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Full Length Research Paper

The Role of Women in Indigenous Knowledge and Practices on Soil Conservation the Case of Konso Zone, SNNPR, Ethiopia

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Involving women in environmental sustainable management has noted, but problem plagued undertaking. Women have developed valuable knowledge about environmental sustainability and critical in area of desertification survival mechanism during time of drought and famine, but they are threaded by cultural construction that limited their opportunism of participation to be familiar. The reason for researcher to chosen konso as his research site was that, konso recently awarded UNSCO recognition over cultural landscape Heritage and indigenous SWC managements. The property is also now under protection of Ethiopia laws by traditional, regional and federal laws of regional 'proclamation to provide for the protection of konso's cultural landscape Heritage' (2010). Therefore, this study explores three questions. Howe farmers understand soil erosion and their perception towards soil erosion problems. What do farmers do practice to conserve soil and water in response to soil erosion actions? In addition, what are the level of women participation in local practice of soil and water conservation? Moreover, what are local institutions of labour division of society in tackling of soil erosion and level of women participation? The project employed mixed method of research; including structured questioners, household interviews, and family farm filed observation, focus group discussion for both male and female group to collect primary data source from 70 respondents of both male and female-headed household and secondary data collected from Internet, relevant organization and pertinent documents of local government. The research activity was conducted in one of UNSCO preserved Keble. The sample respondents of study selected purposively based on the category of female headed and male-headed family by having the local statistics data. The research objectives were. (i) To examine farmer's knowledge and their perception towards soil erosion, (ii) To examine indigenous soil and water conservation measures that have locally adopted by the society and the level of women participation. (iii) In addition, to examine locally constructed institutional labour division in exercising indigenous SWC practices and level of women participation. The collected data was analysed using descriptive statistics, quantitative and qualitative data analysis. The finding of this research showed that all respondent were aware of problem of land degradation and as the result under taken different type of indigenous soil and water conservation practices to mitigate the problem. The research also revealed the household decision to distribution of benefit and responsibility among the gender to adopt soil conservation practice. Generally the research conclude women role in knoso society despite their hard work and participation in almost all activities of the conservation practices, as well the effort and hardworking practices they have showed not that much taken in to consideration and appreciated by society. Due to socioeconomic-cultural role classification matters and social perception.

Keywords: Konso, culture, indigenous knowledge, soil conservation practices, UNSCO

1. INTRODUCTION

Farmers in many part of Africa use indigenous soil and water conservation (ISWC) practices as an integral part of their farming system. They have developed such methods in long-term sustainability, while new introduced measures have often been rejected or simply failed to achieve their technical objective. Particularly in tropical developing country, which pushed up many technical specialist and policy makers to, reconsidered their strategy.

Many soil and water conservation (swc) project have been implemented in sub-Saharan Africa during the last fifty years, the result have been fairly disappointing (Reij, Chris, Turner, S, Kublman, Tom, 2020). In the early finding of these researchers in 1996 , they also conclude that it is much important to reconsider that the land user have valuable traditional knowledge about the environment and much could be learned from previously ignored indigenous soil and water conservation(ISMC) practices as a suitable starting point of development of technologies and programmes. Otherwise and due to many failures of projects on SWC, and due to continues presence of land degradation, Africa as a whole has become a net food importer since the mid-1980's. However, the economic implication of land degradation are particularly sever in sub-Saharan Africa because 65% of the population is rural and main livelihood of about 90% of the population is agricultural (project development facility 2007).

When it comes to Ethiopia, it is obvious that the country is one of poorest countries in the world, while a little change in economic progression has been. However, the country economy is still based mainly on agricultural activities, which providing an employment for over 80% of the labour force, which also accounts for a little over 50% of the GDP (gross domestic product). In fact, agriculture in Ethiopia is not only an economic activity but also a way of life for which agriculture land is an indispensable resource up on which the welfare of the society built. The livelihood of the vast majority of the population depends directly or indirectly depends on the sector where as such dependency obviously leads to increased vulnerability of the economy to problems related to land degradation.

As land, degradation is the most common environmental problem in Ethiopia. It is one of the major causes of low and declining agricultural productivity and continuing food insecurity and rural poverty (Temesgen et al, 2014). Being a common problem in Ethiopia land degradation puts disastrous impact on the socio-cultural environment and ecological setting of the country (Temesgen et al, 2017)

Soil conservation research project (CRP) has estimated annual soil loss of about billion tons from the high land. According to the Ethiopia, high land reclamation study (EHRS) soil erosion estimated to cost the country 1.9 billion between 1985 and 210. Every year the country is losing billions of birr in the form of soil, nutrient, water, and agro biodiversity losses. (Paulos2001). Witch led the concentration of poverty and food insecurity in rural area (MoARD 2010). Mainly the Ethiopia highlands affected by deforestation and degraded soil, which have eroded the resources base and aggravated the repeated food shortage caused by drought (Tilahun et al. 2001). These impacts of deforestation and desertification is not significantly limited to agricultural productivity. However, it also adversely affect the health of humans as well as of livestock and economic activities such as ecotourism (UNCCD 2004). Similarly, a research article by Shibru (2010) proudly reported that the loss of soil productivity in Limo Woreda, Ethiopia leads to reduce farm income and food insecurity particularly among the rural poor and thus continuing or worsening poverty. Through reducing the availability of other valuable goods and services important to poor households(for example fuel, wood construction materials, wild foods, and medical plants) and by increasing the demands on labour needed to forage from such goods land degradation could contributed directly to poverty.

1.2 Statement of Problem

Having concerned the vast implication of soil degradation contribution to the poverty, the response of Ethiopia government was seems as vigilant as to implement some policies of conservation throughout the country as early as possible, and the call for external support involvement in the rehabilitation campaigns made very intensively. For instance, during the 1980's the government of Ethiopia lunched a massive programme of soil conservation and rehabilitation. The effort, which involved heavy external support culminated in the mobilization of peasant association with over 30% million workdays per year (Hurrn, 1988).

However, critics emerged that a lot of conservation programs lunched, and technologies of rehabilitation guidelines were developed and tested elsewhere without integrating in to the local socio-economic of environmental condition and ignored the

existing traditional knowledge of local society towards environmental managements. Which led the achievements fell far below expectations and the country still losing a tremendous amount of fertile top soil and the threat of land degradation is alarmingly broadening. A very latest research done by Temesgen (2017), in Ethiopia mentioned that to control land degradation, conservation measures through history are mainly focused on physical conservation structure which have less contribution for the addition of nutrients removed and control soil erosion as compared to vegetation measures. This article also came up with finding that the major causes land degradation in Ethiopia includes rapid population increases, sever soil lose, deforestation, low vegetable cover, and unbalanced crop and livestock production, but the paper did not mention any socio economic constraints that might be as factors that are behind of failures of many conservation projects. However, some researcher recommend that in Ethiopia the past developmental projects effort on land management has given less attention to indigenous knowledge on land management and also the decision making of the grass root society particularly the poor and women was undermined (Mitiku at al 2006, Klawale,2001,Tamiru Karse 2014).

In 1992, the report made for the international fund for Agricultural development on the environmental rehabilitation projects implementation feedback in sub-Saharan Africa, acknowledged that at the centre of the new movement, the positive trends in soil and water conservation programmes can only succeed at technical remedies of sensitivity to certain socio-economic issues. These are participation of the resource users themselves, making use of traditional skills, working through existing local institutions, and involving the intended beneficiaries in the processes of programme identification, design and implementation (IFAD.1992). Another example of the new sensitivity is the increasing recognition of the important contribution by women to conservation activities; although so far this is rarely followed up by improving women's access to training and material support. It is becoming understandable that soil and water conservation programmes may in some cases increase inequalities between or within social groups. It cannot, therefore be assumed that the poor automatically benefit (IFAD.1992)

These sensitivity of issue of using traditional knowledge and encouraging the participation of resource users themselves by IFAD indicts the integration of indigenous knowledge as a suitable starting point in the development and implementation of modern technologies and programmes of soil and water conservation practices is critical for the succeed of rehabilitation programme.

Indigenous knowledge itself is the resole to social learning and inclusive practice for completely specific community. It is develops gradually through a social interaction as a person planted trees to make his/her environment sustainable for living. This knowledge has characteristics of the locality, and passing over trough from ascendant to descendants of social generation. When knowledge developed in this manner it is handed down from generation to generation this is called traditional knowledge, knowledge due to the case of communication, peoples knowledge tends to blends useful components from different sources, changing its indigenous nature for this reason. Some scientist prefer to use (rural people knowledge instead of indigenous) or traditional knowledge (Browrs, 1993).

There are sample opportunities of cross termination among indigenous and formal knowledge in development. It is a characteristic that drew the attention of development practitioners to the use of indigenous knowledge in development lack of this focus in the past has led to the failure of numerous project (Richard, 1985).

According to the these sources, indigenous knowledge, can be any knowledge's that are very specific to certain ethnic group for example, it is the local knowledge that is unique to a given culture or society for certain activities such as food preparation and enjoyment, education, natural resource management and a host of the other activities in rural community.

Ethiopia is one of African countries with diversified in agro ecological and ethnicity, socio economic culture institution and environment. It has numerous indigenous land management practices, which are contributing to sustainability of ecosystem management. In addition, it is a tropical country with varied macro and micro climatic conditions in wide biodiversity. It is estimated a homeland of over 80 ethnic groups with such diverse agro ecology. The farmers in the different area of Ethiopia have their own indigenous way of classifying, characterising local soil type in their fields based on their soil characteristics problems, and develops their own knowledge of natural resource conservation, and management for the suitability of various farming system practices. By using their vast indigenous knowledge of protecting soil erosion, include traditional ditches, traditional very stone traces, traditional cut off-drain and vegetative barriers and contour plashing in different part of country.

Accordingly, the konso ethnic society is one of unique society in Ethiopia; they are reside in south western of Ethiopia, about 580km south of Addis Ababa, the capital city. The name konso refers both to the land and to its inhabitants. This land observed, as uphill down of rocky land, which is likely not suitable for easy Agricultural system. It also marks as the tail of the major Ethiopia rift, which lies, to the south of Ganjuli graben and with volcanic hills at the centre(Beyene, 2013). This society known in stone terraces of soil conservation that their traditional knowledge is believe to be existed for about four hundred years in without external intervention. The knowledge has maintained its characteristics with its own pace of dynamics. The terraced agricultural system of the konso spreads across the ragged hill at 1,400-2,00m above sea level. This the cultural landscape designated as world heritage site in 2011(Beyene, 2013). Historian have estimated that the knoso settlements and their distribution of terraces cover approximately 225km^2- as confirmed by the precise map that was recently prepared for the nomination file of konso cultural landscape for UNSCO Registration, which calculates the area at about 230km^2. This includes fifty-four konso settlement, the most densely populated of which are found to the north east (Beyene, 2013). One of very latest research carried out by Tamiru Karse in 2014, on understanding and documenting of the indigenise land management practices in Konso was resulted with fact that Konso community use wide range of indigenous land management technologies including: agronomic, biological and physical are contributing to food security and sustainable resource management. He also mentioned his concern that the government proposed some moderns land management techniques beside the indigenous land management system. However, the society refused to accept the new platform of land management techniques that recommended by the government. This might happened as the result that the new land management system by the government might not fully integrated in to the existed indigenous practices of land management.

Although, some very earlier researcher also recommended that, the Stone terraces provide a typical soil and water conservation structure, which covering most of konso. Their land management is highly integrated and implemented within watershed development not easily replicable elsewhere. Hill treatment built from the bottom of the valley to the peak. These stone terraces have built from internal motivation and intuition and from the person as experiences of the konso people without external influences of forced labour performances. This system has produced on architecture that way developed in a particular landscape and institution. Expecting the uniqueness of kosno terraces (Hall Pick, 1972). The reputation of the uniqueness of indigenous knowledge of this society also hugely acknowledged by very latest researchers. For example, 'Yeshamble Mulat' (2014). He marked his acknowledgement and concern about this society indigenous knowledge as follows: 'the community justifies their knowledge by giving ritual meaning and as part of their lives. In contrast to this, lack of fully-fledged security of land tenure by the government side remained as a challenge for the community. In fact, either governmental organs for further development of this knowledge should either seek mechanism. Therefore, the indigenous soil conservation mechanism of the Konso people provide an excellent base on which the government should design appropriate soul conservation mechanism.'

From the various sources cited, it is clearly understandable that konso society in their indigenous knowledge of soil and water conservation is among role model in history of traditional society, and indeed, their knowledge deserved awarded by UNSCO for the next generation of world have equally deserve to visit and observe that traditional knowledge. However, the wonder this research interested in is that, in the view of the above statements, it is likely reasonable to be motivated to focus this study to understand the status and the role of women in this uniqueness indigenous knowledge of soil and water conservation practices of konso society.

1.3 Aim and Objects of Study

The overall objective of this study is to assess the role of women in indigenous knowledge of soil and water conservation among konso ethnic society of Ethiopia.

1.3.2 Specific objective of study

1. To assess farmers knowledge and understanding with respect to soil erosion in study area.
2. To know farmers common indigenous soil and water conservation practices and women participation on determined local land management practices.
3. To identify socially constructed gender division of labour in exercising indigenous knowledge.

1.4 Research questions

1. How are farmers' knowledge and perception towards soil erosion problems?
2. What do farmers do to conserve soil and water erosion on their farms and what are common practices and level of women participation in the local practice?

1.3.2 Expected Utility of the study

The study finding will be of interest to all stakeholders with an interest in maximizing the benefits of women participation in natural resource conservation programme provided to rural community, especially by government and non-government organization in developing and refining their extension approach in area of soil and water conservation projects.

Apart from that studding about indigenous knowledge of soil and water, conservation is very acceptable idea in the research area. Therefore, the finding of this study will also provide information to government and non-government organization about women status in indigenous SWC knowledge and attitudes towards SWC and their major activities in conservation system and determine conservation practices of study area. The study also expected to contribute towards better conservation system in the study area and encourage the participation of women effectively.

2. LITERATURE REVIEW

This literature review comprises of the two sections. In the first, the author would like to discuss the history of indigenous knowledge and importance of indigenous knowledge. In addition, in the second section the author discusses the research papers on women participation in natural resource management, workloads, and responsibility on women.

2.1 Indigenous knowledge and its importance.

Indigenous knowledge (IK) is broadly speaks, as the knowledge used by local people to make a living of their live system in particular environment (Warry 1999). IK is a local knowledge unique to ac cultural or society. It is the bottom line for local level decision-making in agriculture, health care, food preparation, education, natural resource management and a host of other activities in community (World Bank, 1998). Most scholars have common understanding , that the term IK is designate as; 'community knowledge', 'local knowledge', 'traditional knowledge', 'indigenous technical knowledge', 'traditional environment knowledge', and 'rural indigenous knowledge', are all terms for knowledge belong to local people .(Mathias,1994', Warren,1992,Reijnties et al,1992', Howes and chambers,1997', Roach,1994)

Such knowledge has evolved in the local environment, and has been passing on from one generation to other.so that it is specifically adapted to the requirement of local people. However, conditions usually mistake to think of indigenous knowledge's should fashioned, or considered as back warded state or unchanging (Johnson 1993).

While IK researches original emphasized indigenous technical knowledge of the environment, now it is accepted the concept of IK goes beyond this narrow interpretation. Therefore, IK considered as cultural knowledge in its broadest sense including all of the social, political economical and spiritual aspects of a local way of live. Some researcher documents, however have found the following categories IK to be of particular interest, resource management knowledge and the tools, technical practices and rules related to pastoralist, agriculture, agro forestry system for plants, animals. Soils, water and weather empirical knowledge about flora fauna and in animate resource and their practices uses and the worldview of way the local group perceives its leadership to the nature world (Emely, 1996).

Today more and more people are recognizing and promoting the important of indigenous knowledge for purpose of sustainable development. However, this knowledge has a valuable resource and so requires proper management. Particularly the approach of applying GIS with a participatory context will maximize the utility of indigenous information for development (Nitesh and Shefali 2004). In addition, encouraging the practicable dimension of indigenous knowledge will have potential for empowerment of local groups and community in multi development scheme programmes. Although, integrating GIS innovation technology with indigenous knowledge will provide a platform that share by many users. These users include natural resource managers, project or development planners, decision makers, people with a particular interest in indigenous knowledge functions and communities themselves (Nitesh and Shefali 2004).

There are two basic reasons that it is important for development projects to consider IK when planning for developmental project, particularly with local community, first and for the most incorporating IK in to developmental projects can contribute to local empowerment and development increasing self-sufficient and strengthen self-determination (thrupp, 1999). Second outlining IK in developmental projects and management planes of development gives it legitimacy and credibility in the culture pride and there can create motivation for local community to solve local problems with local ingenuity and resource (thrupp, 1999). Although, indigenous people provide valuable input about the local environment and how to effectively manage at natural resource. Outside inters

in indigenous knowledge systems has been forced by the recent worldwide ecological crises and walk up in realization that its causes is the over expansion of natural resource utilization based on inappropriate approaches and technologies. Therefore, scientists now recognize that indigenous people have managed the environment in which that have lived for generation, attend without significant damage of local ecology (Emery 1996).

Many facts have developed that indigenous knowledge can thus provide a power full basis from which alternative ways of managing resources be developed. IK integrated technologies and a technology that understand the advantage of introducing a development that rely on locally available skills and materials are often more cost-effective than introducing exotic technology from outside sources. I.e local people would have familiarity with them and so do not need any specialized training. Sustainable development planes will better served by a system that incorporated both indigenous and scientific knowledge systems (Icamina, 1993). Organizations like the IUCN[1] (IUCN, 1980) and the WCDE[2] (WCDE, 1987) also stress that the sustainable management of natural resources can only be achieved by developing a science based on the priorities of local people, and creating a technological base that includes both traditional and modern approaches to problem solving(Johnson,1992).

2.2 **women participation in natural resource management, workloads, and responsibility.**

In world of science, the difference between men and women has believed as socially constructed in meaning of "gender". Many still have miss understanding about that when it comes to sharing of benefits of natural resource and socio-economic politics, scientifically: gender is the perceived opposite attributes of maleness and femaleness, which define the different behaviours and roles of men and women (Gherardi and poggio, 2001). Gender, more related to the perception of socially constructed to the roles of men and women, which have developed through socio cultural practice based on culture, politics and economy (Reed, 2008)

Many researcher came up with finding that when it comes to management of water resources, agricultural resources, environmental resources, livestock, forestry and fishery the involvement women in appropriate use and management are clearly exceed than men. However, the sense of categorical exclusion and denial of equal sharing of benefits from these elements are persisted.

Among the fact, a research conducted in Nepal on status of women's participation in community forestry programmes, revealed that women are the neediest of forest products in all localities in the mountain region. The forest is only place for women because they have marginal access to other private resource (Jay, 2001). Although, a study conducted in the mid-western development of Nepal shows that the representation of women in the user group committee was nail in 7 FUGs and found to be only marginal in other except where the committee were form exclusively for women (Pandey, 1997)

Similarly, a study conducted in the eastern Nepal has showed that in all FUGs women appear to be full involved in collecting forest products. However, their role in decision-making within the FUGs is very low. The result showed that, women participation have significant only in those FUGs where, women exclusively manage the FUGs. In addition, on the rest FUGs, women either did not attend committee meeting and group assemblies or participated passively. The reason that behind of none participation of women is that due to domination of men in meeting. Which tell us in decision making process women's involvement in overall planning and forest management is found to be low (Rasaily, 1996)

3-METHODOLOGY

3.1. Introduction

This chapter deals with the methodology used to collect data for addressing the research questions and explains the rational for the selection of methods that applied during the research. As well as the approaches that used for the sampling techniques of respondents and data analysis techniques that used to drive the finding of result. Social problems and issues typically have multiple causes and this means that *communications for* social care knowledge production will require a variety of methodology approaches (Marsh and Fisher, 2005). In-depth interviews focus group discussion and observation are use most frequently in qualitative approaches. However, in practice, of course, qualitative researchers often use combined approaches (Moriarty, 2011).

To achieve the objectives, this study adopted non-experimental research approach where quantitative and qualitative data collected and analysed by using SPSS statistics. Qualitative

research methods employed to provide an in-depth and interpreted understanding of the social phenomenon of research participants. By learning about their social and material circumstance, their experiences, perspective, events, actions and history (Maxwell, 2005). The data collection methods involved close contact between the researcher and the research participants, which were interactive and developmental and allowed issues to be explored (Moriarty, 2011). The study design put attention on the local experience, on the socio economic practice of soil water conservation, and natural resource management on small-scale producers. It also assessed farmer's knowledge and perception towards soil degradation and the impact of soil degradation on farming potential of area. To know farmers common indigenous knowledge practices in response to soil and water conservation practices and level of women participation on determined local land management practices. It also took an opportunity to identify a socially constructed institutional labour division in exercising indigenous knowledge and level of women participation. By providing empirical evidence, the research answered three questions (i) how well farmers understand the impact of land degradation on their farming system and their perception towards soil erosion problems? (ii) What do framers do locally to conserve soil and water erosion on their farms and what are their common practice and level of women participation in the local practices?(iii) What are social institutional constructed labour division and level of women participation?.

3.2 Research Design

Research design tailored to the specific social context within which farmers live and exercise of their indigenous knowledge to harmonize the ecology system and to able themselves to provide with food security. It tried to focus on how the society mitigate the impact of land degradation on their farming system and ecology as in general through implementing locally constructed knowledge of natural resource management. It took 6 month of researching for the researcher in the area to know the farmers and their farming system, observing their indigenous practices and as well as to able to adjust the design as the research progressed. The research method tried to explore and understand the locally and socially constructed wisdom of this specific society of soil water conservation in response to tackling land degradation and optimising their farming system benefit, as well the level of women participation in these locally developed knowledge's of land degradation management. The major components of the study were to know farmer's common indigenous knowledge practices in response to soil and water conservation practices and level of women participation on determined local land management practices. And to identify a socially constructed institutional labour division in exercising indigenous knowledge and level of women participation

3.3 Study Site and Participants

The study conducted in konso Zone, which is located in southwest part of Ethiopia in southern nations, nationalities and people's regional government according to political administration system of Ethiopia. Karat is the capital city of konso, which is located at about 595 and 365 KM southwest of Addis Ababa. It is located astronomically between 5.2397'' degree and 37.2'97'' degree east and has an elevation of 1200-2000m above sea level (Yonas 1999). The total land of area is about 202867 hectares characterized by hills, mountains intersected by gullies and valleys most of which have been under cultivation over period of hundreds of years. The immediate borders of konso zone are Derashe special woreda in north and northeast, Amaro special woreda in northeast, Burjji special woreda and Borena zone of Oromo in east and south east south Omo in southern and western direction.

Land degradation is the common environmental problem in Ethiopia. It is one of the major causes of low and declining agricultural productivity and continuing food insecurity and rural poverty. Land degradation is the common environmental problem in Ethiopia. It is one of the major causes of low and declining agricultural productivity and continuing food insecurity and rural poverty

Land degradation is the common environmental problem in Ethiopia. It is one of the major causes of low and declining agricultural productivity and continuing food insecurity and rural poverty Project Development Facility (2007). Strategic Investment Programme for Sustainable Land Management in Sub-Saharan Africa: Assessment of the Barriers and Bottlenecks to Scaling-up sustainable land management investments throughout Sub Saharan Africa. Revised Draft

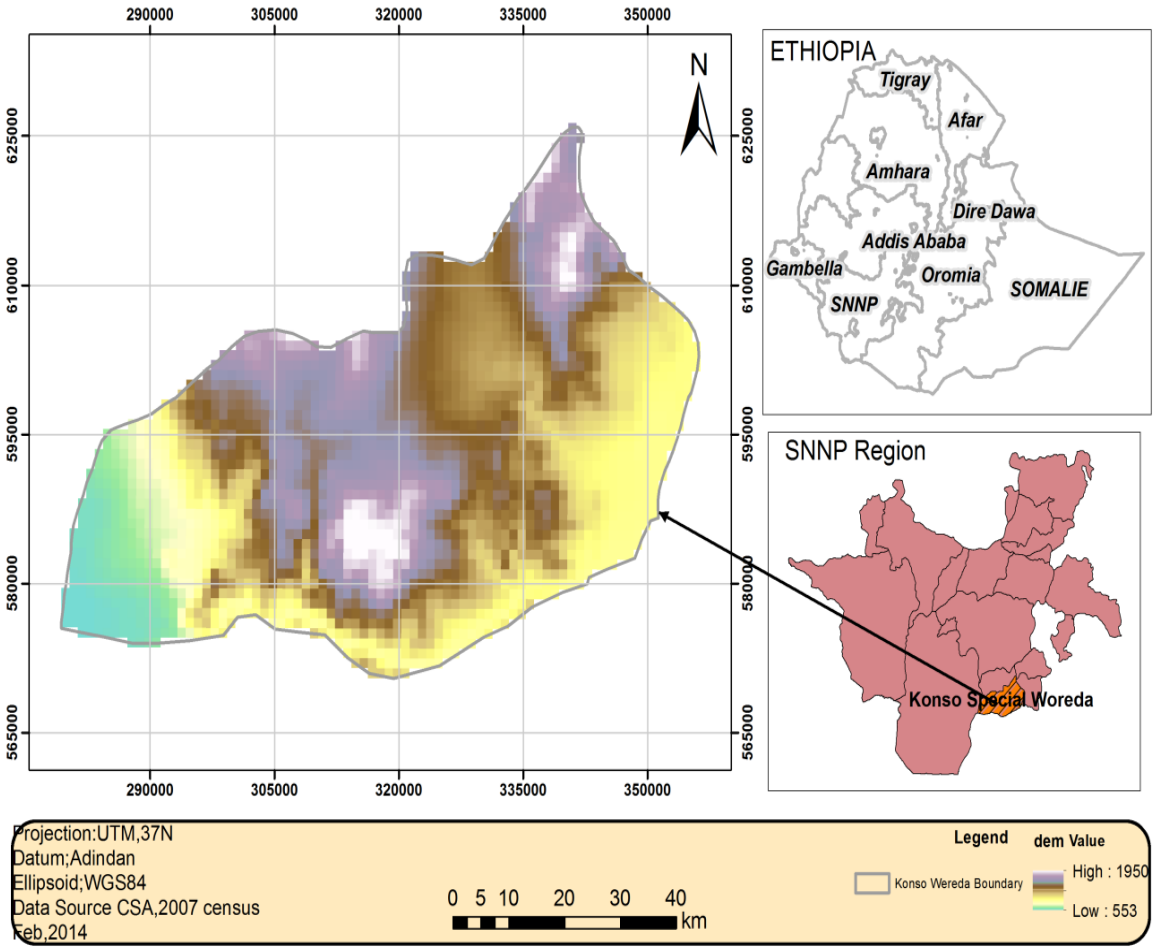

Figure 3-1: Map of study area.

In biography, the land of konso bounded by the Zegen River in the east and by Wayto River in the west. The most part of konso area is Kola, which covers 85%, and only in some limited area, the condition of air is woyena Dega that is 15% now converting to dry woyna Dega. The rainfall system in konso has a bimodal pattern (NMSA, 20001). It is highest during the Belg season (March to June) then in Kermit. To latter occurs from September to November mean monthly rainfall in konso. In general, the konso land is not suitable for simply natural agricultural system. However, this society known for its hard working people, they developed extra ordinary skills and knowledge from indigenous knowledge to convert unsuitable land in to conducive farming land by applying the indigenous knowledge of water and soil conservation and land management practices. These traditional techniques of their managing marginal environment in to one of conducive agricultural land by using their indigenous innovative skill and knowledge enabled this society to be qualified for UNSCO prize, and the owed recognition and registration for UNSCO in 2010 as cultural heritage site in which UNSCO has agreed to preserve for next generation. Three to four years back the data from konso developmental office shows that the total population of konso is 250,750 from which the male population is 120,693 and the rest 130,057 is female population. The annual growth rate number of konso population is equal to 2.6%. Having this number of population the konso family in average has four family member. Due to the increment of population 1 man shares 0.53 ha in Konso where one

can easily understand how dense the population settlement of Konso is, in relation to land size (1/0.53ha) (Tamiru Karse 2014). Konso ecology is mainly characterized by; rugged features, hot temperature and a remarkably high population density. This led the shortage of fertile agricultural land and, postural land. However, this society still have abled to manage a creative farming though indigenous knowledge innovative of farming system (Teferi Abate, 1992).

3.4 Konso traditional Settlement and administration

Konso society has traditional way system of settlement since early of plantation period. So traditionally, the konso land divided in to two with traditional settlement administration“Kenna” and “Xonsita”. “Kenna” means those settled in relatively highland and “Xonsita” mean those settled in lowland around the capital city Karate. They also have traditional saying unity, called ‘’karata enakatana obba tamanni kabo’’, whichmeans the united society of konso has no division (source local elder). Each of this region constitutes a number of autonomous walled towns. The konso distinguished among many other features by their stone walled towns called “pallets” that are encircled by “kawata” (Watson 1998). ‘Pallet’ is the root source of every konso individuals, and every singled individuals traditionally connected to his/her root source and accountable to his traditional pallet administration no matter how better live status is, whom they are, and where they relocated. Although, he/she who progressed their live in modern administration of local capital city ‘Karate’, in any case have also responsible for their traditional pallet administration and can summoned any time when the pallet administering requested him/her for any query either peacefully and forcefully. If a person ignored for pallet administration inquiry he or she would be punished for never back to his pallet, and he will lose all connection to his blood families visit and to his original village and the same happened to his extend families who will able to visit a person wherever he or she alternatively resided outside of pallet. However, before final punishment enforced to someone, there are several traditional mediations system that a person can use as opportunity to negotiate with his traditional court of pallet administration before the last sentences passed on to a person, and most probably the last punishment is rear to happen to the people. For example, see below the walled village of konso, which called a ‘pallet’ under traditional administration system of konso society (source local Elders)

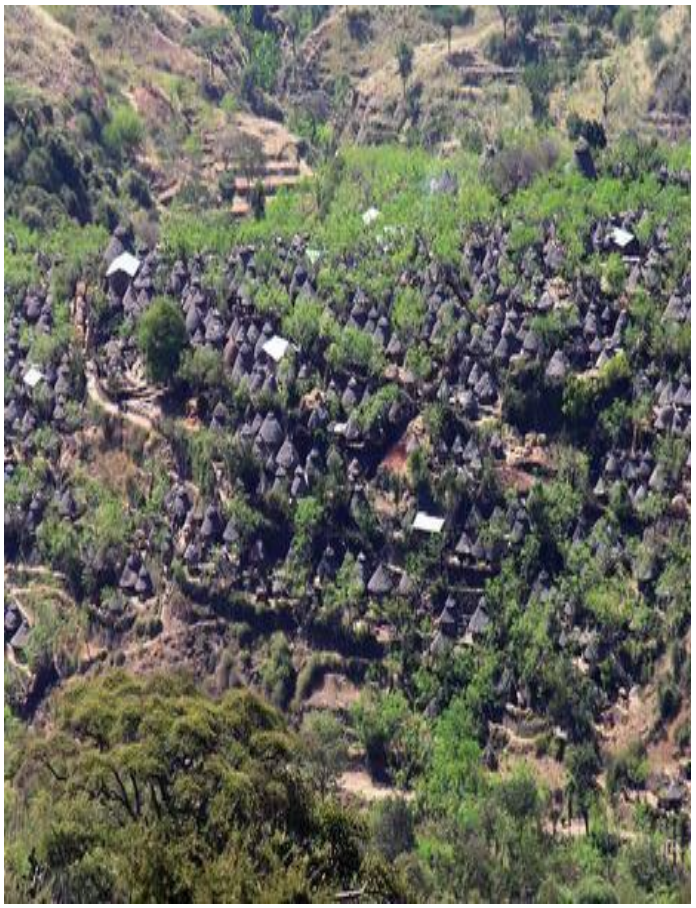

Figure 3-2: Walled village of Konso (Tamiru Karse2014)

As society considered some of advantages of their traditional society settlement is for emergency response, communication network and labour mobilization. During the past decades where there are no communication technology developed, this society build a community house, which called “Mora” with in the stone walled village called Pallet. It is one of open community big house still working till to day in their traditional administration courthouse or social network centre (village square). During the day morning time elder use Mora as traditional court, to settle out any dispute that happened within residents and mad all the conciliation activities and other social information need to be shared for the society. At least one male person from every household have to attend the morning information sharing session from the elder at “Mora” excluding the female. Female could only attend “Mora” if they only have traditional court issue and even so, they have to accompany by their intimate relative: brother, fathers or husbands. It forbidden by this

society culture for the women to come on “Mora” for recreational and information sharing activities. Despite the fact that “Mora” helps as the recreational centre for male youth, and teenager during the night and weekend when they are not busy with their farming tasks. That is why the society sought Mora as communication centre, because the young generation

and particularly the adult who are at age responsible of looking after community have due share any information and situation about the community. In addition, in case any emergency alert happened they should be at forefront to respond. Traditionally, each pallet have to have a group of adult who graduated as responsible to serve the community during their young age for almost 18 years ,they called them with Nickname “Xallitta’’, which means the youth men who due responsible as generation of time. After18 yearsof service term they can pass over their responsibility to next generation through traditional ceremony and dancing system called ‘’Xorra’’, and ate the end of two weeks of traditional celebration, the new generation will erected a new pall made of single strongest, and longest tree, which representing them as their dignity of responsibility for the next 18years.In addition, they should be accountable for the responsibility of the society under any circumstance from the first day incarnation of their generation pall for the next 18 years. In relation with environmental protection, Mora also plays a significant role where the youth remains a stand by labour for fire emergency response (source local elders). I believe the extraordinary traditional value of this society yet undiscovered, and I wished to call for cultural anthropologyand sociology scientists to make more discover on this golden society

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3.5 PARTICIPANTS

Non-probability sampling techniques employed to delineate the study traditional village or Pallet, and then draw household respondents from male headed and female-headed households respectively. The statistical data first obtained from local administration of pallet to have sample of female headed and male-headed households. The female headed house hold represent the female local farmers whom their spouse passed away and she is in charge of farming family or a women who married as second wife and who is in charge of her farming family. Because culturally Polygamy allowed in konso society and traditionally believed that a husband is treated the first family well then second wife family. Therefore, the Purposive sampling, and systematic random sampling with proportionate to house hold head techniques applied to select the pallet, and draw household respondents respectively. As mentioned earlier in the problems statement Konso society selected for this project because of its deep-rooted practice of indigenous soil and water conservation. According to the traditional settlement system, one pallet (village) selected due to its well-built indigenous soil conservation and being amongst of UNSCO preserved region. In considering of above reasons, the pallet of ‘Debana’ selected. In addition, for the detailed study in the filed the following sample selected within pallet. Households from this Pallet categorized in two clusters of female-headed farming and male headed farming. The purpose of this was to be able to compare the traditional farming system management under female management and male management. The cluster comprised of female-headed household and male-headed households were 34 (48.6%) and 36 (51.4%) households respectively. The male-headed households were drawn using systematic random sampling proportionate to household head techniques. The household head list of pallet used as sampling frame to select sample households. Literature on research as well as the rule of thumb in statistics suggest that 10 percent of the accessible population for the sample is statistically significant to represent the target population. Thirty-four female-headed households (25 widows and 9 polygamies Female) were participants of female-headed farming families selected purposively. While conducting respondents’ interviews, female-headed farming families selected by purposive sampling technique from the respondent selection, whereas male-headed farming families selected by simple random sampling selection of respondents. This was to highlight and compare the farmers’ experience, practices, understanding of land degradation and traditional knowledge managements of soil and water conservation practices by the women farmers.

Focus group discussions (FGD) conducted to validate the survey findings and deepen the understanding of women (female) and men (male) farmers’ experience, knowledge, and perception towards soil erosion. In addition, particularly the men farmers’ perception of positive thinking of women participation in traditional knowledge practice of soil and water conservation. Four FGDs (2 with women traditional labour institutions and 2 with men traditional labour institutions) conducted in the local language in study village (pallet). Focus group participants averaged ten participants per labour institutions group with a total of 40 farmers participating in the FGDs. The focus groups include sex-disaggregated FDG between of female-headed farmer’s traditional labour

institutions and male-headed farmer's traditional labour institution. The traditional labour institution groups selected purposively.

3.6 METHODS OF DATA COLLECTION

The researcher underwent an introduction orientation about the project on Konso administration office and Agricultural Office to inform them about the project, gain their support and reduce risk in data collection. The fieldwork (farmer interviews) of this study carried for 3 months including the researcher observation and familiarization himself with area cultural farming and living system. The major help received Agricultural Office during data collection. Ahead of data collection, the researcher conducted orientation with the data collectors to ensure that they understood the questions and during this orientation period, the questionnaires translated into the local language to ensure a common message for all study questionnaires. A series of focus group discussion, key informant in-depth interviews, and continuous field observations held across the selected traditional village to extract qualitative data of study.

Moriarty (2011) suggests that Interviews are the most common data collection methods in qualitative research and are a familiar and flexible way of asking people about their opinions and experience. However, the researcher need to consider the impact of interview location, meeting people on their 'home' ground (whether this is their actual home or a place they have chosen) sought to help participants to be more relaxed and all use the researcher to meet participant in a 'natural setting'. Where interview participant wants to maintain some distance between themselves and researcher, it may be more effective to use natural spaces. Therefore, for this study participants interviewed in a place they preferred; mostly in their homes and farmland using in-depth interview to create a condition for understanding the meanings that emerge from the conversation. In-depth interviews the questionnaires used to understand. (1) The socio economic value of traditional soil and water conservation. (2) Practices of traditional knowledge against land degradation and management, (3) challenges to local farming, (4) knowledge about land degradation and management practices to combat soil erosion, (5) socially constructed labour institution for farming and natural resource managements.

It has agreed that focus group discussions offer advantages to researcher in that they can encourage participation from people reluctant to be interviewed on their own or who feel worried that they have nothing to say (Kitzinger, 1995). They may generate discussion on a greater number of topics than an individual interview and the discussion may be more naturalistic than that in a one-to-one interview. However, skills needed to encourage less confident participants to speak and to avoid one or two people dominating discussion. (Moriarty, 2011). In this study, adhering to the principle, group discussions used to understand women's and men's experience of indigenous knowledge of soil water conservation, knowledge of land degradation about the impact on crop production.

Silverman (2006) reasoned that in contrast to interviews or focus groups, observation gathers naturally occurring data and first-hand information about social processes. Observation methods go some way towards addressing the issue that what people say is not necessarily what they do (Pope and Mays, 2006). Observation also offers opportunity for the analysis of non-verbal communication, furthermore, the additional time spent in observation offers insight that are unlikely to have been gained from interview alone (Moriarty, 2011). Field observation in this study used to assess the actual practices of indigenous knowledge of soil and water conservation, local farmland preparation and management, and other form of cultural valued labour sharing and natural resource management. Secondary data collected from published and unpublished Woreda Agricultural Office; Non-governmental organization such as UNSCO, and Konso developmental association

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4 ANALYSIS OF STUDY FINDING

This section would discuss the finding inresponse to the key research objective and questions. The analysis comprised of evaluation of the socio economic value of traditional Agricultural practice of konso, practices of traditional knowledge against land degradation and management, knowledge about land degradation and management practices to combat soil erosion, and socially constructed labour institution for farming and nature resource management.

4.1 Farmers' Knowledge about Land Degradation and Understanding Practices to Combat Soil Erosion.

To assess farmers' knowledge and understanding of the impact of soil erosion on their production capacity a number of questions were asked in the survey. I used this methodology from my past

successful research work experience in which I have applied in understanding the farmers knowledge of bacterial wilt in potato farming project. Therefore, from an initial test of thirty-three knowledge items, 11 knowledge items were included in measuring the knowledge level of participation. These have included.

1. Overall awareness of the impact of soil erosion on group production
2. Knowledge of factors contributing to soil erosion
3. Knowledge of different type of soils and their tendency to be affected my erosion factors
4. Knowledge of conditions conducive to soil erosion
5. Knowledge of correct management of environment surrounding Groups farm in sense of soil erosion protection
6. Knowledge and experience of self-driven learning management of soil erosion protection
7. Knowledge of appropriate management at different stages of soil erosion
8. Understanding of role crop rotation importance in reducing soil erosion
9. Knows what are the causes of soil erosion
10. Understanding of role weed and planet residue in soil erosion
11. Knowledge of overgrazing in reducing ground cover, enabling soil erosion.

The tools that used to measures the knowledge level of farmers are comprehensively an enough to give the researcher the overall farmers' perception and attitude towards soil degradation and its impact on productivity. The tools used to find out how farmers perceive soil erosion, its dependability on soil suitability and type, and how is potentially hazard to agricultural production and to the sustainability of next generation agriculture system in their farming ecology. In addition, the tools used to knowwhat are the most critical elements of conservation measures farmers' use, what criteria they use to conserve, and how they are able to characterize the soil erosion behaviour to type of soil. Dose farmer believe to the causes of soil erosion thoroughly matched with what scientific principles of cause of soil erosion do so.

Based on the result, and depending on the response collected from participant, and observation carried out on participant farming environment. All the response were scored as 1) excellent (6+); 2) good (5-6); 3) fair (3-4); or 4) weak (0-2). Table 4.1 below depicts and compares the results in terms of knowledge levels between male-headed farm hose hold, and female-headed farmhouse hold

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Table 4.1: soil erosion Knowledge Levels of male-headed farm hose hold and female-headed farmhouse hold

	Female-headed(N=34)	Male-headed(N=36)	Total
Excellent/Good	30(88%)	32 (89%)	62 (89%)
Fair/Weak	4(12%)	4(11%)	8 (11%)
Total	34 (100%)	36 (100%)	70 (100%)

Source, own survey 2018

As table indicts, 88%Female-headed farmers have excellent/good understanding of the impact of soil erosion on crop production, and have traditional demonstration practice against soil erosion and the conservation practices followed by 89% of Male-headed farmers. Only 12% of Female-headed and 11% of Male-headed have showed under estimated understanding of the impact of soil erosion on agricultural productivity and on sustainability of agricultural system. Also, during the field evaluation. Irrespective of gender, all farmers knew that soil erosion increase due to overgrazing, and other factors coincided with rainy periods, where as it causes more damage during rainy due flood and where there is no conservation practice the severity would be high.

As the comparison made between female-headed and male-headed agriculturalists' knowledge about the impact of soil erosion on crop production, and their traditional practice of conservation observed on their real farming site. Whereas most male-headed household have excellent level of konso' traditional conservation management practice, the same has

happened for female-headed household. However, the only difference could be the matter of labour shortage and confidence of quality in repairing of traditional conservation practices. Due to more reproductive works, depend on female –headed household than male-headed. Women farmers have lack of access to regular renovating of traditional conservation management on their farm, and very few women headed had improve management every year, this also due to reproductive labour of taking acre of the children is copiously fall on shoulder of women. Table 4.1 illustrate no difference pattern of knowledge of the impact of soil erosion for female-headed household and male-headed household with proportionately both moving towards excellent knowledge and understanding.

4.2 Practices of Traditional Knowledge against Land Degradation and Management.

The geographical location of Konso'ssociety is mostly uphill mountains;therefore, top soil is under sever condition of erosion. May be this natural phenomenon driven this particular society to be conscious more about soil conservation and led them who they are today. That among the many indigenous society groups in Ethiopia konso people are unequivocal having the best experience and worldly known in knowledge of indigenous soil conservation. The konso society have developed a very deep indigenous soil conservation mechanisms which help them to save the soil from erosion and to cop up with this harshterrestrial environment convertedpeaceful to agricultural land, which their traditional knowledge is still embodied in their cultural value of lands. They have developed a ritual meaning for this knowledge as part of their live. The traditional knowledge of particular society in soil conservation and erosion management was exceptional and considered as the best experience in the world and registered in UNSCO. Some of these local borne knowledge's are terracing, Croprotation and crop integration/Agroforestry system.

1. **Terracing-** the stone terracing is the determinant characterization of konso cultural landscape, the terracing is made of dry stone terraces ,which witness hundreds of years of existence by arachnologist researchers. It makes an extraordinary attraction for eyes of first time visitors to the area, making the dry and rocky environment more suitable attraction in eye of any one,which has resulted beautifully outlined rows of dry stone terrace. The terraces enable the local people to make their farming to be more productive by enabling the land to hold the soil from erosion, collect maximum water, and systematically remove excess water to next level of terracing plat form through the way provided for the passage of water. Traditionally the height of terraces depends on the landscape. When landscape is steep slopes,the widths be reduced and theheight increased possibly to 4m.Which increase the repeating of the lines of terraces in plot of land as many as possible.That will reduce the velocity of flood during heavy rain, maximize water retention, infiltration, and at the same time prevent soil erosion, which also made my mind as researcher to believe this society is a traditional an engineers. The terraces are depict features of the konso landscape and those hills decorated by the dry stone terraces that often reach 0.5 to 1.5-meterheight. The picture below may loudly speak about this society unequivocal conservation practice.

Figure 4-1: Stone terraced cultivated land in the study area (Tamiru Karse2014

Konso people use terraces not only for improving the farming productivity, and to protecting the soil erosion**.** However, the dry stone walled village called “paleta” also use as strategic and self-defensive advantage. Two layer walled dry stone with average height of three-meter circle every village, and the wall would have their main gate to take through in to village square. These main gats are close at night and secured during the night. This habit is not there anymore, were used during era of foreign colonization for such purpose.

Now it was reserved as cultural value of land, and celebrated occasional. Particularly there is a big cultural ceremony, which called “Xorra”, which means a generation transfer poll replacement. According, to the culture of the society, a generation will serve the society as defend force for 18 years. would take all responsibility to look after all cultural value resources of society for up 18 years, and after 18 years there will be a huge cultural ceremony to transfer the generation responsibility for next youth or new generation, whereas the former generation would granted gratitude, dignity and respect by the new generation who are already going to take responsibility. It will take more time and papers to document every details about this unique society cultural live. However, I would like to take this opportunity to encourage anyone to make a visit to the area to see the tremendous cultural value and resource of this historic society.

4.3 Socially Constructed Labour Institution for Farming and Natural Resource Management

Figure 4-2: Stone terrace construction in the study area (Tamiru Karse2014)

It is obvious that terraces construction requires a skill and labour intensive, which would be harder for female. However, traditionally Konso society have cooperative society in common, which is free labour sharing. So female-headed household can benefited from labour sharing group arrangement that owner of labour sharing group would only need to organize the traditional local beer and food for to host free labour sharing group. Therefore, any member of labour sharing group could request for help from his team with pre dated arrangement and notification shared to all member of labour sharing group, so they will come and give help free. In labour sharing group youth group needed to dig the foundation and to carry stones and during terrace construction in most case elderly people sit, design and arrange the stones. Women also consider as the most catalyst elements in labour sharing group. There is also cultural saying according to this society that “a food without salt is test less” and “labour sharing group without women participation is the same as the food without salt”, which is seems an incredible saying of empowering the women participation, and equal opportunity for both gender in their traditional virtual live. The main role of women in this free labour sharing group is to prepare the cultural drink, food and serve the men with drink and food during the work, so the men team will need renewed their energy and keep carry on construction of terracing by drinking the cultural beers

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4.3.1: Type of socially constructed labour institution

labour institution	Their purpose in labour	Number range of member mobilization
Ukanta	Occasional and voluntary that relative call each other for work help(no common rule)	**10 -30**
Parka/Oldawa	Chosen member of group teamed up for free labour sharing (have common rule, regulation and leader)	**5 -20**
Allumala/Napara	Chosen member of group teamed up for labour sealing to make money, and celebrate their cooperative after saving of many from the labour seal, may be in 1 to 3 years term of saving) (have common rule, regulation and leader)	**10 -40**
Palleta	Traditional labour sharing in time of emergency, fire, flood and natural disaster.	Traditional administration territory made up of a number "Kanta"
Kanta	Labour sharing and help to households during death or extended sickness	A county in the traditional administration of "Palleta"
Kaffa	The Kaffa (clan) help to work on farm during death or extended sickness of their belong one.	The traditional titled name of family belong to one clan

As the table depicts above the "Palleta" is a settlement that have its own traditional administration, traditional name, and traditional walled dry stone. Pallet is a collection of "Kanta", which in modern language could be similar to "county". According to traditional, virtual live the "palleta" considered as autonomy administration. So if a person from one " allet" committed a crime against a person of other " allet" or against neighbourhood " allet". Depends on the severity of crime the " allet" traditional elders would be send to mediation to the neighbourhood " allet", and these elders who are working on the mediation processes between two " allet" are called "Dawera". In modern society, this may have the same meaning as the "envoys". According to cultural context of this society no matter how the severity of crime made if "Dawera" of a " allet" visited for mediation to other pallet's "Dawera", the problem would solved or the conflict must be resolved. If the conflict have had caused bloody scene, or people were died in conflict the mediators "Dawera" must killed an old cow at between the border of two allet ze and have make ritual ceremony of peace restoration among the neighbourhood allet ze. So people will able to have peacefully inter-palletise movement.

Palleta can also use as an identity of individual, because every individual in Konso must have allet as the root source. No matter he had progressed his live in to modern society for livelihood businesses and make live in city, still they have to be responsible for his allet, and can be summoned or go back to visit his allet occasional in event of ceremony or disaster happen to his belong allet. If he died, the cast or body would be send to his allet for the burial.

Through " allet", the entire population categorized in to nine clan's family. According to konso's culture: ofthe early plantation period of people on this land, it was all started with nine people immigrated in to land from nine direction, and they named their name and settlement in nine different places of konso's territory. These people had found each other following night light fire they used on their settled destinies in the territory. Therefore, they had approached each other, and introduced themselves to one other, then they have given each nicknames,

Which is today become nine clan names. Inter alia: “Alayita”, “Keritita”, “Basanta”, “Tokumaleta”, “Ieshalayita”, “Mahaleta”, “Arkamayita” , “Tigisayita” and “Sawwidta”

Now today the population of this society is nearly 400,000. However, they still belong to nine family clans, with respectfully nine king of clans. As each of nine clans have their own kingship and the people of a clan considered to be as one family or one blood connected family under the leadership of their king. Therefore, the marriage for intra-clan forbidden in both sex, and the marriage for inter-clans allowed for both sex. In addition, the clan inheritance is always passing through maleblood lines, if the female of a clan married to male of other clan, all her children would be inherited the husband’s clan, however the women would consistently inherited her birth father clan until her death. In their cultural, there is no transferring of personal name and clan after marriage for women. In addition, if a gentleman attracted by the beauty of a woman, before he cast a love word on her, he should ask her clan first, and then if her clan name were not matched with gentleman’s’, then he would go ahead with his love approaches to lady. Nevertheless, if the clan matched, the man should politely ask for apology and treat her as her blood sister and she also accept him as her blood brother.

Now let learn how “ allet” and “Kaffa” of this society culture help each other on free labour sharing during the time of emergency, natural disaster of community and chronicsickness of the family or in the death of member of family of community.

“Kafa”/”Clan” is the closest largest family of every individual, who have to gather to help their love one, in time of death and chronic sickness in kind and free labour support. Particularly the support for widowed women of “Kafa” should get close attention, for renovation of their farm terracing as this job, required labour intensive. The widowed should only need to proper a traditional drink and food, and sent her requestto the clan “king” that she need free labour sharing for her farm terracing renovation. However, the majority of minor terracing renovation can be done by widowed, and by her children support. This social institution has the capacity to reduce the homelessness and street bagger in Konso land, even if the economic situation of Konso society is not such much strength. The secret that make no homelessness and street bigger for Konso native society is that, if a person come out on street that is reflecting the bad image for the “Kafa”/”Clan”. That they are weak, or poor, or have no unity to manage their children problems, and this is not good for the dignity of social class representation of “Kafa” and the leader the King of “Kafa/Clan”.

“Palleta” is the community free labour institution for the major incident inter alia the fire incident, natural disaster, flood incident, and fire emergency. In such event, the traditional leaders decide and mobilize the “ allet”, which means the whole community to work or help and provide support the victim family in kind, labour, money and psychological re assurance. As mentioned in earlier discussion, a “ allet” must have emergency respondent team, who traditionally called as nickname “Xaillita”; this can also have similar meaning with modernadministration like the defenceforce of country. Because of thy have to serve the community for the period of 18years as responsible group of society. They are one who play great role in any circumstance of the “palleta” or as security team for whole community to protect and maintain the peace of community, and to be forefront alarm responder in situation like fire accident, natural disaster, war, and out of working hour’s personal incident.

“Ukanta” is small free labour sharing group, who teamed up among the relative and neighbours with in one “Palleta” for free labour sharing. This group will only help each other in labour sharing on occasional bases like during harvest, sowing time, tillage time, and terracing renovation time. There is no common agreement basses, rules and leadership in this group of labour sharing. The size of can be dependable of the labour requirement of owner who want host a “Ukanta” labour sharing occasion, most often the size ranges from 10 -30 people. Although if a person has good social relationship in community and have good reputation of participation in others’ free labour sharing, then when needed they may have support from many other to freely come to help . However, if the person is greedy in social live, and have no shown reputation of free labour sharing participation for other there may not have good support from other community for free labour sharing.

“Parka/Oldawa” is selective member of group, who chosen each other on the bases of their common interest to teamed up free labour sharing group. They have common rule, regulation, and leader ship. All the member must be residents of the same “Palleta”, and their labour sharing would be only for the member of “Parka/Oldawa” one after other or turn in turn. Most often, they would not sell out their labour sharing for private or for the person who is not in membership of “Parak/Oldawa”. To get a free labour sharing in this group a participant must be active member of the group, and must show up his labour

sharing participation for rest members of group.

"Allumala/Napara" is also a selective member of group, who chosen each other on the bases of their common interest to teamed up for labour sharing to make business out of group work. They sell their group labour work for private and for person in the team at discount. Eventually they save the money that they make out of group labour sell for about 2 to 4 years, and celebrate the anniversary of the labour sharing cooperative birthday by killing fatten bull. This group of labour sharing have common rule, regulation and leaders. The leaders are always two. The chief, and vice chief. The anniversary of cooperative birthday celebration always take place in either house of chief or vice chief house. The celebration would take minim of 1 week to maximum of 6 week. This is huge celebration for the team and represent the proud of their healthy and prosperous live. It is also sense of positive spiritual and thank giving time for the team in wishing of the best for the next live of cooperative. This is also the time for the team to make reconciliation and peace restoration processes if any disappointment had happened between the members of cooperative, and the renewal of their spiritual and new cooperative planes.

4.4 Gender Participation and Socially Constructed Labour Institution

In all the above socially constructed labour institution by konso society, the gender participation is inclusive. Neither of the above explained labour institution have negligence to women involvement. Rather in all the labour institution, which have explained above gave the opportunity to women to be central element in serving the traditional beer preparing, which called "Cheka", food and carry on their back the drink and food after group during the institution working day. Because some time the labour sharing work place could take 6km walk on foot, as there is no modern transportation. That is way it is impossible for any labour sharing institution to ignore women involvement. However, despite the fact, that women play the great role in labour sharing institution the number of women in **Ukant, Parka/Oldawa,** and **Allumala/Napara**is very limited in to average of 2 to 8number. Because the men perception still judge the women role to the specific of serving, making andcarrying of traditional meal for the labour sharing group during the work day. On other hand, according to the culture of land this is a gratitude for the women, that when men is around; women should not let to do hard work like men's; rather they only deserve toserve the men in traditional drinking and food

Figure 4-3: Kanta working on the Kebeleland (Tamiru Karse2014)

4.5 The Socio Economic Value of Traditional Agricultural Practice of Konso

Table 4.2: Traditional Agricultural practice of male-headed farm hose hold and female-headed farmhouse hold.

Practices	Practiced		unpractised		Total	
	Freq	percent	Freq	Percent	Freq	percent
Crop rotation	35	25	45	65	70	100
Inter cropping	70	100	0	0	70	100
Agro forestry	70	100	0	0	70	100
Use of manure	70	100	0	0	70	100
Use of inorganic fertilizer	0	0	70	100	70	100

Source: own survey 2018

The main crops grown in konso land are sorghum, maize, cotton, beans and some other cereals, which are suitable for the tropical low land zone. The most common practice of characterization of the cropping systems in konso are crop integration and Agroforestry system. Which, means growing two or more different seasonal crops, and permanent vegetation or trees on the same filed at the same period of yield.

In agricultural practice, this system is helpful for the compensation of economic loss of production due to certain situation inter alia shortage of rain, soil fertility, soil erosion and much intensively of rain during the cropping season. Forthe nature, that some crops are vulnerable for rains variation and soil fertility.

This practice also includes mixed cropping having different trees and crops at the same time on a given plot of land. Moreover, the trend helps the konso society to cop up with the harsh ecology to make their living in a way that they can get what they need for consumption from the varied type of vegetation on the agricultural fields. Although, some trees leave used for the forages of livestock. As a habit of keeping one or more livestock, in house compound is common tradition for konso society, so they would sell them during the financial emergency and medical bills cover.

Some plants planted seasonally on farm purposively for the use of animal feed that are keep in the house compound. In addition, konso society like to have some importance vegetation on farm that they use for house construction purpose (timber product), food, medication, energy and for the economic support for example: Moringa oleifera tree and “Hoyyipatta” are among the most common important trees.

As suggested Table 4.2, about 45%of the respondent suggested that they move on the practice of changing to other crop each year and (0%) use inorganic fertilizer. Whereas 100 %(70) of respondents practice intercropping and Agro forestry and practice of applying organic manure for the soil fertility enhancement. From the filed observation result, research was able to conclude that farmers have practice of three layer of intercropping and Agroforestry. The permanent evergreen tree at the top + shed love tree like coffee planet + sorghum/maize + beans (legumes) + sweet potato/cassava. The legumes is deliberately measure to maintain soil fertility. However the emphasis on legumes is not only to enhance soil fertility according to the traditional perception of local farmers, these crops helps during the rain shortage toalso able to give the product, while the sorghum straw will be used for the forage.

On the terracing line farmer use mounding soil and planet cassava or sweet potato, which would also enhance the probability of consistent gaining of production for consumption during good year or bad year of framing.

As we can see from table4.2, the konso society have traditional practice of soil fertility amendment. Almost all farmers are applying organic fertilizer

"Animal manure" and none of farmer applying inorganic fertilizer. This could be the research was purely carried out on tradition area, where UNSCO was registered as cultural heritage centre of landscape management. However, somewhere the society may use inorganic fertilizer. The practice of using organic manure by this society could explain the perception of this traditionalsociety have good understanding of the effect of soil fertility loss is a decrease in crop yields. It also send a message that the society have a strategic concern to achieve better returns.

As a researcher I have learned some saying in this society that "taking a piece of manure along every time on visiting farm, would reward an ample of product along on way back to home", which is really interesting traditional, showing that the society have knowledge soil fertility measures hast to be practiced.

5. CONCLUSSION

In different parts of Ethiopia, farmers use indigenous knowledge of soil conservation, water conservation, and soil fertility amendment practice, Farmers have developed such knowledge in order to battle there concern to achieve better returns in their livelihood and contributed to long-term sustainability of the land, ecology and their basic property for the source of living. Some of this knowledge become extra ordinary, and even got more advantageous and over the modern knowledge, and have recognition by united nation education, scientific, and cultural organization.

Throughout, the discussion, the emphasis given to the socio economic value of traditional Agricultural practice, traditional knowledge management of land degradation, management practice to combat soil erosion and traditional labour institution for natural resource management with the intention of the participation of women in aforementioned practice of soil conservation.

As the preceding discussion the value of traditional soil conservation practices of study area analysed, shows that the tradition value of soil conservation of this society have over dominance of many technology solution such as modern soil conservation methods, and chemical fertilizer, that have been proposed have failed in study area. The indigenous soil conservation systems provide excellent base on which appropriate soil conservation practiced. It could be conclude, that factor that affected farmer's interest on adopting chemical fertilizer application could be lack of integration of the local culture, and particularly social preference during the introduction stage of this technology.

In addition, Konso society is one of indigenous community living in southern part of Ethiopia, who made the extra ordinary knowledge of soil conservation, and farming system, which acknowledged preserving the knowledge for the next generation of world by united nation education, scientific and cultural organization centre(UNSCO)

The research also revealed that the konso's women decision to distribution of benefit, their role, and responsibility play in indigenous soil conservation practice was not such much appreciated. Generally the research conclude women role in konso society despite their hard working and participation in almost all activities of the conservation practices, as well the effort and hardworking practices they have showed was not that much taken in to consideration and appreciated by society. Due to socioeconomic-cultural role classification matters and perception of gender based orientation.

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