



ASSESSMENT ON NATURAL RESOURCE MANAGEMENT IN NYANGATOM DISTRICT OF SOUTH OMO ZONE, SOUTH ETHIOPIA

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Abstract:

The aim of the study was to identify the local common resources, conducting SWOT analysis of existing traditional institutions, identify how access to and control over of common resources administered by traditional institutions, identify community and government proposals to enhance existing institutional mechanism and other measures to address unnecessary competition over resources and identify alignment of local government role with that of community priorities. The study employed Focus Group Discussion (FGD) and Key Informant Interview (KII) to collect the primary data. 1 FGD and 2-3 FGDs were held in each kebele. Natural pasture, trees and shrubs, livestock and water bodies are the major natural resources in the area. The communities in nyangatom have their own traditional way of administrating the available natural resources. Everybody in the community has access to the available resources but the control of these resources mainly lies on men's specifically community elders. participatory nature of the decision making system and way of acquiring information prior to enforcement of punishment are the strengths of these traditional institutions whereas poor participation of women, lack of long lasting binding rules and lack of regular frame of time for meeting are among the weaknesses. In addition, there are resource use committee's in the community that administer specific resources. The involvement of government in development of pasture land found to be poor. Increase in population, recurrent drought, disease outbreak, incidences of conflict and introduction of invasive alien species are the threat to NRM. Rehabilitation of the depleted grazing lands and introduction of improved pasture management, Maintenance, rehabilitation and construction of water infrastructure, improving livestock health, Expanding small scale irrigation, Ensuring security and Countering prosopis juliflora were the mitigation measures suggested by the community.

Keywords:

Natural resources, NRM, traditional institutions, SWOT analysis, FGD, KII, Nyangatom.

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1. INTRODUCTION

1.1.BACKGROUND



The pastoral regions of Ethiopia, as elsewhere in Africa, have a fragile environment and unpredictable weather. Pastoralist areas cover about 61 percent of Ethiopia. Usually found below 1,500 meters, these areas are known as ‘arid and semi-arid’ land and are often described as marginal. Overall, pastoralist areas are noted for their highly variable and uncertain rainfall and are prone to drought and food shortages (PFE, IIRR and DF. 2010).

There are approximately 10 million pastoralists in Ethiopia who make up almost 14 percent of the total population. Coming from at least 29 different nations and nationalities, Ethiopian pastoralists live in more than 133 districts (woredas) in seven National Regional States. Somali, Afar and Oromo pastoralists are in the majority in their states and constitute 87 percent of the total pastoralist population. Pastoral communities in SNNPR (South Omo and Bench-Maji Zones), Benishangul-Gumuz, Dire Dawa and Gambella make up the remainder (Ibid).

The pastoral mode of life of Nyangatom communities is constrained by various factors including drought coupled with local natural resource degradation, ethnic conflict, skill gap in ecosystem restoration and management, narrow livelihood base and limited external development support to supplement communities’ initiatives. These and other constraints coupled with effect of climate change made the pastoral life even worse.

It was in response to some of these situations Action For Development (AFD) and Horn of Africa Regional Environment Center and Network initiated a project called “Participatory Livelihood Diversification and WASH in Improving the Livelihood of Nyangatom Woreda Community as an Adaptation to Climate Change through CMDRR approach.” AFD has been implementing this project in two kebeles of Nyangatom woreda, namely Lorenkachew and Ayipa since April 2013. The project is planned to improve the coping capacities to climate change in the target communities through livelihood diversification and enhancing access to WASH, climate change early warning information and scarce natural resources.

In order to achieve the above stated objective, the project envisaged to support and strengthens traditional and modern resource sharing mechanisms within communities. To do this, the assessment on natural resources and related issues was carried out in the project area.

1.2.OBJECTIVES OF THE ASSESSMENT

The objectives of the assessment are:

- To identify the local common resources,
- Conducting SWOT analysis of existing traditional institutions,
- To identify how access to and control over of common resources administered by traditional institutions,
- To identify community and government proposals to enhance existing institutional mechanism and other measures to address unnecessary competition over resources and
- To identify alignment of local government role with that of community priorities



2. METHODOLOGY

2.1.DESCRPTION OF THE STUDY AREA

Nyangatom woreda is located in south omo zone of SNNPR, comprising of 20 (1 urban and 19 rural) kebele administrations. It is one of the eight woredas in south omo zone with an area of 2652 km² and is located at 4.85⁰ – 5.67⁰ N and 35.75⁰ – 36.23⁰ E. According to WFEDO report of 2005, the woreda has a human population of 22,349 of which 10,724 are male and 11,623 are female. The population density of the woreda is estimated to be 8 persons per km². It's bordering with Bench-maji zone and Selamago woreda in north, Dassenech woreda in south, Hamar woreda in east and Kenya and South Sudan in west. The traditional agro ecology of the woreda is kola with an altitude that ranges between 300 -450m a.s.l. The mean annual temperature of the woreda ranges between 33 and 42⁰c. The woreda has a rainfall pattern of bimodal type (Belg from March to May and Meher from August to October). The rainfall in the woreda is erratic in nature. The mean annual rainfall ranges from 350 – 500mm. Livestock production is the dominant livelihood source in the woreda. It has an animal resource with an estimate of about 415292 cattle, 132,604 goats, 109217 sheep, 11218 donkeys and 5474 chicken. Bee keeping and fishery are also practiced in the woreda. The second most important source of livelihood is opportunistic crop production. Sorghum, maize and haricot bean are the major crops produced in the area. Regarding the land use the woreda has potential arable land (cultivated and cultivable), pasture land, natural forest, shrub land, non arable land and investment land of 60680, 72816, 6467, 36437, 4584 and 27938 ha, respectively. There are three ethnic groups in the woreda. Nyangatom is the dominant one followed by Murulle and Koygu (Muguji).

2.2.SAMPLING PROCEDURES

Before collecting the primary data a group of multi disciplinary team visits the woreda to collect some basic information that can be used as a basis for selecting sample kebele's and getting insight about the overall conditions of the woreda. Accordingly, six kebele's are selected based on the availability of different kinds of natural resources, ethnic representativeness, border sharing and availability of interventions like enclosures and irrigation.

2.3.TYPES OF DATA AND METHODS OF DATA COLLECTION

For this study both primary and secondary data from different sources were used. Primary data on natural resources and their relationship with the livelihood of the community, status of natural resources compared to the previous periods, traditional natural resources management practices, the role of different groups of the community in NRM, participation of government and nongovernmental organizations in NRM, problems and possible interventions on NRM, etc was collected using semi structured interview. FGD and KII were the participatory tools applied to collect the primary data. In the FGD different groups of the community like elders, youth and



women are included. In each sample kebele 2-3 key informants were interviewed. Moreover, different resource use committee's were also interviewed in respective of the resources they administered. The secondary data was collected from different bureaus of the woreda such as Woreda Agricultural and Rural Development Offices (WARDO), Woreda Finance and Economic Development Office (WFEDO), Woreda Water, Mines and Energy Resource Office, kebele managers and published and unpublished sources.

2.4.DATA ANALYSIS

Since the data has a qualitative nature, it is analyzed by summarizing the responses of the community. The responses of the community in each question was grouped and summarized for further writing.

3. NATURAL RESOURCES MANAGEMENT

The pastoral way of life is highly dependent on the existence of natural resources which are scarce in nature. In this chapter the different natural resources existed in the woreda, their current status and contribution to the livelihood of the community, how the communities administer these resources traditionally, the role of different group's of the community in natural resource management and other related issues are presented.

3.1.NATURAL RESOURCES, THEIR CONTRIBUTION TO LIVELIHOOD OF THE COMMUNITY AND THEIR CURRENT STATUS

As a pastoralist community the livelihood of the Nyangatom's is much related to natural resources, livestock and the environment. The resources in the woreda are natural pasture, water sources, livestock's, trees and shrubs and arable lands. The natural resources, their relationship with livelihood of the community and their current status is discussed below.

3.1.1. PASTURE LANDS

Rangelands are vast tracts of land with natural vegetation comprising native grasses and shrubs (Nalule, 2010). The low-lying gentle slope scenario of the woreda has an immense source of natural pasture to carry the livestock's populations of the woreda. The communities have been practiced the free grazing ways of feeding. The ownership of the grazing land is mainly communal and the people in *Nyangatom* use the available grazing and pasture lands to feed large number of animal. In wet season they direct their livestock's in nearby accessible pasture land and after a while they have moved to other areas in search of another pasture. These rangelands are the sources of feed for livestock which are the dominant sources of livelihood of the community.



There are two categories of rangelands in the community. Open grazing area which is most commonly accessible to all members of the community within the kebele and other mobile communities from other kebeles and reserved rangeland, which is managed and confined area of land out of free grazing so that some pasture would be available during the dry season.

Table 1: Communal natural pasture areas with their nearest kebele

No.	Pasture land	Nearest kebele
1	Tirga	kakuta
2	lokulan	lorenkacho
3	charrii	Charrii
4	shenkora	shenkora
5	kuchuru	kuchuru

**source; the *Nyangatom* woreda pastoral development office

These reserves have been established on some selected kebeles of the woreda, which were financed by AFD and Horn of Africa. The reserves are available to kids, calves, lactating animals and weak animals which cannot go for grazing elsewhere a distance from their surroundings. Access to the reserve is discussed and decided by the community elders with close assistance of the grazing committees that has been formulated by the donors.

Table 2: Rangeland rehabilitation reserves

No.	Name of a kebele	Hectare	Name of organization
1	Lorenkacho	273	Horn of Africa
2	Ayipa	250	Horn of Africa
3	Naptokoyte	70	AFD
4	Kakuta, charri and newyapi	40	AFD
5	kupriya	40	AFD

**source; the *Nyangatom* woreda pastoral development office



The research team has tried to observe these enclosures. In most cases the formulated committees, who have been responsible for the modes of grazing, are not yet active. As the informants complained they need follow-ups and close assistance to be able to remain with their strengths. Even if the rangeland reserves are fenced and somehow free from animal interferences it is still dominated by shrubs and failed to re-growth grasses due to the prolonged dry seasons in the area so that cannot provide the desired services. To foster the reserve services rangeland improvement interventions has to be executed.

Overall, these natural pasture resources have been pronounced as declining in carrying capacity (*according FGDs*) due to the prolonged periods of dry season, lack of sustainable rotational management practices to be able to utilize the existing resources and incomparable utilization of pasture resources with carrying number of livestock populations and thus, this situations leads to recurrent problems on animal feeds.

3.1.2. TREE AND SHRUBS

The woreda has two discrete vegetation distributions; one is the scattered acacia dominant woody bushes and shrubs and the other is immense vast diversified riparian forest along the Omo River basins. The community woody and non-woody based products and services are potentially extracted from these forest resources. Woods are the important attributes for fuel wood, house and fence constructions and also these riparian forests are the foremost reasons for maximum honey productions by providing bee forages throughout the year since they have been access river water flood outs throughout its courses. Besides they are sources of food like fruits, root and tubers and leaves in periods of food shortage. Despite the increasing demand of these forest products and services, the forest populations are in the ways of declining due to the increasing trends of Omo River basin flood retreat crop cultivations and subsequent increments in food grains demand. The cultivations are being practiced with the expense of these forest resources.

3.1.3. WATER RESOURCES

The woreda has two rivers; one permanent water way (*Omo-River*) and one temporary water way (*Kibish River*). During both seasons the community intimately sticks with these water courses especially during the dry season when the natural wells exhausted enough. The low laying flat plains have conserve the surface run off during the rainy seasons these water courses have made natural wells that have been potentially served as the water sources or reserves for both the human being and animals. And besides, provide the alternative opportunity for fast growing crop cultivations that has being planted mostly maize on eroded soil deposits.

Kibish River is seasonal in type, it increases in volume during the rainy seasons that has received from a number of subsidiaries found in the upper part of the river (*surma-bench majji*) through the bisects of the Kenyan and Ethiopian border until the lower parts of the river. In wet season,



the overflow from the river is used for crop cultivation and the river as a source of water. in dry times the community used it as source of water for human and livestock by digging down known as *chirosh*.

The omo River is the foremost potential source of water for the majority inhabitants throughout the year. According to the woreda pastoralist development office their meher flood-retreat crop cultivation plans ultimately relay on this river basins. The water volume has been increased during the rainy season consequently on the one hand it responsible for crop production predominantly sorghum, fish production by creating different huge natural wells out flooded from the original water courses. As the respondents complained about it has a threat of detaching different completed and underway water diverting construction and structures prior giving different services for the community.

Regarding the current trends of these water resources the natural water wells are declining both in quality and quantity due to the less intense of rainfall pattern and prolonged dry season, since they are ultimately out sourced from rainfall intensity and distribution patterns. Regarding kibish river the benefit from it reduces mainly due to the frequent conflict in the area. According to the respondent communities the area of flood recession land from omo river is showing a declining trend.

3.1.4. LIVESTOCK

The woreda community's sources of livelihood have been relay on livestock rearing and opportunistic cultivations as supplementary sources. The rests of the practices are carried out as coping mechanism from cyclic drought and periodic crop failures and thus the pastoral communities failed to sustain or meet the basic needs of the local groups. The livestock's in the woreda are cattle, goats, sheep and donkey. Cattle and goats are the dominant one. These livestock's are sources of food and income as well as determinants of wealth for the community. Limitations of natural pasture due to overgrazing (*imbalance between grazing resources and carrying capacity*), erratic and less intense rainfall distributions are the reasons to decline the existing pasture and fodder tree/shrubs, consequently the communities has moved there livestock's to other areas in search of pasture and water. Besides; luck of animal health posts and the incidence of periodic outbreaks have trigger the situation to the worst level. Regarding the above facts the livestock's populations have been decreased in response to the above factors. However, the communities still had an efforts to surpass the periodic and chronic livestock feed and related health problems by moving the livestock populations into potential natural pasture areas and nearby health posts.

3.1.5. LAND HOLDINGS

The *Nyangatom* woreda has been endowed with immense arable potential land (*60680 ha – according to the woreda pastoralist development office*), fragile and fertile compositions of soil



that has been potentially utilized for large scale crop productions and range establishment in fact combined with irrigation schemes. According to the FGDs none of the community members have a possession to private land; the communities have been utilizing the existing natural resources under communal levels of understanding. Regarding the Omo River flood-retreat cultivation practices the river side basins are owned by different individuals from the community members. Those who relatively own more land divide some of it for their relatives so as to cultivate for own and feed their families. By doing this majority of the flood-retreat lands, the newly cleared and the existing, has been filled with annual staple food crops predominantly *sorghum*.

3.2. TRADITIONAL INSTITUTIONS

Pastoralist communities have accumulated centuries of experience and knowledge about resource management. Traditional institutions are run almost exclusively by older men who make decisions that affect everyone else in society. They set rules and regulations that forbid inappropriate practices, they ensure that rangeland resources are used and maintained properly. They also arbitrate disputes. The leadership negotiates with neighboring groups on the use of water and pasture and allocates range and water resources. Their key strategy is managing mobility; they decide if, when and where the community should move.

Likewise the *Nyanagatom* ethnic group has its own local institution which is led by the community elders, the local elders are the umbrella to direct the communities in to sustainable and peaceful communal resources utilizations. The local institution has a major role in conflict resolutions, through better management of the scarce natural resources. The rangeland resource in *Nyanagatom* is open access for all the members of different clans inhabited at the woreda. Hence, the elders are playing the leading role to convince the communities in order to mutually utilize the common resources together. Moreover, the relationship between different clans, villages and households or any other social group is based on cooperation and mutual respect. Where a dispute arises, the elders are taken the lion share to resolve the arguments through mediation.

The communities' customary experiences have an anchor for the pastoral communities' wellbeing; however no pragmatic collaboration is being realized between the statutory and the customary institutions. Moreover, statutory institutions are often failed to understand and collaborate with the community indigenous knowledge's and experiences in turn they are tried to attempt to resolve the community problems upon their knowledge and experiences through top down approaches.

3.2.1. LOCAL INSTITUTIONS IN THE WOREDA

Even if the traditional institutions in some kebeles (like kakuta) of the woreda are stopped taking place due to lack of resources to be administered, there are some kebele's that still have a strong



traditional administration of the available natural resources. Some of these traditional institutions are presented below.

In Lorenkachew there is a traditional institution that administers the mobility of livestock's. Community elders are the one who makes decision where to take the livestock's for grazing in collaboration with the youth. The youth's are the one that patrol the surrounding and inform the available grazing areas, implement the decision and reports defaults to the elders. If anybody violates the decision and move to another direction, the youth reports to the elders and the man get advice from the elders (if he is from the community) but if he did it again he will be punished by sacrificing ox and providing local drinks. If the criminal is outside the kebele, the youth punish him with sticks and he compensate by sacrificing ox. If not he/they will be cursed and face great danger. The highest crime is firing the grazing lands and it results in high criticism and slaughtering of ox.

In Kuchuru there is a traditional way of administering the forest land. The main authority lies in the hands of community elders. They prohibit the community not to cut or fire trees in the forest. Everybody in the community has the responsibility to keep the forest and report defaults. Children are prohibited from climbing on fruit trees and punished if they do so. There is a tree where men's assemble; anybody who touches this compensates a goat. The hardest crime is to set fire on the trees, if it is by mistake no problem but if it is purposive the criminal is punished by slaughtering an ox and preparing local drinks like shoforo. According to the community the punishment for firing trees should be improved.

In aypa, there are two well known resource elders known as father of sorghum and father of grass. In times of omo or well retreat cultivation it's the father of sorghum, who plants first, then the community continues and when they decide to take their livestock away in search of grazing land, it's the father of grass who starts it. Anybody who cultivates or move for grazing first will be punished. The punishment ranges from goat to ox butchering based on the decision of the community elders. The tradition is democratic that everything is done after consultation with the community. Everybody knows when the planting or grazing begins.

3.2.2. ACCESS TO AND CONTROL OVER OF NATURAL RESOURCES

According to the FGD respondents everyone of the community member has the right to govern and utilize the existing communal resources found on the nearby areas. However, the community elders have the ultimate power to give command and orders on how to use and manage the existing communal resources (especially during the times where intra-ethnic interest becomes a prior conflict media). During the wet seasons the low laying plateau area have potentially grown the desired natural pasture (*as the respondents pronounced as an anchor for their livestock production*), when the elders had believed the emergence of the grass on those areas they have been appointed emissary youth groups to observe the entire communal areas and they can convey the desirable information's that have been gathered on their ways. The elders have called



meeting to the whole communities, elders meet to discuss and access potential, and eventually decide whether to migrate, when and where. During these meetings decisions are usually achieved by consensus and all participants are given the chance to express their opinion on the matter discussed. Decisions are not taken hastily but elders reconvene after one or two days to allow some time for reflection. During this ‘cooling-off period’, elders also have the opportunity to discuss the issues with their wives at home, and their opinions may also influence the final decision.

The rest of the communities are responsible to follow the elder’s command and order and also responsible to look after those who have against the orders. When disobedient member of the community emerges the community members or youths inform the elder’s. They called the one who is against and examine for the reliability of allegation. After a while if they are found faulty, different punishment levels have been announced for the youth to be implemented accordingly.

When water and pasture are dwindling, a team of emissaries is sent to potentially suitable locations for migration to check the availability and quality of water and pasture, the carrying capacity of the rangeland-including estimated duration of stay if the livestock is moved to the place, absence of livestock disease in the area and the willingness of the host community to accept ‘visitors’. On the basis of the emissary feedbacks and understandings the elders call the community assembly meeting and after detail discussions the new resource area would be announced for the community to direct their livestock’s.

3.2.3. THE ROLE OF DIFFERENT GROUPS OF THE COMMUNITY

The role the community members are ultimately stimulated with gender, age and vigorous. According to the respondents (FGDs) the following roles of activity has been mentioned;

Elders responsibility; this group of the community has the ultimate powers to give directions, judge and after all respectable members of the community, they assign the day activities to the members of the household. Sometimes they have been engaged on livestock’s management on behalf of the men youths. Otherwise, they don’t have bundles of activities expected to be performed by these groups.

Men’s responsibility; the youths are responsible to implement the elder’s decision regarding with the communal natural resource utilization methods that have been pronounced during the community assembly meetings. They are responsible to look after their livestock’s when their way for grazing and water especially during the dry seasons they are migrated to the other areas (*tirga*) probably from five or six months, during the crop season (*starting from September - December*) after directing their livestock’s he is the one responsible for site clearing and prepared to sowing along the river flood-retreats. Besides; they are cutting woods for house and fence constructions. During harvesting he is the one who makes grain cut from the stalks so as to easily collected and stocked.



Women's responsibility; the recently started flood-retreat activities have been carried out mainly by women's starting from sowing through weeding until grain stocking. House and fence constructions have potentially undertaken by women's after collecting woods and grass for roof combined with house hold activities that have routine throughout their days. They are also responsible to give a feed and water for lactating mothers, kids and sick livestock's while staying home nearby. Dry woods and water Collection of for household consumptions also lying on the shoulders of the women's.

From the above tips majority of the activities in *Nyangatom woreda* are managed along the gender lines, during the dry season since the Omo River is the only source of water for the communities they are enforced to go more than seven kilometers (according to key informants interview) to fetch water after the local sources have become exhausted as a result of the prolonged dry season on their way back there are a bundles of activities awaiting at their home. On the other hand the men's are responsible for limited activities that have been aimed at keeping the community from security related problems and subsequent drawbacks. According to the FGD respondents undeniably the women's are more responsible to fill the yearly household food demand especially during the dry season when the men's has displaced with their livestock's for in search of pasture and water she is the one used to be send the food often with messengers, if she isn't be able to send the desired food for herders she is the one going to be blamed for not actively doing her job while grain production activities carried at the flood-retreat cultivation practices.

3.2.3.1. THE OVERALL SITUATIONS OF WOMEN IN THE WOREDA

Nyangatom women take the highest burden of household chores and farming activities, as they are responsible for cooking, cleaning, farming, reproductive works, building house, income generation work like small-scale irrigation and participating in productive safety net activities etc. this in turn has made the life of women to be directly linked with natural resources such as wood, water, land and animals much more than that of the men. Hence, the declining natural resources base has increased the load on women; among others, now they have to travel very far distance to collect water and fuel wood.

With regard to women's access and control over resources, the key informants said that women do not own/control, manage and administer resources such as cattle mainly due to the culture and the influence of traditional leadership. Moreover, they do not participate in making decisions on the resources. In general, due to lack of access, control and denial of property right, among others, women lose their bargaining power and they have remained subordinate to men.

3.2.4. STRENGTHS AND WEAKNESSES OF THE TRADITIONAL INSTITUTIONS

According to the surveyed key informants and FGDs one of the strength of these traditional institutions is that they are participatory in nature and highly respected due to the fact that it's led



by community elder's. All the decisions are made after consulting and awareness of the community members. This situation clearly indicates that consulting the community especially community elders and getting their permission before the implementation of any project/intervention is mandatory. The weakness of these traditional institutions is related to the punishments. According to the community members the punishment for high crimes like firing forest and rangelands is not enough and should be improved. These low levels of punishments will result in breaking in of ordered commands. More of the observed strengths and weaknesses of the traditional institutions and their related opportunities and threats are listed below.

STRENGTHS

- Democratic/ participatory decisions process have been executed after calling community assembly meeting to discuss and provide their opinions prior to once decision is made.
- The strong attempts to pursue the improvements of community perspective to mutual and respected utilizations of communal resources with the adjacent clans or ethnics.
- Their ways of acquiring, gathering and analyzing information's about the phenomenon prior to decisions made or taking enforcements for those who against the laws.

WEAKNESS

- Poor participations of women; women are playing an active role in natural resource related activities and household activities but socially women are marginalized and oppressed by different mechanisms.
- Lack of skill and experiences; the local institutions which have been lead by the community elders are tried to resolve different problems by taking similar attempts regardless of understanding the inherent natures of the problem.
- Lack of proactive involvements with government directions; imposing little or insignificant pressure on the respective government bodies to give a due attentions for the claims that are given top priority by the communities
- Ethnic based affiliation for their own ethnic group when they are nominated on inter-ethnic committees that have been organized by different stakeholders so as to perform different activities.
- Lack of regular frames of time table to be held discussions on different community problems
- Lack of long lasting frames of binding rules to be governed with for long periods of time with modifications in line with the nature of existing situations. Rather they have pronounced orders and commands that have been legitimate for particular issues.
- Elders' reluctance to introduce youth or knowledgeable community members to able to access the new perspectives and experiences of the new member.



OPPORTUNITIES

- They have long established experiences and customary (*indigenous knowledge and practices*) institution that has been a potential and proven foundations for the modern or scientific knowledge's if it is exhaustively investigate the phenomenon by skilled expertise.
- They are endowed with immense natural resources that have been potentially anchored for their livelihood sources of income, if proven natural resource conservation and management methodologies are introduced.
- The community elders' legitimacy for the orders and commands by the rest of community is still has a decisive role on the communities' perception and subsequent activities.
- The increasing attentions have been given by the government and different NGO's to sustainably change the pastoral communities livelihood courses in to stable foundations.

THREATS

- The dwindling communal resources which are the corner stone's for the community livelihood income due to different human and environmental (*climate change and related challenges*) induced challenges.
- Poor/ weak collaborations of the customary and statutory institutions regarding executions fruitful interventions
- Lack of integrations among different development interventions prior to adopt at the community level.
- The roles of traditional institutions have been influenced with educated youths, district/woreda committees (*organized by different stakeholders*), government bodies and politicians. And multi-claimed and overlapping authorities of communal resources have prone a decisive challenge for the implications of traditional institutions.
- NGO's are also blamed to commercializing the roles of community elders through the introductions of monetary incentives for attendance at the meeting and other functions.

3.3. RESOURCE USE COMMITTEES

There are some committee's in the surveyed kebele's of the woreda that administer the use and development of some resources. These include enclosures, cisterns and irrigation. This committee's are selected by the community with facilitation role of the owners of the respective interventions and mostly includes kebele administrators. The committee includes assembler, co-assembler, writer and members. The number of members varies from committee to committee. The function of the three different committees observed during the survey is described below.



The first committee observed was a committee that was established to administer a cistern built by AFD. The committee is assigned by the society with the facilitating role of AFD and doesn't have a time limit of authority. Coordinating the community to fence and clean the cistern, setting utilization programs and executing faulty persons with the community are the functions of the committee. There are 16 villages in the kebele and only one village can fetch water in a single day. One household in the village can only fetch one jerrican of water. Anybody who fetch without program pays 5-10 birr based on the decision made. Safety net helps the committee by fencing the cistern. According to committee members shortage of water and disputes for fetching are the problems they are facing.

The second committee observed is irrigation committee. The committee was selected by the community and has no time limit of their power. They can be replaced anytime. Together with the community the committee cleans the canal, maintain defects, make ridges and control the delivery of water to the members. They deliver water in shifts. The main problem is the pump is a small one, shortage of gasoline and oil and competition between the users. They solve such problems with discussion. According to the committee adequate delivery of oil and gasoline, construction of house for gasoline and oil near to the pump and provision of a better pump that can deliver more water to the community are the solution to the existing problem.

The other committee observed is a committee that administers area enclosures. It is elected by the community with the coordination of AFD. There is no time bound for the duration of the committee. The responsibilities of the committee are ensuring that the enclosure is well fenced, controlling the quality of the conservation structure built in the enclosure and controlling the type of animals entered in the enclosure. According to the rules of the committee the one who touches the fence and/ or fed forbidden animals will be punished by slaughtering goat or ox with the decision of the community. The enclosure is used for lambs, kids and sick and injured small ruminants and calves. Training is given to the committee and should be continued.

4. PARTICIPATION OF GOVERNMENT AND NON GOVERNMENTAL ORGANIZATIONS IN NATURAL RESOURCE MANAGEMENT

The extent of participation of governmental and non-governmental organizations is varied from kebele to kebele. In kebele's like kuchuru, the participation of non-governmental organizations is poor compared to other kebele's like lorenkachew. Non-governmental organizations like AFD and HOAREC are participating by enclosing grazing areas and building cisterns in different kebele's of the woreda. Irrigation schemes are being implemented by both government and non governmental organizations. The government through its development agents is providing improved seeds and fertilizer. And also teaches the community the importance of trees to the environment and has been accepted. The involvement of both government and nongovernmental organizations in natural resource management should be continued and try to address more kebeles of the woreda.



5. ALIGNMENT OF LOCAL GOVERNMENT ROLE WITH COMMUNITY PRIORITIES

The woreda pastoralist development offices have been tried to recruit woreda and kebele experts for active development assistance that has been claimed by the kebele inhabitants. Consequently the government officials have channeled the government development policies and strategies through their kebele experts. Though the pastoralist communities have been endowed with their own traditional government and hierarchy systems, as different pastoralist development attempts are depicted that the government policies and strategies ought to be in line with these tradition institutions consequently the government development policies have failed to successfully accomplish as per the intended objectives. According to the informants, they are looking for development directions from the respective government bodies such as environmental protection and sustainable utilizations of existing resources so as to make an alignment with their existing traditional management systems. Besides; they are suggested that if the government development directions are out reach through the community elder's after consulting with them it would be strong enough to grab and performed by the rest of communities.

6. THREATS TO NATURAL RESOURCE MANAGEMENT

According to the interviewed key informants and FGDs the status of natural resources is showing a declining trend and has been a threat for the community as a whole. In some kebeles they lost their traditional way of managing their resources due to shortage of basic resources. Some of the threats to natural resource management are discussed below.

Increase in population; the increasing population and the consequent increasing of different demands have introduce a new up growing challenges of extra competitions for the dwindling scarce resources. These situations in combination with different human and natural induced factors increased the vulnerability of the communities for food insecurity and consequently the communities suspended in serious edges of survival.

Recurrent Drought; Drought expressed in terms of failure and shortage of rainfall is the major threat for the community. It has a negative impact on natural resources such as pasture, water sources, farmlands and trees which are directly related to the livings of the community and their livestock's. According to the responses of the community the availability of pasture in the area is reducing gradually due to drought and shorter rainy season which in turn reduces the productivity of livestock's. The rainy season is progressively becoming shorter starting late and finishing earlier with high rate of unpredictability. The dry season is also becoming longer and leading to shortage of pasture contributing to the gradual extinction of indigenous grasses. The drought also reduces crop yields and the availability of water in the area and leads to shortage of food and feed for humans and livestock respectively.



Disease outbreaks; Livestock diseases are among the hazards faced by the Nyangatom people. During extended dry periods, livestock's access to pasture and water is limited. The lack of pasture and water weakens the livestock making them susceptible to variety of diseases. Livestock diseases contribute to rapid loss of livestock assets, reduction in production and productivity of livestock's which leads to shortage of livestock products like milk and butter. According to the responses of the communities the occurrence of diseases during the dry season are increased. Goats, which are said to be most resistant to droughts, have been affected by these emerging diseases.

Incidences of conflict; the conflicts which has been intimately rooted with the mechanisms and competitive bases of communal resources have made a major challenge for the communities efforts. Each of the clans inhabited at the woreda have been lived suspiciously and consequently they have failed to utilize their time and man power on the fertile periods of executing different activities that has potentially strengthen their livelihood income. Moreover, conflicts are the foremost reason for losses of valuable treasures of the communities on both sides.

Invasive alien species; the introduction of invasive species *prosopis juliflora* in kebeles around kibish river is a threat for natural resource management. It covers former grazing and cultivable lands and going on. Unless possible interventions are implemented its effect will be worse.

7. COMMUNITY SUGGESTED MITIGATION MEASURES

The following are the mitigation measures suggested by the community to improve the existing situation of natural resources in the area.

- **Rehabilitation of the depleted grazing lands and introduction of improved pasture management:** grazing lands are among the resources depleted due to drought and are the causes of intra and inter ethnic conflicts. Recovering the exhausted natural pasture lands through enclosure and plantation of drought resistant grasses and maintaining the existing pasture lands through the introduction of improved grazing practices are the solutions suggested to reduce shortage of pasture.
- **Maintenance, rehabilitation and construction of water infrastructure:** water shortage is among the major problem of the communities in Nyangatom. Maintaining and rehabilitating the existing non functional hand pumps and construction of new water points like cisterns and hand pumps for the use of both human and livestock is the main necessity emphasized by the communities.
- **Improving livestock's health:** livestock's are an asset and major sources of livelihood and income for the community. The occurrence of disease outbreaks coupled with shortage of health posts and shortage of feed are a threat to the number and productivity of livestock's. Thus, according to FGDs improving livestock health through the



construction of health posts and provision of vaccines and treatments should be given due emphasis.

- **Expanding small scale irrigation:** opportunistic crop production is one source of livelihood for the Nyangatom's. There has been a practice of small scale irrigation in kebeles around Omo River. According to the FGDs these irrigation is limited in amount and should be widened by using large pumps to cover the needs of most community members.
- **Ensuring security:** improving security of the area by negotiating the different ethnic groups participated in conflicts, implementing interventions that can reduce conflicts and demarcation of clear boundaries.
- **Countering prosopis juliflora (lupoliso):** the introduction of prosopis juliflora in kebeles around kibish results in the reduction of potential grazing lands. Eradicating these invasive species is among the needs of the Nyangatom communities around kibish.

8. CONCLUSION AND RECOMMENDATIONS

The livelihood of the communities in Nyangatom woreda is highly dependent on natural resources. Grazing land, cultivation land, trees and shrubs, livestock and water sources are the natural resources in the woreda. The community administers these resources traditionally. Elders are the main authorities of these traditional institutions. However, these traditional institutions are being eroded due to shortage of the resources to be administered. Everybody in the kebele has access to the available resource but control over of resources mainly includes men. Despite the immense role of women in productive and reproductive activities they are excluded from control over resources. There is also a condition of administering selected resources through committees.

Even if its degree varies from kebele to kebele, government and nongovernmental organizations are contributing their share to the development of the community. But there is much to be done and interventions that coincide with the needs of the community should be given due emphasis. Population increase, recurrent drought, disease outbreak, conflict and introduction of invasive species are the threats for natural resource management in the woreda.

The following recommendations are suggested in order to improve the current situation of natural resources in the woreda.

- Intervention on water development has to be give due attention, when access to water resources improves the pastoralists are responding to the loss of rangelands by adopting farming as a means of enhancing food security. Growing crops is perceived as a coping strategy to lessen the demand on cattle for food. Moreover, flood-recession crop



cultivation activities ought to be supported with improved crop varieties, agronomic practices and technical assistance from respective experts.

- Since Livestock and their byproducts are the main source of livelihood incomes for the community, grazing land improvement activities has to be one of the primary concern. Hence, communal rangelands are further enclosed to the natural pasture and enriched with different fodder tree/shrub species so as to provide digestible nutrients for the livestock's.
- Further interventions ought to be carried out on Livelihood diversifications, the pastoralist communities have limited sources of livelihood incomes consequently, on the heads of the different environmental factors the degrees of vulnerability has increased and thus the basis of their livelihood has to be stand on wider sources of income rather than solely lean on limited.
- Conflicts are common in developing countries where there is resource scarcity, widespread poverty and limited participation in economic, political and cultural decision making. The long established local communities' conflict resolution experiences ought to be strengthening to solve conflict and subsequent problems prior to emerge.
- The *Nyangatom* communities have immense livestock populations and their byproducts that have potentially been a source of income for the households. Prices of livestock and their byproducts have increased over the last past years, subsequently the pastoral communities have huge opportunities of gaining incomes and off course exchange of goods at profit from their livestock resources. However, they haven't been a market access to exchange or sell their products with fair market values in their vicinity. The livestock price improvements is attributed to promote the export of live animals to different middle east and other countries, hence, in the pace of increased market integration in the pastoral areas; market proximity and frequency has to be increased in parallel with increasing pace valuation.
- The systematic combinations of customary and statutory institutions in the development and management of natural resources may facilitate cross-cultural understanding, thereby improving the socio-economic development of the country. However, enforcing the statutory rules on the local community without due consideration for their indigenous norms and values should be avoided on the side of the state. What and by whom to the local communities access should be established through customary institutions.
- Efforts are also being made to rearrange settlement so as not to interfere with indigenous grazing management that allocates different landscapes to different economic activities. This enables the communities to separate grazing areas from farmlands and reserve areas for dry season feed development.



- Small scale enterprises that can be performed by women that include milk processing, grain mill operation, cattle fattening and petty trade require technical and financial support.
- In an attempt to create asset basis for the poor and destitute households, women shall be targeted within the household context so as to gradually establish asset ownership by women and empower them.
- The women's contribution and roles in *Nyangatom* community has been observed as an anchor for every activities had been took over by the community members, and hence, any of the intended intervention activities has give a due attention for their participation.

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