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ASSESSMENT OF FOREST RESOURCE CONSERVATION PRACTICE; THE CASE OF WORQMAWUCHA KEBELE IN MEHALSAYINT WOREDA, AMHARA REGION, ETHIOPIA

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Assessment of Forest Resource Conservation Practice; the Case of Worqmawucha Kebele in Mehalsayint Woreda, Amhara Region, Ethiopia

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ABBREVIATION

FAO……. Food and Agricultural Organization

Ibid…….. (A Latin for Ibidem. Meaning the same place) the term used to something that been previously the same.

CSA……..Central Statistics Authorities

MSWTTO ……. Mehalsyint Woreda Trade and Transport Office

MENR……. Ministry of Environmental and Natural Resources

MSWAO……. Mehalsyint Woreda Agricultural Office

ABSTRACT

Forest is the wealth and basic needs of life conservation of environment, biodiversity, water and soil resource. However, forests are the level of environmental degradation problems. Hence, the conservation of natural resource should be given due to attention and achievement of the approach and the one's benefits. The central objective of this study was assessment of forest resource conservation practice in Mehalsayint Woreda Worqmawucha kebele. The data collected from primary and secondary data source were analyzed qualitative and quantitative data done using table, percentage to summarize and draw conclusion. This study is central to the assessing conservation of forest resource to available control of forest land fragmentation are analyzed .There for, conserving the remaining forest is the need of the study habitat for greater biodiversity, wildlife and to more attention for conservation of forest.

Key words: **Forest, Conservation, Degradation,**

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Forest has a complex ecosystem consisting mainly of trees that buffer the earth and support a myriad of life forms. The trees help create a special environment which in turn affects the kinds of animals and plants that can exist in the forest. Trees are an important component of the environment, they clean the air cool it on hot days, conserve heat at night and act as excellent sound absorbers, (Shuck *et al*, 2012).

Forest is useful to human. They control temperature bring rain, prevent soil erosion, improve soil fertility, provide compost and medical herbs and valuable timber and fuel. They provide for fodder to cattle. They are habitat of the wild life and inexhaustible source of energy.

Forest conservation is the practice of planning and maintaining forested area for the benefit and sustainability of future generation .forest conservation acts to maintain plans and improve forested area. Forest provides wild life with the suitable habitat for living along with filtering ground water and preventing runoff, (Shuck *et al*, 2012).

Forest is globally important in the forestry sector. Forests have the years been faced by a myriad of challenges including excision of state, forest land in discriminating destruction of natural forests, Poaching of rare species weak governance structures and luck of resource to regulate lack of incentive to enhance community's participation and the duplication of laws and regulations, (Kinyanjuism, 2015).

African state management of forest resource have been criticized for ignoring local community participation in forest management and failing to recognize local community's needs for forest products,(Weeks and K.Branden, 2013).

The loss of forest resources is severing in the Ethiopian vast mountain and high plateaus. In ancient time most of the high lands were covered by forests varying density but now it greatly decline. (Ibid). Forest in Ethiopia continues to face the challenge of how to manage and conserve their forests. Forest conservation system adopted by governments, whether they are protection is too oriented or incentive based is important in determining outcomes of conservation sustainable use, (Agrawal A, 2016).

Historically conservation strategies have been dominated by attempts to fence of for reserves, areas for nature and excluded people from the reserved areas,(Will iam, A,2002).

Contemporary conservation strategy is the practice of planting and maintaining forested areas for the benefit and sustainability of future generations. The conservation of forest also stands & aims at a quick shift in the composition of trees species and age distribution. Forest conservation involves the upkeep of the natural resources within a forest that are beneficial to both humans and the environment.

Remaining forests are important habitat for greater biodiversity, wildlife and conserving the forest is the best for all other conservation. In general the economic value of forests in relation to food and soil conservation is that they may allow agricultural and even industrial development on flood plains because they contribute to mitigate the effect of flood and in minimizing soil erosion especially in mountainous and hilly area, (Anon, 2011).

Generally; forest resource conservation practice is has significant effect on socioeconomic development, environmental sustainability and increase the crop production and soil fertility in the area. However the practice of forest resource conservation activates in Mehalsayint woreda worqmawucha kebele is not well studied. Therefore, the need to study forest resource conservation practices in Mehalsyint Woreda worqmawucha kebele is an interesting issue.

1.2. Statement of the Problem

Forest Resource in Ethiopia is contributing only 2.5% of the GDP is the most important resource running out at an alarming rate. At the begging of 20century, the total forest coverage of Ethiopia was estimated to 40% and above. But 40years ago it became down to 10%. Currently; the forest coverage of Ethiopia is less than 4% due to presence of uncontrolled grazing, agricultural land expansion & deforestation. Every year it is estimated that about 10ha up to 15ha of forest has been deforested. This case is similar to the study area (Ethiopian forestry action program, 2015).

The involvement of people in forest resource conservation is crucial to ecological, socioeconomic, institutional, infrastructural and policy impacts to both the communities and forestry sub sector. The ecological impacts can be stabilized and forestry resources use patterns and improve quality and or condition of forests. The economic impacts include improve livelihood through sales of forest products, increasing conservation skills, employment, (Olawaya, 2015).

The low living standard of the people coupled with lack of alternative for an increasing demand for crops, grazing land fire wood conservation, is a fundamental factor causing decline in the forest of Ethiopia, (Tate Metal, 2013). Moreover, the settlement around the land in forest area increase and have result in the change of forest land in to agricultural and other land use system. In the study area there is a number of problems (i.e. the problems that decline the parcel of forests). This problem is seen severe in the study area due to lack of community training on forest conservation practice, lack of afforestation program; lack of tree nurseries. Still now forest is not properly managed and conserved due to low economic development, lack of infrastructural development and forest land fragmentation, lack of awareness for society, rapid population growth, urbanization, industrialization, wildfire and so on. Therefore, the primary goal of this study is to fill the gap stated above (between use of forest and its management and conservation practices) in Mehalsayint woreda Worqmawucha kebele.

1.3. Objectives of the study

1.3.1. General objective

The general objective of the study is to assess the assessment of forest resource conservation practice in Mehalsayint woreda Worqmawucha kebele.

1.3.2. Specific objectives

- To identify factors that influence forest conservation practices in the study area.
- To analyze attitude and awareness level of community towards forest conservation in the study area.
- To examine the role of local government to promote participatory forest conservation practices in the study area.

1.4. Basic research questions

1. What are the factors that influence forest conservation practices in the study area?
2. What is the attitude and awareness of community towards forest resource conservation in the study area?
3. What is the role of community participation towards forest conservation practices in study area*?*

1.5. Significance of the study

This research focuses on the assessment of forest resource conservation practice. Therefore, the finding of this study has been useful to enhance education which is very important to increase the awareness level of the society in forest resource conservation. For a source of information about government and non-government organs, helps for further study and create awareness among the society for forest conservation practice.

1.6. Delimitation of the study

Geographically the study was delimited to the area of Mehalsayint woreda Worqmawucha kebele in South Wollo Zone. Thematically the study intended to assess factors affecting forest resource conservation practice and to identify attitude and awareness level of community

participation and to evaluate the role of community participation in forest resource conservation practice

1.7. Limitation of the study

During our study, we were faced different problems. They are shortage of time and budget allocated for the study, lack of experience for, lack of reference and availability of books and material related to the study.

1.8. Organization of the study

The Study consists of five chapters. The First chapter deals with back ground of the study; statement of the problem; objective of the study; research question significance of the study; delimitation of the study and organization of the study. The second chapter emphasize on the review literature. The third chapter consists of methodology of the study and back ground of the study area. The forth chapter deals with data analysis and interpretation of the questionnaire in this chapter the data obtained from participants was analyzed in a good manner. The final chapter deals with present the summary; conclusion and recommendation.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Concept of forest

Forest is large area of land covered with tree or other woody vegetation. Hundreds of more precise definition of forest is used throughout the world incorporating factors such as tree density, tree height, land use, legal standing and ecological function, (Shuck etal, 2012).

Forests are the dominant terrestrial ecosystem on earth and are distributed across the globe. Forest account for 75% of the gross primary productivity of the earth's biosphere and contains 80% of the earth's plant biomass, (Pan, yude, robot. B, 2013).

Human society and forest influence each other in both positive and negative ways. Forests provide ecosystem services to humans and serves as tourist attractions. The positive impact of forestry actions typically include invasive species control, vine control, crop tree release, timber stand improvement, erosion control, tree planting and timber harvest. Negatively humans have converted to agricultural urban uses, exploited species, fragmented wild lands, changed the demographic structure of forests, altered habitat, degraded the environment with atmospheric and soil pollutants, and domesticated favored species. Forest can also affect people's health. Human activities including harvesting forest resources, can negatively affect forest ecosystems, (Vogt Kristina A, end, 2007).

Forest is a term of common parlance, there is no universally recognized precise definition. Forest is usually defined by the presence of trees, under many definition an area completely lacking trees may still be considered a forest it grows trees in the past, will grow trees in the future or have legally designated as a forest regard less of vegetation type,(Wastegen, Robert, j,eds,2016).

2.2. Importance of forest resource conservation

Under farmer protection based state towards forest resource conservation system. Communities can be not allowed to use forest resource of protected. Forest must have tangible and realizable value to communities, if they are remain forest. As the pressure for livelihood and resource grow, pressure on forest will grow, unless communities' access forest resource in order to

support their livelihoods, the pressure will raise the breaking points and further forest destruction will follow. In fact to be beneficiary from forest resource continuously, it is important to conserve and it uses in sustainable way only, (Farm Africa, 2007).

2.3 Factors influencing forest resource conservation

Demography is the study of size, territorial distribution and composition of population changes (Houses and Duncen, 2014). Impacts of factors on forest resource conservation are assessed in terms of forest and land use, forest degradation, housing demand and wood products.

Uncontrolled grazing: A large numbers of herbivores depend on the forest zone as forage. Herbivores are particularly important biotic influence on the seedling be house their body makes them volume arable and for young seeding the meal available animal is much than that of old plant (dana,2017),

Demand of forest product: Through forests have a huge significance in environmental and socioeconomic development of Ethiopia? The rate of deforestation is very high due to poor forest management practices. For example from 200 to 2010, African recorded an annual loss of about 3.4 million ha making it second largest net forest loser in the world (FAO, 2005). Therefore urgent policy measures are needed to ensure the sustainable management and development of forest resources.

According to Geist And Lambin (2001) and Rademaekers et al (2010), deforestation may occurs due to proximate causes are human activities(land uses) that directly affect the environment and thus constitute proximate sources of change for example excessive logging or forest conversion in to agricultural land directly implies or reduction of forests.

Scientist to day agrees that agricultural expansion is the most important direct driver of land use change globally, followed by infrastructure development and wood extraction.

Cutting of trees for fuel wood, charcoal, construction material and times has the implication resulted in destruction of natural forest or vegetation and the uncontrolled exploitation of timber “and fuel wood land of Ethiopians (Ensernse, 2016).

Lack of proper forest management and utilization: Gebre Markos and Deribe (2005) pointed out that lack of proper forest management and utilization, lack of compatible forest proclamation

and other legislation and extension of cultivation to marginal lands were indicated as major causes for forest clearing (deforestation) are closely linked with the vicious cycle of mutually reinforcing factors that means poverty population growth, poor economic growth and state of the environment are used by deforestation.

Population growth: Current agricultural production does not meet the food requirement of the country's population largely because population growth is faster than increased food due to increasing population pressure there is expansion of cultivation land. In to the steep slope, hill side, wood land and bush and resources and being rapidly deleted by the spread of sedentary agricultural livestock generally the rate of population growth in the country is 3% per year. This rate is one of highest in the world (million, 2007).

2.3.1. Forest and land use

Population pressure is often cited as a primary reason for land use changes, forest encroachment and conversion to crop land and built up areas. However, there is no "linear relationship" that shows that an increase in population puts more pressure on land and forests, as argued by different studies this increase in pressure depends on the stage of development of the country, which is influenced by their dependency on land.(for agricultural population, extent of urbanization and level of income, (FAO,May,2009).

2.3.2. Forest Degradation

The rising human population has resulted in a dramatic increase in the demand for wood products, which have led to over exploitation or harvesting beyond sustained yields. This has led to forest degradation in many developing and small island countries. (FAO, 2005).forest degradation is fundamental for accurately quantifying global carbon stocks. While deforestation denotes abrupt, long-term or permanent conversion of forest land to non-forest land use, forest degradation occurs when tree canopy cover is disturbed but not completely lost (Foley et al., 2007; (Ghazoul et al, 2015); Thompson et al., 2013). Human disturbances are discrete events that have a negative effect on the composition, structure and function of ecosystems, altering ecological processes such as availability of resources and ecological interactions, or modifying physical surroundings ((Ghazoul et al, 2015)

2.3.3. Housing demand and wood products

Housing demand is likely to remain constant or increase at a lower rate developed countries. Residential building construction is one of the most important drivers of demand for wood products especially for sawn timber, with increasing housing demands, the need for wood products is likely to increase use of wood in interior decorating is also gaining momentum, which can be further increase demand for wood and wood products. The housing needs have traditionally can be met either by the extended family or through kinship groups,(Hunter, 2013).

2.4. Socio-economic factors influence forest resource conservation

Socioeconomic is also known as that social economic is the social science that studies how economic activity effects and is shaped by social process. In general it analysis law societies progress, stagnant or regress because of local or regional economy or the global economy, (John, E and Peter, N, 2014).

2.4.1 Household dependence on forest

Socioeconomic characteristics such as: animal husbandry skills years of residence in the community and respondents. Socioeconomic characteristics were observed to dictate the nature and extent of House hold similar observation were observed that income and minimum consumptive demand of house hold for forest based livelihood activities, (Bwalya,SM , 2011).

2.4.2 Household tree planting intention and socioeconomic variables

In general, those house hold that intends to plant tree on land they own or manage have higher level of resources are currently More active in terms of their present tree management and have higher awareness of tree regulations than households that do not intend to plant trees in the future. These findings are consistent with result of statically tests between the socioeconomic characteristics of households and their current tree management activities, (Engage, 2009).

2.4.3. Socioeconomic factors affecting conservation of natural wood land

Socioeconomic status of local community is known to have significant influence on determining the type of activity they are engaged in as well as the impact on different types of interaction

towards their natural resource. Understanding the social factors affecting people intervention of natural resource remains an essential element of conserving natural resources (Olawaye, 2015).

2.4.4 Institutional factors influence forest resource conservation

Institutional arrangement has emerged as major focus for researcher conservation; environmental change and natural resource management. The role of institutions for effective forest management has represented an especially strong area of interest. Theoretical perspectives and empirical studies of forest management have shown that certain sets of institutional arrangements appear to result in low rats of forest transformation and ostensibly better forest conditions. Yet while it has been noted that effective institutions relate to characteristics of the appropriators and resource base. Institutional studies rarely address the border contexts that may enhance or constrain outcome (Agrawal,2016).We aimed to increase confidence that observable various in forest conditions could be attributed to human activities and institutional arrangements, therefore we designed the study to limit variation in biophysical conditions.

2.5. Attitude towards forest resource conservation

Attitude is orientation positively or negatively towards certain issue, object or situation that naturally to need and relatively persistence. Attitude is understood to be the major antecedent of people's behavior in relation to natural resource management conservation. Thus, most studies employ items on selected attitudinal issues that are presented as open as close ended questions asking people evaluation of issues in positive or negative or effective scales. However, the theory of reasoned action States that behavior is determined by the intention to perform the behavior, (Bourdiev, 2010).

2.6 Forest resource conservation interventions

Community forest is a branch of forestry that deals with the communal management of forests for penetrating income from timber and non-timber forest products as form of goods while in other hand regulating ecosystem, downstream settlements benefit from water shad conservation, carbon sequestration and aesthetic values as in forms of services. Community forestry is defined by the food and agricultural organization of the United Nations as any situation that intimately involves local people in forestry activities, (FAO,2008).Community forestry exists when the

community is an area play's a significant role in land use decision making and when the community is satisfied with its involvement and benefits from the management of the surrounding forest and its resources.

2.7. Community participation in forest resource conservation

Participation of local communities help to improve forest production, alleviate, poverty, enhance environmental sustainability and make rules governing forest access more enforceable. Introducing participatory management depends on government commitment and it requires time and resource to develop consensus among stake holder, establish new institutional arrangement, decentralize finance and administration, and ensure appropriate rules and incentives for local involvement, (Den, Gilmanur, 2016).

2.7.1 Environmental Degradation and Community Participation

Forest plays a central role in economic development, provision of critical environmental service and the supply of social and cultural value. They are also vital since they play a role with respect to wood based industries provision of energy, stabilization of underground water, tourism through their unique environments and habitats, provision of resource materials to plarmacevtial industry and livestock production through feeds. Forest has stabilizing role to the environment as evidenced by their ability to absorb carbon, biodiversity conservation food control and amelioration of climate, (Amanita, K. S, 2010).

2.7.2 Regional perspectives on forest management

Annual forest loss in the country between 1990 -2005 is estimated at 1.3% mainly due to shifting of land cultivation, illegal exploitation of timber and damage from periodic wildfires. Ethiopia have 13 million hectare of forests. Currently forest cover in the country is under theocratic as a result of pressure from agricultural expansion and fuel wood production. The government issued forest development conservation and utilization proclamation and this proclamation recognized the role of community forest management as an important strategy for environmental protection, (MENR, 2007).

2.7.3. Local Perspectives on Forest Management

The first sites for participatory forest management have established Arubuko Soakage forest in coast region. Forest management has under gone several changes over time in response to the country's changing needs. The most significant through gradual have been the introduction of participatory forest management a shift from the previous command and control system that alienated communities. The forest act (2005) is a positive move for the local community and this have already began to act as a catalyst in their involvement in the management of the remaining forest resource, (Vogt kristain A.end ,2013).

2.8. CONCEPTUAL FRAMEWORK

It is well noted that the successful of lasting conserving forest resource is dependent on the interaction of a combination of factors that give due emphasis for community participation, external collaboration and technical support in order to ensure operation and maintenance of the system. In order to have a close look at the interplay of these factors, the researcher present blows the recently produced conceptual framework of conservation of forest resource.

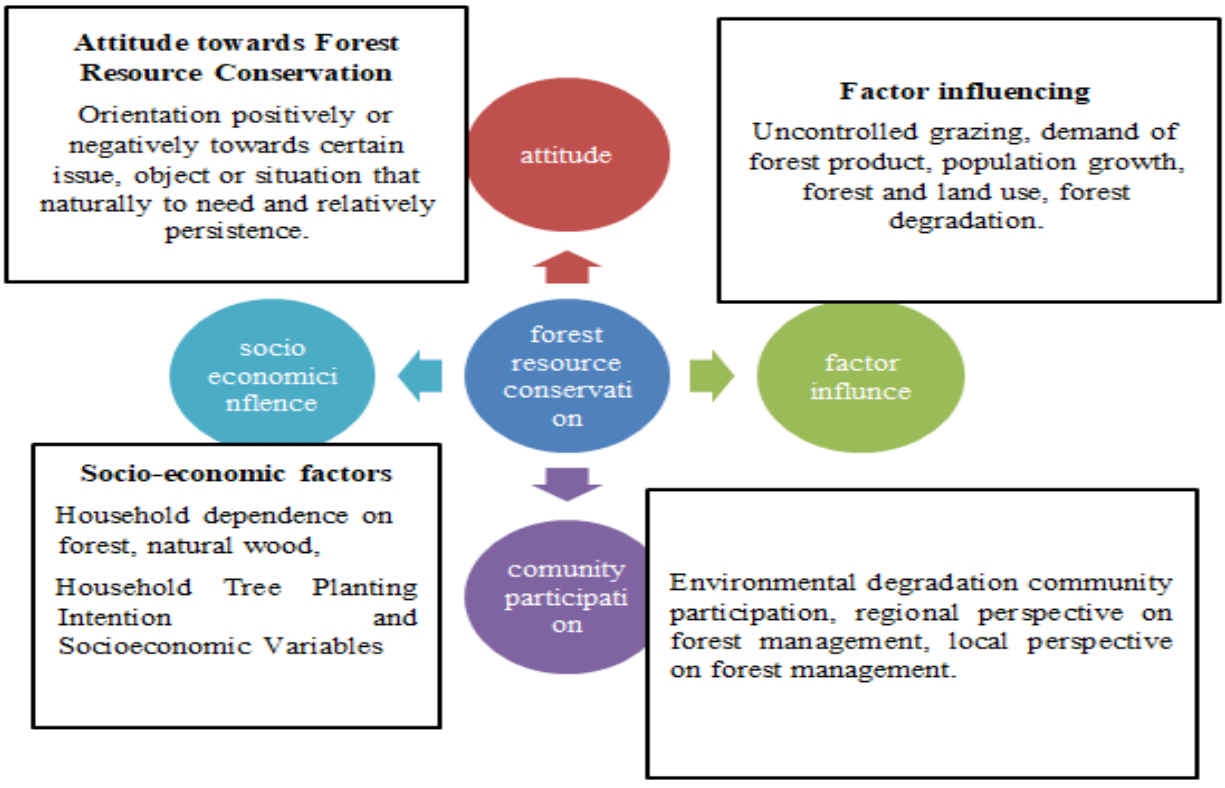


Figure 2.1 Conceptual Framework on forest resource conservation

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Description of the study area

3.1.1. Location of the study area

The study area (MehalSayint woreda) is located in South Wollo Zone of Amhara region which is located at 580 km North of Addis Ababa and 192km away from Desse. There are 17 kebele administrations in MehalSayint woreda. The absolute location of the woreda lays in the 10°56'00"N-11°1'00"N and 38°37'00E-38°47'00"E. The relative location of Mehal Sayint woreda is border on the north Sayint ajibar woreda, on the south Borena woreda, on the east Sayint ajibar and Borena woreda on the West Gojam. The main town of MehalSayint woreda is Densa. The total area of the woreda is 583.66 km^2.

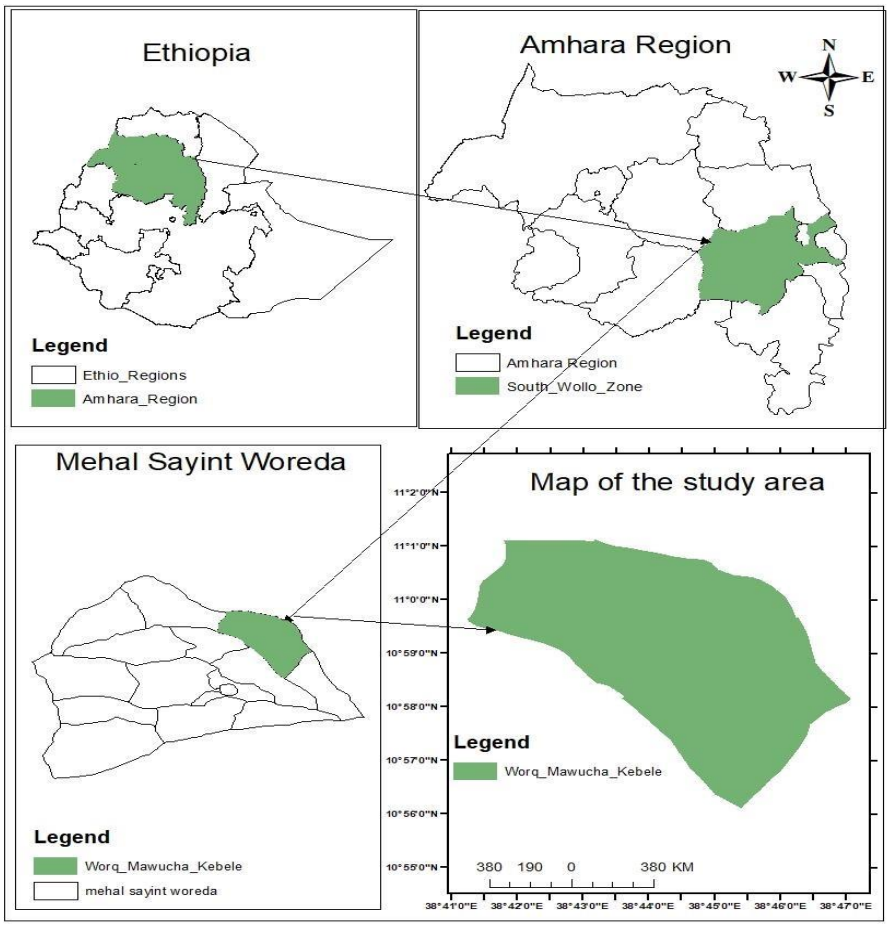


Figure 3.1: Map of the study area Source: Ethio GIS, 2023

3.2. Physical characteristics of the study area

The topographic feature of MehalSayint woreda consists of about 38% of mountain, 26% of plain, 17% of gorge and swamps and 19% of undulated area and the altitude of the woreda ranges from 1500-2500m above sea level (MSWAO,2023)

The climatic nature of MehalSayint woreda has three agro climatic zones which are Dega (high land) 21%, woinadega (mid altitude) 23%, kola (lowland) 56%. The average annual temperature of the woreda is 29^0 and the average rainfall of the woreda is 600mm, the major rainy season is summer (June, July, august) and in some extent the rain is raining in other seasons interruptedly. The warmest months are April, May, and June and the coldest months are October, November and December (MSWAO,2023).

In the area dominated types of vegetation are zigiba, kosso, tid, bahirzafi and other dominated trees species. It consists of other small trees, shrubs and most of vegetables is lowland vegetation. The fruits of area are apple, banana, mango, orange and etc. The vegetable types of plants are on ions, carrots and other are produced in the area.(Mehalsayint Woreda agricultural office, 2020).

3.3. Socio-economic and demographic characteristics

The total population of the Mehalsayint woreda is 85685 from this 42258 and 43427 are male and females respectively out of this all population of the woreda are rural residents. The populations of the woreda are the collection of different nation nationalities; Amhara accounts 98%, live together peacefully. Population density of the woreda is 181.2p/km^2 (CSA, 2007). Religion of MehalSayint woreda consists of a number of faiths. Among these mainly orthodox religions followed totaling at 98% and Islam followed totaling at 2%. The economic base of the study area dominated by agriculture with traditional Oxen plowing system which accounts 96% of the total economic activities and it supplemented by trade which accounts 3% and the remaining 1% consists government employment (MSWTTO 2023).

3.5. Research design

With a mixed method approach, a cross sectional descriptive research design was employed to study existing situations regarding forest conservation practice and challenges. This is because to cross check a given fact by another and supplement information. Because it describe by

appropriate word clear identification of information to assess the effects of population pressure on land utilization in the study area.

3.6. Data Sources and Data collection tools

Data regarding factors that influence forest conservation practices in the study area would be collected from both primary and secondary sources. Primary data would be collected from household, key informants in concerned offices and through observations. The questionnaire would be distributed and collected from selected respondents and key informant interview used to get information. Moreover researcher is used secondary source of data from both published and unpublished documents related to problems of water supply in the study area.

The relevant data source from study area have been collected both from primary and secondary source. The primary data have been collected by Field observation, questioner and interview method. The secondary source of data has been collected from book and Internet.

Questionnaire: is the most important tool for collecting primary data for the common technique to gather data from descriptive survey. It is widely used to obtain information about a certain condition from the respondents. Therefore question have been papered and distributed for 85 respondents stated under sample size.

Field observation: has been collected primary data. In this study it carried out through systematical method and different data have been observed and recorded through transect walk in the selected area.

Interview: have been collected to obtain information from Kebele leader by both structured and open ended questions present to the respondent to express their view idea and intention about forest resource conservation practice.

3.7. Sampling technique and simple size determination

The study have been used both probability and non-probability sampling techniques. From non-probability sampling particularly (purposive sampling) method have been used to select one kebele from 17 kebeles in the Woreda because the huge availability of forest in this area than others and slightly the accessibility of transportation to collect data for these kebele i.e.

kebele45(worq mawucha kebele). On the other hand, the probability sampling i.e. simple random sampling technique would be used to select households from the entire with homogeneous population in various aspects, like, culture, living standard etc. it is the simplest and easiest method of probability sampling. It's sampling procedure in which each element of the household has an equal time chance of being selected in to sample from the entire kebele.

The total number of households within kebele i.e kebele 45 (worq mawcha kebele) is 580. The researcher will select only one kebele to make the data collection and analysis manageable. From households, 85 respondents would be selected by applying probability sampling method. Out of the four types of probability sampling method, the researcheren use simple random sampling techniques because simple random sampling reduces biasedness by giving equal chance to the target population. The sample size is determined by Yamane formula.

$n=N/1+N\ (e)^2$

$n=580/1+580(0.1)^2 = 85$

Where, n=total sample size, N=Target population, e= Error margin (10%=0.1)

3.8. Methods of data analysis and presentation

Data analyses have been made using descriptive statistics such as frequency distribution and percentage values. Data analysis results have been shown in tables, graphs and content analysis. The qualitative data about the factors on depletion of forest resource need to be analyzed through narrative description, while the quantitative data have been analyzed in simple percentage and frequency tables. To explore what the government/associate stakeholders are doing in reversing negative externalities on the forest, a qualitative data have been analyzed through narration, while the quantitative have been analyzed using percentages and frequencies. Observational data have been analyzed in narration supported with photos. Regarding the possible solutions for forest conservation in the study area, researchers have been analyzed on questionnaire and interview check list results.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION

This chapter deals with the data analyzed and interpretation part of study consists of the general characteristics; demographic and socio-economic factors of the respondents assess factors affecting forest resource conservation practice.

4.1. Demographic characteristics of respondents

These explain to back ground of personal information to the farmers in mehalsayint woreda special in kebele 45(worqmawucha kebele).The respondent were both female and male sex ,age, educational status, occupational status, marital status and family size.

4.1.1. Sex composition of the respondents

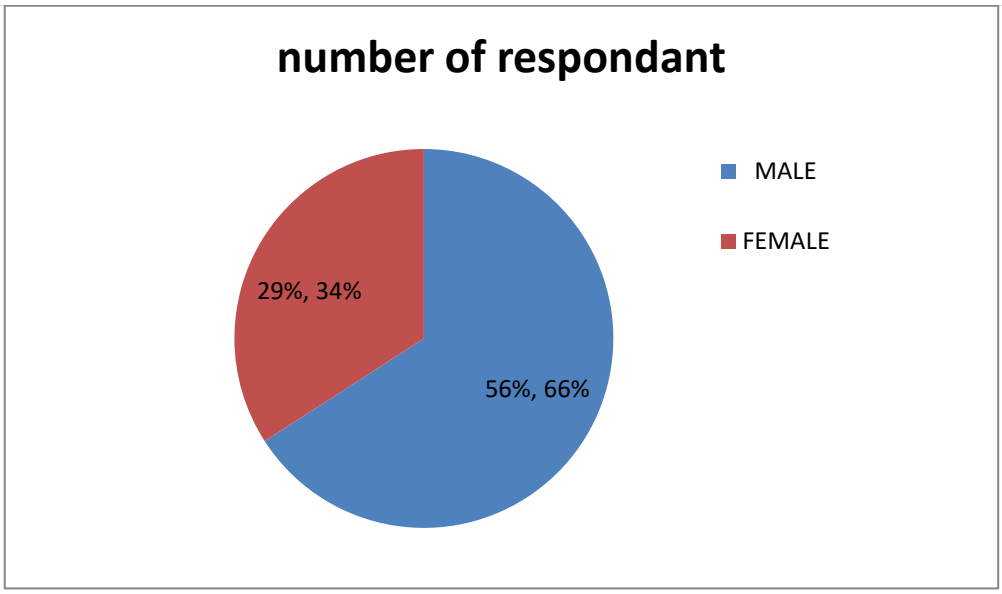


Figure 4.1. Sex distribution of the Respondent Source: - filed survey, 2023

From figure 4.1 is shows that who can respond from those males were 69% of respondents responded and 34% of respondents were female. The research was get respondents are majority is male and few numbers female.

4.1.2. Age composition of the respondent

The result of survey shows that individual was participating in different activities at different at age levels.

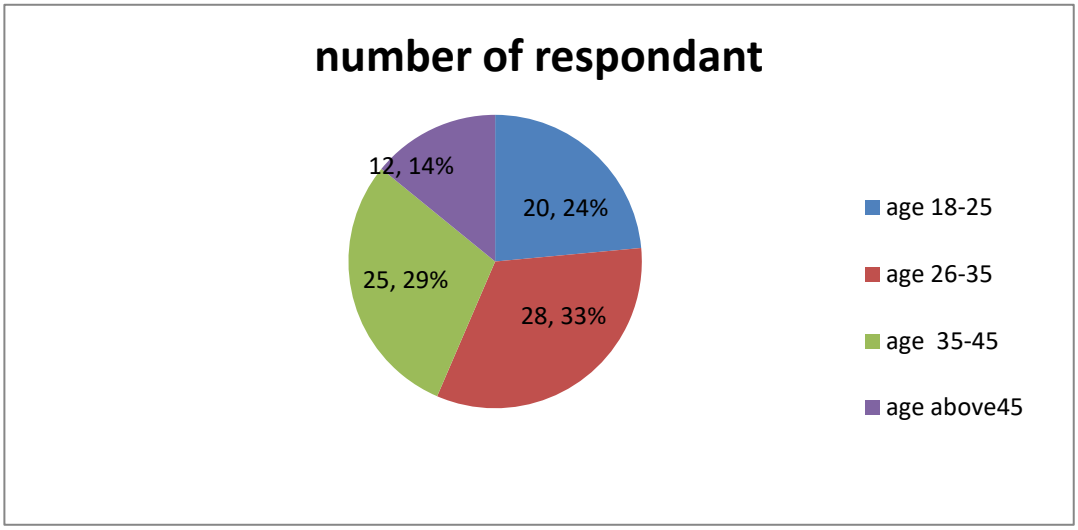


Figure 4. 2. Age composition of the respondent Source: - filed survey, 2023

As shown from figure 4.2 from the total number of 85 respondents composition age interval of 18-25 years old consists about 20 (24%) respondents 26-35 year 28 (33%) 35-45 years 25 (29%) above 45 years 12 (14%) .This indicates the larger number of respondents range between 26-35 years which are a power to assess the status of forest resource conservation practices.

4.1.3 Marital status of respondents

The marital status of the survey households can be explained as married, unmarried, divorced and widowed

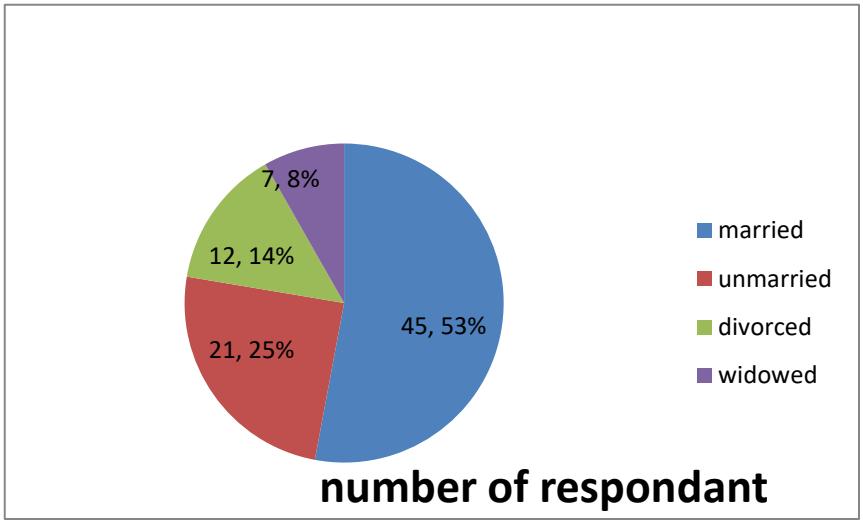


Figure 4. 3. Marital status of respondents Source:- filed survey, 2023

In the above figure 4.3 marital status shows that 45 (53%) of the sample respondents are married 21 (25%) are unmarried 12 (14%) are divorced and 7 (8%) are widowed respondents.

4.1.4 Family Size of the Respondents

Table 4.1. Family size of the respondents

Families size	**Number of respondents**	**Percentage (%)**
Single family	16	19%
2 family	24	28%
3-5 family	23	27%
Above 5 family	22	26%
Total	85	100%

Source: - Filed survey, 2023.

As show the above table 4.1, (19%) of the respondent have no families or children 23 (28%) have 1-2 family 23 (27%) have 3-5 families and 22 (26%) have above 5 families usually since existed family size those households their dependency for life income lies on forest.

4.1.5. Educational status of the respondent

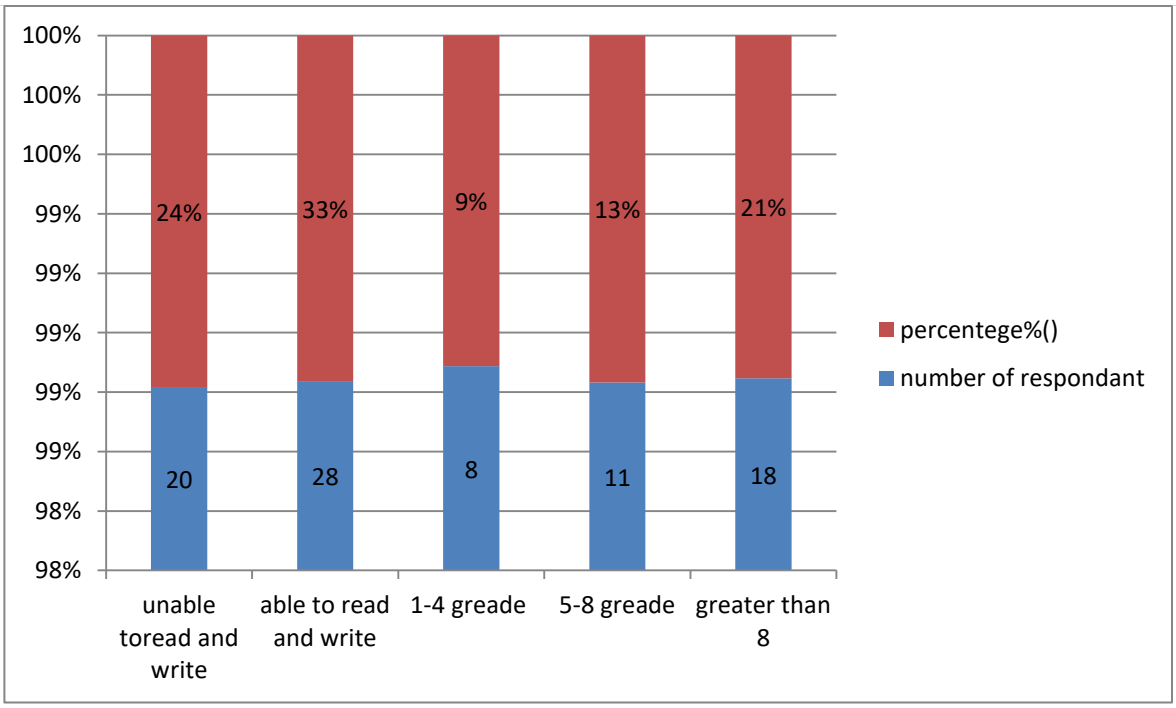


Figure 4.4. Educational status of the respondent Source: - filed survey, 2023

As the result shows in the above figure 4.4, 24% of the respondents were unable to read and write .33% of the respondents were able to read and write 9% of the respondents were 1-4 grade 12% of the respondent were 5-8 grade and 21% of the respondents were above 8 grade show that more than 64% of the respondents are below grade five.

4.1.6. Occupational status of the respondents

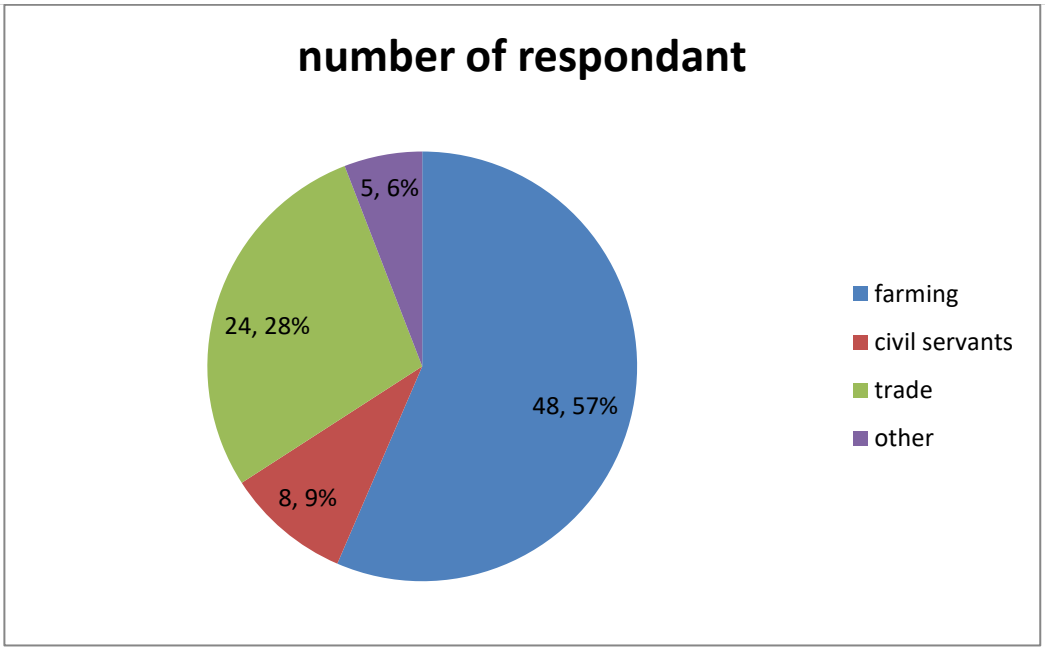


Figure 4. 5. Occupational status of the respondents Source: - filed survey, 2023

The above figure 4.5 are to indicate that of 48 (57%) of respondents are farmers 8 (9%) of respondents are civil servants 24 (28%) are trade and 5(6%) are others (non farmers) this means these are engaged outside of farming activities such as government employee and daily employee indicate forest can be destructed due to for crop production of the land.

4.1.7. Attitude towards forest resource conservation practice

Table 4. 2. Attitude of forest resource conservation practice

	Alternatives	Frequency	Percentage
Grade your awareness level about forest resource conservation	**Very high**	45	53%
	High	35	41%
	undecided	1	1%
	low	3	4%
	Very low	1	1%
	Total	85	100%

Source: - filed survey, 2023.

It indicates the above table 4.2 the total number of sample respondents 45 (53%) of strongly agree, 35(41%) of the respondents are agree,1(1%) of the respondents are strongly disagree,3(4%) of the respondents are disagree and 1(1%) of the respondents are undecided in this study area. The majority of the respondents in the study area is strongly agree in more information about forest resource conservation.

Table 4. 3. Forest resource conservation practice to conserve natural resource

Items	Alternatives	Frequency	Percentage (%)
Do you think that Forest resource conservation practice in the kebele is helpful to conserve natural resource	Strongly agree	19	22%
	Agree	30	35%
	Strongly disagree	4	5%
	Disagree	27	32%
	Undecided	5	6%
	Total	85	100%

Source: - field survey, 2023.

As it indicates the above table 4.3 out of the total number of sample respondents, about 22% of the respondents are strongly agree,35% of the respondents are agree,5% of the respondents are strongly disagree,32% Of the respondents are disagree and 6% of the respondents are undecided. Then majority of Forest resource conservation practice conserve natural resource is agree.

Table 4. 4 forest resource conservation practice is economic, socially and ecological variable

Items	Alternatives	Frequency	Percentage(%)
Do you think that Forest resource conservation practice are economic , socially and ecological variable	Strongly agree	15	18%
	Agree	34	40%
	Strongly disagree	7	8%
	Disagree	21	25%
	Undecided	8	9%
	Total	85	100%

As indicated from the above table 4.4 out of the total number of respondents were 18% was strongly agree interested in using Forest resource conservation practice are economic, socially and ecological variables,40% of the respondents were agree,8% of the respondents are strongly disagree,25% of the respondents were disagree and 9% of the respondents were undecided interested in using Forest resource conservation practice are economic, socially and ecological variables in the study area. Then the majority of the respondents in Forest resource conservation practice are economic, socially and ecological variables are agree(40%) in the study area.

Table 4. 5. Smaller farm land has influenced on forest resource conservation

	Alternatives	Frequency	Percentage
Do you think that smaller farm land has influenced on Forest resource conservation	Strongly agree	47	55%
	Agree	23	27%
	Strongly disagree	6	7%
	Disagree	6	7%
	Undecided	3	4%
	Total	85	100%

Source: - field survey, 2023.

As indicates from the above table 4.5 out of the total number of 85 respondents 55% of the respondents are strongly agree interested in using smaller farm land has influenced on Forest resource conservation,27% of the respondents were agree,7% of respondents are strongly disagree,7% of the respondents were disagree and 4% of the respondents were undecided interested in using smaller farm land has influenced on Forest resource conservation in this study area. Then the majority of the respondents in smaller farm land has influenced on Forest resource conservation was strongly agree(55%) in the study area.

4.2. Community awareness in forest resource conservation

Table 4. 6. Attend any practice on forest resource conservation

Attend about any Practice on Forest resource conservation	Number of respondents	Percentage
Yes	52	62%
No	33	38%
Total	85	100%

Source:- field survey,2023.

Table 4.6 indicates that 62% of the respondents attend about any Practice on Forest resource conservation and 38% of the respondents did not take attend any Practice on Forest resource conservation.

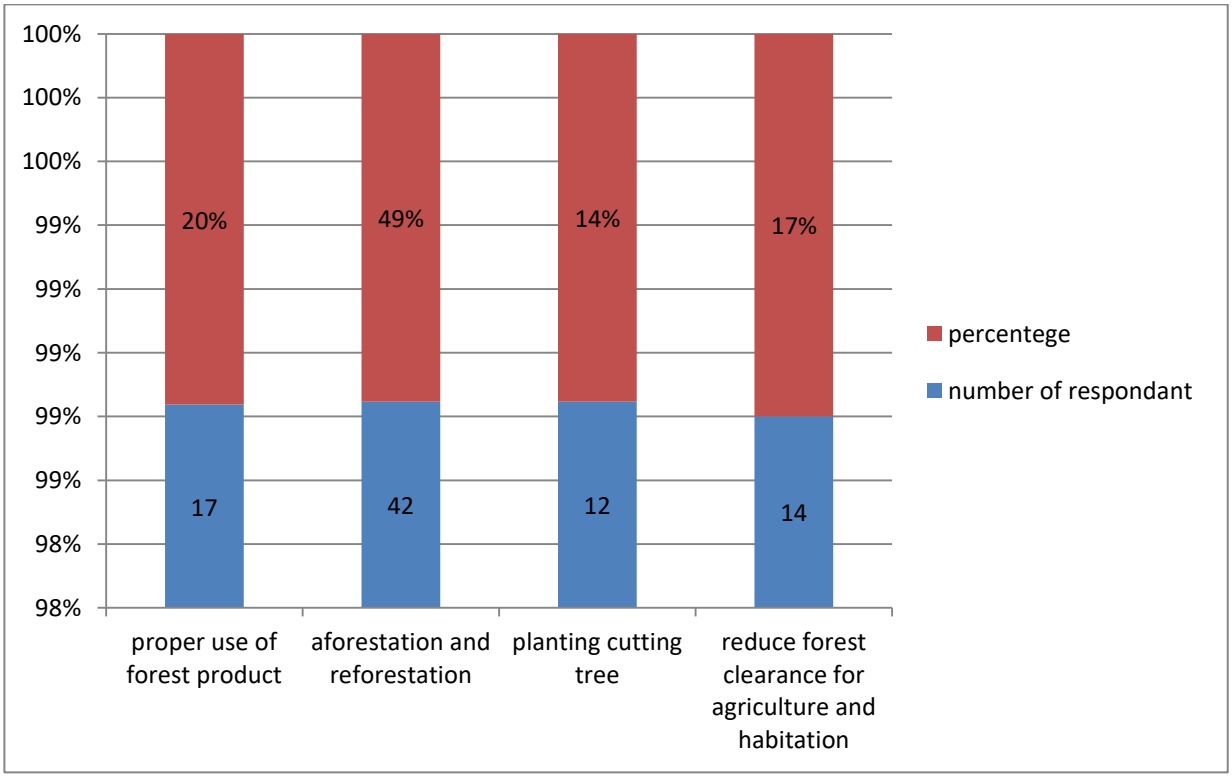


Figure 4. 6. Methods of forest resource conservation Source:- field survey,2023.

According to figure 4.6 the majority of the respondents were known the methods of Forest resource conservation. Therefore, the results indicated that 20%, 49%, 14%, and 17% of the respondents stated that proper use of Forest product, afforestation and reforestation, planned cutting tree and reduce Forest clearance for agriculture and habitation were the method of Forest resource conservation respectively.

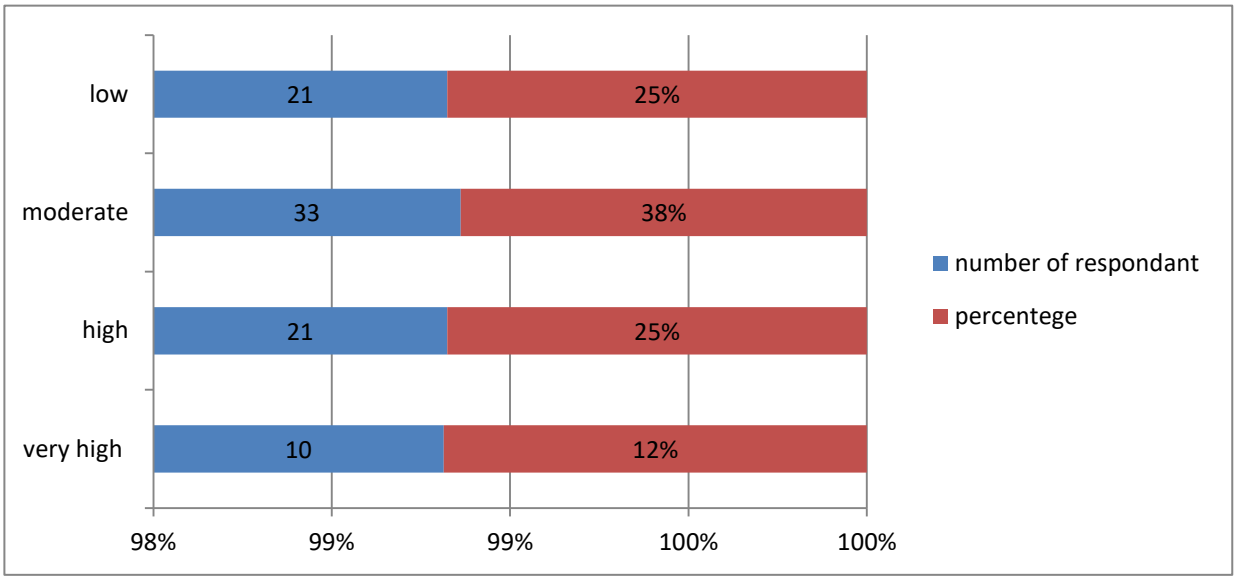


Figure 4. 7. Levels of motivation to conserve forest Source:- field survey,2023.

Figure 4.7 indicates that 12% of the respondents are very high in their motivation to conserve Forest, 25% of the respondents are high in their motivation to conserve Forest, 38% of the respondents are moderate in their motivation to conserve Forest and 25% of the respondents are low in their motivation to conserve Forest.

4.3. Economic factors related to forest resource conservation

Table 4. 7. Financial constraints engage forest resource conservation

Have you faced any financial constraints engage in Forest resource conservation activity	Number of respondents	Percentage
Yes	53	63%
No	32	37%
Total	85	100%

Table 4.7 indicates that 63% of the respondents faced any financial constraints to activity engage in Forest resource conservation and 37% of the respondents did not faced any financial constraints to activity engage in Forest resource conservation activity.

Table 4. 8. methods of financial constraints to engage in forest resource conservation activity

Methods of financial constraints to engage in Forest resource conservation activity	Number of respondents	Percentage
Through borrowing from Friends	18	21%
Through borrowing from relatives	22	26%
Through borrowing from government	45	53%
Total	85	100%

Source: - field survey, 2023.

Table 4.8 from the total number of the respondents from 21% of the respondents were through borrowing from friends in their methods of financial constraints to engage in Forest resource conservation activity,26% of the respondents were through borrowing from relatives in their methods of financial constraints to engage in Forest resource conservation activity and 53% of the respondents were through borrowing from government. The majority of this method of financial constraints to engage in Forest resource conservation is through borrowing from governments.

Table 4. 9. Factors hinders to participate on forest resource conservation

Factors hinder to participate on Forest	Number of respondents	Percentage
Lack of initiative	9	11%
Disagreement between family	8	9%
Small farm land size	22	25%
Lack of capital	20	23%
Lack of attention	8	9%
Lack of awareness about use of Forest	13	15%
Lack of expertise	7	8%
Total	85	100%

Source: - field survey, 2023.

Table 4.9 indicates that 11% of the respondents were lack of self-initiative, 9% of the respondents were disagreement between family, 25% of the respondents were small farm land size, 23% of the respondents were lack of capital, 9% of the respondents were lack of attention, 15% of the respondents were lack of awareness about use of Forest and 8% of the respondents were lack of expertise to participate about hinder factors of Forest resource conservation practice. The majority of the respondents in this study area were factor hinder to participate on Forest resource conservation are small farm land size.

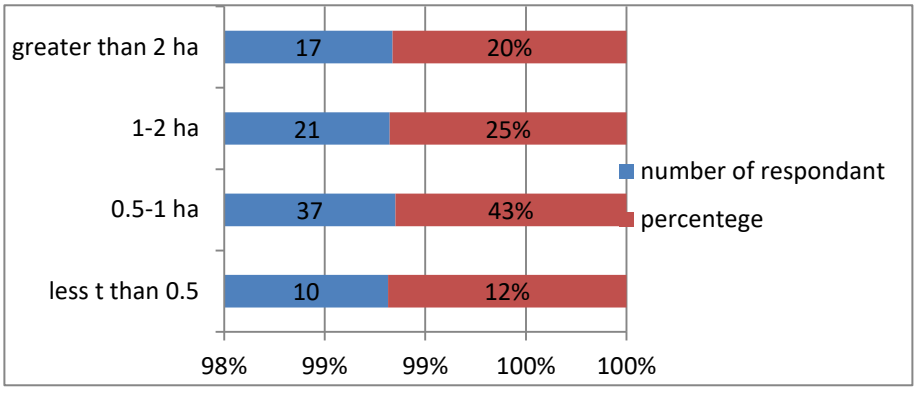


Figure 4. 8. Distribution of farm land size

As the survey of this study indicates from the above figure 4.9, 12% of the respondents were less than 0.5ha distribution of farm land size, 43% of the respondents were 1-2ha farm land size and 25% of the respondents were greater than 2 ha farm land size of the respondents in this study area. The majority of the respondents in this study area have the farm land size of 43 %(0.5-1ha) because in this study area is less farm land size than human population.

4.4. Institutional factors of forest resource conservation practice

Table 4. 10. Attend training about forest resource conservation

Attended and training about forest resource conservation	Number of respondents	Percentage
Yes	57	67%
No	28	33%
Total	85	100%

Source:- field survey,2023.

Table 4.10 Indicates that 67% of the respondents attended and training about forest resource conservation and 33% of the respondents did not attended and training about forest resource conservation practice in this study area.

Table 4. 11. Ways of getting information about forest resource conservation practice

Ways of getting information about forest resource conservation	Number of respondents	Percentage
Development agents	13	14%
woreda forestry experts	32	37%
local leaders	19	23%
other(specify)	21	25%
Total	85	100%

Source:- field survey,2023.

Based on the table 4.11 indicates that accounts 14% of development agents,37% of the woreda forestry experts,23% of local leaders and 25% others. This indicates that the majority of the respondents learn through the case of woreda forestry experts.

Table 4. 12. Types of training about forest resource conservation

Types of training	Number of respondents	Percentage
How to prepare seeding	21	25%
How to plant trees	17	19%
How to follow up	37	43%
Other(specify)	10	12%
Total	85	100%

Source: - Field survey, 2023.

Table 4.12 the majority of the respondents were known types Forest resource conservation practice. Therefore the results indicated that 25%, 43%, 12% and 10% of the respondents started that how to prepare seeding, how to plant tree, how to follow up and others were the types of Forest resource conservation practice respectively.

Table 4. 13. The need of any training related to forest resource conservation practice

Need of training related to Forest resource conservation practice	Number of respondents	Percentage
Yes	48	56%
No	37	44%
Total	85	100%

Source:- Field survey,2023.

Table 4.13 indicates that 56% of the respondents were the need of training related to Forest resource conservation practice and 44% of the respondents were do not need Of training related to Forest resource conservation practice.

Table 4. 14. Needs of training related to forest resource conservation

needs of training related to Forest resource conservation	Number of respondents	Percentage
How to conserve the plant	11	13%
Increasing the perception about forest	9	11%
uses of alternative sources	7	8%
reforestation and afforestation	10	12%
planting tree without farm land	15	18%
know about the use of Forest and learn others	18	21%
know the cause of deforestation	15	17%
Total	85	100%

Source: - field survey, 2023.

Table 4.14. indicates that 13% of the respondents were how to conserve the plant,11% of the respondents were increasing the perception about forest needs of training related to Forest resource conservation,8% of the respondents were uses of alternative sources,12% of the respondents were reforestation and afforestation needs of training related to Forest resource conservation,17% of the respondents were known the causes of deforestation,18% of the respondents were planting tree without farm land and 23% of the respondents were known about the use of Forest and learn others needs of training related to Forest resource conservation. Therefore the majority of the respondents in this study area need of training related to Forest resource conservation was known about the use of Forest and learn others.

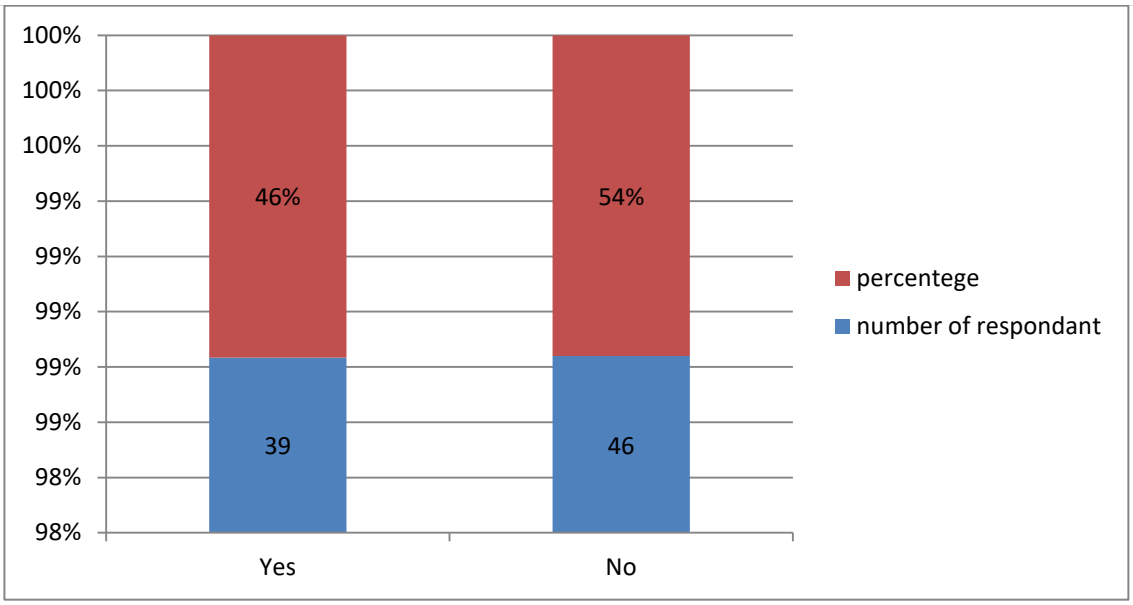


Figure 4. 9. Technical assistance to participate on forest resource conservation

Source:- field survey,2023.

Figure 4.10 Indicates that 47%of the respondents were got any technical assistance to participate on Forest resource conservation and 53% of the respondents were do not got any technical assistance to participate on Forest resource conservation.

Table 4. 15. Frequency of assistance

Frequency of assistance	Number of respondents	Percentage
Yes always	7	8%
Yes partly	32	39%
Never	46	53%
No opinion	–	–
Total	83	100%

Source:- field survey,2023.

Table 4. 15 Indicates that 8% of the respondents were always frequency of assistance,39% the respondents were never the frequency assistance and absence of the respondents were no-opinion the frequency of assistance. Therefore the majority of the frequency of the assistance will be partly (39%)of the respondents in this study area.

Chapter Five

5. Conclusions and Recommendation

5.1. Conclusions

Forest is one of huge and important natural resource on which most percentage of world population has made their livelihood on it. Especially in developing countries there communities that live with adjacent of forest are make their substantial out of this resource, but the most enemy for the natural resource destruction is people itself. So studding factors assessment of forest resource conservation is very importance or essential because without resource conservation and use it wisely, there is no sustainable development conserving forest is the conserving all other biodiversity resources Kebele 45 (worqmawucha kebele) community is one of the community of Mehalsayint Woreda they are settled around forest and its one that pioneer of dweller and dependent on forest resource by cutting down trees for fire wood and charcoal selling. The main objective of this study was assessment of forest resource conservation practice in Kebele 45(worqmawucha kebele). The predominant factors that discourage community not to use Forest wisely or in error manner without any distraction is lack of feeling ownership and absence of awareness with regarding to Forest user. The size of Forest is decreased from time to time and dominant factors for its decline is gradual increase demand of crop production that means people cleared forest covered area for different Farming activities. The community awareness about the importance of Forest resource conservation is not most surprising in farmer, but at currently they are gradually being aware of have understood the impact in existence of Forest and adverse effect of deforestation.

5.2 Recommendation

Based on the findings and results the researcher suggests the following recommendations

- Forest conservation is better for maintenance, sustainable, utilization and restoration for all human beings.
- Forest conservation is important for the maintenance of health environment and used direct for human benefit like food, medicine and energy.
- It should be better for recycling of different essential elements, for mitigation of pollution, for protection of watershed, to mitigate soil erosion and control excessive variation in Climate and catastrophic events.
- Communities were all together and willing to participate in Forest restoration community or people agreed to adopt other alternative resources could not deforestation the forest.
- Local or Keble administration of Forest and their products owing to deforestation logging population pressure or legal initiatives to reserves.
- To appropriate the privet reserve and conservation of Forest in this area.

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APPENDIX1

Wolkite University

College of social science and humanities

Department of geography and environmental studies

Questionnaires for the respondent

This is questionnaire designed to collect data on assessment of forest resource conservation practice in Mehalsayint Woreda .It will be used as an input in for thesis in partial fulfillment of bachelor degree in geography. Your genuine response will be used only for academic purpose and the data will be treated almost confidentiality. Therefore, your kindly cooperation is appreciated in advance.

Back ground of the respondents

1. Age: _____
2. Sex: Male ☐ Fema☐
3. Educational status

Certificate ☐ Diploma ☐ un able to read ☐

4. Religion

Orthodox ☐ Catholic ☐ Muslim ☐ Protestant ☐

5. Marital status

Married ☐ unmarried ☐ Divorced ☐ Widowed ☐

6. Family size

1-2 family ☐ 3-5 family ☐ 6-8 family above 8 ☐

7. Occupational status

Farming ☐ civil servant ☐ trade others ☐

II. question related to forest resource conservation practice

1. perception of the community regarding forest resource conservation practices

	strongly agree	Agree	Dis-agree	Strongly disagree	Undecided
Forest product used wisly and sustainably					
Aforestation is made					
Reforestation is made					
Agroforestry implemented					
Cutting trees is prohibited					
Human encroachement, grazing and farming is controlled					

2. Factors affecting forest resource conservation

	V. high	high	moderate	low	V. low
Extraction of fire wood affect forest resource conservation					
Extraction of charcoal affecting forest resource conservation					
Housing and related construction affect forest resource conservation					
Demand for cultivable land affect forest resource conservation					
Cattle encroachment and grazing affect forest resource conservation					
Awarness level of the community affect forest resource conservation					
socio-economic factors affect forest resource conservation					
Land holding size affect forest resource conservation					

3. The role of the local government on forest resource conservation

	Very high	high	moderate	Low	Very low
The local government propose and promote integrated/participatory forest conservation strategies					
The local government continuously communicate with the community on the necessary forest conservation interventions					
The local government foster trainings and awareness programs for stackholders.					
The local government enforce laws to control forest resource degradation.					
The local government render technical assistance on forest resource conservation for the community					

APPENDIX B INTERVIEW QUESTIONS

1. Do you think local community is participating in local forest conservation, specifically in worqmawucha kebele? How or what way they participate?
2. Does the government involve local community in worqmawucha kebele activities?
3. Do you think the responsibility, authority and right of forest management and forest ownerships are transferred to local communities of your locality? If yes, how?
4. What factors affect worqmawucha kebele practice in your locality?
5. Is there any governmental or nongovernmental organization that supports local communities in forest conservation of your locality? If yes, how and by what way they support local community?
6. What is the role of worqmawucha kebele on livelihood of local communities and the environment?
7. How does government owned forest of your locality conserve and utilized?
8. What factors can affect the conservation of government owned forest of your locality?
9. Is government owned or communal forest of your locality effective in the forest conservation practice?