

PASTORALISM AS A CONSERVATION STRATEGY
ETHIOPIA COUNTRY STUDY

DRAFT

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ACRYNOM

ANP	Awash National Park
BOA	Board of Agriculture
CSO	Civil Society Organizations
EPA	Environment Protection Authority
EPD	Ethiopian Pastoralist Day
EWCO	Ethiopian Wild life Conservation Organization
FAO	Food and Agricultural Organization
FARM	Food and Agricultural Research Mission
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
ILCA	International Livestock Center for Africa
MDG	Millennium Development Goal
NERDU	North East Rangeland Unit
PADS	Pastoral Area Development Studies
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PFE	Pastoral Forum Ethiopia
PRSP	Poverty Reduction Strategy Paper
RDPS	Rural Development Policy and Strategy
SDPRP	Sustainable Development and Poverty Reduction Program
SNNPR	Southern Nations, Nationalities, and People Region
TLU	Tropical Livestock Unit
UAE	United Arab Emirates

2 Introduction: Study and country

2.1. *The study*

The study "Pastoralism as a Conservation Strategy and Contributing Towards Livelihood Security and Improvement" coordinated through the IUCN Eastern African Regional Office is expected to demonstrate the importance of conservation and natural resource management as an asset for sustainable pastoralism in Ethiopia, and the eastern African region. It will also address Pastoralism, as a potentially sustainable form of land use and conservation in harsh and arid climates and contributing its immense share to the national socio-economy and political arena. Above all, the findings and recommendations of the study will help to advocate and engage in capacity building in support of pastoral sustainable land management, through a catalytic partnership between pastoralists, donors, UN agencies, NGOs and the private sector. National consultants using literature review of important research and development publications undertook the study. The outcome of the report will be used for policy briefs and could be an important contribution to the UNDP-GEF supported World Initiative on Sustainable Pastoralism (WISP), which IUCN will implement, through its Eastern Africa Regional Office for the advocacy approach of the global WISP project.

2.2 *The Country*

Ethiopia is a country located between 33°E and 48°E longitude and 3°N and 15°N latitudes. It has rugged and mountainous topography with altitude ranging from 4,620m at mount Ras Dejen (the highest peak), to low of 110 m below sea level in Dalol depression, in Afar, one of the pastoral areas of the country. It's location near the equator, together with its extensive altitudinal range, has

rendered the country suitable for human settlement based on a big range of crop production systems and Pastoralism.

The major source of rain in Ethiopia is the Monsoon (westerly) wind systems from the South Atlantic and the Indian Ocean and easterly winds from the Arabian Sea. Highest rainfall reaches 2,000 mm in south-western parts of the country and declines to below 250 mm in the north eastern and south-eastern lowland areas. Mean annual temperature ranges between 10°C in the north-western and south-eastern highlands to 35°C in the north-eastern lowlands.

In terms of land use, out of the total 111.5 million ha of land 74 million ha (66 % of the total area) is suitable for agriculture. However, total land cultivated is estimated at 16.5 million ha (14.8 % of the total). Soil erosion and degradation on the farmlands is a common phenomena contributing to 400 tons of fertile soil/ha is lost annually from with no or little vegetation cover (EPA, 2003).

The country economy mainly depends on agriculture. In 1999/2000(EPA, 2003) the share of agriculture and industry to the national GDP was 43.3 % and 11.5 % and have shown a growth of 2,5 % in agriculture and 5.3 % in industry. Agricultural products account to 90 % of the total Ethiopian export trade. Coffee followed by leather and hides constitute 60% and 12 % of the total export respectively. According to the sustainable development and poverty reduction programme (SDPRP, 2003), a total growth in export volumes of 32.8% is registered and an increase in relation to the preceding year's earnings of 24.4 % was recorded. The same report indicated that the country has scored vvery good economic growth of 11.6% in 2003/04, as result of recovery from the drought; strengthened support to exports and private sectors well as improved service delivery, access to finance and access to land. In addition, the report indicated maintenance of macroeconomic stability and reduced inflation from 15% to 9%.

According to a plan for Accelerated and Sustained Development to End Poverty (PASDEP) 2005 report, Ethiopia is one of the least-developed countries in sub Saharan Africa. The human development indicators in Ethiopia still remain at low levels in the world. The majorities of households live on small plots of relatively unproductive land, and relies almost entirely on hand-cultivation of basic food grains to survive. More than 15% of children die before their fifth birthday; 47% of children are malnourished in some form or another. Maternal mortality, at 871 per 100,000 is about the highest in the world. About 48 million people do not have access to clean water, and only 17 % (2004/05) of the population has electricity (PASDEP, 2005). Rapid population growth remains a major barrier to poverty reduction, and the addition of almost 2 million persons per year puts tremendous strains on Ethiopia's resource base, the economy, and the ability to deliver services.

During 2004/05 fiscal year total general government expenditure excluding special program is budgeted at Birr 26,267 million, of which about 60% is recurrent expenditure and 40 % capital expenditure (PASDEP, 2005). Of the total expenditure (from all sources) Birr 14,139 million is allocated for poverty-targeted sectors of education, roads, agriculture and food security, health, and water, In accordance with the SDPRP objectives, the government has budgeted continued increases in funding for education (up by about 32 % compared to 2003/04), health (4.4%), and water supply (94.3%), Agriculture and food security (36.3%) including the pastoral areas. The report further stated that the significant increase in spending on agriculture and food security is an indication of the renewed emphasis on food security as witnessed by the increase in the food security budget (specific grants to regions) from 1 billion Birr in 2003/04 to 2 billion Birr in 2004/05 budget. Such increases in budget allocation to poverty-oriented sectors such as agriculture and food security, roads, health and water is a reflection of the continued pronounced focus by the government .

One major development in the last three years has been the implementation of the new Coalition for Food Security. The program is aimed at addressing the immediate needs of over 5 million chronically food insecure households (i.e. in non-pastoral areas) using safety net programs on a continuous basis. A significant departure was made in the food security budget line during the 2003/04-budget allocation. The food security budget from treasury, which used to hover around Birr 150 million annually during the years preceding 2003/04, increased to Birr 1 billion for the first time in 2003/04. The budget on food security from treasury doubled to Birr 2 Billion during 2004/05. According to the report the success in improving the food security situation in the country is due in part to improved circumstances: the return of political stability following 20 years of unrest, maintenance of macroeconomic discipline, and good policies have led to increased confidence and business activity, both by domestic and Ethiopians in the Diaspora. It also reflects the beginning of impact of past investments made in education and infrastructure; as an example, literacy rose from 26% in 1996 to 38% by 2004.

In the education sector, there has been success story in expanding schooling at primary, secondary, and post-secondary levels in the past year. Gross enrolment rate at primary level (grades 1-8) for the country as a whole reached 68.4% in 2003/04, above the target set for the year of 66%. Disaggregated by gender, GER for girls was 59.1% and for boys 77.4%; the national GER for secondary schools (Grades 9-10) was 22.1% in 2003/04, which is 6.1% above the target set for 2004/05. The success in the education sector includes the pastoral areas. University Colleges were upgraded to full-fledged universities raising the total number of universities in the country to 8.

With regard to infrastructure, total classified road network has increased by about 11% over the last 3 years reaching 37,018 km. in 2004/05 from 33,297 km. and telecommunications coverage has increased from 200,000 lines in 1999/2000 to 1 million today including the pastoral areas. The program will involve a major

expansion of the road network, with a target of constructing almost 20,000 km. of new roads by 2010, (90% of them in rural areas) and improved maintenance so that 84 % of the network is in good condition. During the program, study and design for 738 towns, construction works for 514 towns and rehabilitation works for 228 towns will be carried out.

In the health sector, major emphasis has been given to the Institutionalization of Village Health Services Package. This includes, immunization coverage reaching 60%, well above the target of 55% for 2003/04; contraceptive prevalence slightly exceeded the target coverage rate of 23.5% and coverage of the health system, defined as share of the population within 10 km. of a health facility, increased from 61.3% in 2002/03 to 64% in 2003/04.

With regards to water supply and sanitation and access for the national water supply for the year 2003/04 stood at 37.9%, slightly higher than the 36.1 % targeted for the year. Water supply will be expanded to reach 85 % of the population (compared to an estimated 42% today),

Power supply will be increased three-fold in the PASDEP period, with the construction of 5 major new dams, and addition of 668 MW of generating capacity. A major rural electrification program is underway, so that at the end of the period it is expected that 50% of the population will have access to electricity, compared to about 17% today. A major telecommunications initiative is under way, which will result in increase of subscribers at the end of PASDEP period in fixed telephone, cellular mobile and internet to 4.264, 1.64 and 0.15 million from the current level of 610,317; 410,603 and 15,000 respectively.

The government is considering capacity building as one of the key to the success of the SPDRP and MDGs. The focus is on democratic governance (Improved Law Making, Human Rights, Elections, Transparency and Judicial Independence and Women's Empowerment), justice system reform, and decentralization.

The SRDPRP has also placed a strong emphasis on the importance of gender equality for development and poverty reduction. Significant number of initiatives is underway, including preparation of the National Action Plan on Gender and Gender Budget Analysis.

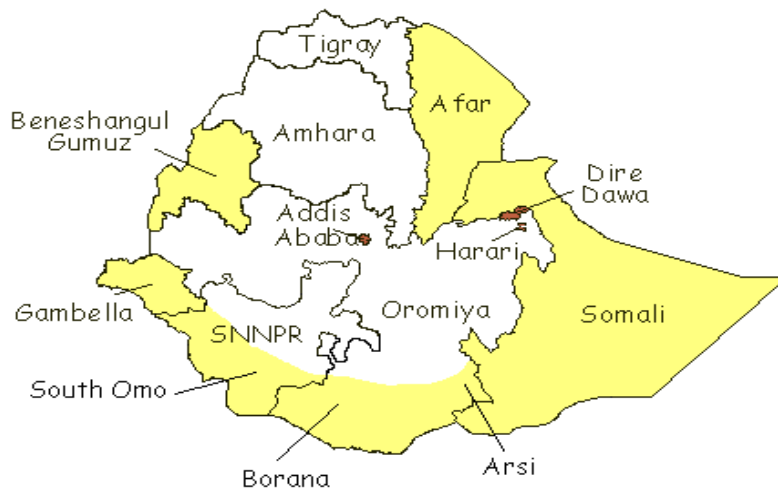
Significant progress has been made in HIV/AIDS prevention through initiating the National Biological Survey, which will provide the essential data needed to refine Ethiopia's, AIDS strategy. That will be completed in 2006. In addition, a comprehensive HIV/AIDS monitoring and evaluation (M&E) framework is published, to be used as an implementation manual.

3 The Pastoral Lands-Ecosystems

3.1 *Pastoral Regions*

According to PADS, 2005-study report, the Pastoral Regions are found in Afar, Somali, Oromia, SNNPR, Gambela, Bensangul and Diredawa covering 624,880 Km² (60 % of the total area of 1.1 million km² of the country (Map 1 and Annex 1 and 2) of which 95 % is rangelands. In terms of administrative regions they occupy 42 zones, 122 districts (34 % of the total). Based on the land use patterns and grazing potential study conducted in 48 districts 31-land use and vegetation patterns has been identified (Annex 3). Based on the study result, rangeland comprised 95 % of the total areas; while agriculture and unproductive land occupy 1.0 % and 4.0 % respectively.

Map 1 Location of the major pastoral areas in Ethiopia



Considering the environmental conditions, floristic composition, and productivity values, the rangeland resources of Ethiopia are categorized under 5 systems and 25 subsystems. The major systems include the foothills and depressions of Afar Region; the plateaus, riparian woodlands, wet areas and savannah lands of Somali Region; the Borana Plateau and the agro-pastoral midlands of Oromiya Region; the riverside grasslands, lowland steppes and agro-pastoral midlands of SNNP Region; the flood lands and uplands of Gambella and Benishangul Gumuz Region.

Based on ecosystem analysis, the study result has appraised the range quality in terms of three categories of grazing suitability, namely: Good (from 760 to 1140 kg of utilizable vegetal production per hectare per year); Medium (from 350 to 760 kg of utilizable vegetal production per hectare per year); and Poor (less than 350 kg of utilizable vegetal production per hectare per year). The range quality survey from the 48-sample pastoral districts was broadly categorized as good (20 %), medium (24 %), poor (51 %), and other (5 %).

3.2 *Human population and Distribution*

Based on recent PADS, 2005 estimate, the total pastoral population in Ethiopia is 9.8million (7 % of the total) composed of 29 Nilotic and Cushitic ethnic groups found in the lowland parts of the country (Annex 2). Out of the total, about 93% are considered to be pastoralist and agro-pastoralist. The rest are either hunter-cultivators or pure cultivators. The rangelands provide employment and investment opportunities and are source of meat, milk for residents of approximately 24 major towns and cities within and adjacent to lowland areas (NRLDS, 1995).

3.3 *Rangeland Plants*

Rangeland plants include grasses of herbaceous (non woody) monocotyledonous plants in the form of annuals or perennials, browses and herbaceous legumes. These range in size from a few centimeters to 20 m or more in height, and are the main feed for livestock in particular cattle and sheep.

Legumes are dicotyledonous plants, and could be annuals, biennials or perennials. Most legumes grow symbiotically with rhizobial bacteria that form nodules on the roots. They are source of feed to livestock in particular to ruminants.

Browse is often considered to be leaves and twigs of shrubs, woody vines and trees used as animal feed in particular to goats and camels, and are the main livestock feed during the dry season.

3.4 *Livestock resources*

The livestock in the pastoral areas consist of cattle, sheep, goats, equine (mainly donkeys) and camels. The major livestock types include Cattle (Sanga, Nuer, Dingka, Borana/Ajiba, Palata, Arsi, Borena, Sheko, Suri, Bume, Ogaden); Sheep (Afar sheep, Falata, Nuer, Arab, Ajiba, Arsi/Bale, Block Head Ogaden, Wanke); Goats (Afar goat, Felata, Western Lowland Goats, Nuer, Arab, Arsi/Bale, Long-eared Somali, Short-eared Somali, Moyto) Camels (Afar type, Siif Darr, Eyedimo, Ayuune, Hoor, Gellab).

Source on livestock population vary widely as estimate have been done by different agencies. Although, the actual livestock number is not known, there is no doubt that the country has the largest livestock population in Africa. These include 35.4 million cattle, 21.7 million sheep, 16 million goats, 7 million equines, 1 million camels and about 57 million poultry. This is equivalent to 38.15 million TLU. The pastoral areas have an estimated total of 7.3 million cattle, 3.5 million sheep, 5.5 million goats, 470 thousand equines and 1.8 million camels (MoA, 2003) (Annex 9). The total capital value of the herds and flocks raised by the pastoral and agro-pastoral communities, measured at its market value, can be approximately estimated at 7,000 million US\$, including all type of animals. The livestock population in the pastoral areas is estimated at 9.3 million cattle, (30 % of the total); 12. 4 million sheep (51.7 % of the total); 8.1 million goats (45 % of the total); and 1.8 million camels (100 %). The land value with the related watering and grazing rights is not computed in this estimate of the capital resources of the pastoral sector.

The livestock in the pastoral areas have the ability to live in harmony with the harsh environmental condition and survive with meager feed and water resources and persist during the dry period and disease spell.

Despite these good merits their productive performance with respect to milk, meat etc is reported low. However, Roy and Behnke (1993) quoting Cousins, 1985 have cited that "Indigenous African Systems of livestock production on natural rangelands are generally speaking as productive as or more productive than commercial ranching in similar environments". In comparable unit of measurement of protein, calories of energy or cash value and with the output expressed on ha basis, the productivity of Boran livestock is 157 % is higher relative to those in the Kenyan ranch.

According to Coppock (1994), the lowlands play vital role in the national livestock economy. They provide about 20% of the draft animals for the highland farming system and smaller number of animals for finishing on crop residues and crossbreeding activities in dairy development programs. Besides supporting rural and urban lowlanders with milk, meat, employment and investment opportunities, livestock (cattle and sheep) make up over 90% of the legal exports of live animals (Coppock, 1994). Livestock are primarily kept as source of food, cash, security and insurance, social and cultural identity, raw materials, medium of exchange, traction power for the mixed crop-livestock farming system and manure.

Livestock property is skewed in the pastoral complex, as 30% of the families own 60% of the total herd. The "upper rich category" represents 4% of the population but owns 13% of livestock wealth. The poor majority makes up 70% of the pastoralist with just 40% of livestock. In the middle, the relatively affluent or self-relying category concentrates 26% of the human and almost half of the livestock population (PADS, 2005). Per capita livestock holding that define the wealth status of a pastoral family varies from 15 TLU in depleted Afar rangeland territories to over 25 TLU in lush Gambela flood plains.

The total capital value of Ethiopia's pastoral resources is estimated at about US\$ 2.7 billion (1,600 \$ per household and 330 \$ per caput). These include, *pastureland* (capitalized fodder-output value): 1,520 million US\$ (900 per household), *water infrastructure*: 40 million US\$ (wells, boreholes, cisterns): 22 per household, *livestock*: 770 million US\$ (450 per household), *farmlands*: 250 million US\$ (150 per household), excluding fallow land) and *other assets*: 150 million US\$ (90 per household). In 2001-03, the gross product of Ethiopia's pastoral systems averaged slightly above 560 million US\$ yearly, accruing from livestock products (meat, milk, hides & skins, draft power): 332 million US\$, rain-fed agriculture: 126 million \$, natural products as game, fish, honey, fruit, wood, resins, salt, diamonds: 43 million \$, handicrafts and services: 56 million \$ and other products: 6 million \$ (PADS, 2005). Compared with a total asset value of 2.7 billion US\$, the productivity of Ethiopia's pastoral systems is relative high, but its long-term sustainability is exposed to risk, since natural capital is used beyond regeneration capacity.

The total annual meat and milk off take of the pastoral sector is estimated at 120 thousand tons and 683,520 ton respectively. The pastoral systems produce 332 million US\$ worth of meat, milk and other animal products, equal to 60% of their gross annual output. Meat and milk contribute similar economic output shares. Pastoral animal products – meat, milk, hides, skins, draft power – contribute 0.33 billion, equal to 5.0% of GDP. Other pastoral products, as crops, gatherings and handicrafts, gross 0.23 billion US\$, or 3.4% of GDP. Altogether, the pastoral sector contributes 9% of GDP. Since pastoralists make up 11% of the country's population, economic and demographic indicators are not too far apart (PADS, 2005).

Almost 60% of pastoral production (327 million US\$ out of 556 annually) is self-consumed or redistributed within the local communities on a non-commercial basis. The rest is marketed. The annual meat output amounts to 294,000 tons, resulting from the off take of 11% from cattle herds, 35% from sheep & goat

flocks and 2% from camel stock. The net milk output amounts to 684,000 tons yearly. About 20% of the meat and 70% of the milk off take are self-consumed.

Subsistence and market-oriented market systems are common in the pastoral and agro-pastoral areas. Generally, milk especially cows milk is used for consumption in liquid form, for sells and for making butter. Sheep and goats milk is mainly for home consumption. Camel milk is for home consumption and is taken to the market in very rare cases. According to FAO (1998) estimate as quoted by Yacob (2002), off take rate for the country for cattle is 8 %, amounting to between 2.2 – 2.8 million head /year which is one of the lowest in Africa proportion to the livestock number. Off take for sheep and goats is estimated at 41 % and 34 % respectively or at about 15 million shoats annually. The PADS study for 2003 indicated livestock off take from the pastoral areas was 582,838 cattle (8 % of the total), 1.2 million sheep (34.5% of the total), 2.1million goats (38.2 % of the total) and 109,204 camels (6 % of the total) of the livestock population found in the pastoral areas. Similarly, over 150,000 hides and 300,000 skins leave the country using the cross border informal markets (PADS, 2005). Value of products exported informally is estimated at USD 108 million.

The total off-take of animal products generated by the livestock resources of the pastoral complex – including milk, meat, draft & transport animals, leather and minor items as bee products - amounts to an estimated 2,900 million US\$ per year. The off take, which features both self-consumed and marketed products, is thus equal to 41% of the capital value of overall pastoral livestock resources (PADS, 2005).

The total amount of revenue expected from sale of milk is Br.323 million and the amount of milk consumed at home is worth Br.1.6 billion. The total annual meat off take of the pastoral sector is estimated at 120 thousand tons, of which; 43.2 thousand tons is self-consumed, 37.2 thousand tons marketed and consumed

within the pastoral areas, 28.8 thousand tons marketed and consumed in Ethiopia outside the pastoral areas and 10.8 thousand ton exported as fresh and processed meat .

3.5 *Water Resources*

Ethiopia's surface water potential exceeds 122 billion m³/year. Major rivers of the country are eight river basins namely, Abay, Omo-Gibe, Baro, Dawa, Genale, Wabishebele, Awash and Tekeze. The lower courses of these rivers, With the exception of Tekeze (Atbara) river the rest are found in the pastoral rangelands. Pastoral areas exist in all river basins, as the Awash, Danakil, Genale-Dawa, Ogaden, Omo and Wabe-Shebele. All rivers but the Awash flow into neighboring countries (PADS, 2005).

The total surface of the 18 natural and artificial lakes in Ethiopia is about 7,500 km². Seven of the eight major natural lakes are found in the Rift Valley. Ethiopian lakes are rich in fish. The maximum sustainable yield of fish from the major lakes is estimated to be about 35,300 tones per year (EPA, 1997). Most Ethiopian lakes except Zeway, Tana, Langano, Abaya and Chamo are terminal lakes.

Ethiopia has a rich water resource potential, but water can be locally very short in many places. The irrigation and the hydroelectric generation potentials of the 12 major basins crossing the pastoral areas of the country in terms of potential gross irrigable is estimated at 3,495,795, net area under irrigation is 161,010 and under utilization is 4.6 % (PADS, 2005). The potential for hydroelectric generation is estimated at 135,311 GWh/year while actual utilization is 1,098 GWh/year (1.25 % of the total).

3.6 *Flora and Fauna*

The lowlands are rich in flora and fauna biodiversity. Ethiopia has the fifth largest flora in tropical Africa of which 12% are considered to be endemic. Similarly, with regards to fauna, out of the 24 endemic bird species, 19 are shared between the lowlands and the highlands (EPA, 1997).

3.7 *Cultural Heritage*

The cultural heritage resources make the lowlands more important for historians, socio-anthropologists and archaeologists. Prehistory and archaeological interests and a range of cultural heritage including movable, immovable, historical, and spiritual and the presence of traditional technologies have made the lowland parts of Ethiopia more valuable (EPA, 1997)

3.8 *Mineral Resources*

In terms of mineral resource development that will contribute a lion share to the pastoral communities is addressed in the PASDEP. According to the report, limited mineral explorations conducted in Ethiopia have shown deposits of various minerals, which includes, gold, tantalum, platinum, iron, nickel, potash, soda ash, and different industrial and construction minerals, gemstones, natural gas, salt, mineral water and geothermal energy. Similarly, minerals such as soda ash, kaolin, quartz and feldspar, dolomite and silica sand reduce the import of such minerals and saves foreign currency. The Calub gas (in Somali region) condensate if properly developed and used can potentially reduce the import of petroleum products, serve as a raw material for fertilizer production, and can be used for power generation. Some of these have already been developed and are contributing to the national economy. For example, gold from a major single

open pit mine and silver from a further refining process contributed more than USD 40.7 million during 2003/04. The government has also earned US\$72 million from the privatization of Lege Dembi Gold Mine, the largest amount generated by the privatization process (PASDEP, 2005)

3.9 *Wildlife Resources*

Diversity in climate and topography has endowed the country with enormous fauna and flora. Record has indicated that about 227 species of mammals, 862 species of birds, 63 species of amphibians, 150 species of fish and 201 species of reptiles. Of these 31 species of mammals, 17 species of birds, 6 species of reptiles, 30 species of amphibians and 4 species of fishes are endemic to Ethiopia (Mekbib Eshetu, 2001).

Ethiopia has long history of wildlife trade in civet musk, ivory, leopard skin and frankincense with the outside world. With the view of regulating elephant hunting conservation of wildlife decree passed by Emperor Minelik II in 1908. In 1965 the Ethiopian wild life conservation organization (EWCO) was mandated with the responsibility of conserving the wild life. After the establishments of EWCO 9 national parks and 3 sanctuaries and, 8 wild life reserves and 18 wild life control hunting areas have been established of which 2 are only gazetted (Mekbib Eshetu, 2001). Since most of the conservation areas are located in the pastoral areas of the country, conflict of interest has been created with the pastoral communities over resources.

Ethiopian primary, secondary conservation areas, sanctuaries and controlled hunting areas cover a total of 5.5 million ha (5% of the entire country coverage) and are classified into four categories namely; national parks, wildlife sanctuaries, wildlife reserves, and controlled hunting areas. The main wildlife resource areas are found in the pastoral regions of Afar, Oromia, SNNPR,

Somali and Gambela. Some of the key challenges facing wildlife conservation in the pastoral areas are related to cultural influence (killing for fame), conflict over grazing resources, and settlement in the conservation areas, poaching and possibility of disease transmission such as Anthrax from livestock to wildlife.

4. Pastoralist natural resource management and Strategies

In terms of resource management the Borana society (Boka, 1993) Afar and Somali societies are highly developed, organized and adaptable to the environment (IIRR, 2004). The responsibility lies on the council of elders in allocation and management of common resources; overseeing proper utilizations and redistribution of natural resources and wealth to ensure access to common resources; resolving disputes among individuals and sub-groups; and allocation of wealthy and conflict resolution. (See chapter 5 for detail on pastoral institutions and natural resources)

Grazing management

There is demarcated territorial division (Madda in Borana, Metaro in Afar, for grazing land to effectively utilize the natural resources (i.e., livestock, grazing and water management). Livestock/cattle group and the corresponding grazing areas are categorized under: Small and young calves (Jabi and Agoro in borena, young kids (bokele) in Afar) grazing on calf enclosure fenced and close to the home stead and looked by children aged 5-12 (calf enclosure known as kalo in Borena and deso in Afar). During the dry period moved to fenced areas to provide special care for feed and water. No big animal is allowed to go. Milking stock (Sera Hauricha in Borena, lactating camels (homa-areyu) in Afar), breeding bull and 1 or 2 oxen for sale are kept at homestead area and grazed at radius of 12 km during the day and return to village before dark. Because of shortage of labor, small stock of sheep and goats are also kept and grazed with

milking cows. When the dry period extends or drought progress the whole family will be forced to move to areas where grazing and water is considered better. Dry stock (Dhedda For cattle in Borena and dry camels (adi galla) in Afar,) as long as the herd is healthy move outside the homestead area and they constitute the mobile herd. Young men above 14 years of age herd them. Seasonal changes I particular availability of water determine mobility in particular dry and wet season grazing pattern. In addition, similar to the Afars and Somalis, watering frequency for different livestock species depends on distance of the grazing area form the perennial water points. The normal practice is watering of cows every 3 days, small ruminants 3-5 days and camels every 7-day depending on the distance form water. In normal instances pastoralist with their livestock move to perennial water points and dry season reserves where grazing and water is consider to be better for large number of livestock until the beginning of the next rainy months. Such water points and dry season reserve areas include, in the case of Afar (Awash, Cheffa valley, Gewne Swamp) and Somali (Wabi Shebelle, genale, dawa and vallys of Errer, Jerer and fafen), south omo pastoralist (Omo river and lake Turkna)) and traditional deep wells in the case of Borena (Melbena, Dubluk and the like). Depending on the severity of the drought pastoralist with their livestock will be forced to move to the adjutant escarpment or highlands in search of feed and water to save their animals. In most cases prior arrangement will be made with the neighboring communities not to inflict conflict over resources.

Among the Nuer pastoralist of Gambela Region, use of rangeland is of two types of oscillatory movements. In the wet season the lowlands close to Baro or Gilo rivers are flooded and stock moves to flood-free upland areas. During the dry season livestock are taken back to the low ground. Before the rainy season approaches, fire is used to get rid of old growth of grass and give way to the growth of new lush pasture (Beruk and Tafesse, 1998, PADS, 2005).

The range management practices by Dasegnetch, Hammer and Nyangatom in South Omo of southern region is the use of traditional grazing areas in their own territories during the wet season. At times of dry season, they move close to the Omo River, and to areas around Lake Turkana (Dasegnech pastoral communities).

Prior to mobility take place team of young men who are reliable well respected, gentle and calm can move long distance known as (eddo in Afar and sahan in Somali) will be selected to undertake the following responsibility: assess areas that has received rainfall recently; monitor availability of fodder and water; make estimate for how long the feed and water be adequate for the livestock, and check for livestock disease or security risks

Water Management

Use and management of rangelands is primarily determined by the presence and availability of perennial or seasonal water sources. For the Afar,' it is easier to control access to artificially dug water sources than natural ones. Water management user groups regulate and maintain rainwater harvested in shallow ponds (horoyo).

Similar to Borena, the Afar organize the labor work watering animals in deeper wells to avoid overcrowding, overgrazing and conflict. In drier areas and during dry and extended periods, herders water their animals less frequently in order to reduce the distance the animals travel and spent more time for grazing.

Rangelands provide multi purpose use of the rangeland plants that include for food, feed, firewood, charcoal, timber for construction, traditional medicine, shade, spices, gums, resins, dyes etc. Trees that are protected, including those used for rituals/meeting and praying place, shade, fodder, medicinal value and construction purpose. Planting new trees is not common among pastorals

communities. However, in normal circumstances pastoralists don't cut trees without approval of traditional law enforcement officials (fiema, in Afar). Those who break the law are punished.

For pastoral communities entirely depending on livestock herding, food security is synonymous to fodder security. Common ways of fodder security strategy includes, season migration, feeding tree leaves and pods at times of dry period, regular burning of old pasture and feeding of crop residues.

Other strategic approach in matching the available grazing land with livestock population is diversifying the livestock species with the available vegetation type preferably for more camels and goats and de-stocking of male animals, old and unproductive females.

There are traditional and religious ways (Afar and Somali) of supporting groups of pastoralist who lost their livestock due to drought, raids, and diseases. These social traditional social safety nets are commonly known as "Qaaran" in Somali; "Irbu" in Afar; and "Bussa Gonefa" in Borena.

Because of population pressure and resource limitation pastoralist are opting for other and better forms of livelihood diversification. This includes, camel renting in the case of Afars, cattle and sheep fattening, dry land farming, fire wood, charcoal and water selling, practice traditional medicine for human and livestock, sale of handicrafts, production and sale of salt, petty trade, and preservation of skin and hides. Voluntary formation of saving and credit groups is a growing activity.

4.1 *Factors constraining the pastoral production system in managing the natural resources*

Pastoral production system faces a number of natural, structural, policy and demand driven constraints resulting in economic, social and environmental problems. Some of the major underlying causes include population growth, recurrent drought, misuse of the rangeland resources and failures in past rehabilitation and developmental interventions. The resultant effect of the above problems has caused food insecurity, poverty, and instability in the system, degradation of the natural resource and the environment.

4.2 *Contraction of the traditional pastoral territory*

The lowlands/rangelands of Ethiopia, which are below 1500 meters elevation, are considered as the traditional pastoral territory. However, due to i) expansion of sedentary agriculture ii) expansion of agricultural projects iii) expansion of national parks inside the rangeland and encroachment of unwanted plant species iv) emergence and expansion of agro-pastoralism. v) conflict over the rangeland resources has reduced the total area of the rangeland and contributed to mis-management.

4.2.1 Expansion of sedentary agriculture

Encroachment of sedentary agriculturist, mainly crop cultivators, into the rangelands has restricted mobility and contributed to feed shortage. This can be observed in the different pastoral regions including the Afar, Somali, Southern Omo of SNNPRS and the Borena zone of Oromia Region (Beruk yemane, 2001). As a result, a large part of the rangelands considered to be prime grazing land has been under a constant pressure and threat from the neighboring and

agriculturists bordering the rangelands. According to Tsegaye(1999) land use and vegetation changes in 30 years(from 1964-1994)in the semi-arid area of Aba'ala, north eastern part of Afar due to settlement, cultivation and vegetation clearance have drastically changed the land pattern and vegetation. Key land use changes included cultivated land from 98 ha to 2605 ha (257 %), settlement from 5 ha to 180 ha (3,500 %) wooded grassland from 898 ha to 290 ha (-68 %) and woodland from 1,345 ha to 0 (-100%).

4.2.2. Expansion of agricultural projects

Expansion of sedentary agriculture and large scale projects besides affecting the existing traditional pastoral rangeland territories can have a significant impact on the down stream users especially in areas where irrigated agriculture using dams is practiced. According to the most recent land use/cover of the different pastoral Regions, the area categorized or converted to crop agriculture has shown a dramatic increase. These include 178,000 ha (CEDEP, 1999) in the Afar Region 390,000 ha (Regional BoA, 1999) in the Somali Region, 1,332,900 ha (Zonal DOAs) in the Borena Zone of Oromia Region, 58, 503 ha (SNNPRS, 2000) in South Omo of SNNPR, 32,452 ha (Socio-economic Study of Gambela Region, 1996) Gambella Region and 38,717 ha (WARDIS, 1998) Benshangul Gumz Region. Using a crude estimate, the total area of the rangelands that will be converted into crop agriculture could be roughly in the range of 2.0 million ha. (Beruk, 2001). More over, the current sugar cane plantation project in Logiya, Afar taking about 90,000 ha of land will have its own impact on the rangeland resource and the livestock.

4.2.3 Expansion of wildlife parks and sanctuaries in the rangelands

The reduction of the traditional pastoral territories and conversion into wildlife parks and sanctuaries has greatly affected the rangeland resources. Once the

parks and sanctuaries are established the pastoralist are not allowed to graze and water their livestock at any time of the year even during the dry period when feed shortage is critical. Besides, the pastoralist who is the traditional owners do not get substantial share or benefit from the venue generated (PADS, 2005). According to EWCO (1993) a total of 353,730 ha in Afar, 62,300 in SNNPR and 50,610 in Gambella Regions with a total of 466,640 ha of range areas have been converted to wildlife parks and sanctuaries.

4.2.4 Emergence and expansion of agro-pastoralism

The emergence of agro-pastoralism could be partly associated with the decline in range resources as well as decrease in both livestock number and productivity. This situation may have forced pastoralist to resort to agro-pastoralism

Though the area put under cultivation looks relatively small, the trend and impact is alarming. According to CEDEP (1999), 127,000 ha (out of 339,688 ha) in Teferi ber (Awbere) and 220, 000 ha (out of 619,940 ha) in Kebribeyah, Somali regional state have been converted to crop cultivation. In both Wereda the areas converted to crop farming range between 36-38% of the total available land.

In the Borena zone the practice of agro-pastoralism reached its peak during 1993, 1994 and 1995 in which most of the Boran lost their livestock. Beruk (2001) citing Oba (1998).indicted that an estimated 2-3.4% of the lowlands of Borana zone is considered to be under cultivation. The situation and trend is more or less similar in other Regions where the emergence of agro-pastoralism is eminent. In the Afar Region, besides the commercial size irrigated crop agriculture the Afar were and are engaged in both livestock and crop agriculture. With the assistance from the former North East Rangeland Unit (NERDU) and the current crop extension package coordinated by the Regional Bureau of Agriculture over 3,700 ha of land has been converted into crop cultivation using both rain and irrigation (Regional BOA, 1999).

According to the respective regional and zonal agricultural offices (1999) the following data has been collected. In Gambella Region an estimated area of 32,452 ha has been used to grow annual crops mainly cereals. In the same Region, particularly in the Jikow wereda, which is primarily dominated by Nuer pastoralists, crop cultivation has reached about 1400 ha (Socio-Economic study of Gambela, 1996). In Benshangul-gumz the area under cultivation is estimated at 38,718 ha and in South Omo (SNNPRS) the estimate reaches 58,503 ha (2.54%) of the total area.

Pastoral/agro-pastoral communities are not the only ones that practice cultivation of marginal crop areas. Refugees crossing the borders and settled in refugee camps are also engaged in crop cultivation. Though the size of cropland cultivated per household is relatively small (since refugees are not allowed officially to cultivate areas other than the plot allocated in their homestead) the refugees and returnees involvement in crop cultivation had increased rapidly.

Based on CEDEP (1999) survey, since the beginning of 1990, the number of households involved in crop production in Kebribeyah wereda of the Somali Region has reached 54%, while that of Teferiber wereda (Teferiber and Derwenaji) refugee settlement ranges from 15 to 20%. Similar results by CEDEP (1999) in Western Ethiopia namely Gambella and Bensangul Gumz Regions indicated that in the Pungido and Dima Refugee settlements (GNRS), almost half of the refugee population is engaged in crop cultivation. Similarly, in Sherkole refuge settlements (BSGNRS), about 10% of the refugee population actively engaged in crop cultivation.

In general, degradation of the rangeland eco-system is a serious threat to the pastoral areas of the country. *Prosopis juliflora*, *Acacia mellifera*, *Xanthium strumarium*, *Abutilon graveolens*, *Parthenium hysterophorus*, *Opuntia ficus-indica*, *Althernanthera pungens*, *Euphorbia tirucalli* and *Amaranthus spinosus* are

the major species that have invaded the rangeland. Many grass and herbaceous species have reportedly declined from the rangelands due to bush encroachment. In situ and ex situ conservation measures are recommended especially for the threatened rangeland plants (PADS, 2005).

4.2.5 Encroachment of unwanted plant species

Encroachment of bush and unwanted plant species has been considered as a menace to the deterioration and declining of the pastoral rangeland territories. Though the degree may vary, evidence of these phenomena can be observed in most of the pastoral Regions. According to Oba (1998), encroachment of woody bush species aggravated in Borana rangeland after the 1960's and worsened following a ban on the use of fire (Boka, 1993). In the absence of fire, which the pastoralists were practicing on a regular basis, grassland are invaded by bushes, reducing grass cover and creating deficiency of feed source for livestock (PADS, 2005).

Coppock (1994) reported that there are about 15 woody plant species considered encroachers in the Borena rangelands. The rangelands of Arero, Moyale and Liben weredas have relatively higher proportion of bush coverage. Major bush species in the rangelands include *Comiphora africana*, *Acacia brevispica*, *A. nilotica*, *A. drepanolobium*, *A. bussei* and *A. horrida*. Among the different bushes the rapid expansion of *Acacia drepanolobium* has been the most alarming. An estimate by ILCA (1993) put the area under bush encroachment in the Borena rangelands at about 40%, while about 10.5% of the total rangeland is considered to be in excellent condition (Gufu Oba, 1998) and is reserved for calves.

There are no accurate data as to the area and amount of unwanted plant species in the Afar Region. However, rapid expansion of *Acacia seyal*, *A. melifera* and *A. senegal* in the administrative zones of four and five as well as *Prosopis juliflora*

(Beruk, 2001) in zones three and one is of a prime concern to the Region. Moreover, *Prosopis juliflora*, which was introduced as a drought livestock supplement feed and for soil conservation in the 70s, is aggressively claiming prime irrigable cropland and rangelands adjacent to irrigated farms and water points. Current estimate puts the land coverage of *Prosopis* in Afar Region to be in the range of 25-30,000 ha (Beruk Yemane, personal estimate).

The expansion of parthenium a weedy plant species and commonly known as “congress grass” In the Somali Region, is rapidly encroaching both the rangeland and crop farms. The rapid expansion besides reducing the size of the range resources has brought a negative effect on the composition and consumption of milk (from goat, cow and camels) causing a bitter taste on the milk produced. In some instances, pastoralists have abandoned consuming milk produced by animals fed on congress grass.

According to local sources, it has been reported that range areas in South Omo, which were once covered with good grassland, have been replaced by unpalatable hardy grass and woody species. In some areas encroachment of bush and woody plant species have forced pastoralists to alter their livestock composition from grazing to browsing species with the proportion of increasing the number of small ruminants and camels (Beruk Yemane, 2001).

4.2.6 Conflict over rangeland resources

Inter and intra -clan conflicts over rangeland resources mainly grazing land and water points have partly contributed to the decline in the rangeland resources. This phenomenon not only reduces the resource, but also costs human and livestock losses as well as destruction of properties. The inter clan conflict stays for a shorter period of time and is often solved through traditional social organization. This usually happen among the big clans in the different pastoral

Regions including the Afars, Somali, Borena, the Nuers and the different major clans in South Omo.

On the contrary, the tribal (clan) conflict between two major pastoral clans has far greater consequences and the effect could be observed on property, lives and resources. For example, the Afar and Isas are considered to be traditional enemies. As a result, the use of the Alidege plain (zone 3 of Afar Region) which is over 75,000 ha of good grazing land has been precluded and currently considered as buffer zone for most parts of the year. Similar conflicts occur between the Borena and Somali, the pastoral groups of Southern Omo, the Nuers and other major clans in their surrounding (Beruk and Tafesse, 1998; PADS, 2005). The resultant effect of the conflicts is that human and livestock lives will be lost and consequently, the use of the resources will be denied to both clans or inter clans or benefit the victor at the cost of the looser.

In all the above cases, the ultimate result would be constriction in the overall size of the traditional pastoral territory. This situation has its own consequences and affects a number of resources including i) the per capita livestock holding ii) livestock production and productivity as well as (iii) animal health of the livestock.

4.3 Weakening of pastoral institution to manage the natural resources

The introduction of new institution such as Pastoralist Association (or PA) as a unit of administration in pastoral areas and the growing disobedience of younger herd owners to the traditional leadership have undermined the authority of elders. The ability of elders to form consensus enforcing traditional resource use is being diminished. In pastoral areas in Ethiopia today resources are seemingly managed by a combination of traditional and governmental leadership. In most cases the authority of the traditional leadership is nominal. Ultimately it is the

government authorities who make the key decisions on critical issues, such as resource ownership or use rights. There is thus a clear indication that authority concerning resource use has been gradually transferred to the state. The problem is the lack of knowledge and experiences by the newly introduced institutions and the state to properly manage natural resources in such harsh environment like we have in the pastoral areas. This situation entails a danger of resource degradations and loss of productivity and finally loss of livelihood for pastoralists who depend on these resources for their survival.

5 Pastoral Institution and Natural Resource Management

Institutions are regulatory systems of formal laws, informal conventions and norms of behavior. According to Berkes (1989), institutional arrangements are defined as the rules and conventions, which establish peoples' relationship to resources, translating interests into claims and claims into property rights. According to Jentoft (1997) institutions are defined as bodies which consist of cognitive, normative and regulatory structures and activities that provide stability and meaning to social behavior.

According to Bardhan (1989) as cited by Kamara (2000), institutions are the structural framework for social interaction, they are conventions and rules for coordination of social behavior and economic interaction (are characterized by their ability to define explicitly allowed action, restrictions and prohibitions). In this context institutions regularize and guide every members of a given society or group behavior.

On the other hand institutions are defined as rules of the games of society which structure incentives in the process of production and exchange, and which are

designed to ensure individual compliance with collective decisions through appropriate incentives or sanctions. Institutional arrangements thus create the framework for the formation of organizations that operate within permissible limits of such arrangements to effect collective actions (North, 1995, Brett, 1995). Swift (1996) on the other hand, defined institutions in pastoral societies as "those which exist without comprehensive formal recognition by the modern state; they are the habitual ways, not established in written law in which a pastoral society manages its every day affairs." In general, there is a consensus that among scholars these institutions facilitate social interaction by allowing individuals to cooperate and achieve common objectives for the common good.

Pastoral societies have adhered to certain organizational and institutional practices which govern the behavior of each member of the society and enhance solidarity and efficient utilization of resources (Bonfiglioli, 1993). In the struggle against harsh environmental conditions and risks, pastoralists have developed their own indigenous institutions, which handle all aspects of their social, economic, cultural and political lives. These institutions are based on clan ties and social relations where the clan chiefs like Ugaz in Somali, Kedo Aba in Afar and Abba Gada in Borana play coordinating roles in resource management, conflict resolution or prevention, and political and administrative matters of the communities. These institutions are governed by several indigenous norms and values that would ascertain smooth operation of the pastoral system in the arid and semi-arid ecological zones of Ethiopia.

Pastoralist societies have strong traditional forms of social organization, based on kinship. Each person is a member of a lineage group or clan. Members of these groups share resources among themselves and cooperate in economic activities.

Traditional Institutions govern the behavior of their members. They determine who has rights to which grazing areas, water and other resources. They manage

relationships among clans and sub-clans, and adjudicate disputes. The different pastoralist groups have different traditional institutions, so it is difficult to generalize about them. Most are based on lineage (groups of related people) or territory (where the person comes from), or some combination of these. The institutions vary even within a pastoralist society. For example, the Somali in Liban and Afar have a different system from Somali elsewhere.

Roles of the pastoral institutions in natural resource management

One of the most significant Borana indigenous institutions is the Gada system, which is all embracing and has important ritual, political, resource management and judicial aspects attached to it (Helland, 1998). The Gada subsumes all the indigenous Borana institutions in an integrated Borana worldviews and infuses those pragmatic institutions with the authority and legitimacy that they require to be effectively operational (ibid.). The other institutions include the Borana indigenous religious institution (Qallu), and resource management councils such as well councils (Kora Ella) and grazing councils (Kora dheda). The indigenous leadership discourages disagreements and encourages consensus based decision-making and peaceful co-existence in the community. Most issues are handled by elders at grass root level including socialization of young people, land allocation for cultivation, and deciding directions and time of mobility. These institutions have a prominent role in controlling and managing access and use of natural resources to ensure orderly and efficient utilization without compromising the needs of the future generation. The most important resources include pasture, water, salt licks, forest, wildlife and others for which the community developed rules and regulation to manage them. The scarce resources like water are given due attention and are the concern of the general public rather than individual. The principal sources of water in the Borana are wells. A Well Council carries out the overall management of wells appoints *abba hirega* (father of the watering order) who ensures controlled use of water by herders (Helland, 1980; Mengistu, 1998).

Wells are more controlled and the management is clan based rather than administrative/political territories. In the dry season, every Borana pastoralist moves to the wells of his/her clan and uses them. Since grazing areas around the wells are also reserved for the dry season, well management indirectly determines the way grazing management should be organized (Waktole, 2002). As a result, Borana management system is more of clan based than territorial that necessitates existence of strong local institution. The enforcing mechanism for the Borana system as well as other pastoral groups is mostly based on consensus and social sanctions. It also involves exclusion from resource use or payments of heads of cattle. That of the formal organization is totally based on coercion and fines in monetary terms, which it lacks the resources and personnel to enforce.

Wells require more care and regulation of use rights. Helland (1980) argues that control of utilization and maintenance of wells is the concern of all Borana. Ownership and access to wells is complex. Every well belongs to a clan who identifies *abba ella*, father of the well. According to Mengistu (1998), there is an inherited relationship between *abba ella* and his well caretaker, called *Konfi*. The *Konfi* is an inherited title and responsibility for the wells can be transferred to the caretaker if the father of the well is not present. The clan elders called *jarsa gosa* keep the holder of the *konfi* under constant scrutiny (Mengistu, 1998). A Borana customary rule, *aadaa seera Borana*, is the guideline for this. The daily routine at the well and the allocation of watering orders and rights are supervised by *abba hirega*, father of watering order. Watering is a labor-intensive work and is carried out cooperatively by herders. Most of the wells which are the only source of water in dry seasons are deep and require 10-40 people to operate (Mengistu, 1998). The men form a line to pass the water up in small baskets from the deep well (Helland, 1980). As a result, herd owners must allocate labor and cooperate to water individual herds. Access to water, especially the wells, means indirect access to pasture. Bassi (1997), shows that Borana management system mainly

controls and regulates ownership of and access to permanent water points especially wells, rather than the pastures themselves.

Herd splitting is the common practice in Borana herd management system. The first division is home based, *warra*, which mainly comprises lactating cows, other weak and sick animals (Coppock, 1994; Mengistu, 1998). They are kept near the homestead and brought back home for milking and are kept in enclosure during the night. The second division is the satellite herd called *forra*, comprising dry cows, bulls and other strong animals (Coppock, 1994; Mengistu, 1998). The splitting of herds requires labor allocation in a family to different livestock management activities. The *warra* herds always have priority over the *forra* herds regarding both access to water and pasture (Bassi, 1997).

Children and young men predominantly carry out the herding. Young children usually keep small stocks and *warra* herds while young men or older boys often tend *forra* herds. Herding in *forra* camp relatively requires more labor and mobility. Therefore, strong family members especially boys are involved (Coppock, 1994; Mengistu, 1998). Herd splitting helps to minimize pressure on land while ensuring access to pasture and water for the animals. *Warra* herds have priority over satellite based stock in access to grazing.

Most villages generally have a small area often on hilltop reserved for village calves. These reserved areas are called *kallo*, and trespassers run the risk of being fined (Hogg, 1992).

In Somali indigenous institutions are based on clan ties where the clan chief called *Ugaz* plays ultimate role in resource management, conflict resolution or prevention, and political and administrative matters of the community. Below *Ugaz*, in the hierarchy of leadership, there are elders who deal with issues related to the daily lives of the community at village level or *Reeri*. *Ugaz* position is inheritable, but sub clan leaders called *Kaba kabil*, compete for it and elders

decide who should take the leadership position. Gurti is also another institution that brings together representatives of different clans or sub-clans to resolve issues related to territories of clans and to mediate conflicts.

Three Resource management regimes, namely open access, private, and communal ownership of grazing lands can be found among Somali pastoralists. Resources like forest are open to everybody whereas some cultivable lands are private and some pasture lands are still communal. Somali natural resource management revolves around range and water resources that are important for their livestock. But the introduction of cultivation currently has brought some additional responsibilities to the clan leaders to administer the natural resources. The traditional institution and knowledge system that manages mobile livestock systems is being challenged by cultivation and settlements that block mobility routes or cause conflict between herders and cultivators. Grazing land is controlled by clans. However, the limits of clan territories are not clearly defined and subject to change over time. Members of a clan have the right to graze in the area of their clan. It is possible to graze livestock in the territory of another clan subject to agreement.

A recent phenomenon has been the enclosure of grazing land. This involves fencing of an area by an individual in order to conserve the pasture for own use or for sale. Such enclosures reduce area of land available for communal grazing. The practice tends to be more common where there is heavy pressure on grazing. Generally an individual has the right to enclose a piece of land in the area controlled by his or her own clan as long as the clan leaders agreed. The above changes have been accelerated by the influx of returnees to the region. Many returnees have taken up farming upon return as they lacked access to livestock and agriculture has been the only livelihood open.

Water sources for pastoralists in among the Somali pastoralists include wells, rivers, boreholes and cemented underground water cisterns called birkeds. Use

of wells is usually controlled by a clan with local clan elders solving conflicts regarding use.

Despite the fact that indigenous institutions are challenged by different endogenous and exogenous factors, they are still lingering and trying their best in mobilizing community for natural resource management. For instance, when some labor investment is required to excavate wells or dig ponds, youth are selected by community leaders and work on the excavation to solve the problem of water shortage. Digging of wells involves some investigation of water potential of the area using their indigenous knowledge.

A well can also be owned by individuals where an individual has constructed it. In this case the individual has the right to control access or sell the water. Birkeds have become increasingly important as a water source in recent years, particularly in parts of the region where permanent water is limited. These water cisterns are purely privately owned, and anybody who can afford to constructs their own in their clan territory. The owner of the birked has full control over the use of the water.

Afar have strong social bonds and share resources equitably. They are governed by traditional law, known as *Afar ada*. This is highly respected and effective in managing conflict and social problems, and in providing leadership to pastoralist communities' access and use to natural resources. Afar pastoralists own land at clan level, and the management of natural resources on the land involve clan leaders. They had the system of grazing reserve for dry season and sick and weak herds. The settlement pattern is also well outlined, especially for the incoming members of a society. Neighboring community can negotiate to share the resource. However, the resource management rules and the institutional setups have never been static. After the establishment of afar regional state, the regional government introduced the rule which make resources free for all Afar beyond the clan level. This was with the intention of peaceful resource sharing,

but made the community abandon the practice of reserving grasses for period of scarcity. Different decisions are made at different levels of the traditional hierarchy. These include decisions on how to use water and pasture, livestock sale and livestock migration. The first point of contact for outsiders is usually the clan leader (*kido aba*). These leaders should be the focal point of any development activity in the area.

Ela water is owned at group level who are closely related and living in a given place. The owners are the one who excavated it. People can negotiate with the owners and share the resource, pay for clan leaders to get permission of access. The use at group level is based on first come first served. Afar is also endowed with many rivers coming from the high lands of neighboring regions, especially during rainy seasons. As a result, access to water is relatively easy. Digging ponds on flood catchments is not well known in the area. Water harvesting or digging holes in the river basins is more of individualistic and temporary rather than something planned for months or more. After the first person used it, others can get access.

Trees are much valued among afar pastoralists for different purposes. Trees that give fruits are protected from being cut down. Protection given to trees also differs depending on where the tree is. In Some areas, trees are protected for environmental beauty and at other places for providing shade to human beings and their herd. For this, trees around settlement areas, water points and places for ritual and meeting are well protected. *Fema*, youth group are organized to enforce this and other rules of the society. Damaging protected trees can entail fines that could be in cash or in livestock. In some instances punishment could be imprisonment of the culprit or combination of all.

In Afar wild animals are protected under the Medaa rules and anybody who kills wild animals such as wild beast will be fined. The Medaa has the authority to resolve interpersonal as well as clan level conflicts.

6 Risk Mitigation and Resilience

Pastoralism in Ethiopia has survived for centuries despite the severity of various risks prevalent in the arid and semi-arid environment in which it has to cope with. Risk and vulnerability in pastoral areas in Ethiopia arise from many factors such as drought, market fluctuations, bans on livestock trades, violent conflict or insecurity, disease and political shocks and poverty (Cossins and Upton, 1987, Bonfiglioli 1992, Coppock 1994, Desta 1999, Desta et al. 2002, Desta et al. 2004). Severe drought, fluctuations in marketing conditions and political shocks and violent conflicts are the major sources of risk among the pastoralists in Ethiopia. Drought is the most persistent risk faced by pastoralists that threatens their livelihoods, but pastoralists have adapted their way of life over many centuries to cope with it (AACM 1984,). Pastoralists have been using various adaptive and flexible traditional risk management strategies to withstand drought and mitigate livestock asset losses to maintain their food and livelihood security (Desta et al. 2004). The first and most effective response to drought is mobility i.e. to move the animals to areas where there is pasture and water. Mobility or migration of pastoralists alleviates stress on less productive or exhausted land. If mobility is limited then it will lead to degradation of overused lands (Sandford, 1983). Moving with their animals across vast distances and negotiating access to pasture with neighbouring clans is a widely practiced management strategy by pastoralists in Ethiopia to optimize utilization of seasonal and ecological variability in availability of pasture and water. People in these harsh environments pursue adaptive strategies using all available options at all times to be less vulnerable and to preserve assets for future livelihoods and to maintain the productivity and sustainability of the natural resource base.

Species diversification, spatial segregation of herds, and herd dispersal over a wide range of grazing lands, are the most widely used strategies applied to overcome spatial and temporal constraints in forage and water availability. These

strategies are conservation friendly. In most cases they have different areas allocated for the dry and wet season grazing to optimize sustainable use of the available resources.

Strategies relating to species diversification enable pastoralists to utilize the available forage effectively and to benefit from the variation across species in terms of their vulnerability to drought and other types of shocks. It is often the cattle and the sheep which are grazers succumb to drought situations faster than the camel and the goats. In some cases after drought, since smaller stock reproduce more rapidly, allowing the herd to recover, and acting as capital which can be exchanged for larger animals later on. Rebuilding a herd of camels or cattle by comparison is a slow process. Pastoralists in Ethiopia do also have social networks to maintain peace. They also have traditional institutions such as the Gurti in Somali, the Gadda in Borana, and the Medaa in Afar, used to advocate for policy decision to protect their interests (Helland 1997, Devereux 2006). They also have traditional institutions that enhance risk spreading among larger groups and a sharing resources and insurance type mechanism to support and lift up those members who succumb to shocks (Desta 1999). Pastoral groups such as the Somali establish trading systems that provide access to markets, domestics as well as cross border while spreading risk among numerous market agents (Devereux 2006). Although not as strong as the Somali pastoralists other pastoral groups in Ethiopia also establish trade linkage with market agents of their own clan to spread marketing risks across the chain.

There are, however, aspects of pastoral adaptation that are specific to each group depending on culture and environment. We will describe below the traditional risk mitigation strategies employed by the three major pastoral groups in Ethiopia. We will also shade some light on the strategies of the other smaller pastoral groups found in west and south western part of the country. We will try to show in each case how the traditional strategies are compatible to natural resource conservations.

The Borana people who live on the Borana plateau in southern Ethiopia constitute 10% of the pastoral population in the country. The plateau is dominated by semi-arid climate. The vegetation cover is mainly savanna containing a mixture of perennial herbaceous and woody vegetation. Pastoralism has supported the Boran for hundreds of years. The gada system, clearly defined territorial organizations, and well established traditional institutions were used to maintain peace and order, strengthen solidarity, and resolve internal and external conflicts and oversee the proper utilization of the grazing, watering and other natural resources (Hogg 1992).

The warra and forra herding strategy used by the Borana, allocation of dry and wet season grazing areas, and regulations pertinent to use of deep wells have enabled proper and efficient use of grazing resources. The various kinds of traditional social sharing and mutual assistance mechanisms are useful to spread risk among households, communities and clan members among the Borana of Ethiopia (Oba, 1994).

Use of grazing lands and water resources, and movement of livestock in normal or in periods of drought, locations for homesteads, enclosures, farming areas, and sharing of resources are administered by the various institutions under the Gadda system (Coppock 1994, Helland, 1982, Desta 1999). The old traditions of sharing in Borana (Buusa Gonofa) have a profound impact in making poor households less vulnerable to drought and other shocks.

The Boran generally split their herds into 2 groups commonly called the forra and warren (Atsedu 1990, Assefa 1990). The forra herd is basically the dry herd (i.e., bulls, immature > 2 years old, and dry cows) while the warra herd constitutes the milking cows, calves, and immatures < 2 years old (Coppock 1994). For most of the year the warra herds graze close to the olla and the forra herds graze further away where resources are more plentiful. There are different areas exclusively

designated for warra and forra use to avoid over utilization and degradation of a particular area. At times of drought the immediate response to by the Boran is to shift in the size and composition of warra and forra herds (Donaldson 1986). They move a portion of warra animals to join the forra herd where forage resource is relatively plenty. The proportion comprised by the forra herd then increases as a drought persists and as long as forage remains available in forra areas. At other times they bring forra and warra herds together to utilize scarce labor. By segregating herds according to age and sex, and spreading them over accessible areas, the Boran traditionally derived the maximum use of available grazing resources without deteriorating the natural resource base. Borana have been using fire to maintain the health of the rangeland. Fire has been effective and less expensive range improvement technique for savanna type eco-systems. At the same time fire controls tick infestations and encroachment of unwanted vegetation species which affects productivity of livestock and the rangelands.

The Borana have an efficient water-use system (Helland 1982, 1997). During the cool dry season herders move their animals to drink from wells and large ponds. If the dry season gets longer, or if it turns out to be a prolonged drought, then herders will concentrate animals near wells, permanent ponds, and the few rivers. Households and villages members will be busy meeting during droughts and dry periods to organize labor for well-watering and regular maintenance of wells. The watering interval for all animals can increase during drought; cattle may be watered once every 4-5 days during critical droughts. The Borana have a water administration committee with a leader locally called Aba Hirega which manages rational and fair use of the available water. The council leader decides the number of animals to use a particular well or other water sources. In consultation with the council he decides the length of time and area where animals stay for grazing. Animals are allowed to graze around water sources when they come to drink water and graze far away for two or more days before returning back for watering. The same rules and regulations applied for pond use and maintenance.

In Borana there are locations that are partly or wholly designated only for grazing. In such locations nobody is allowed to settle. In other cases there are locations used for ritual purposes and others which can never be cultivated. In each location, herd owners are expected to honor the regulations and rules that are established by the location council relating to access to and maintenance of wells and grazing resources. Enclosures or dry season grazing reserves were used traditionally by the Borana people and were handled and administered communally. The enclosures are often used by calves, weak animals and milking cows.

There are 17 clans in Borana (Hogg 1992). Clansmen are expected to help each other in times of hardship. The Borana have social sharing and mutual assistance mechanisms that also serve as risk-spreading tools among households, communities, and clan members. Such system protects vulnerable households not to succumb to shocks (Hogg 1992, Helland 1997). Helland (1997) summarized these mechanisms. Helland pointed out that the mechanisms vary from individual voluntary mutual assistance between two parties (i.e., loans or dabarre and clientship) to clan-level obligatory assistance in which a Boran can legitimately claim resource entitlement or endowment from his fellow citizen (e.g., Buusa gonofaa, see below). Dabarre is a practice of distributing “surplus” animals among friends or relatives who live far apart. Placing cattle with others who are widely dispersed is one strategy used by stockowners to build up an insurance network. Moreover, it is a means to reduce local grazing pressure. Clientship is another social institution in which a poor Boran in absolute destitution is accepted as a client by a wealthier herd owner in return for labor. The client is provided with basic necessities and gifts of animals to rebuild his herd.

Buusa gonofaa describes assistance expected from an individual to his clan. Ameessa (e.g., loans) is a form of buusa gonofaa in which kinsmen, friends, and

neighbors practice temporary redistribution of milking cattle during drought or other calamities. The most complicated form of buusa gonofaa is “hirba” which literally means replacement. Hirba is practiced at the clan level. Legesse (1973) noted that wealth redistribution and mutual assistantship mechanisms were vital institutions that have kept the patriarchal Borana system intact for centuries.

The Borana have an elder led conflict management mechanisms. They have a structured institution under the leadership of the aba Gada to negotiate and mediate peace within the same clan, between clans and between ethnic groups such as the Borana oromo and the Gari Somali. By negotiating peace the Boran increase their mobility and open up access to grazing resources of the neighboring clans or ethnic groups. The same institution has been used to advocate for government policy decisions to protect their interest.

The Afars pastoralists occupy the north eastern arid land of Ethiopia. The vegetation cover in Afar is dominated by species that include dwarf shrub grassland, shrub grassland and dry thorn bush land. Livestock composition is diverse but tends to be dominated by browsing species such as camel and goats that forage from woody vegetation. There are several clans in Afar community. However no clan has its own territory.

The Afar pastoralists similar to the Borana are exposed to various risk factors that affect their livelihoods (Kebebew et al 2001). They however, sustained their production system through various traditional risk management strategies that are administered by indigenous institutions such as the Medaa and Adaa (Kebebew et al 2001). The Medaa is the highest decision making body of all clans. It is in charge of administering the natural resource; it is a means to manage conflicts; it is also a facility to enhance mutual assistance locally called Tihatia. Medaa also connects the Afar pastorlists with external entities. It also provides Afar some political representation in the political system. Adaa is the cultural mechanism to implement and enforce the rules set by the Medaa in all areas

affecting Afars livelihood including but not limited to resource management, marriage arrangements, conflict management, and external relations.

Committees are assigned and make decisions at any time whenever appropriate with regards to natural resource management, conflict resolving, etc (Kebebew et al 2001). During drought incidences, young men are selected within the community to assess the condition of grazing and water and propose to the community to which area to move. They report back to the community with a comprehensive proposal about the situation with due consideration of the availability of feed both in quality and quantity, and estimate for how long the feeds and water sustain a given number of livestock. The communities' elders and the Medaa members draw plans on how to economically utilize the resources. They decide on the number of livestock and length of time to stay on the selected area.

Living as they do in remote area, communication is vital to the Afar. Their traditional communication system is called dagu (IIRR, 2004). This system enables information to be passed from one person to another via either acquaintances or strangers. Dagu enables people to find where pasture and water is available, and warn others of threats such as an impending drought, insecurity or diseases. It is also used to pass on information that people have heard over the radio, or to share market information. It helps livestock owners decide where to sell their animals and at what price.

The Afar pastoralists have developed a comprehensive social security system that warrants sustainable livelihoods for vulnerable households (Kebebew et al 2001). They have a wealth redistribution mechanism whereby the better off part of the community contribute a number of livestock, not only to keep the household surviving, but also to upgrade the socio economic condition of the household and reduce its vulnerability to shocks. Clan members are expected by the Adaa to raise livestock to assist needy households reestablish themselves.

Any household is entitled to obtain support once. A monitoring system is in place to inspect whether or not the household manages the acquired resources (livestock) properly and wisely. If some families do not have enough to eat they have the right to get food from the others who do have enough.

The Somali pastoralists are the largest group of pastoralists in Ethiopia in terms of number of livestock holdings and area they occupied. They inhabit the south eastern part of the country which is predominantly arid (Sugule and Walker 1998). The main sources of risk and vulnerability among the Somali pastoralists are not different from the other pastoral groups. The Somalis are however much more affected by conflict, and market fluctuations and ban on export livestock trade than the other groups (Devereux, 2000). The Somalis have been using various traditional risk management mechanisms to cope with these risk elements that affect their livelihoods. They have locally managed indigenous mechanisms of conflict resolution, allocation of rights to land and water, and management of natural resource. Species diversification, herd splitting and dispersals, and mobility are some of the strategies used by the Somalis to cope with scarcity and spatial and temporal variability in availability of water and grazing resources. Management of grazing and water resources are clan based. The clan leadership administers the optimum utilization of the available pasture and water. Movement of animals from one clan area to another one is also done through negotiation and reciprocity.

The Somalis have well established trading linkages with market agents based on mutual support that provide them better access to markets and spread the market risk among different actors in the marketing system. The linkages are mostly clan based and trust is the most important ingredient that makes it so effective.

Informal transfer of food, cash, and labour is widely practiced among the Somali pastoralists to help each other (Devereux 2006). The most frequently used

informal transfer is called *ciyi* which is distribution of meat to neighbors after an animal is slaughtered. After *ciyi*, the second most frequent transfer is 'free' labour (goob). The goob takes the form of watering and grazing livestock in return for a day's food. It is a means of helping someone who is labour-constrained (e.g. an older person or a female-headed household without adult males) to keep the person in the system. Transfers of animals are also common between Somali pastoral households. Livestock owners often lend or donate milking animals to relatives (*irmaansi* or *maal*), to be reared in exchange for their milk and/or offspring. Two other important mechanisms for redistributing livestock are restocking of poor relatives who have lost their animals (*xoolo goyn*), and gifts of livestock to newly married couples (*kaalo*). Among agro-pastoralists lending or sharing oxen and ox-ploughs is also practiced. The circle of support or social networks for any Somali starts with his or her immediate family, then radiate out to the extended family, the sub-clan, the clan, and finally to Somalis in general.

The Gurti is one of the traditional Somali institutions that bring together representatives of different clans or sub-clans for discussion and negotiation over issues of mutual concern, such as establishing territorial boundaries or mediating in conflicts (Devereux). The system is inclusive of the different age groups, religious and traditional leaders. This system helps to maintain peace and to enhance movement of people and livestock for extensive grazing. The Gurti also serves as a formal council of traditional leaders, with whom the government consults on major issues and decisions.

The pastoralists in the south western part of Ethiopia such as the Hammer, Galeb, Erbore also have traditional institutions to manage risks of drought, conflict, disease outbreaks, etc. which are widely affecting their livelihoods. Similar to the other pastoral groups in Ethiopia the effectiveness of these institutions to protect their livelihood has been compromised due to both endogenous factors such as population pressure and exogenous factors such as government policy interferences that undermine the authority of the institutions.

7 Compatibility with other forms of land use

Best use of rangelands in pastoral areas is achieved through the use of extensive pastoral livestock production with species diversification to use different ecological niches. The Afar have traditionally classified rangeland use into livestock suitability ratings using different parameters that span from analysis of vegetation composition to feeding preferences of domestic livestock. Different species of animals do have different body requirements and use different species of trees, shrubs and grasses (Tesfaye et al. 2004)

The Afar exercise careful timing of grazing to safeguard plants during seed production, mainly because they know well the ability of rangeland to replenish itself from soil seed bank reserves. However, currently they are unable to apply this, due to the aggravating pressure on the rangelands caused by other forms of land use including cultivation, and plantations. Since the last 4-5 decades, cultivation has been encroaching into prime grazing lands of the Afar pastoralists. Such conversion of prime rangelands into arable lands inevitably reduced the vegetation cover, increased number of people who wanted to cultivate land, contracted the traditional migration routes, and further pushed the pastoralists to less potential lands. In the last 3-4 years the need to cultivate rangelands is being introduced to other pastoral territories in Afar. As a result a large proportion of communal prime grazing lands are already individualized in response to the increase in the deteriorating food security situation. The changes in land use and the resultant pressure are accompanied not only by shifts in herd size of a pastoral household, but also the composition of the herd.

Divergent interests on the use of the rangeland are also observed between pastoralists. The need to initiate cultivation is justified by the fact that traditional pastoral livelihood strategies are becoming inadequate to address current complex pastoral social security needs. However, such expansions need to be

effective on the basis of mutual consultation and land use principles and should consider longer-term ecological and social costs. Developing pastoral land use systems including tenure security and management practices in harmony with the indigenous communal land use systems is a direly needed step. Pastoral communities have been asking this question at different platforms including the Ethiopian Pastoralist Day¹ (EPD). The Ethiopian pastoralists have the constitutional right not to be displaced from their own land without their wish. However, the by-laws to protect the land of pastoralist are not yet developed. Lack of pastoral land use system affects the ecological sustainability of the land since the specter of increased and uncontrolled cereal cultivation in the fragile rangelands attribute to the heightened threat of the ecological sustainability. Therefore, the formulation of the by-laws should consider the development of agro-ecological zones of the pastoral land that go in harmony with the indigenous land use system.

Range privatization is evident in Borana Zones as well as Somali region (Kassa 2002, Helland 1998). This shows that change in the land use patterns in the pastoral areas of Ethiopia is changing the pastoral ways of life, at least in restricting mobility. Restriction of herd mobility forces pastoralists to change the size and composition of their herd that could be compatible with the emerging living style like sedentary crop cultivation. There have been evidences of resource conflict in the pastoral areas. Resource conflict appears to be associated more with the rise of nontraditional land uses, especially crop cultivation in streambeds and valley bottoms traditionally used for grazing and watering herds, than with any growth in herd sizes associated with livestock

¹ The EPD has been held on the 25 January every year since 1999. Partly as a cultural celebration, partly as an advocacy opportunity, the EPD gives pastoralists a common platform for sharing their experience and voicing their concerns to those in power. The PFE takes a lead role in organizing the EPD, in partnership with government.

cycles or growing pastoralist populations. Traditional pastoral communities tend to have fewer resource-related conflicts than communities experiencing a rise in crop cultivation. And the incidence of resource conflict is unrelated to herd size. The traditional pastoral system appears more capable of mitigating resource related conflicts and of resolving them when they do occur, while such conflicts appear to be more frequent and less easily resolved where land use patterns are shifting away from traditional extensive grazing systems towards more diverse land use systems incorporating cultivation as well as grazing. Policies aimed at conflict management should focus on building effective institutional arrangements in such transition areas without undermining indigenous institutions that are crucial to the peaceful utilization of scarce rangeland resources in traditional pastoralist zones (Yirbicho et al 2004).

There are fundamental differences between agricultural and pastoral communities in the ownership and use of land. In agricultural communities, cases of individual ownership of land are predominant whereas different forms of communal land tenure are communally prevalent in pastoral societies. The expansion of large scale plantations, big irrigation projects, and the establishment of national parks contributed towards shrinkage of pasture land that the pastoralists depend on. This shows that such forms of land use, in their present forms and modalities of operation are not compatible with pastoralism.

Change in land use pattern of Awash Valleys and Wabi Shebele Rivers has caused loss of prime grazing land of pastoralists in the areas. Changes in the land use pattern and appropriation by different actors' restricted mobility, and as a result pastoralists became more vulnerable to droughts and other risks. Spatial components of pastoral ecosystems have been disrupted by competing forms of land use, with negative implications for ecosystem persistence.

Pastoral communities, over a 60 year period, have lost about 2.6 million ha of their prime grazing territories to different agricultural development interventions

(Beruk, 2003). This includes 613,730 ha in Afar (to rain fed, irrigated agriculture, national parks etc), 417,000ha in Somali (to rain fed and irrigated agriculture), 1.3 Million ha in Borana zone (to Agriculture), 121,000ha in South Omo (to agriculture and national parks, etc) and 100,000 ha in Gambella region (to agriculture and national park). The change in the land use from rangeland to other forms of agriculture may have displaced 2.6 million Tropical Livestock Units, (TLU), which is equivalent, to about 1.8 million breeding cattle. According to Beruk, the displacement may cost the pastoral communities an equivalent of Birr 9 billion.

Although extensive livestock herding is the most prevalent form of land use in pastoral areas of Ethiopia, these pastoral regions also support some of the most viable wildlife populations in Ethiopia. The change in the land use and demarcation of national parks has, however, created a sense of competition between wildlife and Pastoralism, which used to survive in the area for centuries amicably. Said (1994) attributed the occurrence and escalation of resource use conflict to the introduction of different government sponsored projects and programs into the Awash Valley.

Wildlife management or national parks could, however, amicably exist with pastoralism, if a sense of competition is not created because of exclusion from participating in decision making and share of benefits from the income generated through tourism. Most of the centrally planned resource managements and land use policies ignore pastoral community at grass root level. This affects the compatibility of pastoral land use with other patterns of land use. In a study done in and around Awash National Park (Gebru et al 2004), the natural resources base in the study area is subject to competing forms of land use: revenue generation for the state, wildlife conservation and utilization areas, and areas utilized by the pastoral and agro-pastoral groups. Furthermore, the increase in human population in the towns, the different plantations, the expansion in the size of lake Beseka, the decrease in the size of the land due to volcanic eruption,

and the decrease in the size of the land due to conflict is leading to scarcity of available rangeland resources, thus putting to much pressure on wildlife conservation activities. Furthermore, the problem in the Awash National Park and the surrounding area is aggravated by the frequent drought. The livestock and wildlife in the study area interact in many ways such as grazing competition, soil/pasture degradation, disease transmission and crop damage. Therefore the problems are multi-faceted, and the solutions can only come through a holistic approach. There is a dire need for the formulation of a land use policy which also incorporates co-management of resources, sharing of responsibilities, participation in decision making and joint sharing of grazing, forest and water resources. In this respect, consistent policy and feasible options should be established for land use, conservation, and eco-tourism.

Community and stakeholders dialogue is very important to establish healthy relationship between community and stakeholders. Community participation in design, planning, implementation, and monitoring and evaluation of development interventions is vital. There are ample opportunities to tourism development in the area because of the proximity and various scenic features in and around Awash National Park. Community based tourism has to be initiated through active involvement of the community and stakeholders. In addition, community benefit sharing, access to resources, in the park and state farms could help a lot towards a successful conservation and development in and around Awash National Park. E.g. use of cane tops, periodic harvest of grass, access to park for medicinal plants etc.

Park Zonation has to be done with community and stakeholders consultation. This has to include planning of activities that are going to be implemented in each zone stating the responsible actor for conservation and development with the type of benefits to be accrued and the cost of beneficiaries. (This work has already begun in the Interim Management Plan in Awash National Park, but community involvement in the planning process is lacking).

8 The Enabling Policy for Pastoralism

8.1 *Brief historical background of policies*

There is long established tradition of considering Pastoralism as backward way of life and people who depend on it for their livelihood as inefficient land users, aimless wanderers and lawless. Pastoralists are blamed for damaging the rangelands through overstocking, mismanagement and following economically irrational decisions. Hence, Government pastoral policy for long holds an assumption that pastoralists resist change, are irresponsive to market and so on (PFE, 2006b).

Since the inclusion of pastoral lands into the central government of Ethiopia during emperor Minelik II, the governments of Ethiopia have been following different policies and strategies concerning Pastoralism. Most of these policies and strategies were based on the assumptions that that the pastoral lands were considered no man's land, since the users of land were not sedentary. The feudal government gave a legal and constitutional recognition of this assumption in its 1955 revised constitution and 1960 Ethiopian civil code that made all land occupied by pastoralists state property. Thus under the 1955 revised constitution, it was provided:

"all property not held and possessed in the name of any person...including all land escheat, and all abandoned properties ... as well as products of subsoil, all forests and all grazing lands, water courses, lakes and territorial waters, are state domain."

This clearly ignores pastoral land holding and put pastoral land under government control. The Civil Code, which is still in force, confirmed the 1955

revised constitutional position under its article 1194: “immovable situate in Ethiopia which are vacant and without master shall be the property of the state”.

There was total disregard for pastoralists and Pastoralism. Pastoralists were considered as “aimless” wanderers and called as “Zelan”, with its negative connotation. The major interest of the government was then tax collection and extraction of surplus rather than improvement of the living conditions of pastoral communities (Kassa 2002, Helland 2002). Development policies and strategies of the state, therefore, hinged on the changing the “backward” nomadic way of life. The establishment of large commercial farms, area enclosure for game parks, encroachment by cultivators, and resource-centered development activities characterized the government development programs.

The development policy was solely focusing on the natural resources and the livestock not on improving the pastoral livelihood. Those pastoral development projects which were initiated during the imperial time (see above) have clearly reflected the regime’s policy by focusing on livestock and natural resources rather than the pastoralists who depend on these resources to support their livelihood.

The imperial and the dergue regime have commonality in excluding the human element in the pastoral development equation and their focus on livestock production and productivity. In some cases dergue was worst. The 1975 proclamation, which led to the nationalization of rural lands, limited pastoralists to usufruct rights, and gave the socialist state the authority to further encroach upon pastoralists’ lands and water resources for investments not related to pastoral livelihoods or wellbeing. New large scale farms established and some of the old ones expanded at the expense of the pastoral herders. Best rangelands were demarked and enclosed for national parks, state forests, state controlled ranches, outlawing the pastoralists from using them for grazing. Large

resettlement schemes were carried out at the expense of nomadic pastoralists. The socialist state went further to control pastoralists' involvement in the market by institutionalizing a quota system in which each pastoral associations has to supply a given number of animals at a given period at state fixed prices to the state run livestock enterprises to feed the urban consumers and for export to earn hard currency. For instance, projects like the third Livestock Development was used to a certain extent to (Desta 2006) enhance the government policy of ranching, settlements, quotas to supply the markets fully controlled by the state, etc.

All the pastoral development projects during the imperial and dergue regime were implemented in a policy environment of taking livestock development synonyms with pastoral development. The projects reflected to a certain extent the regimes perception of pastoralism as backward production system that needs to be modernized and restructured. However the projects attempt to restructure the traditional pastoral production system has failed completely.

After the demise of the feudal system in 1974, the military government introduced a new administrative structure and the pastoral areas were divided into a number of Pastoral Associations to implement the principle of socialism. At each Pastoral Association, government representatives have been elected and given political, economic or resource management, judicial, and executive powers. The traditional ways of conflict resolution, resource management and the accumulated knowledge of the pastoralists about the ecology and resource management were disregarded and in some cases, forceful sedentarization was attempted (waktole 2002).

The 1975 rural land proclamation nationalized all rural lands and vested ownership rights in the state. In effect, the regulation replaced the role of the indigenous leadership of pastoralists and their representatives by pastoral

associations. The duties of the new leadership were to administer the people and their resources such as pasture and water and act as a bridge between government and the pastoralists (Kassa, 2002). The policy and approach employed by the dergue were similar to the imperial regime, and both shared a highly centralized, top-bottom state structure that gave no room for pastoral participation on the formulation and implementation of policies, laws, and strategies, as well as development activities geared towards pastoralists. Donors were also non-participatory in their approach, and development policies and strategies that are based on theories of "tragedy of the commons" and "cattle complex" had significant effect on the way development programs were formulated. The consequences of these were marginalization of pastoral communities; encroachment on both wet and dry season prime grazing areas; escalated conflict due to involvement of pastoralists in intensified competition over resources at local, regional and national levels. Access to, use of, and tenure right to land resources; land resources management; and the increased vulnerability to periodic climatic changes were the main driving factors for intensified competition.

Change of political structure in 1991 has resulted in establishment of federal government, the Federal Democratic Republic of Ethiopia (FDRE) and decentralization of power where ethically based regionalization was introduced. With the changes in government there have come some clear departures, from the traditional state political system, in the state structure and policy towards pastoral community.

8.2 *Pastoral policies and strategies of FDRE*

For the first time, in the Ethiopian history, the constitution incorporated various provisions in the interest of Ethiopian pastoralists. Some of the important issues provided for under the 1995 FDRE constitution includes:

The preamble: " we the nations, nationalities and people of Ethiopia strongly committed , in full and free exercise of our rights to self determination, to building a political community founded on the rule of law and capable of ensuring a lasting peace, guaranteeing a democratic order, and advancing our economic and social development."

Article 8(1): in this sub-article, it is stated that "all sovereign power resides in the nations, nationalities and people of Ethiopia.

Article 8(3): This sub-article declares that " their (nations nationalities and people of Ethiopia) sovereignty shall be expressed through their representatives elected in accordance with the constitution and through their direct democratic participation."

Article 40(5): "Ethiopian pastoralists have the right to free land for grazing and cultivation as well as the right not to be displaced from their own lands."

Article 41(8): this article recognizes the rights of pastoralists to receive fair prices for their products that would lead to improvement in their conditions of life, which also is "the objective that guides the state in formulation of economic, social and development policies."

Article 50: relates to granting of power "to the lowest units pf the government to enable people to participate directly in the administration of such units"

Article 88: "Government guided by democratic principles , shall promote and support the people's self rule at all levels....promote their participation in the formulation and implementation of socio-economic policies and programs,...shall provide special assistance to the people least advantaged in economic and social development" .

These are some of the articles in the constitution which specifically reflect position of the government regarding pastoralist interest. The development of the policies, strategies, plans, and programs since 1991, however, require strict scrutiny as to how the government addressed the issues pertaining to pastoral development and Pastoralism. Several programs and strategies were developed by FDRE. One of these was the 1993 initiated Agricultural extension program, which was heavy on packages for intensifying crop production, and had little mention of defined programs in pastoral areas. It did however became

instrumental for the establishment of a pastoral unit within the extension department of the then Ministry of Agriculture. This unit remained in active until early 1999, where it drafted the pastoral and agro-pastoral extension program. The draft was discussed at Regional and National workshops and a people centered development approach was developed- a significant deviation from the resource-centered development direction that has been characteristics of earlier programs.

FDRE has different policy documents that have attempted to include pastoral areas in the national development agenda. Ethiopia prepared the first PRSP, called SDPRP in 2002 and the second PRSP called PASDEP in 2006. The government reiterated its commitment to poverty reduction and laid a framework for tackling poverty in these two key strategic documents.

The PRSP process in Ethiopia has created an important opportunity to reflect and voice the issues of concern to pastoralists. The Government has also attempted to reflect the voice of the pastoralists in the first PRSP, called SDPRP. Although the attempt made by the Government is encouraging, there were concerns. According to the PFE² (2006), firstly, the chapter on pastoralism was only partially considered in the Final PRSP; secondly, no clear budget was indicated with regard to the pastoral sector; thirdly, no clear indicators were in place to measure the success of the project; and finally, no clear monitoring and evaluation (M&E) was put in place, and it was not creating space for the Civil Society Organizations (CSOs) engagement.

² Pastoralist Forum Ethiopia (PFE) is a local umbrella NGO advocating for the right of Ethiopian pastoralists, and represents collective voice of its member CSOs/NGOs. Currently, the Forum has 24 member NGOs.

In the second PRSP, the Government has come up with a document called PASDEP. This latest document has considered some bold new initiatives and clearly articulated the strategy the Government will adapt towards addressing poverty issue in the country in the coming five-year period (2006-2010).

Another policy and strategy document, in which pastoral areas were given a section, is federal government's rural development policies and strategies (RDPS) document. In its sub-section it has emphasis on two aspects and referred to these as short-and medium-term and long term perspectives of pastoral development. In its short-medium development policy the government admits the importance of investing in pastoralism to improve the food security situation of pastoralists. It states that "Since the livelihood of the people is based on pastoralism, our development endeavor and activities must be based on it [pastoralism]" (RDPS, pp.138). It also acknowledges the usefulness of the traditional pastoral knowledge to manage pastoral resources, and it states "Without recognizing and basing our effort on **this knowledge**, attempting to improve livestock husbandry in this area can not be useful and achievable (RDPS pp.140). Some of the recommendations provided by the RDPS are:

Preparing and providing to the people a package that can build on their knowledge of livestock husbandry;

Training extension workers and provision of extension services that focus on indigenous knowledge of pastoralists;

Promote delivery of livestock services that take into account the pastoral mobility

Creating an efficient marketing system that can make the pastoral system market oriented

This document recognizes the rich ground and underground water resources that can be used for development, and considers livestock husbandry as one of the

most viable economic activities. It also recognizes the uneven distribution of water and its impact on use of range resources and how it can potentially contribute to range resource depletion and environmental degradation. In this policy and strategy document mobility is deemed to have been caused solely by lack of water and pasture. However, pastoralist move from place to place to fulfill different cultural requirements and it also serves the purpose of protection against diseases, ticks, ethnic clashes and other natural and manmade hazards. The condition of pastoral areas, shrinkage of pasture land due to crop expansion, boundary demarcation, conflict, bush encroachment and others (most of which are the result of top down interventions) contributed to declining mobility.

Provision of drinking water for both animals and people is considered as important factor towards balancing ecological pressure, and hence improvement of living conditions. There is recognition for a clan based grazing land management and its enhancement. However, this condition requires further clarification how privatization of rangelands through distribution of farm land among pastoralists can amicably continue with clan based communal management system. The two appear contradictory.

In addition to some of the above short and medium term plans, in its long term plan the RDPS advocates for sedentarization of pastoralists based on development of irrigation which became so much controversial and contradicts the constitution in a certain way. The RDPS (page 138) points out this-“since the livelihood of the people is based on Pastoralism, our development endeavor and activities must be based on Pastoralism”. On the hand it also has a statement “In these areas, accelerated and sustainable development can be achieved only when the people are made to settle (pp. 143).....settling the whole pastoral people through process [long term] must be underlined (pp. 146). There is a need for more and open dialogue among the policy makers, development facilitators, researchers, pastoral advocacy groups and the pastoral community to bring to the surface implications and appropriateness of the government long

term policy of pastoral sedentarization. The government has to move and admit unambiguously that Pastoralism is a viable way of life, as is crop cultivation in the high moisture area. The policy of sedentarization should consider international research outcomes, academic debates and past development efforts that were based on sedentarization.

Resource tenure in pastoral areas is in a perpetual flux. The introduction of private ownership of some range resources created resource use conflict and gap of resource management rules and regulations. The policy should be formulated with the intention of granting pastoralists with full rights on the land and tenure security.

At international level the boundary demarcation and in the Ethiopian context the regionalization policy have created some conflicts among pastoralists. Resource access used to be on the basis of negotiation among different pastoral groups. The regional state creation resulted in some conflicts. Therefore, there should be reconsideration of the root causes of those conflicts, and the demarcation should take into account both historical perspective and current conditions.

There are vital policy related issues of natural resource conservation, particularly in the pastoral and agro-pastoral areas of Ethiopia that are not yet fully addressed. Regrettably, most of the policies in the past were focused on highlands, and little emphasis has been put on the pastoral and agro-pastoral areas where much of the wildlife and park resources are located. Most of the natural resource conservation issues got attention since the mid 70's after the country experienced an increasing food deficit. Some of the consequences of these food deficits are the result of ill-defined policies related to conservation problems. Three areas of policy issues that deserve attention with reference to conservation of wild life and Park resources are, land tenure, conservation and eco-tourism development.

Since the early 1900s, Ethiopia's grazing lands have been regarded as property of the State. This was formalized in proclamation No. 70 1944, in the 1960 Ethiopian Civil Code, and subsequently in the 1995 Constitution of Ethiopia. The 1975 Rural land proclamation can be cited as one of the major policy changes that has alienated the pastoralists from their traditional institution and ownership of land. The major outcome of the 1975 reform proclamation was the transfer of pastoral land to state ownership, which led to the establishment of pastoral association with the objective to sedentarize pastoralists, and also to state farm development. Consequently, subsequent land re-allocations have seen pastoralists lose key dry season grazing areas in most regions to either state irrigation programs or farmer settlements. Laws and regulations related to state farm developments have not addressed the resource problem facing the pastoralists, and rangeland land development has not been on the priority. In view of this, the primary resource problem faced by pastoralists is the substantial removal of grazing areas from their control, without their participation. The traditional Oromo and Afar institutions are not able to overcome this problem, partly because of the pressure factors resulting from the modern laws of administration (e.g. pastoral associations).

The scarcity of resources coupled with the poor relations between the park and other stakeholders, including communities, lead to resource management conflicts. The boundary demarcation has lost its legal enforcement, and the community as a whole does not recognize the park boundary set during the time of its establishment. The bottom line is that most of the legal provisions do not provide any direct link and stipulated benefit to the community, except access to some important dry season "emergency" pastures reserve in the core area.

On the other hand, regarding the wildlife conservation policy, a number of regulations and laws were passed. Most important laws and regulations, which govern the regulation of natural resources conservation, were proactive since the 1940s. Some of these outstanding regulations governing the wildlife conservation

and related to wild life were: Environmental protection Policy in 1997, Pro. No. 94/1994—conservation development and utilization of forests, Pro. No.192/1980 – forest and wild life conservation and development, endangered species of wildlife commemorative coin regulation of 1975, Regulation for wild life conservation (Legal Notice No. 416/1972 & 445/1974), wild life conservation regulation of 1972, Wildlife conservation order of 1970 (order No. 65 Of 1970, and the gazette notice for National Parks: ANP (order No. 54/1969 and Semien National Park 59/1969, a proclamation N0. 61 of 1944-a proclamation to make provision for the preservation of the game. This proclamation was enacted as a result of external pressure-concerned with controlling hunting so that endangered species can be saved and conserved.

Although these laws and regulations seem to have dynamic feature, they were not strong enough in addressing conservation issues such as the Awash Park and wildlife inhabitants. The institution in place-the Ethiopian Wildlife Conservation Organization (EWCO) although established in 1960, only gained autonomous status in 1970, as the Federal agency that has responsibility to "establish, develop and administer national parks for wildlife. However, due to the process of decentralization, EWCO's responsibility has been reduced with majority of protected areas being handed over to the regional governments. Only two parks were officially gazetted to operate under Federal umbrella. It is clearly seen that over the year's wild life resource has declined drastically resulting in irreversible degradation of Ethiopia's natural ecosystem. Although the legislation prohibits community use within national parks, as outlined in the 1972 wildlife conservation regulation (Legal Notice: No.416), lack of capacity in implementation of policy appears to be one of the drawbacks for further development of the park.

However, recent development in the draft legislation indicates a slight change in attitude over the previous ones. Responsibility for wildlife management is being given to the regions, with EWCO monitoring the implementation of regulation,

issuing new policy guidelines and other responsibilities. It is clear that the regional Authority and the Federal Government of Ethiopia retain considerable powers in the management of the country's wildlife resources. A recent draft Policy objective on wildlife stated objective of the Wildlife Policy is 'To preserve, manage, sustain, and utilize Ethiopia's wildlife resources for social and economic development and for the integrity of the biosphere.'

In addition, the draft policy seems to acknowledge community participation in the management of parks. It states that communities should play a far greater role in conservation, and also to benefit from hunting and park revenues. Such a policy may bring about a major improvement with regard to park and wild life development, if properly implemented. Equally important policy arena is tourist sector development, which together with other policies determines the development of the sector. Although, modern tourism commenced in Ethiopia in the early 1960s, when tourism was formally recognized as an economic sector, there were not significant and consistent policy changes in the sector. As a result, Ethiopia has lost many of the opportunities in foreign exchange earnings. The policy should review consistently, the possibility of having cultural tourism, hotel expansion, custom duties, knowledgeable tour operators and Internet and other mobile telephone services. The policy in place needs a clear-cut decision on community-based tourism, which will also be consistent and feasible with National parks development and Wildlife conservation in the country.

Despite some of the implementation gaps and inconsistencies in the pastoral policies and strategies, there are positive elements that can be summarised as follows:

- a)** Recognition of the constitutional right of pastoralists not to be displaced from their own lands
- b)** Power decentralization to the regions and districts: This is considered to be a centrepiece of the Ethiopian government strategy for ending poverty both to improve responsiveness and accountability in services delivery and ultimately to

increase local participation and democratization of decision making. This is expected to be achieved by a structural program and is projected to be fully operational in all regions by the end of 2008. The objective of the district level decentralization Program (DLDP) also includes deepening devolution of power to these lower level governments, institutionalising the decision making power, enhancing democratization process, promoting good governance, improving service delivery, and creating viable development centres at woreda (district) level. However despite such legal frameworks, there is still a lot more to be done to achieve this by 2008. In a study in 2005 (Oxfam, 2005) that focused on four regions, namely Amhara, Benshanful-Gumuz, SNNPR, and Somali, decentralization has not translated into action due to several reasons which include:

DLDP is seen as a capacity building activity rather than devolution of power

Decision making powers in areas of personnel and finance is largely withheld at regional level justified by lack of capacity at woreda level

Service delivery improvement expected as a result of decentralization process did not happen

Despite the legal power to woredas resource and capacity constraint has undermined the exercise of power

Issues of accountability and transparency are not adequately addressed

Gender issues have not been given the level of attention required

Lack of awareness and orientation regarding the issues of establishing partnership at local level. Non-state actors have not been given sufficient attention.

It appears that there is a mismatch between legal and political pronouncements and actual practices (Oxfam, 2005). This needs to be addressed as it very much relates to empowerment of marginalised groups including pastoralists.

c) Formation and reformulation of pastoral institutions: The government set up the pastoral affairs standing committee in Parliament, which oversees pastoral

issues in the country. The Pastoralist Affairs Standing Committee (PASC) is one of the twelve standing committees in the parliament of the Federal Democratic Republic of Ethiopia (FDRE). The standing committees in the FDRE, each with thirteen members, were established by proclamation no. 271/94. The mission of the PASC is to bring about positive change towards sustainable pastoral development through partnership with stakeholders. These partnerships will focus on the ways and means to: (1) Forge more reliable delivery of public services to pastoral areas; (2) foster more timely response to challenges and crises in pastoral areas; (3) promote greater protection and promotion of pastoral rights; and (4) seek ways to enhance and improve the economic, social, educational, and political conditions for pastoralists. The broad responsibilities of the PASC are three-fold: Legislation, oversight, and representation.

d) Regional pastoral commissions and Pastoral and agro-pastoral coordination offices: The mission is to improve the well-being of pastoral communities by carrying out people-centered, community based, holistic, and multi-sectoral development interventions. Efforts will be geared towards building the capacity of pastoralists to enable them to identify their own needs and priorities, and help solve their own problems by channeling public funds through producers or community organizations. Community- based natural resource management approaches are promoted, along with the provision of financial services and creation of good governance.

e) Established Pastoral area Development Department under the Ministry of Federal Affairs (MoFA): The Ethiopian Government has formulated the Pastoral Community Development Project (PCDP) in the pastoral area development department of the MoFA, to improve livelihoods, reduce disaster vulnerability, and establish effective models of public-service delivery in the pastoral areas of Ethiopia. The project is multi-phased over a fifteen-year period. The project interventions are designed to empower communities, districts, and regional governments to better manage local development, with the aim of increasing,

stabilizing, and diversifying incomes, improving infrastructure, and increasing access to public services. This will be achieved through a community-based development planning process linked to a community investment fund, which flows through local governments. The project will also support a participatory disaster management program to reduce the risk of pastoral communities to drought and other natural threats to livelihoods. Overall, the PCDP has three main components, namely: (1) Sustainable livelihoods for pastoral communities; (2) pastoral risk management; and (3) project support and policy analysis.

The sustainable livelihood component includes three inter-linked subcomponents as follows: (1) a decentralized empowerment process at community and government institutional levels; (2) a community investment fund (CIF) to finance community and inter-community driven activities that improve livelihoods; and (3) an institutional support program designed to build technical capacity across government agencies. Included in the pastoral risk management component are subcomponents such as: (1) Community-based risk monitoring; (2) disaster preparedness; and (3) contingency planning. A fund directed towards disaster preparedness and contingency is geared for providing a financing mechanism to enable woreda-level projects (which will be long-term drought mitigation and rapid-reaction activities) to be undertaken in a timely manner. The third component of the PCDP, project support and policy analysis has three inter-linked subcomponents: (1) Monitoring and evaluation; (2) policy analysis and reform; and (3) project management. The latter will provide operational support and training resources to the national and regional PCDP coordination units.

f) Growing Interest on pastoral development in research and academia: There is a growing interest among research and academic institutions to incorporate pastoralism in their research and teaching programs (Desta 2006). Alemaya University has plans to establish institute of pastoral studies; EARO has a dry land and pastoral research directorate, a huge World Bank funded research centers with a focus on pastoral research and development have been

established in Oromia, Afar, Somali, and other pastoral regions. Gewane vocational center has been established to produce development facilitators who can work in pastoral areas. Although not yet so much effective there is a Pastoral Education task force in the federal ministry of education responsible to develop and implement pastoralists' friendly education model. These are all positive measures that would facilitate developments in pastoral areas.

9 CONCLUSION

The pastoral area of the country cover more than sixty percent (625,000 km²) of the total land mass inhabiting 10 million people composed of 29 Nilotic and Cushitic ethnic groups in seven Regional States. Administratively they occupy 42 zones, 122 districts (34 % of the total). The livestock breeds in pastoral areas are indigenous having an estimated total of 7.3 million cattle, 3.5 million sheep, 5.5 million goats, 470 thousand equines and 1.8 million camels estimated at 7,000 million US\$, including all type of animals. The total annual meat and milk off take of the pastoral sector is estimated at 120 thousand tons and 683,520 ton respectively. The total capital value of Ethiopia's pastoral resources is estimated at about US\$ 2.7 billion (1,600 \$ per household and 330 \$ per caput), altogether contributing 9% to the national GDP. Further more, the rangelands provide employment and investment opportunities and are source of meat, milk for residents of approximately 24 major towns and cities within and adjacent to lowland areas

The pastoral areas are also rich in water resources, fish, irrigation, and hydro-electric potential. The presence of a number of national parks and wildlife sanctuaries with the respective flora and fauna habitat is a clear indication of the availability of the resources in this part of the country. Other forms of natural resources abundant in the area include, minerals (metallic and non-metallic) as well as energy in the form of solar and wind. Furthermore, the presence of cultural heritage has made the lowland areas more valuable for anthropology and geological purposes.

Though the lowlands are considered to be rich and valuable in all types of resources, there are constraints affecting them. Major constraints are related to socio-economic, environmental, structural and policy issues. The primarily expansion of sedentary agriculture, large-scale agricultural projects, wild life

parks and sanctuaries in to the traditional pastoral areas is adding pressure on the natural resource base. In addition, the emergence and expansion of agro-pastoralism, encroachment and invasion of unwanted plant species, conflict over key rangeland resources have aggravated the vulnerability of the pastoral resources to the extent of threatening the livelihood system. The compounded negative effect on the resources and the mode of production has brought general decline and degradation of the resources and in particular in the production and productivity of livestock.

The pastoral systems in Ethiopia have been functioning well and used various adaptive and flexible strategies to cope with the various risks inherent in the system, and they have survived supporting human livelihood for centuries. There have been also pastoralists' traditional institutions that helped and administered efficient and rational utilizations of resources available in the arid and semi-arid environment. However, the ability of the traditional mechanisms to manage risks and the indigenous institutions that govern administration of grazing, water and other resources has been weakened over time.

The traditional risk management strategies are becoming less effective in the face of the emerging situation of growing population pressure, increased frequency of occurrences of shocks such as drought, poverty, and political interferences such as introduction of pastoral associations which are alien to and inappropriate for managing extensive livestock production systems and Pastoralism which is more than an economic activity. In some case local institutions do not have the authority to impose fines on resource abusers and norm violators. This is true among different pastoral communities of Ethiopia. Elders in pastoral areas in Borana say that they have become ineffective because the power is with the PA (Desta 1999, Waktole 2002). This is a dangerous point where misuse of resources might lead to externality and degradation of the lands. The traditional pastoral institutions are run by elders with accumulated knowledge of the ecology over life experiences. They were

created to safeguard the interest of the community and are accountable to the community, which they are part of, and necessitated, by the social, economic, ecological and political realities of the local people. On the contrary newly introduced institutions such as pastoral associations were primarily created to enforce government rules and regulations which may not be always to protect the interest of the pastoralists (Waktole 2002).

Currently both the traditional and the newly introduced institutions are operating side by side in dealing with natural resource management and other community affairs. However the traditional ones are losing ground in terms of authority to the newly introduced institutions. Traditional pastoral strategies to manage shocks such as mobility, herd dispersal and splitting, informal transfers, etc are becoming weaker and weaker.

There are different forms of land use in pastoral areas. The primary form of land use in pastoral areas has been grazing. The pastoral areas by their nature are fit for extensive livestock production. Embedded in the traditional system are rules and regulations on managing the natural resource base. Changes in land policies since the 1900 have had significant effect on the type and extent of land use in pastoral areas. New forms of land use which can not be governed by the traditional rules and regulations have risen. Displacement of pastoralists became common, and resource scarcity induced conflict. There is a continuous pressure from pastoral communities on the need to develop an appropriate land use policy. The development of this policy hinges on the full participation of pastoral communities.

Since early 1900s, Ethiopia's grazing lands have been regarded as property of the State, later the 1975 land reform proclamation resulted in the establishment of Pastoral Association in pastoral areas, and pastoralist sedentarization and state farm development, were the central objectives. The proclamation was, *inter alia*, accompanied by a substantial removal of grazing areas from pastoralist

control. Constitutions have gone from one end of the spectrum to the other- from considering pastoral areas as vacant and without master (1955) to pastoralist's right to free land for grazing as well as the right not to be displaced from their own land (1995). This was a clear departure from the traditional state political system. Policies and strategies pertinent to pastoral development have been developed since 1991, and majority of these have not dwelt on pastoral issues in depth. There have been gradual improvements in these, however. The 1993 agricultural Extension program had nothing to say on pastoral development, but in the RPDS there has short and medium to long term plans proposed for pastoral development. Although the short and medium term plans dwell on promoting the mobility based traditional production system as source of livelihood for people in pastoral areas, the long term plan has the ultimate goal- sedenteraziation. This calls for flexibility and open dialogue in defining the way forward based on objective realities on the ground, and the involvement of pastoral communities in the decision process.

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11 ANNEXES

Annex 1. Area, number of Zones, Districts and Population by Pastoral Region

Pastoral Regional States		Area km ²	Zones	Districts		Population (July 2003)
				Total	Pastoral	
1	Afar*	90,400 (*)	5	29	29	1,301,000
2	Benishangul Gumuz	48,290	3	20	3	580,000
3	Dire Dawa	1,195	1	2	1	357,000
4	Gambella	25,800	3	8	5	228,000
5	Oromiya	353,000	12	180	34	24,395,000
6	Somali*	325,000 (*)	9	44	44	4,002,000
7	SNNP	112,340	9	77	6	13,686,000
Total		956,025	42	360	122	44,549,000

(*) *Estimated area*

Annex 2. Area, number of Zones, Districts and Population by Pastoral Region

Pastoral Regional States		Pastoral Districts			% of the total population
		<i>number</i>	<i>area (km²)</i>	<i>population</i>	
1	Afar*	29	29,430	1,301,000	13.3
2	Benishangul Gumuz	3	8,410	40,640	0.4
3	Dire Dawa	1	1,200	108,570	1.1
4	Gambella	5	17,330	133,600	1.4
5	Oromiya	34	152,070	4,007,950	40.8
6	Somali (*)	44	325,070	4,002,170	40.8
7	SNNP	6	30,370	219,670	2.2
Total		122	624,880	9,813,600	100

Source: *Elaboration of the Consultant using various sources*

(*) *Estimated area*

Annex 3. Overall land use and cover type patterns of 48 sample Pastoral Districts

	Land & vegetation cover	Grazing suitability	Total area	
			km ²	%
1	Dense Shrub Land	Poor	76,771	22.40
2	Shrub land & Grassland	Medium	47,020	13.72
3	Dense Wood Land	Poor	38,477	11.22
4	Grassland Pasture	Good	33,071	9.65
5	Open Grassland Pasture		33,483	9.77
6	Shrub land & Woodland	Poor	23,818	6.95
7	Exposed Sand Soil with Scattered Scrub	Poor	18,836	5.50
8	Moderately Cultivated Land	Medium	12,228	3.57
9	Exposed Rock with Scattered Scrubs	Poor	9,044	2.64
10	Open Shrub land	Medium	8,222	2.40
11	Exposed Sand Soil Surface	Nil	7,580	2.21
12	Scattered Shrub land & Bare Land	Poor	5,202	1.52
13	Scattered Grassland & Bare Land	Medium	5,007	1.46
14	Wetland		4,144	1.21
15	Intensively Cultivated Land	Nil	3,005	0.88
16	Wetland & Shrub land	Medium	2,965	0.86
17	Wooded Grassland	Good	2,712	0.79
18	Exposed Rock Surface	Nil	2,369	0.69
19	Grassland & Cultivated land	Medium	1,723	0.50
20	Wetland & Grassland		1,699	0.50
21	Riparian Wood Land		1,606	0.47
22	Salt Flat	Nil	427	0.12
23	Highly Degraded Land	Poor	346	0.10
24	Lakes	Nil	339	0.10
25	Perennial Marsh	Poor	329	0.10
26	Sand Flat		182	0.05
27	Montane Coniferous Grassland	Medium	94	0.03
28	Perennial Swamp	Poor	52	0.02
29	Seasonal Swamp	Medium	29	0.01
30	Wetland & Woodland		1	0.001
31	Other Types of Land Cover		-	1,930
Total Land Cover of the 48 Sample Pastoral Districts			342,781	100

Source: PADS Thematic Report n. 12 GIS

The shaded rows in the table above stand for the non-pastoral land use.