politically significant | Luba elects its leader and is named after him. Nucleus of Gadaa leaders (Adula councils) emerge |
| 5 | Raabaa Doorii | 32-40 | This and the Kuusaa grade constitute a period of preparation for the assumption of full authority | Important military wing of the Gadaa system. Conducts raids; protects Borana territory and resources against enemies. Men allowed marrying. |
| 6 | Gadaa (Luba) | 40-48 | Politically the most active | Leadership grade-the most important of all stages; Luba assumes power/office; transition is marked by leadership ceremony; Visit all Borana regions, settle serious disputes and convene assemblies. |
| 7 | Yuba (Yubas) | 48-72 | Retirement stages | Advisory role in the society; they receive a great deal of respect as wise experienced authorities and repositories of law. |
| 8 | Gadaamojji | 72-80 | Marked by rites at different Sites | Senior advisor |
| 9 | Jaarsaa | Above 80 | Stage of old age | At a stage to be cared for |

Source: Melbaa (1988) and Edossa, D. et al. (2005) adopted from the Constantinos (1999) and Workneh (2001) with small changes in the age-limit and stage columns.

In the Borana community authority is given to the elders according to their position in the Gadaa system. As indicated in table 2, those people who are expected in the age-grade of 40-48 (the Luba grade, or Abbaa Gadaa-president of the Gadaa council) are the elders who have authority and are in charge of applying the customary laws to practice (Edossa et al. 2005; Melbaa1988; Legesse 2000; cited by Coppock 1994). According to the same source, Abbaa Gadaa (president) would:

- Settle disputes among different groups due to distribution of natural resources (access to, control over and rationing);
- Fine criminals;
- Protect property;
- Defend the territory;
- Protect the society; and etc.

After eight years in power (40-48), the Luba (Abbaa Gadaa, president) peacefully transfers the power to a successor and automatically enters the next grade and becomes Yuba (advisory). Yuba is considered as an experienced advisory body with great deal of respect and privileges from the society. According to Melbaa (1988), the Borana have three levels of Chaffee (the Oromoo version of parliamentary) assemblies: inter-clan, clan and local Chaffee. All assemblies are held in an open air under the ODAA (sycamore tree) (ibid). Besides its political importance, the nine Gadaa officials (councillors, ministerial) play an integral role in the natural resources (water, grass and rangeland) management system (Edossa et al. 2005).

4.3 The Main Economic Activities

As stated under section 4.1, albeit a majority of the Borana population is pastoralist, a significant portion of the society earns income from mixed-agriculture. Currently, there is a substantial shift to agro-pastoralism in areas where environmental condition permits. As a means to adjust to adverse climatic condition, the peoples are producing crops for food, which could limit sales of animals to purchase grains. The environmental conditions of a larger large part of the Borana land favours more pastoralism than crop farming (Edossa et al. 2005). Hence, livestock breeding is a primary source of income for majority of the Borana population who are residing in the arid and semi-arid areas (ibid). The figure 3 shows when the Borana pastoralists keep their cattle at an area.



Figure 3: Livestock herding as a major income for the Borana pastoral community

Source: Bassi, M. (2007)

The Borana pastoralists herd diverse livestock. For instance, cattle, goat, sheep and camels are the dominant domestic animals. According to Coppock (1994), Boranas:

1. Culturally prefer not to sell cattle because cattle accumulation is a basic asset and insurance for an entire family;
2. Are nowadays forced to sell their livestock to purchase food grains;
3. Broaden horizons of herding more into ruminants that could replace selling cattle to purchase food crop;
4. Have a propensity to sell their cattle during an acute dry season-when they are highly in need of money; and
5. Prefer to sell mature male cattle than calves because the amount of money gained from the trade assumed to be enough to cover all costs (buying goods) and replace another calve.

Source indicates that because they own few in number and less varieties of livestock, the poor pastoralists are forced to sell their calves so as to purchase grains. yet the amount of money that the poor gain from the calves market would not be enough for the intended goals- to buy crops and other goods at once, and eventually left without replacement. Traditionally, the pastoralists do not have the courage to sell their cattle unless and otherwise they are forced to respond to an acute need of money. Thus, an increased number of immature animals in the Borana market might be an indication for poverty, not the sign of normal demand and supply transaction activity, which is the normal event in the developed world (Coppock 1994).

4.4 The Major Limiting Factors in the Borana Zone

It is a common understanding that the lives of pastoralists and environment are highly interlinked. Nature provides resources that both the community and their livestock highly rely on. As the majority of the Borana people are pastoralists, any catastrophic change in the environment could have a negative implication both in the social, economic and political arenas of the society. Thus, some of the main ecological problems that are common in the Borana zone are briefly stated underneath.

4.4.1 Water Scarcity and Climate Change

Historically, the Horn of Africa is characterized by water shortage and extreme conditions. The current water scarcity in the Horn is one of the manifestations of the global climate change. Change in the climate is manifested in the form of reduction of precipitation and soil moisture in the region (IPCC 2007). The fourth report of the Intergovernmental Panel on Climate Change stated that because of the global atmospheric warming, 75-250 millions of Africans are likely to be exposed to water shortage by 2020. This motive makes the pastoralists of the region more vulnerable to the adverse water scarcity. For instance, Milmo (2005) affirmed that the protracted drought in the Horn of Africa swabbed out about 70% of the livestock of pastoralists in 2006 alone, cited by (Temesgen 2010).

The Borana lowlands are arid and semi-arid areas where water is a very crucial limiting factor in the socio-economic development of the people (Emiru 2010). As the region is characterized by lack of surface water, both the animal breeding and crop farming activities largely rely on rainfall (Coppock 1994). Yet, shortage of rainfall is a frequently occurring phenomenon in the zone. Human and animal population are highly threatened by recurrent drought. Thus, water scarcity is the foremost problem for the pastoral community. The trend of rainfall in the zone is declining because the precipitation in the zone has been constantly decreasing for the past fifty years (Temesgen 2010). The negative impacts of water shortage are observed not only on the human beings but also the livestock are extremely suffering from the catastrophe (ibid). The animals become weak and even die out. The Borana trace the history of drought beginning from the past periods that have repetitively sacrificed their livelihoods. They remember every environmental catastrophe or drought in association with the era of Abbaa Gadaa (leader of the society). The drought that used to occur seldom in the past is currently happening more often. Table 3 shows the historically recorded eras of droughts in the community. The name of Abbaa Gadaa shows the name of Gadaa leader in the specified time period. The reign shows the time period in which the leaders staid on power when the adverse drought occurred.

Table 3: Recorded droughts by the Borana

| Reign of Gadaa | Name of Abbaa Gadaa |
|----------------|---|
| 1769-1778 | Bulee Dhaddachaa |
| 1809-1816 | Saaqo Dhaddachaa (only 30 cattle left) |
| 1969-1976 | Gobbaa Bulee (drought for the first time) |
| 1977-1984 | Jiloo Aagaa |
| 1985-1992 | Boru Guyyo |
| 1993-2000 | Boru Madhaa (drought struck twice) |
| 2001-2008 | Liban Jaldeessa (drought struck twice) |

Source: Temesgen (2010)

Nowadays, as of the bad climatic condition both the livestock and the people are suffering most. Older peoples, children and cattle are more susceptible to the catastrophe. For example, Mr Halake Jilo Gimbe (60 years old), a Borana pastoralist, had 40 cows but because of the drought he now left with only four cows (www.gadaa.com 2011). According to the same source, because the families use unclean water from boreholes along with the cattle, they are exposed to health problems. About 6,400 Borana households are currently affected by a climate change led drought (ibid).

4.4.2 Human Factor

Though population growth is not a direct element of environmental constraints, it has a significant contribution to the ecological degradation in the Borana region. As the livelihoods of the Borana pastoralists depend on limited natural resources, population control is vital for sustainability. Helland (1980b); Legesse (1973) and Haberland (1963) stated that the Gadaa institution has a population growth regulation role (cited by Coppock 1994). Consequently, the Borana people used to adapt to environmental changes and scarce natural resources for centuries (ibid). The age-grade system of the Gadaa institution controls child birth because marriage and having children are allowed only after a male joins the Gadaa or Luba stage (40-48 years). As of the Gadaa regulation mechanism, in the 1700s the population of the Borana was turned down by 40% and the decline continued until the 19th century (Coppock 1994). This has resulted in an increased number of retirees in the Gadaa system from public serves after the Luba stage while the figure of the young men was dwindling. This phenomenon was understood as a decline of fertility but not instability of the Gadaa cycle (ibid). Progressively, the Borana population started to increase due to many factors. For instance, better health care, food aid, decrease in the traditional regulation mechanism, and regular control of conception are some of the reasons behind it (Coppock 1994). This increase is resulted in a shift to crop cultivation in the highlands of Borana and territorial expansion to the Kenyan terrain (ibid). The population of the Borana increased from 300,000 (in the 1980s) to one million by 2007 (Central

Statistical Agency of Ethiopia; cited by Temesgen 2010). This implies that pressure on natural resources increases because population growth and demand for livestock go parallel, i.e., more population does mean more livestock.

As Helland (1980b); Legesse (1973) and Haberland (1963) noted, because of their reliance on a scarce natural resource, regulation of population growth as an adaptation to ecological change is very essential for the Borana people, cited by Coppock (1994). Nowadays, annual population growth rate of the Borana is estimated between 1.5 and 1.8, which has to be regulated (ibid). As population growth is presently not as such under influence of the traditional population regulation system, scholars like Helland (1980b) are concerned about future impacts of rapid population increase in the Borana. An increase in human population has led to a competition for natural resources. Forest degradation and encroachment are among the impacts of the population growth in the region. Young men along with their vast livestock travel distant to search for grass and water. Often the struggle for control over and access to scarce water resource and pastureland leads to conflict.

4.4.3 Environmental Degradation

The foremost part of the Borana pastoral land is dry. Albeit about an impact of pastoralism on a sustainable productivity of dry environment is debatable for some people, it is stated in section 4.4.2 that an increase in human population has negative influence in an availability of environmental resources. One of the cores of the debates over the impacts of Borana pastoralists and their livestock on environment is that understanding the degree to which the people and its livestock harm the environment and contribute to climate change. Bush encroachment, desertification, overgrazing and crop cultivation inappropriate to the pastoral system are some of the negative trends in the Borana pastoral area (Charney et al. 1975; Lamprey and Yussef 1981; Lamprey 1983; Bille1985; Sinclair and Frixell1985; Cloudsley-Thompson 1988; cited by Coppock1994). Whereas, others contend this idea by arguing that environmental degradation, most importantly vegetation change is accredited to a variation of rainfall and precipitation in the pastoral region (Rasmusson 1087; Ellis and Swift 1988; cited by Coppock 1944). But according to this source, at the upper semi-arid zones of the Borana region there is a significant environmental degradation that resulted from overgrazing. Furthermore, evidence indicates as Borana grasslands are in state of diminishing. For example, Mesele and Coppock (2006) stated that by 2003 the Borana pastureland had declined to a seventh of the size it was in 1973, cited by Temesgen (2010). The same source further pointed out that the main driving forces for such environmental degradation are bush encroachment, termite expansion, land degradation and change of land use.

Traditionally, the Borana people manage the spread of bush land through controlled fire for the purpose of grazing. However, as the practice has been banned by government since 1970, the size of pastureland has been decreasing (Temesgen2010). In general, environmental degradation varies from area to area in the region. The upper semi-arid zone of the land is highly susceptible to bush encroachments because of overgrazing (Coppock 1994), whereas the lower-arid zone of the dares traditional herd management system because the area is

vulnerable to the variation in annual rainfall and forage production (Eshete et al.1986; cited by Coppock 1994). According to Temesgen (2010), banning of controlled burning bush land has led to an invasion of vast termites, which is the major problem in the Borana pastoral areas because it encroaches pasture both in dry and wet seasons. In addition, Mesele and Awol (2008) noted that termites resist drought and smash up more crops, trees and pasture, cited by Temesgen (2010).

The Result of a study conducted by Coppock (1994) pointed out that domestic animals are the major driving force for environmental changes in the Borana plateaus because 40% of the western highlands suffered from encroachments for pasture, and 19% of soil erosion in the same areas is attributed by it. This indicates that ecological change caused by pastoralists and its livestock is also one of the factors that exacerbate availability of scarce natural resources in Borana. This also specifies that a shortage of forage (kaloo) places is one of the major ecological constraints in the pastoral area. The scarcity of the main natural resources, water and grassland leads to conflicts between rival groups in the area. Concerning this Edossa et al. (2005) stated that the region is often prevalent to the conflicts on natural resources among different pastoral groups. For instance, in 2000, three main conflicts happened between the three most important pastoral groups, (Borana vs. Garrii, Merehan vs. Digodi, and Digodi vs. Borana) (ibid). More on this is described in chapter 5.

Another environmental problem in Borana is the decline of grassland due to the increased shift towards crop farming. The subsistence crops production in turn limits the availability of pasture to the pastoralists (Edossa et al. 2005).

4.5 The Divergent Environmental Laws: Customary Law and Statutory Law

Studies indicate that often environmental management schemes of a centralized political regime diverge from interest, values, norms and customary natural resource management system of the pastoral life style. Governmental policy could limit the access to natural resources and mobility of pastoralists.

Though not properly acknowledge by the successive Ethiopian regimes, the Borana have sustainably managed their ecology through customary laws set by traditional institutions (Bassi 2007). According to this source, Borana communities have consistently conserved about 45,620 sq.km areas of its land through traditional practices. The conserved ecology offers not only pasture and other environmental services to the livestock and the community but also is habitat for biodiversity (including the four endemic birds) (ibid). Figure 4 represents one of the bird species that mostly found in the traditionally protected area, juniper forest of the Borana pastoralists.



Figure 4: Prince Ruspoli's Turaco (*Turaco ruspolii*), in the 'RED BOOK' of endangered animals of the world, endemic to Borana, only found in Nagelle and Areero juniper forests.

Source: Bassi, M. (2007)

In addition, Amend et al. (no date) witnessed that a large portion of the Borana landscape has been conserved by local communities under rules and norms of the Gadaa system. The areas conserved by the rules and principles of the customary natural resource governance laws are “fully compatible with the IUCN Protected Area Management category V.” (Amend et al. no date p.106). Besides, the same source indicated that some areas natural resources are controlled by local peoples “under more restrictive roles of access and use” for which the “ceremonial grounds are compatible with IUCN categories 1a (Strict Nature Reserve), the juniper forest with category 1b (Wilderness Area), and the Volcanic craters and the traditional well with category III”. Presently, some areas of landscapes conserved by local communities are transformed to governmentally protected areas, while some areas are still under the co-managed protected areas (ibid). The natural resources management style of the Gadaa institution is developed based on strict relationship between pastoralists and the natural resources (Bassi 2007). The same source stated that the indigenous natural resources (landscape and agro-biodiversity) governance system of the Borana people is through:

- Democratic selection of formal management body;
- Long training and formation of strict control through ritual ceremony;
- Oral law making in formal perspective;
- Consensus, open/transparent, participatory and accountable ways of decision making at diverse assemblies; and
- Enforcing mechanisms.

The figure underneath shows when the Borana people traditionally held assemblies every year to discuss about their public (common) affairs, elect natural resources management bodies and develop multiple oral-laws in formal context through open, transparent and participatory approach (Bassi 2007; Edossa et al. 2005; Coppock 1994).



Figure 5: Gummy Gaayyoo (community assembly) to devise customary laws for pastoral and internal Borana affairs

Source: Bassi, M. (2007)

Evidence points out that the natural resources ownership system of the Borana people is characterized by shared or communal resources tenure practice. This implies that no man or family could claim an exclusive right over the natural resources. For instance, Bassi (2007) confirmed that natural resources, water, grassland and forest are collectively owned by the society or clan to which customary laws apply. According to the source, in the Borana environmental management system:

1. Provisions of basic natural resources are based on the key principles, exclusion/inclusion (based on labour contribution of each member in the management activities), assuring sustainable and balanced use;
2. Rules are differentiated according to type of resources;
3. The environmental laws set for grass and water are called "Seera Marraa-Bisaanii" (the laws of pasture and water);
4. Because the landscape is traditionally managed, different species and varieties (biodiversity) are sustained in the area.

Despite the fact that the indigenous resources management system of the Borana is informally acknowledged by some NGOs, like SOS Sahel-Ethiopia and other pastoral groups (Amend et al. no date), the successive Ethiopian regimes have never accredited the knowledge it contains (Bassi 2007). Rather, they overlooked the customary natural resources ownership system (common property rights) but dictated the typically different systems of natural resources management and tenure rights to the area (Bassi 2007 and Abdulahi 2007 and Mulugeta 2008; cited by Temesgen 2010). Policies of the governments have exacerbated conflicts among inter-

and intra-clans. For instance, Dida (2008) confirmed that conflicts between Borana and Gerri, Borana and Gabra, Gerri and Gabra, Borana and Gedeo (non-Oromo ethnic group) are the frequently happening events in the region, cited by Temesgen (2010). More on disputes on natural resources management system of the Borana is more elaborated in chapter 5.

According to Mesfin (2000), the land property rights policy of the imperial regime (before 1974) transferred all lands which were not permanently cultivated or occupied by people to the hand of the state, cited by Temesgen (2010). As a result, the pastoralists legally dispossessed their land. The development policy of the government in the 1960s and 1970s that aimed to provide veterinary services, excavation of shallow ponds and shallow wells and drilling of boreholes in the pastoralist area weakened the traditional natural resources management institution and eventually exacerbated environmental degradation (Helland 2000; cited by Temesgen 2010).

Moreover, the two other successive regimes (Derg and the current) also followed similar land tenure policy and settlement program (Hagmann and Mulugeta 2008). Though the right not to be displaced and use-rights of the pastoral communities are recognized in their policies, none of the regimes put the policy into practice (Temesgen 2010). Settlement programs and decisions on land allocation and land use are simply imposed on the community by the states (Amend, et al. no date). The land policy changed the communal tenure right system of the Borana to public property right form. This is due to a lack of understanding of the pastoral ways of life that are basically divergent from the statutory law (Dida 2008; cited by Temesgen 2010). According to Tache and Irwin (2003, p.11), “the inappropriate development policies for pastoral areas, including land tenure right and agricultural development policies” are among some of the factors that deteriorate natural resources, livelihoods of the Borana pastoralists and worsened a pace of ecological degradation in the region.

Furthermore, the intervention policy of the current government has marginalized the cultural assets of the Borana community. For instance, the private farm built in the Liiban area has hampered the Odaa (the sycamore tree that is culturally associated with Gadaa administration) (Bassi 2007). Enormous immigration of people who do not share the values, principles and norms related to Borana governance, have made the customary governance system ineffective (Amend et al. no date). In addition, the newcomers have increased pressure on the landscape and agro-biodiversity (Edossa et al. 2007). Though some of the Borana landscapes (forests area) have been formally managed by the states, the varieties and species of plants and animals are vastly declining. According to Amend et al. (no date) the following events are the negative effects of the state intervention policy:

- The open woodlands are becoming smaller and fragmented;
- Unregulated overgrazing turned into dense bushes;
- Agricultural encroachment and overgrazing are taking place within the Yaaballo biodiversity complex area;
- Roadside bushes declined by 80 since 1989;
- Juniper forests of the conserved landscape are shattered;
- Smaller patches are almost totally destroyed; and

- The three large forests categorized as National Forests (Yaaballo, Areero and Manguusa or Nagelle forests), and so managed by the state were badly affected by the fire in 1999, and all are highly exploited by commercial logging and agricultural encroachment by the non-Borana settlers.

The field survey carried-out by the Bassi and Tache (2002) with SOS Sahel-Ethiopian (NGO operating in Borana) assured that the Borana landscapes which were previously kept in natural state by the community were affected by the introduction of the new settlement program and extensive farming, which is largely practiced by the non-Borana newcomers and private ranches run by external investors, cited by Amend et al. (no date).

The elements that de-legitimize the indigenous resources governance knowledge of Borana also have international aspects. Since 1991, many external factors have negatively influenced the traditional ecological management practice. For example, the following are the major external causes that currently threatened the Borana landscape governance system (Bassi 2007) :

- Creation of diverse new agricultural activities through the UNHCR assisted policy of repatriation of the non-Borana and non-local refugees to the area;
- Establishment of private farms by international projects;
- Unrestrained urban and rural immigration;
- Amalgamation of the huge part of the Borana land in to the adjacent regional states and dislocation of the Borana people;
- Crop growing by pastoralists as the instant reaction to the recurrent drought for survival;
- Borana resource governance system does not match with the non-Borana group inhabiting in the area;
- Loss of influence (the customary law) by the Borana themselves due to their inability to cope with diversified new environmental challenges; and
- Miss-perceived development programs harmfully affected access rights and damaged the environment.

Subsequently, large junipers forests areas are nearly disappearing, the number of birds inhabit in the forests are largely declined; encroachment and over-exploitation drastically reduced the woodland, and bush land ecosystem services are inadequate (Bassi 2007). The government protected areas of forest in the region are not as effective as the customary one. The governmentally managed area is only 2-3 % of the total Borana land (ibid). According to the same source, the collaborative management approach that included the community elders and in accordance with the customary laws has resulted in the reduction of environmental degradation or deforestation and forest degradation.

In spite the fact that international cooperation supports the development of new water sources (boreholes), the Borana still manage to independently sustain the traditional wells that they access (Amend et al. no date). Statutory policies and some norms that prevent them to settle

around wells reduce the efficiency of the permanent water sources, wells (ibid). For instance, the way in which one of the regimes (the Derg, in power 1974-1991) undermined the indigenous water management system of the Borana and its consequences is represented by the below diagram. The arrows indicate flow diagram of the causes and effects of the weakened decision-making structure of the Borana in the water sources management.

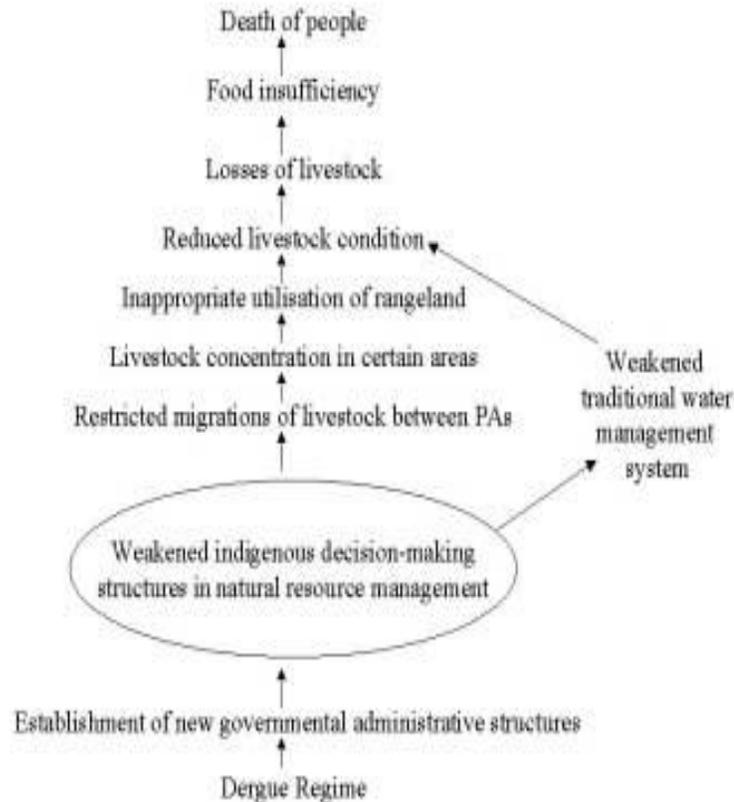


Figure 6: Causes and effects of the weakened indigenous-decision making structure in natural resources control structure of the Borana pastoralists.

Source: Watson (2001)

By weakening the customary governance system of Borana, both the former and the current Ethiopian governments introduced a new administrative system based on peasant associations through which decisions on natural resources, political and social affairs have been made by the governments (Edossa et al. 2007; Coppock 1994 and Watson 2001). The Borana customary territory which used to be managed by the community or clans through the values and principles of the Gadaa institution has been sub-divided into several peasant associations, which is a part of the government administration institutions (ibid). In general, since the early 1900s and more exhaustively since 1970, the Borana institutions and principles seem increasingly unable to cope with the development and resettlement programs of the governments (Amend et al. no date). The customary rules and norms are undermined not only by the states but also by some

NGOs (Tache and Irwin 2003). Despite the fact that the governments dared to put the policies in to practice in cooperation with the local communities, no practical association between the customary laws and the statutory laws were seen (ibid). Instead, the efficiency of the indigenous knowledge and practice in natural resources governance system has been declined (Coppock 1994).

4.6 Conclusion

The Borana are one of the more than two hundred clans of the Oromo people, inherited to the southern edge of the Oromia regional state in Ethiopia and northern Kenya. The Borana zone encompasses of thirteen districts, of which the ten are categorized under arid and semi-arid climatic zones. The people are predominantly pastoralists whose chief income is based on livestock breeding. Evidence indicates that about 88% of the Borana land is classified under hot climatic condition. The Borana are renowned for preserving diverse Oromo cultures. They have devised indigenous knowledge, practices, and institutions that have dominant roles in their public or common lives. The Gadaa system is one of the notable heritages that the Borana (Oromo) honoured to the world. Their social, political, economic, cultural, spiritual and ecological aspects have been guided by the laws, norms, principles and values of this institution, the Gadaa. Under the guidance of the Borana are socially organized based on age-grade with respective responsibilities and privileges. Based on the age-grade division of the social structure called Hiriyyaa (peer group), in the Gadaa system, every man born or adopted by Borana family has responsibility of performing the assigned tasks. The time duration to transform from one age-group to the next is eight years. The responsibilities vary according to a social organization called peer group or age-grade arrangements. The social structure of the people includes two moieties (Sabo and Gona), five sub-moieties, twenty clans and sixty lineages. The equal population and power division between the two moieties saturate a collective decision making mechanism in the society. Decisions on the essential common affairs, like socio-political, economic, environmental and religion are given based on consensus through open and participatory approach under the assembly called Gumii Gaayyoo (peace of the Borana) that has a direct connection to an enforcement of social values, principles and norms of the customary institution.

The Borana have five Gadaas or parties that compete for governance in every eight year. Authorities or powers are given to elders according to their position in the Gadaa system. Those people, who are expected to be in 40-48 age-grades, called Luba or Abbaa Gadaa, are elders. Abbaa Gadaa is a president of the Gadaa council and is in charge of implementing the customary laws set at Gumii Gaayyoo. He is also responsible for reconciliation activities when disputes over distribution and access to natural resources occurred among the Borana communities or between Borana and neighbouring pastoral groups, fine against criminals, and protect the society and the nation as a whole. Decisions are given open air and the nine Gadaa officials play integral roles in the natural resources (water and grassland) management and allocation.

The human population and the livestock of the Borana pastoralists are highly interrelated to the environment. Water and pasture scarcity, climate change or drought, population growth and ecological degradation are some of the factors that are negatively affecting the livelihoods of the pastoral group. Albeit the Borana communities have indigenous principles, rules, norms and values that helped them preserve natural resources for years, statutory laws and other external forces are negatively contributing to the ecological constraints from which both the group and its livestock are currently suffering. The indigenous knowledge, practices, values, principles and laws that the Gadaa institution contains have never been officially acknowledged by the successive Ethiopian regimes. Instead, the imposed statutory laws, national/international private ranches, NGOs, land relocation policy, non-local/non-Borana resettlement programs, amalgamation of a vast part of the Borana land to the neighbouring regions and miss-perceived developmental programs by Ethiopian government contradicted with the customary laws of the society. As result, the traditionally preserved natural resources-forests, water sources, and different varieties and species of plants and animals are highly threatened.

Chapter 5: The Indigenous Knowledge Scenario: Water Harvest Practice, Property Right and Responsibility Arrangements, and Conflict Resolution

Water has critical roles in the socio-political and economic arenas of the Borana pastoralists. As a result, they have devised an indigenous knowledge of scarce water sources management system that has helped them adapt amid awful climate conditions. In this chapter, the native water sources, traditional water harvesting knowledge, responsibility arrangements, management and rationing system, water property rights arrangements, and ways of conflicts resolution mechanism of the Borana pastoral group are illustrated.

5.1 Property Rights Arrangement

Pastoralists have traditional natural resources tenure rights systems and use rules that regulate access to and control over resources within their boundary (Nori et al. no date). In the Borana context, evidence indicates that the people have also devised an indigenous property rights system over natural resources that helped them sustainably control the use of water, land and forests. In the Borana pastoralists territory these natural resources are the commonly owned properties to which every community member has an access right and control over the resources as long as he contributes labour to management (Tache and Irwin 2003). In chapter 4 it is stated that the Borana society is socially structured in moieties, sub-moieties, clans and lineages. The geographical settlement patterns of these clans are along Maddaa (aquifer, permanent water sources). This basically enables them to control the resources and access right (Coppock; Legesse 1973/2000). Every Borana clan has its own permanent water source, well, over which it has full control. As Nori et al. (no date) noticed, in an opportunistic manner clans set rules in which non-clans and non-Borana pastoral groups get an access to water their cattle for a short-term through negotiation. This means, a particular water source that belongs to a Borana clan is also accessible to non-clan pastoral groups through negotiation according to webs of arrangements that emerge from the social structures and kinship organizations (Tache and Irwin 2003). More on this issue is elaborated in section 5.3.

The communal ownership system is visible in the daily lives of the Borana societies. Tache and Irwin (2003) marked that every member of the community expresses the philosophy of collective resources ownership in their daily conversations. Instead of saying "I, my, his/her", the words like "we and our" are predominantly used in day by day communications to express the collective ownership of resources. In addition, Boku (2000a) stated that in the Borana philosophy communal (collective) is more important than individual, cited by (Tache and Irwin 2003). Everybody says our house, our cattle/calves, our well, etc. instead of saying my house, my cattle and my well. However, this form of tenure right and institution has been increasingly encroached by outsiders (new comers, settlers), Ethiopian governments (counting the current regime) and NGOs operating in the area (ibid).

The categories of natural resources ownership forms in many pastoral communities all over the globe array from more private within communal type of property right (example family or clan

dug wells used during dry seasons) to those that are communal in nature (example grazing around water sources during wet-season) (Nori et al. no date). Pastoralists manage the wet-season water sources by controlled open access system (ibid). In the Borana context, two customary property rights forms are clearly visible. The temporary water sources, called wet-season water sources, are communally owned, used and managed by all pastoral groups regardless of clan relations (Coppock 1994). The wet-season water points, rain-water and streams, are common goods of all community members. Whereas, within the communal (collective) property right spirit, clans have an exclusive rights over the permanent water sources (wells), which actually serve them during dry season. The requests for watering from a well by non-clans during unfortunate conditions are maintained according to the customary rules and regulations set by the Gadaa institution (Tache and Irwin 2003 and Coppock 1994). The Borana customary tenure right guarantees everyone the right to access all scarce water sources (temporary or permanent water points) based on the reliability of water and availability of the resource as well as labor contribution. A participation in wells excavation and maintenance is crucial role in the resource allocation. Every resident of a given area has the right access to any water sources according to the readymade social arrangements, like Konfi (a title given to a founder of a well), clan associations, sunsuma (inter-clan relationships and agreements) (Tache and Irwin 2003; Edossa, et al.2007; Coppock 1994).The roles and responsibilities of Konfi, clans, management council and every community member are elaborated in the next section.

According to Boku (2000b), the permanent water source (well) has cultural, socio-economic and political dimensions around which the Borana are organized, cited by Tache and Irwin (2003). A Tula (well) is a foremost dependable and maximum labor consuming water source on which high restriction is vested to access. Tulas (wells) are owned by clans, and then the controlling authority is given to some members of a clan. The Borana have wells-based social organization in which the associated clans could manage watering request from outside the clan. The Aadaa Seeraa Borana (Borana customary laws) clearly defines not only the rights of access to a given well but also watering order for clan members (Tache and Irwin 2003). Watering priority is given to elders based on an authority a person has within the same clan. For instance, konfi (the founder of the well) and members of water management council have the right to water their cattle first, respectively. Other clan members then follow. A decision on watering request by outsiders is given by an authorized body. The outsiders must wait for their turn until clan members finish watering their livestock accordingly (ibid). The authorities (management bodies) are elaborated in the next section.

When we see the case of seasonal water sources rationing system, there is either no or limited restriction to access the resource based on the nature of the sources. Compared to wells the rights of access to the temporary water points, like ponds and temporary streams are less restricted but there is no restriction to use surface rain water (Tache and Irwin 2003). When the catchment capacity of a seasonal water sources is improved, the accessibility is also extended to neighborhoods. Nowadays, the management of the common property (water) is somewhat an integral to the Borana livelihoods (Edossa et al. 2007; Boku 2000b; cited by Tache and Irwin 2003). The Borana have a long history of collaborative management system that incorporates efforts of all actors. The indigenous practice consents a participation of multiple-stakeholders in the governance activities. The Aadaa Seeraa Borana (the Borana customary law), which is developed under the umbrella of Gadaa institution, also evidently defines the responsibility and roles of every member of the pastoral communities or clans in a way that maintains the benefits of every actor (Tache and Irwin 2003). This source further pointed out that anyone who refuses to contribute labor to digging wells, harvesting water from wells and fencing points of water to protect pollution by animals, can be excluded from the watering right.

5.2 Traditional Water Sources, Harvesting knowledge and Responsibility Arrangement

The Borana region gets water from rain twice a year: a long rainy season (March-May) and a short rainy season (September-November). As of prolonged dry-season, the region has repetitively been vulnerable to a shortage of water. Hence, the people have the traditionally crafted limited water resources that have served amid adverse climate conditions (Emiru 2010 and Watson 2001). The pastoralists developed indigenous practices by which water has been harvested from the traditional water sources: wells, boreholes, earth dams, ponds, roof, rocks, and depressions (Emiru 2010; Edossa et al. 2007; Watson 2001). These points of water vary in terms of time of availability (season), rights to access, management system and responsibility arrangements. They are also highly regulated by the customary rules and principles set by the indigenous institution, the Gadaa (ibid). These water sources could be categorized in to two major types: the permanent sources and the seasonal sources. The permanent or man-made water sources include wells and hand-dug ponds (Haro) which are more strongly regulated by traditional laws and principles than the seasonal (temporary) ones-surface water, stream/rivers, temporary ponds and collected rain water (Garse 1999:11; cited by watson 2001). According to this same source:

1. Ellas (wells) are consistent water sources. Borana have two types of wells, called adaadii and Tula. Adaadii are shallow wells in sandy river beds. Whereas tulas are deep wells, up to 30m deep-cut through limestone, dug by about 21 men standing one above the other and pass water containers. There are cultural performances during a time of digging wells. Sing traditional song and providing bulls for food are the very common activities. Labour cooperation is a mandatory to every man;
2. Haro (hand-dugs) are shallow ponds that serve for watering livestock during a prolonged dry season;
3. Boke (collected rainwater, natural ponds) provides water throughout a year; and
4. There are also other opportunistic sources of water that serve in short terms, like temporary ponds and surface water.

At every point of water (madda), there are several wells, sometimes called a cluster (Watson 2001). Further, the source assured that the Borana community has about 540 hand-dag wells, which are found in 40 bunches mainly in the West part of the zone. These wells have been the mega water sources both for household and livestock. About 84% of water demand in dry season is covered by wells (Coppock 1994). According to Gufu (1998a), totally there are about 75 clusters or well complexes throughout the Borana zone, cited by Watson (2001). The communities are renowned for their aged wells that have served for centuries. There are nine clusters of deep-wells called Tula Salgan Borana (the nine wells of Borana) that has never dried out in long arid seasons (Emiru 2010) and Watson 2001). The nine tulas (deep wells) are situated at areas called Dubluq, Melbana, Erdar, Gayo, Dh'aas, Borbor, Iggo, Goof and Lae (Gufu 1998a; cited by Watson 2001). The next figure shows when men collaboratively harvest

water for their livestock from one of the nine clusters of the wells according to the roster made by the traditional water management body.



Figure 7: Traditionally devised Borana well

Source: photo by Kelley Lynch/Save the children USA (no date), taken from work of Emiru (2010)

The Borana have devised an indigenous institution that helped sustainably and equitably manage the vital resources. The Gadaa institution defines the roles and responsibilities of the water sources management bodies. The management body has three parts, called Konfi, Chora Ella and Abbaa Herregaa, in which each has tasks vested by the institution (Coppock 1994; Watson 2001; Emiru 2010). Each component has a responsibility of securing peaceful and robust use of water (ibid). According to Emiru (2010); Watson (2001) and Edossa et al. (2007), the following are the roles and responsibilities of the traditional water resource management bodies of the Borana:

- Konfi is the title given by the institution to the Abbaa Ella. Abbaa Ella is the founder or the person who first scratched the ground (identified the site) and the general manager of the well. Besides, the person is responsible to organize the community to excavate the well and contribute bulls as food when well is being dug;
- Chora Ella (management council) is the supreme authority on the use of the well. It is composed on 7-8 members usually from clan elders and well users who have kinship with the well founder. Creating water rationing system, more specifically during harsh climatic conditions is the prime responsibility of the council. When the volume of the water is low, right of access to the water is arranged for every member of the clan according to their labour contribution in the excavation and maintenance activities of

the wells. The council decides the amount of contributions for each member of the clan based on the number of livestock owned by the member. The council is also responsible to settle disputes on the resources among the members. Decision on watering request by outsiders (non-clan member) or other ethnic groups (neighbouring pastoralists) is given by this body; and

- Abbaa Herregaa is the authority given to a person who closely supervises the daily activities around the wells. He is appointed by the council and responsible to supervise and monitor the decisions of the council. He controls the day-to-day activities of every member around the well, for instance, fence, cleaning ramps, preparing gates and harvesting water from wells for animals. Besides, he controls watering ration, type and number of herds watered at a given time. The watering ration lasts most of the time in 3-4 days. Unless and otherwise he is suspected by the community for misconduct or violation of the Aadaa Seeraa Borana (the Borana traditional laws), Abbaa Herregaa could serve until retirement period.

The mentioned management bodies have neither salary nor get any incentives for their works. But they perform their responsibilities only in the senesce of ownership and strong moral authority invested on them by the society and the institution (Emiru 2010). The pastoral group also possesses factors that limit the natural resource allocation system. A Watering rights at any well is only possible and sustained based on labour contribution and participation in the management council. According to Emiru (2010) and Watson (2001), the major factors that determine an access rights to a particular point of water and pasture around a well are:

1. Clan affiliation;
2. Active participation in the water harvesting and wells management activities;
3. Seniority (within clans);
4. Livestock size;
5. An ability to present and defend a claim before the council;
6. Labour contribution; and
7. Availability of grass around well. This implies that an access right to a point of water indirectly grants the right of an access to the pasture around the well.

An availability of enough water in wells has a vital role in determining the size of animals when watering and grazing permissions are requested by neighbouring pastoral groups. Wells are also the most important resources that have critical roles in economic, religious and political affairs of the Borana. Hence, the use, control, maintenance and conservation of wells are the constant concerns for every community member (Aredo and Ame no date). Implementing the rationing principles in to practice (maintaining the rights of access for all community members), arranging and monitoring management activities are the duties of the three management components. A failure to participate in wells excavation, maintenance activities and politics of the wells' council would eventually lead every member to a rapid expulsion from access rights. This does mean that the watering rights at any well should be achieved and sustained according to an individual's participation in these arenas (ibid). The wells council also set laws and regulations that potentially facilitate inter-and intra-ethnic social networks and reciprocal

arrangements for cooperation during crisis (shortage of water) and can serve as a means to prevent conflict (Aredo and Ame no date). The resource management and conflict resolution system of the Borana is elaborated in the next section.

Currently, there are alternative water sources for the pastoralists, which are introduced by NGOs and governmental bodies. For instance, machine dug-ponds, bore-holes with diesel, solar lamps or hand; and underground water (Boku 2000 and Gufu 1998a; cited by Watson 2001). In one hand, in terms of cost, labour and the time needed for water harvest, the local communities see the availability of these water sources and the introduction of new technologies to the area as a positive especially during dry season. In the other hand, they are concerned about the reliability, manageability and property rights arrangement over the points of water. These opportunistic water sources are not as reliable as the traditionally controlled ones. Customary laws and principles no longer apply in the management and use rights arrangement over these water sources. Rather, the water sources are characterized by poor management institutions and slight access regulation system because the right to use such sources is sometimes privatized or even sold to others which in turn lead to a high competition and environmental degradation (ibid).

5.3 Indigenous Water Sources Governance and Conflict Resolution System

The Borana communities have indigenous natural resources governance, social security and conflict resolution mechanism that based on traditional practices and knowledge (Temesgen 2010 and Emiru 2010). A well understanding of the customary rules and regulation principles in relation to these arenas could eventually help someone learn how the Borana traditionally have accustomed to resolve disputes over resources and adapt to environmental changes. As stated in chapter 3 and 4, the Gadaa institution determines the public affairs of the Borana. Therefore, natural resources management and conflict resolution systems of the society are primarily guided by the laws and principles of the institution. In the 16th and 17th C, the advanced social organization-Gadaa system had enabled the Borana in particular and the Oromoo people in general to sustain its dominant power over neighbouring ethnic groups (ibid). This indigenous institution encompasses of the traditional forms of social organization (locally elected, hereditary leaders and elders), customary rules and regulations of access rights to natural resources, and indigenous practices and knowledge (Watson 2001). All of these social capitals are helpful assets through which sustainable development in the pastoral area could be attained (ibid).

In addition, Warren et al. (1995) stated as an indigenous knowledge and practices have significant contribution to development works at pastoral areas, cited by (Watson 2001). Nowadays, thus, indigenous institutions are seen as the flexible and potential natural resources management entity (Ostrom 1990; Bruce et al.1994; cited by Watson 2001). In the Borana context, Hermann et al. (2004); Tache and Irwin (2003) noticed that the Gadaa institution has sustainably managed the scarce water sources midst adverse climate conditions, cited by Edossa et al. (2005). According to the same source, the Borana water management and rationing strategy varies in seasons:

- In wet season: after rainfall, the temporary water sources are open for use but the wells kept closed;
- In dry season: livestock move to distant ponds and wells are re-opened; and
- In progressing dry season (high water scarcity): cattle watering frequency is gradually reduced to one day (dhabsuu), two days (limmaalimma) and three days (sadeen).

The customary laws of Borana (Aadaa Seeraa Boran) have sustainably controlled the scarce natural resources, water and grassland for years (Watson 2001; Emiru 2010; Edossa et al. 2007). Further, Wario (2006) said that the Aadaa Seeraa Boran also set rules and principles to sustain peace and equality within the Borana and with its pastoral allies, cited by Temesgen (2010). The Borana's principles, norms and values forbid hindering someone water or to ask pay for water. The laws are reviewed at the meeting hold in every eight years, called Gumii Gaayyoo (assembly of the mass), and supported by social networks, like, kinship, friendship, institutionalized conferences and rituals (Watson 2001). The law allows every Borana clan to have own ella (well) over which it has power and authority to fully control. At the same time, the agreement ensures all Borana the right to water their cattle at any well provided that there is

enough water in wells and agreement with Abbaa Herregaa (supervisor) (Huqqaa 1996:43; cited by Watson 2001). It also offers secondary rights to the minority non-Borana groups (Arsi, Gabra, Gerri and Somali) residing in the zone to water their cattle at any well in an adverse climatic condition (Watson 200; Temesgen 2010). However, during a prolonged dry season conflicts on resources have repetitively been occurring among the groups (Schlee 1989; Bassi 1997; Getachew 1996; cited by Watson 2001). As Temesgen (2010) noted, when disputes occur due to petition for the resources, the Gadaa rules and regulations workout. A request of an extra water use within or outside a clan is maintained according to the customary principles. A decision on watering request is given based on the volume of water available in wells and the size of the herds existing to make use of the resource (ibid). Community elders are counselled for a request for grazing pasture by wider units of animals from Ollaas, Araddaas, or other neighbouring pastoral groups. Leaders and elders have high position in resolving the intra and inter-clan conflicts on natural resources (Temesgen 2010 and Coppock 1994).

According to Coppock (1994), the settlement pattern of the Borana pastoral communities is along the natural resources, water and pasture. Clans are populated at the sides of Madda (water source). As natural resources are common properties of clans or community in a wider sense, every part of the society has a responsibility to cooperate in the management tasks. All "Ollaa" (a group of small families with 30-100 households) and "Araddaa" (a group of 2 or 3 Ollaas who cooperate in their common pasturelands management) must collaborate in the governance of the grazing and watering patterns and fence grass-for calves (Temesgen 2010). "Madda" is the area surrounding a particular water source, which is used by fewer Ollaas or peoples. Whereas, "Dheeda" is a wider unit of browsing land used by different Ollaas and Araddaas. "Kaloo" is the pasture fenced only for grazing calves. "Abbaa madda" is an authority vested to a person who is in charge of madda administration (Temesgen 2010 and Watson 2001).

In the natural resource governance system of the Gadaa institution only male descendants are eligible to the management council and responsible for labour contributions. Women are not assigned to excavate well but are in charge of doing all house works and looking after calves around home. The men are also responsible to travel distant along with the cattle to search for pasture and water. Gorse and Sahel (1999) explained that the natural resource management structure of the Borana is organized from the micro-level, Abbaa warra (head of households) to the macro-level, "Abbaa Gadaa" (president of the Borana), cited by Watson (2001). Abbaa Gadaa and "Yaa'aa" (Abbaa Gadaa's councillors and messengers) are the governing bodies of the Gadaa institution (ibid). Abbaa Gadaa and Yaaáa are responsible to put the Borana customary laws in place to bring peace, order and development. Abbaa Gadaa is also responsible in dealing with all common concerns of the Borana, including access to and control over water, pastureland and forests (Coppock 1994; Watson 2001; Emiru 2010; Edossa et al. 2005). Abbaa Gadaa and Yaaáa are elected in the Gumii Gaayyoo Assembly only for eight years. The figure underneath indicates the natural resource management structure (organization) of the Borana that extends from a micro-level (warra) to a macro-level (Abbaa Gadaa and Yaaáa). The diagram is drawn based on the primary data (interview made in the Borana region) collected by the GTZ (NGO operating in the area) for development program.

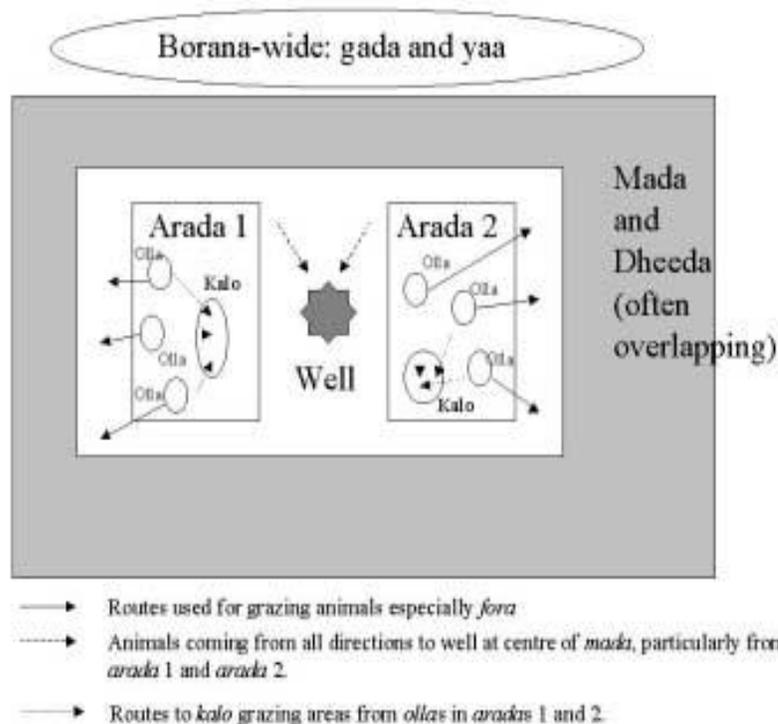


Figure 8: Borana natural resource management institution from macro to micro level

Sources: Watson (2001)

According to Hogg (1990a), the Borana debate and reach consensus on natural resources management issues through meetings at which different views from each member are expressed, cited by Coppock (1994). A low level meetings deal with issues at household, olla (neighbourhood) and mada levels but if a problem is not solved at these micro-levels, it can be passed to a clan assembly or to the Gadaa officials (Abbaa Gadaa and Yaa'aa). If the issue is still not solved, the problem may be appealed to the main assembly called Gummy Gaayyoo (the assembly of all Borana) (legesse 1973 and Coppock 1994). These diverse but interlinked institutions are useful not only to control the access rights to water but also to resolve conflicts on the utilization of resources and bring development. Hence, the traditional natural resource management institution helps solve the different interconnected problems: ecological, welfare and conflicts (Watson 2001). The Borana indigenous knowledge holds not only to protect grassland and water but also workouts for all natural resources. For instance, Coppock (1994) stated that the local forestry regulation attributed to the conservation and stable use of juniper forests and mixed woodlands in the sub-humid zones of the Borana land.

Furthermore, empirical evidence proves that Borana are renown by their social security or traditional wealth redistribution system. They have devised reliable social welfare mechanism, called "Buusaa Gonofaa", in which clans attribute property (cattle) for their members who suffered from environmental disaster or human caused catastrophe (Coppock 1994). The

traditional resource relocation/social security system is a clan-based system (Legesse 1973; cited by Coppock 1994). Clan assemblies take place each year from April through August except during a time of drought. Most of the time clan meetings are called by wealthy clan members and everybody can attend the assembly even if the majority of the attendees are peoples who dare assistances from their fellow clans. Then, at the meeting clan members contribute animals so as to enable their fellow to begin new life (ibid).

5.4 Conclusion

The Borana Oromo have indigenous social capital that could contribute to address their common problems, natural resources scarcity and lack of economic development. The society also has an indigenous institution that has reliably maintained natural resources for centuries. The traditional knowledge and practices workouts yin natural sources management system mainly to regulate property rights, access to, responsibility arrangements and means to control over water, pastureland and forests. There are also two types of points of water that available to the pastoralists: permanent and temporary water sources. Dry season water sources are permanent but wet-season points are the temporary sources of water for the people.

As water is central to the economic, social and ritual affairs of the Borana people, wells have detrimental roles in the societies' politics as well. Thus, the dry season points of water (wells) are the major factors that limit livelihoods of the pastoralists and determine the size of its livestock. Under a communal ownership sprit, wells are privately owned by clans, whereas wet-season water sources are the common properties. Every clan has own *madda*, or *ella* over which it possesses exclusive right. Under, this ownership system, there are exclusion/inclusion principles by which water allocations to individuals are based on his labour contribution. The Borana water source management system has been ruled by the *Aadaa Seeraa Borana* set by the indigenous institution, called Gadaa organization. Under the umbrella of the Gadaa institution, there are three components of water management bodies: Abbaa ella or kofi (the founder of the well), Cora Ella (management council, has 6-7 members) and Abbaa Herregaa (the supervisor of the daily routines). Madda (well) is a central point in the Borana traditional natural resources management institution. The management council has an overall authority over the resource control. A watering right to any well is gained only through labour contribution and participation in this council.

In the Borana traditional water management system, exclusion is the foremost principle of controlling the watering right, in sense that failing to carry out the obligation will escort to sanctions. A default to contribute labour in well excavation, maintenance, fencing, harvesting, and a stoppage to participate in water management council would lead to expulsion from access to the resource. In addition, an evade meeting these obligations plus drought cause conflicts among the clans and with other ethnic groups. To restore the peace and heal the break, the traditional conflict resolution mechanism plays core roles. The customary rules and regulations have potential roles in enhancing the inter- and intra-clan social networks and reciprocal arrangements for mutual support during harsh climatic conditions. A watering request from outside a clan is managed according to the traditional rules and regulations. An access rights for

non-clan members is managed according to the Aadaa Seeraa Boran and the decision of the management council. The management council maintains security and restores peace among compatriots. So as to settle the conflicts, sometimes a mediator council which gathers witness to help settle the conflict on the resource is established. Decisions are made at different levels through open discussion and consensus at various social structures that range from micro-level (individual, household and community) social organization to macro-level (Abbaa Gadaa and its council). The decisions made at community levels are through kinship relations and geographical border divisions.

Currently, some opportunistic water sources for the pastoralists are made available by governmental and non-governmental agencies. However, these points of water are not adequate enough for livestock and human population. In relation to management, property rights and allocation, the water resources are characterized as non-reliable and unstable. As the result, the competition for the resource has led to a frequent conflict among different pastoral groups.

The Borana also have traditional social security system that has enabled them adapt to the environmental changes. Culturally, there is compensation mechanism in which individuals formally request their respective clan for assistance when their cattle hampered by prolonged drought. Every clan holds assembly each year at which the request for cattle assistance by the members is secured. Subsequently, clan members contribute cattle for their associate who lost his herds due to the environmental catastrophe. Such type of welfare division is called Buusaa Gonofaa, which is very common in the Borana lives.

Chapter 6: Analysis

Water is a precious natural resource that makes human beings certain to lead normal and productive life. Despite the fact that the largest portion of the plane Earth's surface is covered with water, only little of it is available to humans for daily water supply demands. A small percentage of the fresh water (aquifer, ground water, lakes, rivers and streams-surface water) is available for agriculture, electricity, home uses and production activities. According to the UNDP (2006), as of the basic principles of social justice, a person ought to obtain a minimum of 20 litre water per day. However, it is not easily available in many parts of the planet, more interestingly in the arid and semi-arid climatic regions because nowadays the world is in a position to provide inadequate water for its inhabitants. Hence, unavailability and scarcity of water sources have been undermining the socio-economic development of the South in general, the pastoral regions in particular. The Horn of Africa is one of the pastoral regions in which climate change has exacerbated the ill effects of the scarce water sources. Though the Horn is near to the equator and consists of many mountains, most part of the section is categorized under arid and semi-arid zones. The region often gets low rainfall during the monsoon season. Consequently, low agricultural production, drought and hunger are the recurrently occurring phenomena in the section. Economically the states of the Horn depend on agriculture and livestock breeding. Climate change, marginalization, conflict and lack of investment have exacerbated the impacts of the current drought in the sub-region. However, the pastoral societies of the region used to manage such ecological uncertainties through indigenous institutions, knowledge and practices. Ethiopia is one of the countries inhabiting in the Horn with different climatic zones and ethnic groups. Based on altitude, the nation has four types of climatic conditions: cool-cold, warm-cool, warm-hot and hot-arid. The Oromo people are one of the 80 different ethnic groups constituting the nation. The language of each ethnic group fits in one of the four languages families of the country: Cushitic, Semitic, Omotic and Nilo-Sahara. It is also confirmed in chapter 3 that the Oromo people now make up a significant portion of the population of the Horn with about 40 million in Ethiopia alone. This people also inhabits in different countries including Kenya and Somalia. The Oromo people had been self-governing until the late-19th when the European backed Amhara-Tigre ethnic groups conquered the people. As affirmed in the same chapter, this makes that the Oromo people and the successive Ethiopian regimes have had difficult relationships.

Oromia (the Oromo land) is one of the nine regional states that constituted the current Ethiopian ruling system. The region is rich in natural resources, like the internationally known rivers, lakes, wild and domestic animals, different cereal and oil crops, coffee, forests, mountains, diverse minerals, varieties of plants, etc. It also has varied climatic conditions that range from high altitude and vegetation cover with mild climate to arid and semi-arid in the East and South. The West, South and central parts are relatively warm and humid. About 80% of the population lives in the medium altitude (1800-2500m), this makes that most part of the land is suitable for agriculture throughout a year. The Oromo people have many clans (gosa, qomo) who descended from the two major groups or moieties, called Borana and Barentu. The former is a senior clan while the latter is a junior. Such social dichotomy is very common in the Oromo society and applicable in its every life spheres. The ethnic group has many clans of which

Borana, Macha, Tuullama, Wallo, Garrii, Gurraa, Jile, Arsi, Karrayyu and Gujii are some of them. Despite the peoples dwell on vast areas that stretch from the South (Borana region) to the North (Wallo) and East to West borders, all clans share homogenous culture, language and history. In terms of economy, it is also indicated in chapter 3 that in the 16th C pastoralism was a dominant way of life by which the Oromo used to determine and regulate socio-political and economic relations within itself and with neighbours. The people had lived in the Horn for centuries on large territory with ample pasture, water and freedom of movements. Nowadays, albeit crop farming and mixed-agriculture are the backbone of the economy for a majority of the population (85%) and the regional government (65%), livestock procreation is the foremost livelihood for pastoral groups, like the Borana. Alike any East African pastoral groups, for instance, the karimojong, Masai, Nuer, Pokot and Samburu, the Oromo people also used to deal with its social, political, economic, cultural, judicial and spiritual affairs for centuries by the rules, norms and principles of the indigenous institution called Gadaa. Though it is nowadays disappeared or weakened in many parts of Oromia due to internal and external factors, the institution is significantly functioning in the Borana. A majority of the Borana people reside in arid and semi-arid climatic zones where livestock breeding is their principal means of income. It is an explicit discourse that an environment provides essential goods and services to human beings. Hence, a long-term maintenance of human consumption of natural resources is predominantly important for humans' sustainability and economic wellbeing. The study found that a scarcity of the natural resources, water and pastureland, is a major limiting factor that determines the socio-economic and politics of the Borana mainly during tough climate conditions. The pastoral group has been suffering from a periodic drought. Human and animal population increase, environmental degradation, climate change and political problems are the major factors that have aggravated the impacts of water scarcity in the Borana.

Every affair of the Borana life is predominantly guided by the rules, principles and norms of the customary institution. It is possible to state that the Gadaa institution has multiple functions in the sense that it has a unity of integral parts in terms of socio-economic, cultural, spiritual and political arenas. Further, it is illustrated in chapter 3 that every man born or adopted by Borana ought to pass through the ready-made series of five age-grades or social structures, known as Gadaa grades in which each age-set has a duration of eight years. The institution sets responsibilities, privileges, instructions, laws and principles for each social-organization or category.

It is indicated in chapter 2 that indigenous communities and local peoples manage their social orders, socio-economic and environmental pressures through multiples of traditional knowledge, practice and principles that regulated by institutions. Local institutions are considered as a potential asset that could realize development in a pastoral area because local communities address their major demands-economic development and reliable environmental services through such institutions. In the Borana context, the Gadaa institution, knowledge and practices that the community has experienced through time are seen as the main natural resource management and conflict resolution mechanism. It is stated in the study that sustainability implicitly interlinks with social, cultural, environmental and economic issues of human beings. For economic development, need and inadequacy of environmental resources have central

roles. Water is one of the natural resources that require robust governance and equitable access for sustainable development. The patterns of using scarce natural resources require a consistent management and preservation for present and upcoming generations. The Borana pastoral group has managed to sustain wells as durable points of water for its daily supply needs. The people have clusters of traditionally made tulas (wells) which have never run dry even during severe drought. In chapter 2, it is also pointed out that multiple legal forms in the context of natural resources management, property rights arrangement and conflicts resolution arenas exist in the Borana pastoral society. Its customary rules are deeply rooted to culture, the accumulations of experiences for many years, and adaptive in nature. The communities exercise indigenous principles, knowledge and regulation systems that are flexible and negotiable so as to adapt to scarce environmental resources. The age-based social organizations are considered as the ready-made power structures that help the societies to: organize themselves, take decisions, implement rules and settle conflicts on natural resources. In the other hand, the successive Ethiopian states have dictated the typically new forms of property rights, resources governance laws and administrative structures to the communities. This implies that the existing different normative governance systems in the Borana are characterized by mutually influence. This study indicated the ways by which multiple legal systems exist in the Borana society point by point:

Firstly, the pastoral group has has an indigenous water harvesting knowledge, task division system, water rationing practice and resources management institutions that endow with an adaptive response to an ecological and livelihood uncertainties. Traditionally, the Borana harvest water from wells, boreholes, earth dams, ponds, roof, rocks, and depressions. These points of water are categorized in to permanent and temporary water sources for which the management systems also vary accordingly. The permanent water sources (wells and hand-dug ponds) are more strongly regulated by customary laws than the temporary ones. Based on their indigenous knowledge they dig wells up to 30m deep cut through limestone by standing about 21 men one above the other and pass water containers. They also perform cultural events, like singing traditional songs while excavating wells. As stated in chapter 5, Borana are renowned for their aged-wells that have served for centuries. At every point of water (madda), there are clusters of wells. There were about 540 hand-dug wells or 75 well clusters throughout Borana. These wells used to cover about 84 % of water supply demand during dry season. Nowadays, there are nine clusters of deep wells, called Tula Salgan (the nine deep wells) that has never dried out during a prolonged drought. These tulas are situated at areas called Dubluq, Melbana, Erdar, Gayo, Dh'aas, Borbor, Iggo, Goof and Lae. The vital sources have been managed by the indigenous institution, known as "Gadaa institution". The institution defines roles and responsibilities for men and the natural resource management bodies. The management body has three parts, called Konfi, Chora Ella and Abbaa Herregaa. Konfi (founder) is the title given to a person who scratched or identified a site for excavation. He is also responsible to organize clan members to contribute labour and bulls for an excavation. Chora Ella is the management council consisting of up to 8 members, usually from clan elders and well users who have kinship with the Konfi. The council is responsible to arrange watering ration for each clan member based on their labour contribution to well digging and maintenance activities. Abbaa Herregaa is appointed by the management council and responsible to closely supervise the daily routines

around wells. All clan members and each management body ought to behave according to the rules and principles of the Gadaa institution so as to secure peace and reliably use water from a well. The management bodies neither have salary nor get any incentives for their works. But they implement their responsibilities only in the senesce of ownership and strong moral authority invested on them by the society and the institution. The rationing system also varies in season: in wet-season the temporary water points remain open for use while the permanent ones stay closed; in dry-season wells get re-opened and livestock move distant to search for the wells; and in a sever dry-season watering frequency gradually reduced to one, two and three days. It is also indicated in chapter 5 that this social capital has enabled the pastoral group to manage the use of scare natural resources (water, forest and pastureland) midst adverse climatic conditions for years.

The traditional natural resources governance system of the pastoral group is based on the customary laws, called Aadaa Seeraa Borana. The Aadaa Seeraa are reviewed in a meeting that is held every eight years, called Gumii Gaayyoo (general assembly) and supported by social networks, like, kinship, friendship, institutionalized conferences and rituals. This law helps maintain peace and equality not only among Borana clan members but also with other pastoral allies and neighbourhoods because the customary law: 1. allows every clan member to possess own well over which it has full authority and power to control; 2. does not hinder someone water or asks to pay for; 3. ensures all Borana the right to water their cattle at any well provided that there is enough water in the wells and agreement with the management council; and 4. gives secondary watering rights to the non-Borana fellow pastoral groups.

The settlement pattern of the Borana is along water sources. As wells are the property of clans, every "Ollaa" (a group of small families with 30-100 households) and "Araddaa" (a group of 2 or 3 Ollaas) must collaborate in the wells governance activities. "Madda" is an area surrounding a particular water source, which is used by fewer Ollaas or peoples. Whereas "Dheeda" is a wider unit of browsing land used by different Ollaas and Araddaas. "Kaloo" is a pasture fenced only for grazing calves. "Abbaa madda" is an authority vested to a person who is in charge of madda administration. It is also explained in chapter 5 that the natural resource management structure of the Borana is organized from the micro-level, Abbaa warra (head of households) to the macro-level, "Abbaa Gadaa" (traditional leader). Abbaa Gadaa and "Yaa'aa" (Abbaa Gadaa's councillors and messengers) are the governing bodies of the Gadaa institution. They are responsible to put the Aadaa Seeraa Borana in place to maintain peace, order and sustainably use resource. Abbaa Gadaa is responsible in dealing with the common concerns of the Borana that includes access to and control over water, pastureland and forests. Further, traditionally the Borana govern their common goods by consensus through open and participatory discussions at various levels. The low level meetings deal with issues at household, neighbourhood and madda levels but if a problem is not solved at these levels, the issue can be passed to a clan assembly or the Gadaa officials. If the issue is still not resolved, the problem may be appealed to the mass assembly called Gummy Gaayyoo. Gadaa's rules and regulations are also applied to settle inter- and intra-clan conflicts on resources. Traditionally, a decision on watering requests by neighbouring clans or non-Borana groups is given based on the amount of water available in wells and the size of the herds existing to make use of the resource. Clan elders

have counselling roles in the decision making process when the request is for larger size of cattle. Leaders and elders also have crucial position in resolving any conflicts.

The natural resources management style of the Gadaa institution is developed based on strict relationships between the pastoralists and natural resources. Traditionally, the landscape is managed by election of management bodies; oral laws making in formal perspective; open and participatory decision through consensus; and strict control through ritual ceremony. Different actors take part in the natural resource management activities in the zone- the indigenous peoples, governmental bodies and NGOs. About 45,620 sq.km (2/3 of the total) areas of land are conserved by local communities through customary norms and principles. It is pointed out that most part of the landscape preserved under the community management system is fully compatible with the IUCN Protected Area Management categories. As the result, different species and varieties of plants and animals are sustained in the area.

On the other hand, it is stated in chapter 4 that the statutory resources management laws have been also introduced by Ethiopian governments. Albeit plural legal systems seem as a rational, reflects of history, culture and development of a society, in chapter 5 it is illustrated that the statutory laws did not integrate with the values and norms of the customary ones.. Aiming to limit the migratory way of live and promote agro-pastoralism by providing veterinary services and water supplies, the regimes imported new ways of natural resource control system to the pastoral area. The successive ruling systems imported new settlement programs, land relocation policies and new property rights arrangements over natural resources. In contrary to a customary settlement pattern, the governments also applied districts and peasants association administration structures through which decision on economic, social and political affairs of the local communities have been made by governmental bodies. The privatization policy and immigration of vast people who do not share the same values, principles and norms with the indigenous people have eroded the effectiveness of customary laws. These policies have led to conflicts the Borana and non-Borana pastoral groups and environmental degradation. It is stated in the study that such legal differences inclined to be break down and individuals could prefer to take their legal claims to the system that they believed could offer them the best advantage. When disputes over natural resources arise, the indigenous people prefer to deal their cases with customary laws, whereas the strangers follow the statutory alternative legal system. Though 2-3 % of the Borana landscapes (including three national forest areas) are protected by the state, the varieties and species of plants and animals in the area are vastly declining. Yet, the landscape that co-managed by state and community has resulted in declining a negative trend of environmental degradation, deforestation and forest degradation. Currently, NGOs, international institutions and private entities also have contributions to the Borana landscape management efforts.

Secondly, plural property rights forms also exist in the Borana. As explained in chapter 2, societies internally face a problem of efficient allocation of available resources among members. The Borana have been dealing with such behavior by allocating property rights over natural resources based on indigenous social guidance. In chapter 4 it is pointed out that their customary property rights offer clans the rights to own, use and profit the goods (wells); the

rights to exclude others from the assets, and give the freedom to transfer the rights to lineage or next generations across a clan. Under the sprite of common property rights, wells are privately owned by clans. This implies that no man or family could claim an exclusive right over the natural resource. Every clan has its own well and each community member has a right to access, use, and control over a well based on exclusion /inclusion principles. A default to contribute labour in wells excavation, maintenance, fencing, harvesting, and stoppage to participate in the management council would lead to an expulsion from access to, rationing rights and get benefits from the well and transferring the rights to others. Thus, the customary property rights form of the Borana has the features of: divisibility (jointly possessed by all clan members and sequential succession of rights), exclusivity (number of stakeholders-only contributors have ownership and access rights over a well), transferability (rights can be assigned to others based on kinship relationships), enforceability (a quality of enforcement of the laws based on social networks, kinships and Gadaa institution) and permanence (the reliability or duration of the tenure rights system in terms renewability, which is renewed at an assembly of the mass or Gumii Gaayyoo at every 8 years). All these characteristics are neither completely independent. This form of property rights arrangement system is also not completely exclusive. For instance, wet-season points of water are communally owned, used and managed by all pastoral groups regardless of clan and ethnic relationship. Whereas within the collective ownerships clans have exclusive right over the permanent water sources (wells) but the customary principles and institutions allow all pastoral groups (both the Borana and non-Borana) to water their cattle in adverse climate change based on the availability of water in wells and agreements with leaders and clan elders.

Contrary to this, a governmentally defined natural resource tenure rights form also exists in the Borana. As illustrated in chapter 5, the statutory policies have changed the common tenure rights over natural resources to the public property right system. In other words, the statutory land tenure rights transferred all lands to governments and the indigenous people left only with use rights. Besides, the introduced land policy dictated new administration structures (peasant association, district and zone); allow private property rights over land and forests for individual businesses; accomplished new settlement programs, and allocated the lands to individuals. Though the indigenous property rights arrangement system is acknowledged by some NGOs, like SOS-Sahel Ethiopia and others, the regimes overlooked the knowledge it contains. As result, customary values, norms and principles started to be eroded by new comers; the landscapes under the control of private investors and government are highly degraded, and disputes over resources among the indigenous communities and newcomer peoples and inter and intra-clans exacerbated. In addition, as the local peoples have legal alternatives to achieve their best possible benefits, the indigenous communities also started to break their local rules.

It is stated in the study that some alternatives water sources for the pastoral group are now made available by governmental and non-governmental agencies. The introduction of new technologies as a means to provide water during hard conditions is considered by the societies as positive. However, these points of water are not reliable and adequate enough for the daily water supply needs. In terms of access rights, the opportunistic water sources are characterized as unsustainable because an access right to these water sources has no institutional control

system and is often sold to others. Consequently, this has led to competitions over the resource and frequent conflicts among diverse pastoral groups.

The Borana also have a traditional social security system that has helped them adapt to environmental catastrophes. They possess a social institution or structure through which individuals formally request their respective clans for assistances or compensations when they loss their livestock due to drought. Subsequently, clan members contribute cattle for their associates who lost herds. Such type of welfare division is called Buusaa Gonofaa and is very common in the Borana lives.

In general, there are non-interconnected plural legal forms over natural resources management systems; property rights claims and disputes over resources resolution mechanisms that have been established by different actors in the Borana pastoral communities. Indigenous peoples, government, private entities, international institutions-UNHCR and NGOs are the main actors in the natural resources governance and tenure rights claims in the zone. Based on its indigenous knowledge and culture the Borana have devised an age-grade based social organizations or institutions by which it deals with its socio-economic, political, spiritual and judicial affairs. The customary values, norm and principles set and controlled by the Gadaa institution had enabled the pastoral group to sustainably use the scarce water sources for years. The institution also categorizes all Borana men under the ready-made social organization with defined roles, responsibilities and privileges in relation to public services-including pasture and water management. But governmental policies and diverse practices introduced by other stakeholders have reshaped the customary laws. As the result, the efficiency and effectiveness of the customary laws for resources governance, tenure rights arrangement and conflicts settlement mechanisms emerged to be eroded because peoples-including the indigenous communities have legal alternatives to maintain their best possible advantages through either customary or statutory legal system. The customary legal system still has significant roles in determining all lives of the pastoralists. A large portion of the landscape is conserved under the indigenous management system. Yet, government and community co-management system is resulting in the reduction of environmental degradation. Theoretically, private property rights can better helps protect the natural resource and boost development than the public, common or open-access forms. Yet, in the Boran context, neither the private nor the public tenure rights form reliably managed the natural resources (water, pastureland, forests and different species of animals). Climate change, political marginalization and human population increase are the other factors that affect the indigenous practices of the people. The introduction of NGOs, private business entities and international institutions also expanded new technologies and modern education in the zone. In relation to water supply demands, these actors provided alternative water sources to the area that could open a door for a new way of thinking and look for opportunities that could enable the pastoralists to cope with the changes came to them by the external factors.

Chapter 7: Conclusion

Despite the fact that water covers the largest part of the planet Earth's surface, the world is persistently unsecure for daily humans' water supply needs. Water scarcity limits citizens to adequately access the resource so as to attain their fundamental demand, socio-economic development. The impacts of unavailability and shortage of water sources are more serious for developing world in general and pastoral societies in particular because it traps the people of the region in the cycle of poverty by undermining economic development and badly affecting their health. The Intergovernmental Panel on Climate Change has stated that the effects of climate change cause water deficit in the Africa (IPCC 2007). As the matter of fact, the Horn of African nations are highly suffering from water deficit led drought. Explicitly the pastoral groups of the region are severely suffering from the catastrophe.

Ethiopia is one of the countries in the Horn with many ethnic groups and different climate conditions. Agriculture is a back bone of the nation's economy. It is illustrated that the Oromo people is one of the ethnic groups in the Ethiopia with a largest population both in the country and the Horn. Oromia (the Oromo land) is one of the regional states constituting the current Ethiopian regime. It can be argued that the Oromo people have had difficult relationships with the successive Ethiopian regimes because the ethnic group claims that it was independent nation until late the 19th C when occupied by Amhara and Tigrai ethnic groups. The people used to govern its social, economic, political, spiritual and judicial affairs by the principles and rules of an indigenous institution, known as Gadaa system. This institution has a determining role in every arena of the Oromo lives. The study designated that every man born or adopted by an Oromo family becomes a member of any one of the five Gadaa parties. From the day borne all men pass through a series of the ready-made social organizations or social structures called age-sets or generational-grades that have a specific duration (eight years each grade) with a defined responsibilities and privileges. The institution vests responsibilities on men for public services, like, wells excavation; natural resources management; herding livestock, territory defence, and political affairs. Every Oromo man at an age of 40 (Gadaa stage) can take the position of Abbaa Gadaa (a traditionally elected leader) with its power and authority that given by the institution. An elected leader (Abbaa Gadaa) and its administrative officials stay on a power only for one term-eight years and have the responsibilities of governing all socio-economic, political, judicial and ecological affairs of the societies based on the laws and principles of the customary institution. Nowadays, albeit it is weak and even disappeared in many parts of the Oromia, the Gadaa institution is operational in the Borana society. The Borana is one of the Oromo clans for whom pastoralism is a dominant way of life. The pastoralists dwell in the arid and semi-arid climate conditions at the southern edge of Oromia-Ethiopia and northern Kenya. As the largest part of its land is characterized by lack of water sources, the negative impacts of climate change exacerbated the periodic drought in the zone. It can be alleged that environmental degradation, population increase and politics are some of the factors that contribute to the shortage of water supply in the Borana pastoral areas.

It is acknowledged that human knowledge, believes, traditions, practices, attitudes, values, norms and goals are elements of culture that characterize a social institution or an organization

of a society. Humans have experienced with traditional practices, knowledge and principles by which they react to social, economic and ecological factors that limit their demands. In addition, it is stated in the study that many developmental agencies consider an indigenous knowledge as a major asset for development in pastoral areas because the communities possess a native natural resource management system on which they rely. The pastoral societies of the globe also have an indigenous knowledge and institutions through which they cope with the scarcity of natural resources that jeopardize its socio-economic development. Hence, the study prevailed that the Borana pastoralists also have these elements of culture by which they have maintained natural resources management, allocation and peace among themselves and fellow neighbors for centuries. A scarcity of natural resource, for instance, water and pasture, has a detrimental role in the common affairs of the pastoralists. In the midst of climate calamity, a lack of reliable water source deters the Borana's social and economic developments. Hence, for a sustainable water sources use they have devised an indigenous principles and norms under a guidance of the customary institutions. The traditional sources of water for Borana are grouped in to permanent and temporary points in which their harvesting knowledge, management practices, responsibility arrangement and tenure rights vary accordingly. Wells are the permanent water sources that the pastoral group largely relies on during dry season, whereas earth dam, depression and boreholes are the wet-season points of water. Nowadays, there are nine clusters of traditionally developed tulas (wells) that have never run dry during tough drought time.

It is stated in the study that the relationships between human societies and laws have plural forms in the sense that legal pluralism reshapes the natural resources management system; property rights claims, and conflict resolution mechanisms through negotiations among diverse parties in an indigenous people, local community and/ or pastoral society. This study pointed out as the Borana people also have exercised plural legal forms to cope with their social orders, social pressure and environmental limits through multiples of legal orders-customary and statutory laws. The former legal form has cultural roots that based on an indigenous knowledge, practices, principles and norms guided by the Gadaa institution and social organization of the people while the later has been dictated by the external actor, Ethiopian government. The introduced property rights laws and development policies of the Ethiopian regimes have redesigned the traditional resource management system, ownership entitlements and disputes resolution principles, norms and rules.

A long-term maintenance of human consumption of natural resources is predominantly important for humans' sustainability. A development explicitly interlinks with social, cultural, environmental and economic issues of human societies. The arrangements of using scarce natural resources, like water and pasture, require robust management and conservation for present and upcoming generations. In semi-arid areas like the Borana pastoral land, a scarcity of the basic natural resources (water and pastureland) is a principal limiting factor especially during harsh climatic conditions. The study found out that the Borana people devised a normative form of natural resources governance system that helped them adapt to water scarcity in an awful conditions. Their customary institution broadly deals with the structures and practices that influence who has access rights to and control over what resources, and verdicts

over the contested resource claims. Further, the study indicated that the Borana management and tenure rights practices over natural resources are the accumulations of experiences, adaptive in nature, flexible and negotiable within the societies vulnerable to a scarcity. In addition, Borana social organizations are considered the ready-made power structures that helped group of the pastoralists organize themselves, take decision, implement regulation and resolve disputes. The group develops an oral but formal management laws and principles for communal affairs (including water and pastureland) based on consensus through open and participatory discussions at the assembly, called Gumii Gaayyoo or “peace of the Boran”, which is explicitly interlinked with an enforcement of the customary laws under the umbrella of the Gadaa institution. Verdicts are given open air. The authorities and powers vested on Abbaa Gadaa and his nine officials; strong social connections and power relationships across the moieties, clans and lineages; settlement pattern and border divisions play integral roles in the robustness of the native natural resources management systems. This governance style has enabled the Borana societies to reliably use the traditionally crafted wells for centuries even when severe water shortage existed. Presently, there are nine clusters of wells that have been sustained by an indigenous management system and never dried for years, however population increase and climate change have limited its accessibility to a million people and its livestock. It can also be alleged that a significant portion of the Borana landscape is managed through indigenous knowledge and practice. Of the total 63,939 sq.km areas of the Borana, about 45,620 sq.km areas of the landscape is preserved under the customary governance system. Most of the preserved areas are compatible with the IUCN protected area management categories. The indigenous natural resources control style has its management bodies (a founder, a management council with 6-7 men and a supervisor), oral laws in formal perspective, training and decision making ways. Discussions that target management and use rights issues rang from a micro-level to macro-level social organizations. Further, it can be argued that a significant part of the landscape is presently conserved under the local community and government co-management approach. But forests and lands that owned by government and non-local bodies remain deteriorated. NGOs, private enterprises and transnational institutions are the other stakeholders in the management and usage claims over natural resources in the zone.

Further, the study indicated, exclusion and inclusion are the key principles in the Borana’s customary management and property rights arrangements over wells. In other words, failing to carry out the obligations vested by the institution that supported by social networks will escort to sanctions. A default to contribute labour to wells excavation, maintenance, fencing, water harvesting, and a stoppage to participate in the management council would lead an individual to an expulsion from access to and ownership rights. An evading meeting the responsibilities along with a prolonged drought cause conflicts among inter and intra-clans. Clan elders and Gadaa leaders play pivotal roles to restore the peace and heal the break. Alike the management matters, the customary institutions also allow all clan members to collectively own a well with an exclusive rights in the sense that in the sprite of common property rights form, a clan privately owns a well and a watering rights to any well is preserved only through a participation in series of routine activities around the well. This means that no particular person or family has an exclusive rights over a given well. Of course, other natural resources, like pastureland and

forests, are also governed under the common property rights principles and rules of the pastoralists. However, a temporary water source (wet-season point of water) is inclusively owned by all Borana clans and other non-Borana pastoral groups-is an open-access property. Regardless of kinship relationships, all pastoral groups around the resource maintain to make use of it without over-exploitation. Norms and values govern the communities not to misuse but conserve the resource.

Water rationing is based on a position that an individual has in a clan. Watering priority is given for management bodies, elders and clan members accordingly. In an opportunistic manner, the customary principles and rules also offer a secondary rights to a non-clan members and /or other neighboring ethnic groups to water their cattle at a given well for short-term. This happens through negotiations according to webs of arrangements that emerge from the social structures and kinship organizations for Borana lineages, whereas Aadaa Seeraa (traditional laws) and decision of the management bodies (that based on an availability of enough water in a well and size of cattle) are the bases to compromise watering rights to non-Borana pastoral groups.

It can be argued that there are also un-negotiated statutory laws that govern natural resources and regulate property rights in the Borana communities. The consecutive Ethiopian regimes have allocated property rights that distributed natural resource to citizens. Resource allocation and management responsibilities are legally transferred to the hands of the states. The governments' policies transformed the common goods (natural resources-water, land, etc.) to the public property rights form. This property rights arrangement form is characterized by non-exclusivity, tradability and lack of divisibility (no joint possession but individuals have only use rights). It also does not empower people to maximize their benefits because they have no: effective decision making powers, infinitive property rights, secured rights. The states introduced peasant associations, district and zone administration intuitions that control the socio-economic, political and environmental matters of the societies. As the result, the customary principles and rules became ineffective; resources over exploited; ecological degradation exacerbated; effects of climate change increased; competition on natural resources increased; livelihood of the pastoralists severely hampered, and intra and inter-clan conflicts over resources.

The study indicated that some alternatives water sources are presently made available by governmental and non-governmental organizations for the pastoralists. The introduction of new technologies for boreholes and well drilling as marginal water supply during drought is considered by the societies as positive. However, these points of water are not reliable and adequate enough for the humans and livestock demands. In terms of access rights, the opportunistic water sources are characterized as unsustainable because an access right to these water sources has no institutional control system and is often sold to others. As the result, it leads to competitions and frequent conflicts among diverse pastoral groups.

In addition, it is also stated that the Borana have traditional social security system that has enabled them adapt to environmental changes. So as to begin a new life, there is a traditional compensation mechanism, called Buusaa Gonofaa, through which individuals formally get

reparations (in kind) from their respective clan members when their cattle die due to a prolonged drought.

Generally, it can be concluded that water has decisive roles in the socio-economic and politics of the Borana people. Plural but non-negotiated (uncompromised) legal forms over natural resources management and property rights arrangements are visible in the Borana pastoral communities. The societies devised indigenous institutions, social organizations and power structures through which it used to adapt to water and pasture scarcities and drought for centuries. The Gadaa institution has a function of legitimizing and maintaining the social principles, norms, order and rules in the sense that it sanctioned the tenure rights and governance system of the indigenous societies. Claiming access and property rights over water sources and pasture have a direct connection to exercising power and authority of this institution. The effectiveness of the customary resource regulation and tenure rights arrangement systems is strongly tied to kinships and social networks within the clan. There is a way in which the states laws penetrated and restructured the normative laws and order, and at the same time there is a means in which the customary principles and order resisted the statutory laws. The amendment of customary governance and property rights arrangements over natural resources and cultural values of the society by the Ethiopian governments have resulted in cleft and conflicts among diverse stakeholders in the zone. The state laws officially vested power and authority to the governmental politico-legal institutions to regulate the governance and tenure rights over resources. However, they have no any legitimizing effect on the Gadaa institution and its normative forms. The states' politico-legal institutions and governance policies are more supported by the non-indigenous stakeholders. Though both the customary and statutory laws and property rights are not legally legitimized each other, both have roles in the lives of the Borana pastoralists. NGOs, private ranches, and international institutions are also the actors in the issues of natural resource. Theoretically, private property rights can better maintain natural resources. Yet, in the Borana context, it can be argued that neither the private nor the public tenure rights worked out. The study showed that a largest portion of the Borana landscape is better protected under the customary management and property rights systems. The traditional institutions and practices are emerged to be eroded because individuals (including the indigenous people) have legal alternatives to maintain their best possible advantages. So far, the customary legal system has significant roles in all lives of the pastoralists. Climate change, political marginalization and human population increase are the other factors that affect the indigenous practices of the people. The introduction of technologies and modern education to the area could help them look for opportunities that to cope with climate change, scarcity and pressure exerted on resources or social, technological and economic changes came to them by the external actors.

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