CHAPTER I
INTRODUCTION

This chapter attempts to introduce some general backdrop to the crux of this study. Then the chapter advances to explain the problems this study has envisaged at the start, based on which research objectives and leading research questions were outlined. The review of related literature section is also treated in this chapter. This section seeks to demonstrate the extent and importance of forest resources as well as situations of deforestation revealed in related literatures. The review of literature section further attempts to disclose issues of forest resources across the globe in general and that of Ethiopia as well as Oromia regional state in particular. The chapter also highlights the key conceptual and theoretical frameworks centred on in this study. The chapter would come to a close by explaining some significances, limitations, ethical issues and chapter schemes of the study.

General Background

Today, we face some of the greatest environmental challenges in global history. Understanding the damage being done and the varied efforts contributing to its repair is of vital importance (Kopnina and Shoreman-Ouimet 2011). Crave to understand these issues have been leading anthropologists to fuel rigorous interest in environmental anthropology. Consequently, interest in environmental anthropology has grown steadily in recent years. The rising interest indeed has been reflecting national and international concerns about the environment and developing research priorities which focus on the interrelationship between society, culture and the environment. While the underlying ethos of environmental anthropology is anthropological, the approach is interdisciplinary (Ellen 2011).

In effect, studies made to understand people-environment interactions and the cultural mediations therein are abounding in anthropological literatures. Explicit focus on culture and environment has in fact begun to entice anthropologists since the mid twentieth century. Of particular importance in this regard appears the year 1950s pioneering cultural ecological study of Julian Steward among the Shoshonean Indians (Townsend 2000, Sutton and Anderson 2004, Haenn and Wilk 2006, Dove and Carpenter 2008). This is because it has paved the way for the recent general concerns on the general environment (Steward 1955; Milton 1996, 2006; Sutton and Anderson 2004; Haenn and Wilk 2006; Townsend 2008; Dove and Carpenter 2008). There
are also growing interests in some specialised anthropological concerns such as “globalised environmentalism” (Mehta and Weeks 2009), political ecology, historical ecology, and ethno-ecology insights (Balee 2006, Nazarea 2006, Stonich et al. 2006).

Passing across several research templates, therefore, the environmental or ecological study in anthropology has increasingly been flourishing. To all intents and purposes, the ecological concern in anthropology has already reached its third stage (processual ecological anthropology approaches), contrasting its previous two stages (Orlove 1980, 2006). The prior two stages entail the work of Julian Steward and Leslie White on one hand the neoevolutionary and neofunctionalist schools on the other. In the neoevolutionary thought cultural evolution has been deemed from very old millennial roots, which, as to Orlove (1980, 2006), is a difficult diachronic study to contemplate empirically. Neofunctionalism, however, was associated with Rappaport’s late 1960s ritual study among the Tsembaga Mering focusing on the synchronic view of cultural studies. Orlove argues that unlike its two antecedents, processual ecological anthropology has begun to emerge in recent years by merging four important features in its process of study. These include examination of demographic variables against production systems, response to environmental stresses, adaptive strategies, and emerging interest of anthropologists in political economy and structural Marxism. For Orlove, these four major components of processual ecological anthropology have never been amalgamated in the forerunners or the first two stages of ecological anthropology.

As its name indicates, processual ecological anthropology concerns environmental factors through critique of processes such as actor-models. This helps to examine shifts and changes through analysis of the processes which generate economic, political, and social relations. Orlove is of the opinion that the neofunctionalist and neoevolutionist ecological anthropology examine the interaction between populations and environments treating the latter as a passive background to the former. However, the processual ecological anthropology approaches examine these variables considering diachronic time frame rather than examining synchronic homeostatic equilibrium—neofunctionalist thought. Nor does it consider the many millennia of human history—evolutionary development. Although processual ecological anthropology is a reaction to neofunctionalist and neoevolutionary approaches, which were also responses to the pioneer
work of Julian Steward and Leslie White (Orlove 2006), considering the core of Steward’s theory is useful for its relevance to this study.

Steward (2008) concludes that the forest environment plays an important role in the sociocultural lives of the Shoshonean Indians. The Shoshonean Indians utilise the environment for hunting different games in which they require to make desirable cooperation. The most important cooperation among the people consisted of collective hunts. And in these hunts rabbits, antelope, deer, and mud hens were the principal species taken. This study of Steward had inspired other anthropological researches among diverse cultures and societies across the world so that cultural ecological studies were proliferating afterwards.

Literatures also reveal that human beings have been shaping and reshaping the planet earth through application of more advanced but more impinging cultural or technological encroachment. According to some writers, this ranges from the hunter-gatherer’s environmentally more benign rudimentary technology to the current more destructive advanced technological stance. Thus, unless some pertinent measures are taken such as integrating the needs of the unborn and environmental integrity into modern lifestyles, the available natural resources would sooner or later be ruined (Schroth et al. 2004, Sutton and Anderson 2004).

The role of anthropologists is of paramount importance in environmental studies and discourse. Milton (1996) retorts that anthropologists need to engage not just in environmental studies but more importantly in environmental discourses. Through this strategy, anthropologists might more likely influence widely existing assumptions like the debate around anthropocentric and ecocentric views in searching remedy for environmental ills. This could help in gaining relevant policies and practices for sound environmental actions. Milton, in this sense, insists on a quest for integration of the views of indigenous groups in environmental issues.

Dove and Carpenter (2008) also view anthropology and anthropologists as essential requirements in environmental concerns. A nearly similar contention was further provided by Haenn and Wilk (2006). Arguments in these anthropological works are wide-ranging and their abounding evidences open out an increasing concern of anthropologists in environmental issues.
Statement of the Problem

The present study was inspired by an interest to examine the realm of one entity of the environment in Horro Guduru. It deals with forest resources, their deforestation, and pertinent state and local peoples’ customary interactions with these resources. The research work sets out from practical observations made across the cultural ecology of the Oromo of Horro Guduru, apart from employing series of interviews, case studies, and archival investigations.

The actions that people exert and the behaviour they exhibit in their geographic environments, chiefly their interaction with the forest environments, are largely influenced by their customary knowledge systems. Nevertheless, these do not appear to have engrossed as much attention as they should deserve. This may be what the Ethiopian society in general and that of the Oromo nation in particular share in common with all other human communities on earth. The problems that this yields, however, appear multifaceted and fearsome to the Ethiopian context than they might be to some other communities of the world. This is because the livelihoods of most Ethiopian societies directly depend more on the interplay between customary knowledge systems and nature than the ways of life among other societies of the globe. For that matter, the developed west principally depends on scientific and technological knowledge than the virtue of nature (Miller 1990, Milton 1996, Sutton and Anderson 2004, Haenn and Wilk 2006, Dove and Carpenter 2008).

It was realised that the challenges that Ethiopia in general and Oromia in specific currently face vis-à-vis the natural forest environments have been mainly rooted in one major factor: lack of attention for indigenous communities and their customary knowledge systems about the natural environment. In an attempt to identify the root causes of the interwoven environmental problems the country faces nowadays and to sort out possible solutions, researchers used to devote much of their efforts to the prevailing socioeconomic activities of the people (Workineh 2001, Getachew 2007, Tenna 2009). But little or no vital attention was paid to the entrenched cultural practices of diverse peoples living in diverse ecologies in the country.

Lack of momentous attention to local customs and the wider natural environment in Ethiopia is an old aged story (Workineh 2001, Melaku 2008). As such, local customs and associated natural forest environments had ever been encroached due to overlaying of external forces during three distinct state administrative systems in the country. These entail the imperial
state’s entwined politico-religious institutional setup (1880s to 1974), socialist ideology of the military regime (1974 to 1991), and the current infant federal and decentralised system of governance (1991 to present). Hence, this extended gap in attention for local knowledge systems and related forest environments had been vitiating healthy functioning of diverse traditional ecological knowledge systems. Except for the latter, the former two state ideological stands were unable to incorporate the value of customary knowledge systems in their constitutions. The latter per se was yet bungling to safeguard and promote local institutions for environmental causes. This was despite its unprecedented constitutional provision which permits and endorses freedom of culture and religion in the country since 1995; thereby promoting indigenous knowledge systems.

As the foregoing chronological outline indicates, the imperial era was more impinging and old aged administrative system which the present researcher calls notorious reign of “stretched entwined politico-religious institution”. This institution had been masterminded by few Amhara imperial lords and superimposed over the indigenous knowledge systems of diverse Ethiopian ethnic groups including the Oromo for unbearable periods, though the Oromo were the largest ethnic group in Ethiopia (Mohammed 1990, Gemechu and Assefa 2006, FDRE 2010). Thus, it has been sponsored for long by the long aged imperial rule of the country. As it was unleashed for a little more than a century throughout an ethnically diverse Ethiopia where more than eighty different ethnic groups reside, the historical anachronistic of this imperial rule had got razing impacts on the indigenous knowledge systems of such diverse cultures. This system, as an imperial rule, used to rest on Judeo-Christian politico-religious systems since time immemorial. The Judeo-Christian politico-religious systems firmly believe in the superiority of the Jewish race and Christian nations over the other. It was by keeping most of its reliance on this alien system that the imperial rule had been grafted on exceedingly diverse cultures in Ethiopia for almost excruciating period of time. In Horro Guduru, this was a phenomenon since the last quarter of the nineteenth century (Guluma 1996, Samuel 1998, Ginbar 2010, Dessalegn 2010). Afterwards, it was sprawling across a wide range of generations and its anachronistic impact is still pervasive at least in matters of sustainable forest resources ownership and custody.

As the anachronistic impact of the past entwined politico-religious institutions pervades almost all realms of life in Horro Guduru, customary interactions with the natural environments
such as forests could have never escaped the detriment. The imposed system in the area for stretched periods used to uproot indigenous ways of life and install Judeo-Christian religious practices to suit imperial administration. As a result, the indigenous communities had been experiencing taking up of alien culture and giving up of their own traditions wherein they were inept to practice their own makings in the long run. In due course, these communities faced impoverished social, economic, political, cultural and religious status due to reckless enslavement (Samuel 1998, Assefa 1999, Ginbar 2010, Dessalegn, 2010). There was also decline in the carrying capacity of their natural resources due to increase in human population over years. The imperial rule had pursued a policy of establishing colonial settlements and deployment of thousands of feudal lords (Samuel 1998) at various hitherto unexploited places of the area; just under the disguise of “developing and civilising” the area and the people.

Prolonged intrusion of imperial settlers into Horro Guduru had actually paved the way for the current unprecedented decline in the availability of forest resources. Thus, the current unprecedented deforestation has been reinforced by unprecedented rise in population of the area recently. Unprecedented rise in population, in fact, appears a cross-cutting issue all over Ethiopia. Ethiopia has currently become the second most populous country in Africa, next to Nigeria (Meheret 2008). This is because of high fertility and declining mortality rate (Getachew 2008, Brown, Gray and Brain 2006).

Worse enough, Ethiopia is one of the three countries of the world which would face a tripling population size in the next half century; the other two are Nigeria and Pakistan (Brown, Gray and Brain 2006). The current fertility rate in these countries ranges from under six children per woman in Pakistan to nearly seven in Ethiopia. This figure is alarming in the midst of highly declining resource available to feed rising human population.

Coupled with abject poverty of the rural mass, the recent lofty records in population growth in Horro Guduru is indeed deleterious to sustainable utilisation and protection of its remaining forest resources. Young generations or new households have been emerging from time to time. Most of them have no livelihood options other than agriculture. But they have no legally granted land for agriculture as there has been little or lack of periodic land redistribution in the area to date. In effect, these classes of the population, who are assuming and would soon shoulder parental and societal responsibilities, have become disastrous destroyers of the
remaining natural forests of the area. This was so mainly because of their quest for arable land. The fact that such emerging generations used to accompany the traditional ways of unevenly fragmented rural settlement patterns also created another severe. This issue was often an overlooked challenge against systematic and reliable forest protection and utilisation. All these problems seem to have their roots from the past imperial administrative injustices wrought in the area and current manifestations in institutional setbacks. Other than the already explained ones, the following factors are the main problems which have necessitated this research.

Local realities expose that forest resources are very essential to meet the livelihoods and basic necessities of the rural mass in Ethiopia. Nevertheless, these resources had been sternly dwindling in response to population increase and the consequential rising demand for agricultural land (Bezuayehu et al. 2002, Dechassa and Perault 2002). In fact, some pertinent efforts are presumably underway in the country nowadays. Research on environmental issues is being encouraged. Forest resources institutions are being established at several state structures. But much more is still lacking. For example, in Oromia, very limited or no research undertakings have been done by blending multiple uses of forest resources, harms against wise utilisation of these resources, and the dynamics of forest resources institutions—both the formal and informal ones.

Of course, the researcher has got the opportunity to appraise some studies contributed on forests in Oromia. These studies demonstrate that forest resources are essential to underneath local livelihoods other than their ecological roles (Workineh 2001, Geremw 2007, Getachew 2007). Overall, the assertion of these authors is consistent with the facts revealed in other studies such as those of Miller (1990), Milton (1996) and Sutton and Anderson (2004) that forests are essential to local livelihoods. They supply fodder, energy, and alternative incomes. In recent times, several studies like Brosius (2006) and FRA (2010) have also assent to the assertion that forest resources are immensely valuable to life systems in general and humans in particular. The particular emphasis on humans here is because they do not make mere use of forest resources as natural as they are. Humans modify and utilise forest resources for various purposes through cultural mediation. Available ethnographic studies in Oromia mostly concede to this claim (Geremew 2007, Getachew 2007) and corroborate traditional Oromo attitudes to be pertinent in sound environmental management (Workineh 2001).
Getachew (2007) has made a study on whether people and culture matter in the conservation of parks, by taking Nechi Sar national park in Southern Oromia as a case in focus. As he contends, states less likely have the sympathy to care for local customs and peoples whenever they evict the local people from the sites planned for national parks. The state devises and implements conservation policy which encroach local peoples’ traditional connection with the natural environment. Consequently, there has been razing effect on the local community as they were deprived of their rights to cultural survival and cultural heritages. Geremew (2007) took the case of Andooddee Diichoo environs of western Oromia and came with the conclusion that expansion of resettlements and interethnic competition over forestlands had led to almost complete destruction of forests resources.

With regard to the Horro Guduru forest panorama, ethnographic study of any sort, whether on the past trends and the current forest status or ongoing forest destruction, is lacking. The present researcher has come to this conclusion based on two basic assumptions. One, he has consulted and appraised available literatures such as the preceding ones on forest studies in Oromia; these studies remain silent concerning the increasing deforestation and forestland transformation in Horro Guduru. Second, he has undertaken a preliminary study, from May to August 2010, through casual observations and interviews in the area, which revealed lack of any research on forest resources, deforestation, forest policy and local customs in Horro Guduru. The preliminary study has shown that forest resources are crucial resources among the local population and some natural forests/trees had ever been considered shrines helping sustainable protection of such scenes.

The Horro Guduru hosts two big and relatively dense natural forest ecozones in its Horro and Abee Dongoro districts and numerous forest patches in almost all over its nine districts. In addition, it has been inhabited by nature venerating indigenous communities, the Oromo. However, the researcher has observed that these forest ecozones have been facing severe deforestation though not yet formally acknowledged. Therefore, lack of research on the problems being faced and disregard from the state to at least acknowledge the status of forest resources appear to have exacerbated the problems. This study was concerned with anthropological inquiry into these problems to contribute its part to the cause of local people-forest interactions. Critical inquiry at least to understand, explain and document the scenario is needed before those
traditionally maintained natural forest resources and the local customs attached to them are abandoned. It is mainly from this vantage point that the present study was conceived to anthropologically investigate a blend of four major domains about forests: forest resources, deforestation, forest policy and local customs.

As indicated above, the research problem sets out from the practical problems being experienced in Horro Guduru. On one hand, people dwelling in this area had been destroying forests at least for the whole period of the last century, especially to meet their livelihoods. The impacts of their actions on these resources have not yet been studied. On the other hand, the area witnesses some environment-friendly customary practices. These include local level belief systems conditioned in the milieu of the Oromo people who are indigenous to Horro Guduru. In Oromo belief systems, some huge trees like qilxuu (Ficus vasta), harbiiu (Ficus sur), birbirsa (Podocarpus procera), hoomii (Pygeum africanum), somboo (Ekeberigia capeusis), baddeessua (Syzygium guineense) and ejersa (Prunus africanom) are considered sacred. Further, the indigenous people had also been attaching cultural importance to some natural forests such as Caato (covers approximately 11,900 ha (hectares)) and groves as well. Caato is the biggest natural as well as cultural forest in the area. The local communities uphold the sacredness of these scenes by observing annual rituals in favour of their safuu (propriety) and ayyaana (guardian spirit) believed to indwell them.

It may be safe to indicate here that all customary practices of the Oromo have always been dictated by their safuu knowledge system about nature in general. Safuu refers to indigenous lore which often configures a complex web of wisdom-ethical-moral code of conduct cognised in one’s mental setup as part of the Oromo society. For centuries, safuu based local customs have been sustained in concord with the natural environment. Unfortunately, they also appear to have been suffering from multiple factors including state laxity to care for indigenous traditions, which has been wrought typically because of unidirectional top-down intervention approaches. The state since 1870s had been centred on entwined politico-religious domination of local knowledge systems. For the state, indigenous belief systems might be viewed as unscientific, incompetent and resistant to modern spirit of development (Workineh 2001, Tenna 2009). Workineh argues, “Traditional practices in Ethiopia are mostly conceived as primitive, irrational, unsystematic, and imprecise so that they hinder development.” There has also been
problem of foreign religious encroachment, particularly since 1990s. This has been attributed to rampant and prevalent interference of Protestantism in indigenous belief systems. For foreign religious practitioners such as Protestantism, indigenous customs could have been assumed as demonic practices. The environment-friendly customs of the Horro Guduru milieu had been suffering from bundles of such intrusions. Yet, they did not get adequate institutional and research attention.

Since the inception of the imperial period in Ethiopia, forest resources were one-sidedly called natural resources despite possibilities that they could also be called cultural resources. Forest resources ownership and custody have theoretically remained under the jurisdiction of a single national unit at the centre (Gebrehiwot 2007, Melaku 2008). This was so despite the prevalence of quite diverse local environments and numerous cultural backgrounds which might have special attachments to natural forests/trees. The hitherto Ethiopian formal institutions, as such, appear to have less or no room to recognise natural forests/trees as cultural resources of indigenous communities. Nor have they ever been maintaining indigenous traditions as markers of distinctive identities and historical as well as cultural heritages of those communities.

Forest policies and legislations as such urge for the realisation of the claim that all natural resources belong to exclusive domain of central state property. Such policies have been attempted several times to meet desired targets but they were witnessing persistent failures at local levels (Melaku 2008). Reasons could be many. As regard to wise use of forest resources the main reasons can be categorised in the following three interrelated ways. One, the policies appear insensitive to local people and their customary practices. Despite such insensitivity being apparent in state policies, local people and their customs have always lived inseparable. Second, formal policies were witnessing serious inconsistencies. Policies which can influence forest exploitation and protection in one way or another, for example, agricultural, environmental, and forest policies need at least implicit cross reference for sound forest resources protection and utilisation. But this has never seemed to have been the case in the policies being endeavoured to be implemented in local settings such as the Horro Guduru. Finally, it seems that implementation of forest policies at the local level appear a merely hovering balloon in the air. That is, although forest policies were being formulated with the prime aim to maintaining sustainable utilisation and protection of forest resources, until now they were unable to arrive on this target. Why?
was perhaps due to lack of genuine commitment from local authorities to execute the policies and because of failure to duly consider indigenous institutions and communities in the policies themselves. The cumulative effect, however, was being lingering deforestation which has often been instigated by the local communities to meet various livelihood purposes. Be it what may, the present study has tried to demonstrate some important aspects of these and related problems.

The researcher has got some justifications to conduct the present research in the site under concern. In other words, the reason why this research has been carried out on the problem under discussion and in Horro Guduru of Oromia regional state in Ethiopia was because of some underpinnings. One was related to personal and theoretical interests, and the other was related to desire to challenge policy and practice. In a nutshell, for questions “why the topic and why the site?” the major reasons were twofold. First, the researcher has cultural acquaintance and anthropological curiosity in relation to the present study. He has been familiar with the area’s culture and interested to reveal his anthropological curiosity by conducting study on forest resources and their deforestation vis-à-vis local customs and forest policy enveloping the locale under study. Familiarity with the culture has enabled him in many ways: 1) easily addressing key informants, 2) easily accessing degraded areas just using former knowledge of the site, which could, in turn, has contributed in 3) saving the potential time that could otherwise be spent on problem of culture shock and rapport making. The other is that the Horro Guduru hosts both vast array of lost forestlands and relatively intact ones. It was earlier in his preliminary study of the area that the researcher was able to realise these scenarios. Reasons for large forest lose were partly because of alterations in customary practices and partly for fluxes, gaps and weaknesses in state institutions or policies; apart from population increase. What have been examined in this study, therefore, revolve round these issues.

Review of Literature

The researcher has reviewed relevant articles and findings from books, journals and website sources and discussed them under five main sections. These are man-forest interactions in history; recent extent of forest resources in the world, Ethiopia and Oromia regional state; the manifold importance of forests; causes and consequences of deforestation; and forest resources institutions.
Man-Forest Interactions: The Way Back in Succinct

Questions of how people symbolise, modify, and adapt to their immediate surroundings have intrigued anthropologists since the discipline’s earliest days (Haenn and Wilk 2006, Steward 2006). Clear recognition in this regard is, however, the important studies unfolded in the early twentieth century, especially Julian Steward’s work dating from the 1950s. Steward’s work has been helping anthropologists in their explicit environmental query perhaps because his ideas have had an enduring effect on anthropological approaches to the environment (Haenn and Wilk 2006).

Yet, the beginning of man-forest interactions could have been traced back to the pre-agricultural period of hunter-gatherer economy (Milton 1996, Sutton and Anderson 2004, Haenn and Wilk 2006). In pre-agricultural times, common means of livelihood appears to have relied on forests and forest resources. Nevertheless, the rate of deforestation had remained insignificant as compared to the later period of agricultural economy (Miller 1990, Milton 1996, Sutton and Anderson 2004). The turn of agriculture with its culmination into high population explosion and application of modern technology pushed anthropogenic deforestation to catastrophic level (Sutton and Anderson 2004). For Steward (2006), adaptive processes to the general environment could have resulted in deforestation and other environmental changes or ecological upshots. But in the adaptive processes attention was directed not simply to the human community as part of the total web of life. But it was to such cultural features as are affected by the adaptations. This in turn requires that primary attention need to be paid only to relevant environmental features rather than to the web of life for its own sake. Only those features to which the local culture ascribes importance need to be considered (Steward 2006).

The question of whether culture is a dominant factor over nature or the vice versa has begun to seize anthropological perspectives just in the due course of anthropological concern on man-environment interactions. While some argue favouring the power of nature over culture (van Beek and Banga 1992; Milton 1996; Byers, Robert and Andrew 2001) others contend in favour of culture’s detrimental role on nature (Miller 1990). Whereas, a vast array of ethnographic evidences agree on the existence of a kind of mutual co-existence among nature and culture, nature’s power over culture and vice versa. The former view can be understood as a
kind of humans’ symbiotic relationship with nature including forests while the latter reveals the destructive role of culture against nature.

As already indicated, thus, the onset of cultural traditions in perceiving forests as resources goes back to the early hunter-gatherers when most humans are omnivores and most primarily live on seeds and roots (Sutton and Anderson 2004). The early gatherers subsist on gathering and this has been defined as the collection of wild plants and small land fauna. Gathering primarily involves the collection of plant or forest resources. This process ultimately led to domestication of certain plants for human advantage, particularly through agriculture. Agriculture had helped human beings further transform mother earth than hunter-gatherers did. The most significant impact of agriculture on the natural environment was the transformation of landscapes, which resulted in an overall decrease in biodiversity (Sutton and Anderson 2004, Chivian and Bernstein 2008). This could imply the story of human culture that had been changing since time immemorial having not simply positive impacts but also destructive effect on the natural environment.

Forests become resources if and only if they are culturally loaded with such insight. There should be cultural mediation or appropriation for one thing to be conceived and utilised as a resource. Wood, for example, is used for making furniture. Furniture is more valuable than wood because the form has been changed substantially from raw material (wood) to the finished product (furniture). And any material which can be transformed in a way that it becomes more valuable and useful can be termed as a resource. Hence, it is possible to obtain valuable items from any potential resources with the mediatory role of culture. In this connection, forests and the materials they comprise are resources so that on the whole one can call them forest resources. It should be noted, however, that any material may be termed as a resource provided that an appropriate knowledge and technology, or culture in short, is available to transform it into more valuable goods and services. This implies the non-existence of resources in the absence of culture. In other words, resources are not simply there but they would become through application of culture. This means that any part of nature could become a resource when people perceive it as having a function or utility and value (Bebarta 2004).

The functional utility and value of forest resources often results in deforestation of these resources. Increasing demand for valuable forest-based biodiversity, fuelwood, construction
materials, and forest ecotone compels anthropos to destroy forest resources. Even a change in technology or increased demand may lead to renewed pressure on the resources and it may initiate a cascade of negative changes leading to final exclusion of the resource from the earth (Bebarta 2004). This is true when a forest resource is removed at a faster rate than it is replenished by biological processes whereby degradation and denudation set in. Thus, it could be realised that anthropos’ relation to forest resources has record of negative pre-historical and historical ecologies.

Sources further demonstrate that human beings have begun to destroy forest resources since their evolution (Sutton and Anderson 2004). Although it is often claimed as environmentally noble act (Nazarea 2006, Hames 2007), the behaviour of hunter-gatherers had mostly relied on a sort of uninterrupted killing of wild animals and extracting wild plants for subsistence which all were forest resources.

Prehistoric accounts show that small scale deforestation was practiced by some societies for tens of thousands of years before the beginnings of civilisation. In this sense, the first evidence of deforestation appears in the Mesolithic period. The time was probably used to convert closed forests into more open ecosystems favourable to game animals. With the advent of agriculture, larger areas began to be deforested, and fire became the prime tool to clear land for crops. Stone axes were being made from about 3000 B.C. (Before Christ) not just from flint, but from a wide variety of hard rocks from across Britain and North America as well. This step not only increased the mechanical strength of the axe, but also made penetration of wood easier. Later, the Neolithic period saw extensive deforestation for farming land [through application of iron tools] (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

The scenario of deforestation during the historical era could be seen in two ways: those relatively less scale occurrences in the pre-industrial history and the more pervasive one in the industrial era. Throughout most of history, humans were hunter gatherers who hunted within forests (Steward 2006). In most areas, such as the Amazon, the tropics, Central America, and the Caribbean, only after shortages of wood and other forest products occur are policies implemented to ensure forest resources are used in a sustainable manner. This hints to factors for the inception of policies for sustainable utilisation of forest resources in the far-flung periods.
In the pre-industrial history most of the population subsisted on the agricultural sector. The main pressure in most areas during this period remained land clearing for crop and cattle farming. Enough wild green was usually left standing (and partially used, e.g. to collect firewood, timber and fruits) for wildlife to remain viable. Especially in Euroamerica, the elite’s (nobility and higher clergy) protection of their own hunting privileges and game often protected significant woodlands. Major parts in the spread of the population were played by monastical ‘pioneering’ (especially by the Benedictine and commercial orders). Some feudal lords were recruiting farmers to settle (and become tax payers) by offering relatively good legal and fiscal conditions. Even when speculators sought to encourage towns, settlers needed an agricultural belt around or sometimes within defensive walls. Sometimes abandoned settlements could lead to the land reclaimed by nature, but the secondary forests usually lacked the original biodiversity (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

From 1100 to 1500 A.D. (Anno Domini) significant deforestation took place in Western Europe as a result of the expanding human population. The large-scale building of wooden sailing ships by European (coastal) naval owners since the fifteenth century for exploration, colonisation, slave trade and other trade on the high seas consumed many forest resources. Piracy also contributed to the over harvesting of forests, as in Spain. This led to a weakening of the domestic economy after Columbus’ discovery of America, as the economy became dependent on colonial activities such as plundering, mining, cattle, plantations, and trade. The effects of late medieval deforestation applies equally well to Early Modern Europe: Europeans had lived in the midst of vast forests throughout the earlier medieval centuries. After 1250 they became so skilled at deforestation that by 1500 they were running short of wood for heating and cooking. They were faced with a nutritional decline because of the elimination of the generous supply of wild game that had inhabited the now disappearing forests, which throughout medieval times had provided the staple of their carnivorous high-protein diet. By the end of the fifteenth century, Europe was on the edge of a fuel and nutritional disaster [from] which it was saved in the sixteenth century only by the burning of soft coal and the cultivation of potatoes and maize (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

The industrial era has shown more significant deforestation. Global deforestation sharply accelerated around 1852. The preceding website source reveals the rates that about half of the
Earth’s mature tropical forests—between 7.5 million and 8 million km² of the original 15 million to 16 million km² that until 1947 covered the planet—have now been cleared. On the basis of this rate, it was predicted that, unless significant measures are taken on a worldwide basis, by 2030 there will only be ten per cent remaining, with another ten per cent in a degraded condition; 80 per cent will have been lost. Along with them hundreds of thousands of irreplaceable species will be gone (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

But estimates vary widely as to the extent of tropical deforestation. However, it was shown that one-fifth of the world’s tropical rainforest has been destroyed between 1960 and 1990. Rainforests 50 years ago covered 14 per cent of the world’s land surface; now only cover 5-7 per cent and all tropical forests including the Amazon rainforest will be gone by the middle of the 21st century. Pertinent measures to withhold this nasty face of deforestation could entail seeking out and protecting old growth forests that have not been disturbed to date (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

The 2003 report by the United Nations Food and Agriculture Organization (FAO) estimates that although the Earth’s total forest area continues to decrease at about 13 million ha per year, the global rate of deforestation has recently been slowing. FAO’s figure is based on a definition of a forest area with a minimum of 10 per cent actual tree cover, which would therefore include areas that are actually savanna-like ecosystems and badly damaged forests. But others claim that rainforests are being destroyed at an ever-quickening pace. Critics of this data which depends on such kind of forest definition threshold point out that FAO does not distinguish between forest types. Moreover, FAO’s data are largely based on reports from forestry departments of individual countries which do not take into account unofficial activities like illegal logging (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

Despite these uncertainties, destruction of rainforests remains a significant environmental problem. Up to 90 per cent of West Africa’s coastal rainforests, for example, have disappeared since 1900. At the same time, about 88 per cent of the rainforests have been lost in South Asia. Much of what remains of the world’s rainforests is in the Amazon basin, where the Amazon rainforest covers approximately 4 million km². The regions with the highest tropical deforestation rate between 2000 and 2005 were tropical Asia and Central America, which lost 1.3 per cent of its forests each year. In Central America, two-thirds of lowland tropical forests
have been turned into pasture since 1950 and 40 per cent of all the rainforests have been lost in the last 40 years. Brazil has lost 90-95 per cent of its Mata Atlantica forest in the same period. Likewise, Madagascar has lost 90 per cent of its eastern rainforests. As of 2007, less than 1 per cent of Haiti’s forests remained. Whereas Mexico, India, the Philippines, Indonesia, Thailand, Myanmar, Malaysia, Bangladesh, China, Sri Lanka, Laos, Nigeria, Democratic Republic of Congo, Liberia, Guinea, Ghana, and the Cote d’Ivoire have lost large areas of their rainforest. In effect, several countries, notably Brazil, have declared their deforestation a national emergency in recent years (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

**Extent of Forest Resources: Global Overview**

The knowledge on the extent of global forest resources is limited. The estimation of forest area in the last century shows so much contrast that the total extent of forests varied from 3,000 to over 6,000 million ha. That means the estimate of forest area varied from 20 to 45 per cent of the total land surface of the globe (Bebarta 2004).

Different persons and organisations have been providing different estimates on the forest cover of the world. The reason for conflicting estimations has primarily been attributed to lack of single definition for the area termed as forests in the world. More to it, the terms like closed and open forests, forests and woodlands, land under shifting cultivation and agriculture have further increased the confusion. Another reason for such a wide variation might be the method and technology of estimation used (FRA 2001). According to the year 2000 study by the Global Forest Resources Assessment (FRA), the world has about 3,869 million ha of forests, which is about 37 per cent forest cover (FAO 2009). Out of this, 95 per cent are natural and the rest are forest plantation. However, the report of FRA (2010) shows that the earth has been left with an approximate figure of 31 per cent forest cover, but it maintains that the approximate figure of 0.6 ha per capita of world forest cover was as in the decade before. Nevertheless, when one stares at FRA’s reports of the last three decades, the earth has been witnessing a rise in its forest cover (Chart 1.1).
Chart 1.1 shows that the current status of global forest resources is over 4 billion ha, whereas it was 3.4 and 3.9 ha in 1990 and 2000 respectively. The reason for the current rise is attributed to large-scale planting of trees, which has been significantly reducing the net loss of forest area globally. In other words, afforestation and natural expansion of forests in some countries and regions have reduced the net loss of forest area significantly at the global level (FRA 2010). This report maintains that the rate of deforestation has also shown signs of decreasing, but is still alarmingly high. Deforestation, mainly the conversion of tropical forest to agricultural land, shows signs of decreasing in several countries but continues at a high rate in others. Around 13 million ha of forest were converted to other uses or lost through natural causes each year in the last decade compared with 16 million ha per year in the 1990s. Both Brazil and Indonesia, which had the highest net loss of forest in the 1990s, have significantly reduced their rate of loss (FRA 2010).

Increase in the current figure of global forest cover might have also been the work of changes in defining an area called forestland, particularly by FRA. In the past, forest often refers to an area covered with tree crown of at least 10 per cent, which often refers to natural forests (FAO 2003). Present conceptualisation of forest area has, however, begun to incorporate woodlands of various kinds including plantation forest. It seems that a cumulative effect of the above two major contributing factors (afforestation and natural expansion of forests) and
modifications being reflected in defining a forest is responsible for the current alleged rise in global forest cover.

Nevertheless, one may query why FRA keeps on modifying the definition of a forest? The 2010 FRA report contends that this is mainly because nowadays interest in the world’s forests has grown to unprecedented heights, especially with growing awareness of their role in the global carbon cycle. Some factors highlight the essential role of forests in supporting life on Earth. One is related to their capability or possibility of mitigating climate change by reducing carbon emissions caused by deforestation and forest degradation, and the other is by increasing carbon uptake through afforestation and sustainable forest management. But forests are more than just carbon. They are ecological depot or immense warehouse of biodiversity. Forests represent some of the most diverse ecosystems on Earth. Even in a time of economic crisis, the world is also reminded that forests provide employment and livelihoods for a large proportion of the population, especially in developing countries and often act as an economic safety net in times of need (FRA 2010). Nowadays, these roles of forests is being recognised, but what is not yet vividly acknowledged in the place of man-forest interactions over years appears the cultural roles forests could play, at least at local levels.

**Extent of Forest Resources in Ethiopia**

As literatures unravel, Ethiopians are aware that without forests it is hard to think of life on the planet earth. In Ethiopia forests have essential uses in several ways. They provide wood for fuel and construction, raw materials for wood industries, medicinal plants, habitat for wild animals, beauty or aesthetic value to the natural environment, maintain soil fertility and protect soil from erosion, maintain the underground water equilibrium and quality of water, and act as wind break, among others (Getachew 2005). Nevertheless, the extent of forest resources is steadily declining in the country (Chart 1.2). For example, 40 per cent of Ethiopia’s land surface was covered with dense forests by the beginning of the twentieth century. By the mid-twentieth century, however, only 16 per cent of the forest has remained. At present, only 2.5 per cent of the country’s land surface is covered with forests.
If this rate of forest destruction continues, the limited forest resources available will totally disappear in the coming 15 years. The implication is that there has been rapid rate of forest destruction in the country. Today, the remaining patches of forests in Ethiopia are found in sparsely populated, inaccessible, and remote highlands of southwestern, central and south central parts. According to the Oromia Forest and Wildlife Enterprise (OFWE), 70 per cent of Ethiopia’s total forest cover is currently found in Oromia regional state alone (OFWE 2009). For OFWE, Oromia region has a high forest cover of 3.1 million ha at present, which is 8.5 per cent of its total land area.

**Manifold Importance of Forest Resources**

**A) The Global Overview**

Forest resources are a mainstay in the three pillars of sustainable development, namely, economy, society and environment (Waiswa 2011). Many world economies are wholly or partly dependent on forest resources (FAO 2011). To this end, global awareness about the manifold utilities of forest resources appears to be on the rise. This can be evident from FRA’s report of the 2010. FRA (2010) has tried to configure the manifold uses forest resources can provide into seven headings and has provided the corresponding functional share in percentage. Still, it seems hardly possible to exactly comprehend the various significances forest resources could provide. Chart 1.3 shows that the production share of forest resources was 30 per cent of the designated...
function they provide, while their contribution to conservation of biodiversity was 12 per cent. The multiple uses of forest resources have become 24 per cent whereas 16 per cent of the function they provide is yet to be known. Forests also provide protection of soil fertility and water and social services as well which comprise of 8 per cent and 4 per cent respectively, besides their other uses of 7 per cent.

<table>
<thead>
<tr>
<th>Chart 1.3: Designated functions of forests, 2010 (%)</th>
</tr>
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<tbody>
<tr>
<td>■ Production</td>
</tr>
<tr>
<td>■ Conservation of biodiversity</td>
</tr>
<tr>
<td>■ Protection of soil fertility and water</td>
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<tr>
<td>■ Social services</td>
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<tr>
<td>■ Multiple uses</td>
</tr>
<tr>
<td>■ Other</td>
</tr>
<tr>
<td>■ Unknown</td>
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* Source: FRA, 2010, p. xxvi

FRA (2010) has interpreted the data illustrated in Chart 1.3 in several ways. Firstly, it maintains that the productive functions of forest resources are more visible than other functions in formal institutions. It argues that the area designated primarily for productive functions has decreased by more than 50 million ha since 1990, or 0.22 per cent annually. This is because forests have been designated for other purposes.

The productive function of forest resources is a traditional thematic element and one of the main objectives of forest resources assessments. Forests, other wooded land and trees outside forests provide a wide range of wood and non-wood forest products. As to FRA (2010), this indicates the economic and social utility of forest resources to national economies and forest-dependent local communities. It reflects the wish to maintain an ample and valuable supply of primary forest products. At the same time, ensuring the fact that production and harvesting are
sustainable and do not compromise the management options of future generations for productive
or other functions of forests is of prime importance.

It is obvious from the 2010 report of FRA that traditional focus was on productive
functions of forests. Particularly, wood supply was the main issue identified by policy-makers. However, many products are extracted from forests, ranging from wood for timber and fuelwood to food (berries, mushrooms, edible plants, bushmeat), fodder and other Non-Wood Forest Products (NWFPs). FRA (2010) claims that by quantity industrial round-wood and fuelwood is the most important products. Among NWFPs, food and fodder are the most significant. It has been concluded that 30 per cent of the world’s forests are primarily used for production of wood and non-wood forest products (FRA 2010). The designation of about 24 per cent of the world’s forests for multiple uses in most cases includes the production of wood and non-wood forest products. Subsequently, the area designated for multiple uses has increased by 10 million ha since 1990.

FRA (2010) further shows that food is the largest category of NWFPs removals globally. NWFPs here are defined as ‘goods derived from forests that are tangible and physical objects of biological origin other than wood’. As such, NWFPs include all plant and animal products with the exception of ‘wood’ collected from areas defined as forests, whether natural forests or plantations. Other important categories include exudates, other plant products, wild honey and beeswax, and ornamental plants. NWFPs often deserve a higher priority in the development of national poverty alleviation policies, rural development projects and forest conservation strategies. A wide variety of products is collected from forests, woodlands and from trees and land outside forests. A major portion of them are consumed by households or sold locally, while some find export markets. Various products have been–or are being–domesticated. Hence, it seems that it is not always possible to distinguish NWFPs from products collected on lands under agricultural or agroforestry production systems (for instance, mushrooms, bee products and honey, medicinal plants, nuts, cork, bamboo, hunted animals and gum arabic). A multitude of NWFPs are gathered and consumed, both for subsistence and commercial use, locally and beyond.

FRA (2010) categorises these NWFPs into two major parts which in turn have got numerous variables each. On one hand, the NWFPs are seen from plant products/raw material
which entail food, fodder, raw material for medicine and aromatic products, raw material for colorants and dyes, raw material for utensils, handicrafts and construction, ornamental plants, exudates, and other plant products. On the other hand, the NWFPs are obtained from animal products/raw material which include living animals, hides, skins and trophies, wild honey and beeswax, wild meat, raw material for medicine, raw material for colorants, other edible animal products, and other non-edible animal products.

According to FRA (2010) food from forests, for example, in Asia accounted for the largest share of removals (by volume), almost exclusively comprising NWFPs of plant origin. This consisted mainly of camellia, oil seeds, nuts and bamboo products. From Asia, China was the largest producer of these foods by far. Other countries with significant removal volumes were Republic of Korea, Japan and India. Evidently, in decreasing order of importance in the food category were Europe, Oceania, North, Central and South America, and Africa (where a large majority of removals were also from plant-based NWFPs). As FRA (2010) notes, the animal-based NWFPs have been more common in the preceding regions than in Asia. Europe had the highest level of animal-based NWFPs removals because 24 European countries reported on the animal-based product categories based on the contribution of hunting and its products (meat, trophies, skins, etc.).

FRA (2010) further reveals that exudates were the second largest NWFPs category reported by countries. In this case Sudan was the world’s major producer of exudates, with gum Arabic. China was the leading producer of pine resin, tannin extract and raw lacquer. Fodder removals were particularly important in India, Italy, Morocco and Colombia. India also reports raw materials for utensils, crafts and construction, such as bamboo and rattan. As to FRA (2010), ornamental plants, palm fronds and boughs were reported in large quantities from several countries in all regions. The majority of reporting countries (except from Asia) included removals of animal products, such as live animals (birds, insects, reptiles and crabs), meat, hides, skins and trophies, as well as wild honey and beeswax. The most comprehensive figures for edible animals (hunting, game products and wild meat) were provided in the reports by countries of Europe, North America and Oceania (New Zealand and Australia). It is well known, however, that wild meat and animal products are an important source of food in many African, Asian and Latin American countries (FRA 2010).
Secondly, forest resources provide not only productive functions but also protective functions. The protective function of forest resources is related to soil and water resources. According to FRA (2010), forests conserve water by increasing infiltration, reducing runoff velocity and surface erosion, and decreasing sedimentation (which is particularly relevant behind dams and in irrigation systems). Forests play a role in filtering water pollutants, regulating water yield and flow, moderating floods, enhancing precipitation (e.g. ‘cloud forests’, which capture moisture from clouds) and mitigating salinity. The role of forests here is in fact a burgeoning but largely unmonetised rising demand for environmental services. Protection of soils from wind and water erosion, coastal protection, avalanche control, and as air pollution filters are also protective functions of forests (FRA 2010).

Thirdly, forest resources provide socio-economic functions ranging from easily quantified economic values associated with forest products to less tangible services and contributions to society. For FRA (2010), the economic benefits of forest management can be calculated directly as the quantity of outputs (products and services) produced by forests, each multiplied by an appropriate value then added together. For many outputs, market prices can be used as an estimate of value. However, it is more difficult to estimate values for subsistence uses of forest products or for outputs that are not bought and sold in markets. Worse still, the social benefits of forests are much more difficult to measure because the amount and value of these contributions to society are both difficult to quantify. In this case, indirect measures are often used to allow trends to be quantified and monitored over time. Based on FRA’s (2010) report, an indicator of the economic benefits of forestry—the value of wood and NWFPs removals, and two social indicators—employment in forestry and role of forests in providing social services (an indirect measure of social benefits) are discussed below.

FRA’s 2010 report, which is a special study on forestry, poverty and livelihoods, demonstrates that forests play increasing role in supporting the poor, in reducing their vulnerability to economic and environmental shocks, and in reducing poverty. But the contribution that forests actually make to poverty reduction and increasing the livelihood resilience of the poor is often obscure for policy-makers in key ministries, including finance, planning and local government and the supra-ministerial bodies where poverty reduction strategy processes are often located. There is a tendency to underestimate the contribution of forests—and
off-farm natural resources in general—to livelihoods. Besides, the role of forests in poverty reduction has not been reflected in any significant way in national level strategy in most countries so far (FRA 2010).

On the forestry side, reporting has typically been focused on the physical resource and its status and extent. Such reporting sheds no light on the contributions made by forests to the lives of the poor. Ministries responsible for forestry have only moved very slowly towards collecting new kinds of data to meet this challenge, as their previous experience has not prepared them for this task and they need to be supported to deal effectively with the new requirements. But this must be addressed by developing ways of collecting and incorporating data about the reliance of local people on forests and the value of those forests to them into forest resource assessments. This will greatly increase the visibility and profile of the forestry sector in poverty reduction (FRA 2010).

The other area is employment. Around 10 million people are employed in forest management and conservation. In fact, many more are directly dependent on forests for their livelihoods. That is, most countries reported increased employment in the management of protected areas. Given that much forestry employment is outside the formal sector, forest work is certainly much more important for rural livelihoods and national economies than the reported figures suggest (FRA 2010). The level of employment in forestry is an indicator of both the social and economic value of the sector to society. Employment provides income and, as forestry activities occur in rural areas that are often poorer than the average, it gives some indication of the sector’s contribution to poverty alleviation. In social terms, employment is valuable because it enables individuals to be productive members of society. In fact, some states such as India have shown very high levels of employment in the forestry sector (6.4 million people in 1990 and 6.2 million in 2005) (FRA 2010).

Apart from employment, forests provide other social services. These entail specific forest areas for recreation, tourism, education, research and for the conservation of cultural or spiritual sites; and this is increasing worldwide (Chivian and Bernstein 2008, FRA 2010). FRA (2010) shows that, globally, an estimated 3.7 per cent of the world’s forests were designated for the provision of recreation, tourism, education or conservation of cultural and spiritual heritages. However, the only sub-regions and regions with fairly good data were East Asia and Europe. The
provision of such social services was reported as the primary management objective for 3 per cent of the total forest area in East Asia and 2 per cent in Europe. In Africa, NWFPs contribute through direct consumption of harvested wild foods and indirectly through income generation. NWFPs are of vital importance as tools for coping with food shortage and famines, especially for the rural poor (Kajembe et al. 2000). The main conclusion therefore remains that the management of forests for social and cultural functions is increasing.

B) Importance of Forest Resources in Ethiopia

The Ethiopian scenario vis-à-vis the importance of forest resources is more of embedded within the general socioeconomic and ecological setup. Most literatures are concerned with these attributes of forests than they do treat other multiple uses of forests. Ethiopia is largely an agrarian country with over 90 per cent of its population living in rural areas (Dessalegn 2008). Forest and tree resources play remarkable role to compliment the food supply in agriculture which remains considerable in rural Ethiopia (Mengistu and Herbert 2010). But forestry’s contribution to employment generation is not documented. Most forestry operations are undertaken in rural Ethiopia and a large number of labourers are required for forest nursery operations, afforestation and for the construction and maintenance of roads. This is a major source of income for the rural people. People also profit from forestry employment through firewood, charcoal collection and sales, incense and gum collection. Fuelwood production is by far the largest employment generator accounting for nearly 50 per cent of the total forestry employment. This is followed by afforestation contributing for about 34 per cent. Forest industry employment amounted to about 2.2 per cent of the total work force in the country and contributed 2.8 per cent to employment in the agricultural sector in recent times (Million 2001, FAO 2011).

Of the currently estimated population of over 73 million (FDRE 2008), the subsistence agricultural sector engages nearly 85 per cent of the work force. In an agrarian society like Ethiopia, forestry can play significant role in economic development. According to Million (2001), the forestry Gross Domestic Product (GDP) as a proportion of the whole economy and in relation to agriculture has been very low. Forestry’s share in the total GDP varied between 2 per cent and 2.6 per cent from 1971 to 1985 and declined to 1.9 per cent between 1986 and 1987. However, the share of forestry in the agricultural GDP varied between 3.8 per cent and 4.8 per
cent during 1971-1985 and declined to 3.7 per cent in 1986 and 1987 (Million 2001). If direct consumption of commodities and the indirect contributions of forests are considered in the calculation, the contribution of forestry to the total GDP and agricultural GDP will be much higher amounting to about 10 per cent and more (FAO 2011). The direct consumption of commodities here involve fuelwood and charcoal to and the indirect roles include watershed management and soil conservation as well as that of forest products utilised in other manufacturing and construction activities.

The broadleaf evergreen forests of Ethiopia furnish timber that is used in construction and in the production of plywood. The woodlands are a major source of firewood and charcoal and certain trees—boswellia and species of commiphora—are of special economic significance. Both grow in the arid lowlands and produce gums that are the bases for frankincense and myrrh. A species of acacia found in several parts of the country is a source of gum arabic used in the manufacture of adhesives, pharmaceutical products, and confectionery. The eucalypts, an exotic tree introduced in the late nineteenth century and grown mainly near urban areas, is a valuable source of telephone and telegraph poles, tool handles, furniture, and firewood. It is also major source of the material from which fiberboard and particleboard are often processed and made (http://en.wikipedia.org/wiki/Deforestation#cite_note-FutureEaters-68).

Besides the exotic eucalypts leaves, it is not uncommon to find rural communities in Ethiopia who traditionally depend on various indigenous trees for medicinal purpose both for human ailments and ethno-veterinary medicinal services (Amare 1976; Dawit 1986; Dessalegn 2001; Abiyot 2002; Dawit, Asfaw and Kelbessa 2003; Debela, Zemed and Kelbessa 2004; Haile, Ensermu, Tamrat and Ermias 2007; Abiyot, Zemed and Ensermu 2006).

National forest proclamations and the environmental policy of Ethiopia reflects the environmental importance of forests and local Non-Governmental Organisations (NGOs) are emerging with concern about carbon sink, soil conservation, watershed protection, and overall reduction of land degradation. Despite this, forests are not protected and the environmental functions are not realised (Million 2001, FAO 2011). In the management plans, environmental issues are addressed but no management plans have been effectively implemented (Million 2001). If the country’s forests are not protected and wisely utilised, detrimental deforestation such as ecological upshots is inevitable.
Deforestation: Causes and Consequences

A) Global Overview

Studies which deal with deforestation across the globe reveal that factors for large-scale deforestation are mainly anthropogenic in character. Conversion of forestland into small-scale agriculture appears a cross-cutting problem but profoundly pronounced in Africa (59 per cent) followed by Latin America (47 per cent) and Asia (45 per cent); Europe and North America come in the least percentage (FAO 2009). If the current rate of destruction continues, all old-growth tropical forests not specifically reserved will be gone before the mid 21st century (Sutton and Anderson 2004). More recent studies reveal that most of the cleared tropical forests of the globe have been pinpointed in India and China from Asia; Madagascar, Ethiopia, and coastal parts of Western Africa from Africa; and the southeastern coastal areas of South America (Chivian and Bernstein 2008).

Actually, deforestation occurs for many reasons. Trees or derived charcoal are used as, or sold, for fuel or as lumber, while cleared land is used as pasture for livestock, plantations of commodities, and settlements. But it is often claimed that the overwhelming direct cause of deforestation is agriculture (http://www.edurite.com/kbase/harmful-effects-of-deforestation). According to this source, several factors have been responsible for deforestation. Here, subsistence farming constitutes 48 per cent, commercial agriculture involves 32 per cent, logging is accountable for 14 per cent, and fuelwood removals make up 5 per cent of [worldwide] deforestation.

Further, the preceding website source shows that disregard or ignorance of intrinsic value, lack of ascribed value, lax forest management and deficient environmental laws are some of the factors that allow deforestation to occur on a large scale. In many countries, deforestation, both naturally occurring and human induced, is an ongoing issue. Moreover, contemporary deforestation is being caused because of corruption of government institutions, the inequitable distribution of wealth and power, population growth and overpopulation, and urbanisation. Also, globalisation is often viewed as another root cause of deforestation. But there are cases in which the impacts of globalisation (new labour, capital, commodities, and ideas) have promoted localised forest recovery (http://www.edurite.com/kbase/harmful-effects-of-deforestation). This source explains that the role of population dynamics in a local setting may vary from decisive to
negligible, and that deforestation can result from a combination of population pressure and stagnating economic, social and technological conditions. Therefore, the degradation of forest ecosystems has been traced to complex socioeconomic dynamics. For instance, economic incentives that make forest conversion appear more profitable than forest conservation. Many important forest functions have no markets, and hence, no economic value that is readily apparent to the forests’ owners or the communities that rely on forests for their well-being.

The foregoing source further explicates that from the perspective of the developing world, the benefits of forest as carbon sinks or biodiversity reserves go primarily to richer developed nations. As such, there is insufficient compensation for these services. Developing countries feel that some countries in the developed world, such as the United States of America (USA), cut down their forests centuries ago and benefited greatly from this deforestation. Thus, it is hypocritical to deny developing countries the same opportunities: that the poor should not have to bear the cost of preservation when the rich created the problem. This implies that poor people are more likely to clear forests not only because they have no alternatives but also for lax attention paid to deforestation even in more advanced countries to benefit from deforestation.

Some have also noted that there is a shift in the drivers of deforestation over the past 30 years because of shifts in political systems. During the late nineteenth century and the earlier half of the twentieth century, deforestation was primarily driven by subsistence activities and government-sponsored development projects like transmigration in countries like Indonesia and colonisation in Latin America, India, Java, etc. Whereas, by the 1990s the majority of deforestation was caused by industrial factors, including extractive industries, large-scale cattle ranching, and extensive agriculture, though experts might not agree on industrial logging as global factor for deforestation (http://www.edurite.com/kbase/harmful-effects-of-deforestation).

The effects of deforestation are multifaceted. The preceding website source indicates that deforestation has been causing extinctions to animal and plant species, changes to climatic conditions, desertification, and displacement of populations as observed by current conditions and in the past through the fossil record. Other harmful effects of deforestation involves some irrecoverable loses including damage to habitat, biodiversity loss and aridity (Sinha 1998). Deforestation has adverse impacts on bio-sequestration of atmospheric carbon dioxide.
Deforested regions typically incur significant adverse soil erosion and frequently degrade into wasteland (Sinha 1998, Bezuayehu et al. 2002, Chivian and Bernstein 2008).

Yet, deforestation is ongoing and is shaping climate and geography. It has been contributing to global warming, and is often cited as one of the major causes of the enhanced greenhouse effect. For that matter, tropical deforestation is responsible for approximately 20 per cent of world greenhouse gas emissions. According to the Intergovernmental Panel on Climate Change (IPCC), deforestation, mainly in tropical areas, could account for up to one-third of the total anthropogenic-induced environmental problems (http://www.edurite.com/kbase/harmful-effects-of-deforestation).

Some important medicinal animal species are usually lost due to deforestation. Examples entail the already lost gastric brooding frogs (*Rheobatrachus vitellinus* and *Rheobatrachus silus*) of the Australian undisturbed forest of the past. It was discovered in 1980s that these frogs were the only amphibians known to raise their young in their stomachs. Their tadpoles secrete a substance that both inhibits acid and pepsin secretions and prevents stomach emptying so that they do not end up being digested by their mother. The female swallows her fertilised eggs, which then hatch in her stomach. When the hatchlings become fully developed tadpoles, they are delivered to the outside world, propelled by their mother’s vomiting, where they continue their development into adult frogs. The substances these tadpoles secrete might have led to new insights for treating human peptic ulcer. But these frog species have become extinct due to loss of the undisturbed tropical forest habitat they had once inhabited (Chivian and Bernstein 2008).

In general, detrimental effects of deforestation involve not only forest animal and plant species but indeed environmental catastrophes with reduced biodiversity and pernicious socioeconomic effects (Jones and Rogers 1976, Treshow 1976, Miller 1990, Milton 1996, Sutton and Anderson 2004, Chivian and Bernstein 2008). This summing up of the side effects of deforestation could be clearer by reiterating some crucial values of forests. Forests provide goods such as food, timber, and medicines. They also provide critical habitat for plants, animals, and microbes. They protect the soil surface especially by forest canopy and leaf litter. Forest canopy also purifies air by filtering particulates and providing chemical reaction sites where pollutants are detoxified. Forest trees and plants store carbon and help slow human-caused global climate change. Forests help to maintain the water cycle and stabilise local climates. Forest tree roots
bind soils and help prevent erosion. Deep forest soils store large volumes of water. Forest soils
purify water by acting as a massive filter. Forests also provide cultural services like aesthetic,
intellectual, and sense of place (Chivian and Bernstein 2008). These authors structure these
importance or services of forests into three headings: provisioning services like food and
medicine, regulating services such as cleaning air and detoxifying soils, and cultural services like
psychological, spiritual, and intellectual values.

Conversely, it can be concluded that one of the bitterest consequences of deforestation
involves incalculable loss of these enormous essentials which forests and trees help them
sustainably exist. It appears that series of IPCC have been inundating the contemporary global
system on account of mitigating deforestation’s effect against the normal functioning of world
atmospheric services and the general ecosystem, apart from dealing with the effect of industrial
emissions. The Tokyo protocol of 1997 on Reducing Emissions from Deforestation and
Degradation (REDD) is apparently a pioneering IPCC for that matter. The point here is that these
global summits are also partially resulted because of the effects of deforestation against the forest
essentials enumerated thus far so that they can be understood as the indirect consequences of
deforestation.

As compared to natural disasters, anthropogenic deforestation is by far the most
important factor for all the side effects of forest loss. Anthropogenic deforestation implies that
forests are cleared by people and the land converted to another use, such as agriculture or
infrastructure. Natural disasters may also destroy forests, and when the area is incapable of
regenerating naturally and no efforts are made to replant, it too converts to other land (FRA
2010).

B) Deforestation Scenario in Ethiopia

There is accelerated rate of forest destruction in Ethiopia. Within 17 years (1973-1990)
high forest cover has been decreased from 54,410 km² to 45,055 km² or from 4.75 per cent to
3.93 per cent of the land area, and currently the percentage is said to be below 2.6 per cent
(Dechassa and Perault 2002). It was estimated that in 2000 Ethiopia had 43,440,000 km² of
natural forest area, which is 4 per cent of its total land area (Million 2001). It was also calculated
that a deforestation rate of 1,630 km² per year was occurring. This means that deforestation at the
same rate would leave about 18,975 km² of the 45,055 km² in 2006. FAO (2007) rather
estimated a deforestation rate of 1,410 km² per year in Ethiopia. Getachew (2008) also confirms the rate of deforestation in Ethiopia to be very high.

The major cause of deforestation in the country has been rapid population growth, which has been leading to an increase in the demand for crop and grazing land, wood for fuel and construction (Million 2001, FAO 2011). Lack of viable land use policy also aggravated the rate of deforestation (Guluma 1998, Melaku 2008). New settlements in forests are also increasing from time to time and hence resulted in the conversion of forested land into agricultural and other land use systems (Million 2001, FAO 2011). Million (2001) argues that at present the few remaining high forests of Ethiopia are threatened by pressure from investors who are converting the moist evergreen montane forests into other land use systems such as coffee and tea plantations. On the whole, the major underlining causes of deforestation in Ethiopia are poverty, population growth, poor economic growth and the state of the environment.

Although Ethiopia is a federal state with some nine regional states, there is no comprehensive federal policy that covers either land use or forest management in the country (Million 2001). Only Proclamation No. 94/1994, which was issued to provide for the conservation, development and utilisation of forests, has been serving as the forest policy statement of the country until recently (Million 2001, Melaku 2008). But this proclamation did not help much to relieve the pressure from the forests despite it has been issued six years ago, probably due to the absence of enforcing mechanisms. A formal forest policy is lacking until 2007 and the frequent restructuring of the forestry sub-sector has led to the discontinuation of planned activities (Melaku 2008).

Furthermore, the problem of deforestation in the country has marginally been addressed because the forestry sub-sector was being confronted by problems which are related to the macroeconomic situations and other factors like the reorganisation of the forestry institutional systems. Million (2001) argues that over the past decades there have been numerous restructuring of institutions related to forestry. There were separations and re-unification of the sector with agriculture several times. The natural resources sector has been at a level of ministry, vice ministry and at present a team. Currently, the forestry sector at a federal level has a lower organisational profile in the ministry of agriculture. Budget allocations and staff resources are often inadequate to monitor forest resources effectively and to ensure sustainable management.
The trend towards decentralisation and devolution of forest management responsibilities to the local governments could not be effective due to low capacity of the sector at all levels. The present capacity of the sector is constrained especially at the regional level due to the absence of an appropriate management structure, the inadequate allocation of budget and the high level of encroachment for expanding agricultural land and illegal settlements (Melaku 2008).

The attitudes to deforestation in Ethiopia have remained alarming that the government alone was not able to withhold the problem. Consequently, the government has been insisting on several international agencies, like Japanese International Cooperation Agency (JICA), German Technical Cooperation (GTZ), and Farm Africa (FA) to get involved in participatory forest management. Such projects aim at developing forest management plans and signing contracts between local communities and the government. Different areas of the remaining forests are divided among the foreign aid agencies, where they carry out “their” projects on behalf of the government. However, direct and competent as well as trustworthy relations between local resource users and the federal authorities are needed, i.e., a functioning and effective forestry extension service (Melaku 2008).

Much of Ethiopia’s national budget is covered by international development aid. Not surprisingly, international aid agencies should also play a prominent role in sustainable forest management. Another problem is that the environmental issues in Ethiopia have no or a very pathetic lobby and the current restrictive socio-political context for public engagement has detrimental effects on environmental education, awareness, advocacy and the building of an engaged and empowered civil society. These assets are otherwise necessary to conserve and use forests in a sustainable way (http://en.wikipedia.org/wiki/Forestry_in_Ethiopia).

A study made in Southern Nations, Nationalities and Peoples (SNNP) and Gambella regional states of Ethiopia show that the forested land had declined to 1,907 km² from 1973 to 2005. Between 2001 and 2005 another 55.4 km² of forest land were allocated for private coffee production and 20 km² for rubber plantations. From the upland rain forest area of 3,060 km² in the Awassa watershed of the south-central Great Rift Valley of Ethiopia, 80 per cent (400 km²) of the 1972 forest cover (489.24 km²) was lost within 28 year period (1972 and 2000). Here within the formerly closed forest, clearings created a freckled pattern of disconnected small forest patches (http://en.wikipedia.org/wiki/Forestry_in_Ethiopia).
Despite the slightly different estimates for deforestation in different regions of Ethiopia, deforestation rates remain nearly the same. In this respect the country will have lost its last tree of high forests within about 27 years, with it will go the world’s only original wild populations of *Coffea arabica*. The economic loss of that genetic resource ranges between US$ 0.4 and 1.5 billion per year (http://en.wikipedia.org/wiki/Forestry_in_Ethiopia).

The problems of deforestation in Ethiopia have also been related to government policy, strategy and program ramifications. Million (2001), for example, shows that from 1973–1987 forest cover in Awassa watershed was reduced by 11 per cent which was because the period was characterised by resettlement and villagisation programs and the expansion of state farm programs. From the 1950s to 1974 private land ownership was promoted through land grants to civil servants and war veterans [of Italian fascist rule]. During this period mechanised farming became increasingly attractive. As a result, large numbers of rural people were dislocated, also to forest areas.

Recently pressure in some high forest covered places comes from intensive management of forest coffee and semi-forest coffee which drastically changes the structure and functions of the original forests. Improved transport and communication infrastructure and thereby better access to markets is facilitating deforestation. More forest cover change was detected close to areas with good road networks and around settlements. So, an entire combination of biophysical and socio-political conditions was identified for forest decline in some areas of Ethiopia. Geographic properties, socio-political change, population growth, insecurity of land tenure, agricultural development and the improvement of transport capacities are among the most important factors. As a result of a political power vacuum during periods of political transition, large forest areas were cut down. The fact that individual farmers do not have many other options than converting forests into agricultural land if they are exposed to severe food insecurity has accelerated deforestation. Moreover, peasants’ time preference rates are low which means they prefer food today over tomorrow and they definitely cannot carry the costs of forest conservation for the larger national or global society (Million 2001), in the midst of their poverty.
The direct consequences of deforestation in Ethiopia can be sensibly explained in line with the recurrent droughts and famines which have been ravaging millions of lives since ages. Studies show that series of devastating droughts and famines have been occurring in the country at least since the early 1880s. Examples include the ruining famine of 1888-1892 (Pankhurst 1966) which is often known in Ethiopian history as “kifu qen” (in Amharic language, to mean abysmal time), the 1973-1974 famine which had consumed about 200,000 lives from humans alone, and the worst famine of 1984-1985 which had occurred within a decade after its proximate precursor (Bezuayehu et al. 2002). These famines were mainly wrought in the northern part of the country where one can seldom find dense natural forests, which are rather found in southwestern part of Ethiopia. In the northern part of Ethiopia forests were said to have been lost not only due to *rist* (Amhara hereditary land tenure system) spirited agricultural system but also for military purposes during Yodit Gudit (849-897). The latter had reportedly ordered large-scale forest fire and damage to secure military strategy (Dechassa and Perault 2002).

Oromia regional state possesses the largest forest cover in Ethiopia. Located in central part of the country, Oromia extends from 3°20’ N to 10°35’ N and from 34°05’ E to 43°11’ E. It has a total land area of about 353,690 km² constituting 31.15 per cent of the total land size of the country which makes it the largest of all the regions in the country. In Oromia, forest loss over years has been to a great extent attributed to population pressure and extension of farmlands. The rate of deforestation is about 3.1 per cent per annum, which is due to expansion of farmlands, shifting cultivation, commercial agriculture, fuelwood collection, commercial logging, urbanisation and poor management of natural resources. The rural population is also said to have failed to take due care for forest resources, remaining unaware of the long-term consequences of environmental degradation (Bezuayehu et al. 2002).

The Oromia regional state has recently identified 43 high natural forests as regional forest priority areas covering a total of 3 million ha. Forests found in the Bale, Borana, Arsi, Shewa and Hararge areas are dominated by *Juniperous podocarpus* and *Juniperous-podocarpus* mixed forests. Those found in Wallagga, Horro Guduru, Jimma and Ilubabor areas are dominantly mixed broad leaves. These areas are homes to *Coffee arabica*, which accounts for about 66 per cent of Ethiopia’s foreign exchange earnings. There is increasing trend in coffee growing in the region by removing forest cover just along with wild coffee thereby posing a threat to
biodiversity, including biodiversity of coffee (Bezuayehu et al. 2002). In general, particularly because of agricultural land expansion, considerable forestland transformation, which includes the priority forest areas, has been recorded in the region (Table 1.1). Within a decade (1989 to 1998) some thirty largest forest resources areas of the region have lost 980,405 ha of their very existence. That is, the total area of some thirty large natural forest areas dispersed across the region have comprised of about 1,781,116 ha in 1989, but this has become reduced to 800,711 ha in 1998 with the total destruction resulted constituting 980,405 ha.

Table 1.1: Changes in natural forest cover in Oromia region (1989 to 1998)

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Forest's name</th>
<th>Area (ha)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Konto-Wacha-Tsige</td>
<td>East Wallaga</td>
<td>9,077</td>
<td>500</td>
</tr>
<tr>
<td>2</td>
<td>Konchi</td>
<td>East Wallaga</td>
<td>63,000</td>
<td>2,600</td>
</tr>
<tr>
<td>3</td>
<td>Caato-Sangi-Dangab</td>
<td>East Wallaga</td>
<td>44,860</td>
<td>2,080</td>
</tr>
<tr>
<td>4</td>
<td>Jorgo-Wato</td>
<td>West Wallaga</td>
<td>20,000</td>
<td>1,836</td>
</tr>
<tr>
<td>5</td>
<td>Gara Gada</td>
<td>West Wallaga</td>
<td>137,398</td>
<td>9,600</td>
</tr>
<tr>
<td>6</td>
<td>Sibo-Toli-Qobo</td>
<td>Ilubabor</td>
<td>100,000</td>
<td>64,160</td>
</tr>
<tr>
<td>7</td>
<td>Babiya-Fola</td>
<td>Jimma</td>
<td>74,500</td>
<td>33,238</td>
</tr>
<tr>
<td>8</td>
<td>Belete-Gera</td>
<td>Jimma</td>
<td>174,000</td>
<td>112,700</td>
</tr>
<tr>
<td>9</td>
<td>Abalt-Gibe</td>
<td>Jimma</td>
<td>21,200</td>
<td>10,000</td>
</tr>
<tr>
<td>10</td>
<td>Jibat</td>
<td>West Shewa</td>
<td>12,100</td>
<td>4,800</td>
</tr>
<tr>
<td>11</td>
<td>Cillimo-Gaji</td>
<td>West Shewa</td>
<td>22,000</td>
<td>12,000</td>
</tr>
<tr>
<td>12</td>
<td>Gede</td>
<td>West Shewa</td>
<td>10,000</td>
<td>5,000</td>
</tr>
<tr>
<td>13</td>
<td>Dirre-Garbicha</td>
<td>East Shewa</td>
<td>9,629</td>
<td>8,603</td>
</tr>
<tr>
<td>14</td>
<td>Arba-Gugu</td>
<td>Arsi</td>
<td>47,725</td>
<td>34,173</td>
</tr>
<tr>
<td>15</td>
<td>Cilalo-Galama</td>
<td>Arsi</td>
<td>22,000</td>
<td>12,000</td>
</tr>
<tr>
<td>16</td>
<td>Arero-Yaballo</td>
<td>Borana</td>
<td>40,000</td>
<td>8,000</td>
</tr>
<tr>
<td>17</td>
<td>Bore</td>
<td>Borana</td>
<td>219,100</td>
<td>33,000</td>
</tr>
<tr>
<td>18</td>
<td>Magada</td>
<td>Borana</td>
<td>21,000</td>
<td>15,000</td>
</tr>
<tr>
<td>19</td>
<td>Nagalle-Dawa</td>
<td>Borana</td>
<td>17,780</td>
<td>not available</td>
</tr>
<tr>
<td>20</td>
<td>Anfarara-Wadara</td>
<td>Borana</td>
<td>106,568</td>
<td>7,000</td>
</tr>
<tr>
<td>21</td>
<td>Kubayu</td>
<td>Bale</td>
<td>78,444</td>
<td>73,950</td>
</tr>
<tr>
<td>22</td>
<td>Alusha-Batu</td>
<td>Bale</td>
<td>40,000</td>
<td>28,000</td>
</tr>
<tr>
<td>23</td>
<td>Mana-Angatu</td>
<td>Bale</td>
<td>190,000</td>
<td>120,000</td>
</tr>
<tr>
<td>24</td>
<td>Harana-Kokossa</td>
<td>Bale</td>
<td>182,000</td>
<td>132,851</td>
</tr>
<tr>
<td>25</td>
<td>Goro-Bale</td>
<td>Bale</td>
<td>100,000</td>
<td>60,000</td>
</tr>
<tr>
<td>26</td>
<td>Dindin</td>
<td>West Hararge</td>
<td>19,000</td>
<td>2,072.5</td>
</tr>
<tr>
<td>27</td>
<td>Jalo-Muktar</td>
<td>West Hararge</td>
<td>21,340</td>
<td>920</td>
</tr>
<tr>
<td>28</td>
<td>Jarso-Gursum</td>
<td>East Hararge</td>
<td>52,318</td>
<td>not available</td>
</tr>
<tr>
<td>29</td>
<td>Gara-Mu’ata</td>
<td>East Hararge</td>
<td>7,000</td>
<td>3,000</td>
</tr>
<tr>
<td>30</td>
<td>Dhangago-Hawale</td>
<td>East Hararge</td>
<td>8,431</td>
<td>not available</td>
</tr>
</tbody>
</table>

Total | 1,781,116 | 800,711 | 980,405

Source: Computed from Dhaba 1999, p.5 and Bezuayehu et al. 2002, p. 27.
Forest Resources Institutions

A) Formal Forest Resources Institutions

The formal forest resources institutions are those institutions which concern the global, regional and national objectives on forests (FRA 2010). The global ones are more or less general and briefly stated; nevertheless, their hegemony is more likely an all-encompassing. That is, any regional and national objectives on forests appear to have been dictated by the global objectives. This is because member states reaffirm their commitment to work globally, regionally and nationally to achieve progress towards the achievement of the global objectives. This can be evident from FRA 2010 report, which reveals four global objectives on forests and the reaffirmed commitment of member states towards the achievement of these objectives. These four global objectives on forests and the reaffirmation of commitment number thereof are:

Global Objective 1: Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.

Global Objective 2: Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people.

Global Objective 3: Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.

Global Objective 4: Reverse the decline in official development assistance for sustainable forest management and mobilise significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management.

Reaffirmation of Commitment and its Number: As part of United Nations General Assembly (UNGA) resolution 62/419 member states reaffirmed their commitment to work globally, regionally and nationally to achieve progress towards the achievement of these four objectives by 2015 (FRA 2010).

Based on their commitments to these internationally binding objectives just through agreements and conventions (Table 1.2), member states formulate forest policy and work towards its realisations in the context of their respective scenario. FRA 2010 reveals a number of binding and non-binding international conventions and agreements which relate to forests and their management. Among the non-binding agreements, the Non-Legally Binding Instrument on
All Types of Forests, adopted by the UNGA in 2007, is particularly important. Prior agreements are the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests, also known as the ‘Forest Principles’, and ‘Chapter 11 of Agenda 21: Combating Deforestation’. These both resulted from the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, in 1992.

There are several legally-binding international conventions and agreements related to the sustainable management and conservation of forests. These international conventions and agreements rely for their impact on ratification by individual countries. Once ratified, the agreements are incorporated into the signatory countries’ national legal frameworks, through which they take effect (FRA 2010). For the purposes of FRA 2010, the ratification status of international conventions and agreements related to forests were compiled based on information provided on their official web sites. In this respect, a number of countries have ratified, acceded to, approved, accepted or adopted a convention or an agreement, some of which are depicted in Table 1.2.

<table>
<thead>
<tr>
<th>Convention or agreement</th>
<th>Number of countries as of January 1, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Legally Binding Instrument on All Types of Forests</td>
<td>192</td>
</tr>
<tr>
<td>Convention on Biological Diversity (CBD)</td>
<td>192</td>
</tr>
<tr>
<td>United Nations Framework Convention on Climate Change (UNFCCC)</td>
<td>193</td>
</tr>
<tr>
<td>Kyoto Protocol</td>
<td>191</td>
</tr>
<tr>
<td>United Nations Convention on Combating Desertification (UNCCD)</td>
<td>192</td>
</tr>
<tr>
<td>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</td>
<td>175</td>
</tr>
<tr>
<td>Convention on Wetlands of International Importance (Ramsar)</td>
<td>160</td>
</tr>
<tr>
<td>World Heritage Convention</td>
<td>187</td>
</tr>
<tr>
<td>International Tropical Timber Agreement (ITTA)</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: FRA 2010, p.153

Empirical studies are being outgrowing on the situation of formal forest resources institutions nowadays. It has been revealed that there is increasing consolidation of centralised state authority control over forest resources through forest policies and legislations. This is because centralisation of political authority over natural resources is escalating these days than
ever before (Webb and Shivakoti 2007). This can be clearer if one paraphrases the arguments demonstrated by these authors which basis on the context of South and Southeast Asia. Webb (2007) has lucidly provided the overall scenario in South and Southeast Asian formal forest resources institutional control. The centralisation of political authority over natural resources is a theme repeated across every country in these parts of Asia. Centralisation power here has usually been preceded by the implementation of a central administration by an external colonial power, or by the rise of a modern bureaucracy from within the country itself. When a colonial power eventually relinquished power, this was usually followed by continuation of that centralised mechanism by the new government even after attaining independence.

Specific examples in these parts of Asia include Bhutan, India, Indonesia, Nepal, Thailand and Vietnam. In these states governments have been rejuvenating central authority control over forest resources by formulating and executing forest resources institutions. The examples from these countries help one distinguish a specific policy through which the state affirmed its eminent domain over forests, thus centralising power.

In Bhutan, important central institution was Thrimzhung Chenmo (Supreme Law of Bhutan) of 1959, drafted by the new National Assembly that was established in 1953, followed by the Forest Act of 1969 (Webb and Dorji 2007). In India, the 1878 Indian Forest Act succeeded in centralising power over forests and classifying forests as either reserved, protected or communal/village. However, the provision for villages was essentially non-existent. Moreover, the Act provided for eminent domain of the state over all forests, even private forests, when ‘public welfare’ was an issue (Ghate and Mehra 2007).

In Indonesia, under the Basic Forestry Law No. 67 of 1967 the central government claimed control over the forests and issued concession permits for logging. This was followed in 1979 with the Village Administration Law, under which the desa system of Java was universally imposed across the country (Yonariza and Shivakoti 2007). In Nepal, the 1957 Private Forests Act, drafted by the new government after the overthrow of the Rana regime, nationalised all forests and placed any non-titled land under the purview of the central government (Gautam and Shivakoti 2007; Nagendra, Mukunda and Birendra 2007). Thus, governments are more inclined towards ownership and control of forest resources than vesting the responsibility to local communities (Karmacharya, Karna and Ostrom 2007; Shivakoti and Ostrom 2007).
The Indian scenario further shows that prior to the British colonial advent, the focus of forest management continued to be a fair distribution of returns. This was because, at least at the village level, the use of all natural resources was managed by a local community institution known as the *Panchayat* (Prasad and Kant 2003). The *Panchayat* was composed of five village elders who managed all village affairs. A significant part of the duties of these elders revolved around settling disputes over land, access to water, and mediating conflicts among villagers (Guha 1989, Prasad and Kant 2003). The British period led to exclusion of the local people from traditional use of forest resources for commercialisation of timber. This has created large-scale conflicts among forest managers and local people, and marked the beginning of the breakdown of a symbiotic relationship between many communities and the forests in which they were situated (Shah 1996, Prasad and Kant 2003).

Post-independent India, from 1947 to 1987, also emphasised forest management regimes by continuing commercial timber exploitation and the exclusion of local people (Kant and Cooke 1999, Prasad and Kant 2003). Nevertheless, the government of India has begun to recognise the exclusion of the local people and their institutions. This had resulted in unsustainable forest resources exploitation. Consequently, the government issued the first forest policy in 1988 to manage the available forests. The forest policy has many features different from previous practices. First, it called for stopping timber supply to forest industry at a concession-price. Second, it recognised the rights and concessions of the communities living within and around forest areas, specifically the tribal people. Third, it suggested that the holders of customary rights and concessions in forest areas should be motivated to identify themselves with the protection and development of forests from which they derive benefits. Hence, this policy re-introduced the concept of community-based forest management institutions (Prasad and Kant 2003).

A decentralised and effective forest management sanction; however, appears to have occurred in India in the last decade of the twentieth century. Sources reveal that the government of India introduced a non-market community-based institution, known as Joint Forest Management (JFM), for forest management and protection in 1990 (Prasad and Kant 2003). The JFM is a sharing mechanism for forest planning and management based on sharing of rights and duties, control and decision-making authority over forestlands, between forest departments and local user groups. By 2001, 42,000 Village Forest Committees established under JFM were
managing over 11.5 million ha forestland. These institutions have proved very useful, and have contributed to forest management as well as four aspects of sustainable human development (SHD)—ecological output, income generation, village infrastructure development, and community empowerment. Moreover, it has been suggested that in the long-term, community-based institutions will prove to be a foundation of SHD and participatory democracy (Prasad and Kant 2003).

In contrast, Ethiopia has no forest policy until very recently (Gebrehiwot 2007, Melaku 2008) despite being a membership of the United Nations (UN) ever since its advent in mid 1940s and of its various agencies over years. Although Ethiopia has been signing several United Nations environmental frameworks and agreements since the Rio de Janeiro summit of 1992, the first forest policy of the country was formulated in 2007 (Melaku 2008). In spite of lack of forest policy, the country has been concerning its forests through various rules and legislatives since time immemorial. For all, a digest of the case since the imperial era of 1880s is useful.

Very few sources are available to reveal the forestry institutions—policy and law—of the imperial era (1889-1974). But it is assumed that before 1974 about half of the forestland in Ethiopia was privately owned or claimed, and roughly half was held by the government. There was little government control of forestry operations prior to the Ethiopian revolution of 1974 (http://www.constitutionnet.org/country/constitutional-history-ethiopia). It was during the Italian occupation of Ethiopia (1936-1941) that modern forestry activities began in the country (Gebrehiwot 2007, Melaku 2008). In 1937, the Italians initiated and partly executed a major structural change unprecedented in the country’s forestry just under the administration called a Milizia Forestale (forest militia) with branches in many parts of the country. This first modern forestry policy was aimed to conserve, develop and utilise the extensive forest resources of the Ethiopian Empire of the time where the greatest part of the forest was granted to chiefs and dignitaries (Melaku 2008).

According to the Ethiopian Empire constitution praxis, all forests were considered Crown lands though Italians directly controlled and exploited the natural forests without much concern about ownership. They also issued various forestry legislations. Five years after the Italian occupation of Ethiopia the imperial government returned to power (in May 1941) and from 1942-1967 different directives, orders, regulations and laws related to land grants were issued. In
1965, the Ethiopian parliament passed three forestry laws. These entail, State Forest Proclamation No. 225, Private Forest Conservation Proclamation No. 226 and Protective Forest Proclamation No. 227 (Gebrehiwot 2007). Proclamation No. 225 /1965 indicated the need to conserve, protect, develop and utilise forests under state ownership. Private Forest Conservation Proclamation No. 226/1965 declared all forests, not owned by the state as private forest. Protective Forest Proclamation No. 227/1965 indicated the need to have legislation was the conservation of the soil, preservation of fertility and beauty of the country. It was declared that Protective Forest included any land, regardless of ownership, which the Ministry of Agriculture might find to be indispensable for the conservation of the soil, water, and control of floods and spread of desertification (Gebrehiwot 2007).

In the northern half of the country the absence of forests as well as the rist system might have made the existence of individual free-hold over forests very unlikely. While in the south, as per the Oromo [gadaa] system land was not considered private property and was not subject to exchange, and individual privileges were confined to use right only (Bezuayehu et al. 2002, Gebrehiwot 2007).

Whatever the case may be, Ethiopia has no clear constitutional provision regarding forests until the 1955 revised constitution. Article 130, sub-article (d) of this constitution stipulates:

All property not held and possessed in the name of any person, natural or legal, including all escheat, all abandoned properties, whether real or personal, as well as all products of the sub-soil, all forests and all grazing lands, water resources, lakes and territorial waters, are state domain (Ayalew 2001, Dessalegn 2007).

According to this provision, forest resources were considered government property and thus came under direct state domain. Both in letter and spirit, the provision made it clear that the state was hereafter custodian of all natural resources including forests. The Ethiopian civil code of 1960, in its article 1194, provides that immovable assets in Ethiopia which are “vacant” and without a master shall be the property of the state (Gebrehiwot 2007).

In the military regime (1974-1991), which had overthrown the imperial regime in 1974, the 1975 land reform nationalised forestland and sawmills, which existed mostly in the south.
This regime controlled harvesting of forestland, and in some cases individuals had to secure permits from local peasant associations to cut trees. But this measure encouraged illegal logging and accelerated the destruction of Ethiopia’s remaining forests. To ensure that conservation activity conformed to government policy and directives on land use, reforestation programs were organised through the Ministry of Agriculture and Rural Development (MARD) or district offices that planned, coordinated, and monitored all work. But the local peasant associations lacked decision-making authority. Nevertheless, the military regime was often praised for its forestry commitment in terms of allocating more finance, trained human resources and creation of a relatively sizeable organisation compared to the imperial and the current governments of the country. In the military regime ownership rights and management responsibilities of natural resources were shifted from the community to the government. With this shift in ownership, the government introduced a closed management system that was enforced by forest guards. But this was ineffective and inefficient, leading to an intensive and increased destruction and deforestation of the natural forest (Gebrehiwot 2007).

When the military regime seized power in 1974, socialism was declared the guiding ideology for Ethiopia and all rural and forest land was nationalised keeping the notions of this ideology. This was despite the fact that state ownership of land is a disincentive to manage it productively and sustainably (http://en.wikipedia.org/wiki/Ethiopian_deforestation).

Forestry policy and law in the current government (1991 to present) also show little or no departure from its predecessors. The current state has adopted a constitution in 1995 in which forests (including land and other natural resources) have been declared exclusive state property. But the government encourages the private sector and significantly contributes to the free uncontrolled exploitation of forests. Obviously, when the state’s coercive structure was relaxed in 1990/91, the peasant communities took their “revenge” on the adjacent state property, including forests. This turned the forest into a near open-access resource, into non-property and large extent of forest resource abuse resulted from power vacuum in the early 1990s (http://en.wikipedia.org/wiki/Ethiopian_deforestation).

Although the 1995 constitution of the Federal Democratic Republic of Ethiopia (FDRE) clearly stated land and natural resources including forests as property of the Ethiopian people and the state, it is not clear how and who will manage these resources. All natural resources are not
available for private ownership by law. This serves as an incentive for farmers to convert
forestland to farmland through various measures. This is because once land is not covered with
forest then it is possible to obtain use right. All the problems, however, seem to have arisen from
the fact that Ethiopia has never had forest policy or land use policy, and various forestry
development projects and programs failed due to lack of adequate forest policy (Gebrehiwot

The unclear forestry policy and legislation and little attention given to the country’s
forest resources by the present government has been considerably contributing to intensive
deforestation and environmentally detrimental land use change. The other major problem is the
frequent restructuring of forestry institutions. Until recently, forestry and natural resource have
been sheltered in the Ministry of Agriculture as a section being governed by the Ministry of
Agriculture and Rural Development. This frequent restructuring has been a characteristic about
some times since 1935. This has been resulted in fast turnover, low morale of employee,
discontinuation of programs and projects, confusion of responsibilities and mandates,
misplacement of documents and files, and progressive weakening of operations (Gebrehiwot
2007).

Although forestry has been contributing to the national economy and the global
environment, the Ethiopian government appears to have given very little attention to this
resource. This assertion could be evident from the inadequately existing structure, budget outlay,
staffing and facilities, to say the least, for the minimum of operations required to manage the
existing forest resources of the country. A year before the new constitution of 1995 was
promulgated, forestry legislation (Forestry Conservation, Development and Utilisation
Proclamation No. 94/1994) was declared with the intention of halting the rapid depletion of the
forest resources which had set in since 1991 (Gebrehiwot 2007).

Indeed, people nowadays have no concern about resource conservation due to land tenure
insecurity and inadequate sense of ownership and the public give too little attention to existing
proclamation. The 1994 forestry proclamation established three types of property regimes: State,
Regional and Private. What is termed “State Forest” was defined as forest designated by the
Council of Ministers upon presentation by the Ministry of Agriculture to “protect the genetic
resources with a program that covers more than one administrative region. “Regional Forest”
was a forest designated as Regional Forest by the official gazette of the Region which is not either State or Private forest and found within a specific region or developed by the said region. Forest developed by individuals or an association is classified as “Private Forest” (Melaku 2008).

However, the inadequate sense of ownership was a discouraging factor for the real issue of creating individual woodlot. Therefore, the establishment of individual woodlot remains unresolved. The government does not sufficiently recognise forestry as one of the major intervention in rural development and hence policies and strategies formulated in this line could not appropriately incorporate aspects of forestry (Gebrehiwot 2007).

In 2000 a new approach to forest ownership and management was initiated with the help of international donor agencies. The so-called co-management approach builds on a contract between the government and communities which rely on forest management for their livelihood. Forest user groups are established and exclusive rights for forest use are granted to the members of the group. The contract confirms the boundaries of the forest, defines ownership and use and other specific conditions. The principal idea behind the co-management approach is that secured rights are a crucial incentive for sustainable management. But the sustainability of that approach still needs to be evaluated (http://en.wikipedia.org/wiki/Ethiopian_deforestation).

B) Informal Forest Resources Institutions

Humans and their cultures are an integral part of the matrix of the environment and are not separate from it in either cause or effect. Human activity affects the environment, which is then altered, in turn affecting human activities, and so forth. The shape and form of the environment are dependent on its history, a history that includes humans. Yet it is important to realise that humans are not just another animal running around landscape. Humans are self-aware, cooperative, technological, and highly social and institutional. This unique combination does not separate humans from other organisms, making interactions with the environment very complex and fascinating (Sutton and Anderson 2004).

From the preceding arguments one might detect at least two main points. First, humans and their cultures are not separate from, but an integral part of, the matrix of the environment. Second, humans are also different from other animals in their interaction with the environment
where their activities affect the environment which in turn reciprocates the resulting effects on subsequent interactions with it.

Anthropology and anthropologists focus on the holistic aspect of human-environment interactions. Thus, the concern in dealing with forest resources institutions lights up not only the formal ones but more importantly the informal or indigenous institutions. This is because the latter appear more entrenched and sound to the local context under operation despite some claims that traditional cultures are seen as barriers to development (Crewe and Harrison 2005). Anthropology includes the study of anything else that applies to people—human biology, language, prehistory, history, religion, social structure, economics, evolution. In short, it refers to the study of human beings and its ethnographic deals on traditional knowledge systems are immense (Sutton and Anderson 2004)

Throughout time, cultures have obtained and categorised knowledge about their environments. The vast majority of this knowledge was unwritten, passed verbally from generation to generation. The amount of knowledge is staggering, and many individuals in traditional cultures know a great deal about the environment because they work in it every day. Others hold specialised knowledge relating to medicine, religion, or other fields. The practical applications of traditional knowledge and wisdom have attracted ecological scientists as well as anthropologists. However, intellectual property rights remain an issue in regard to this knowledge (Sutton and Anderson 2004, Westra 2008). Worldwide, indigenous societies have adopted their own resource management systems in unwritten form and legal authorities are debating ways to extend something like copyright protection to unwritten traditions (Sutton and Anderson 2004).

Anthropologists document these traditions because as traditional cultures disappear, much of their knowledge is being lost. This implies that it is quite difficult to articulate what exactly constitutes informal forest resources institutions. Accordingly, recording traditional knowledge is a critical concern in anthropology and in science in general (Nazarea 1999, Haenn and Wilk 2006). Even if traditional knowledge does not “fit” the data of western science it is still of great interest to anthropologists trying to understand how a culture operated. As cultural ecologists, one needs to know how a culture interacts with its environment, and so it is necessary to understand how a culture knows its environment. This is one of the main foci of cultural
ecology paradigm (Nazarea 1999). Apart from anthropological concerns on traditional ecological knowledge systems, which could help in discerning the characteristics of informal forest resources institutions, several studies have clearly articulated the place of long established customary rules about forest resources (Milton 1996, Bassi 2005, Mehta and Weeks 2009).

Studies throughout India and Tibet, for example, disclose the fact that the natural environment has been maintained more by the indigenous traditional systems than the modern state interventions which rely on policies and legislations. The works of several authors in India in this regard can be rephrased, “Indian traditional beliefs developed completely integrated and friendly with nature through a reverence for the basic elements of nature in the form of \textit{Prithvi} (Earth), \textit{Agni} (Fire), \textit{Jal} (Water), \textit{Vayu} (Air) and \textit{Akash} (Space)” (Anderson, Salick, Moseley and Xiaou 2005; Khumbongmayum 2006; Mehta and Weeks 2009; Ambinakudige and Satish 2009; Page et al. 2010; Kala and Aruna 2010). These elements of nature visible in the form of air, water, soil, flora and fauna are regarded as the abodes of God and are protected for spiritual, religious, cultural and social reasons (Kala and Aruna 2010). This kind of entrenched informal institutional protection of the wider environment can be paraphrased as “Indigenous Environmental Policy”.

Regarding the pervasive evidences of informal environmental institutions in India, the traditional Hindu society recognises individual species as objects of worship, based on accumulated empirical knowledge (Kala and Aruna 2010, Negi 2010). Indeed, according to several arguments evident in a number of studies indicated thus far, the environmental ethics and philosophy prevalent in India could be used as a model for sound environmental regime which would in turn lead towards sustainable living (Kala and Aruna 2010). Ghate and Mehra (2007) also show that although ‘participatory’ forestry is a modern concept, community management has a long history in the Indian context, which developed social laws and norms that made sure that extraction by human beings did not hinder the natural growth of the forest. Yet, the first policy statement of British India in 1894 considered forest communities as ‘intruders’ and ‘aliens’ over the state property and forest lands were transformed into mere sources of revenue for the British government (Ghate and Mehra 2007).

A study in Brazil also elucidates the permeation of forest resources institutions by the Kayapo Indians for millennia (Posey 2008). This indigenous society has been living in Amazon
for unknown millennia, during which time they developed their own strategies for management of forests and sacred groves and trees. Although serious investigation of ethnobiological or ethnoecological knowledge is rare, indigenous knowledge of ecological zones, natural resources, agriculture, aquaculture, forest and game management tends to be far more sophisticated than previously assumed. Furthermore, this knowledge offers new models for development that are both ecologically and socially sound. The Kayapo view forest management as an integrated system of plant communities rather than individual species. Likewise, the manipulated wildlife and even semi-domesticated bees figure into the overall management strategies. The long-term management strategies of the Kayapo, which actually increase biological diversity, offer fundamental principles that should guide development throughout the humid tropics along a path that is both ecologically and socially sound. Posey (2008) concludes that indigenous knowledge can help generate alternative philosophies for a more rational system of resource management in the humid tropics. The Kayapo are only one of many small enclaves of native peoples located in remote parts of the world. But the lessons they have learned through millennia of accumulated experience and survival are invaluable to a modern world in much need of rediscovering its ecological and humanistic roots (Posey 2008).

In Africa, traditional institutional arrangements that produced management systems through learning-by-doing processes [informal forest resources institutions] had largely been perceived as inefficient. This was because of inclination toward institutions for forest governance designed by the colonial forest department (Githitho 2003, Banana et al. 2007). Prior to the 1960s and even during the euphoria of independence and later into the modern periods there was rigid forest-management strategies imposed by central governments as direct or indirect legacy of the colonial governments (Banana et al. 2007). The colonial governments reflect less the desires and needs of local populations. They also restrict local peoples’ ability to adapt to changing environmental and local contextual factors as these populations were not part of the process for designing and implementing forest-management strategies (Ostrom 1990, Wilson 2002, Banana et al. 2007).

Studies in Ethiopia also show that indigenous communities such as the Oromo and the Gumuz have possessed more sustainable strategies and systems of natural resources management through their aged cultural experiences (Asmerom 1973, 2000; Wolde-selassie 2002; Bassi 2005;
Gebrehiwot 2007; Dessalegn 2009; Lemessa, Sinha and Sharma 2011; Lemessa, Sinha and Sharma 2012). The studies on the Oromo customs assert that the people had been traditionally attached with the natural forest environment. This can be evident from their entrenched customary institution of the Gadaa system and deep-rooted myths and folklore (Asmerom 1973, 2000; Meskerem 2002; Bassi 2005; Gebrehiwot 2007). Explicitly, Meskerem’s (2002) study on the folklore and myth of Irreecha, which relates the Arsadi (central Ethiopia) erstwhile forest with human creation, testify to this assertion. From this study, one can easily realise that the Oromo view humans as if they had intimately been lived with forests where there was plenty to eat and drink. Incidentally, the forest of Arsadi was believed to be a place where humans and the essence of mutual love between couples had started. It was also believed as a place where wisdom started. Hence, local communities conserve and managed forests and urge others that these resources need to be revered and managed with the entrenched wisdom at hand. The conclusion is that stories handed down from ancestors need be adhered to for wise use and knowledge about the historical significance inherent in people-forest interactions. But modern developments might not abide with this stand, perhaps on account of the perception that traditional cultures are barricades to modern spirit of development (Crewe and Harrison 2002).

In Oromo history and culture the most echoed traditional institutional relevance for forest resources is more likely the pioneering constitution of Makko Bil’i (Woldeyohannes 1998). This constitution was drafted perhaps in the sixteenth century. Out of 65 total articles of this Macca Oromo pioneering constitution, at least six of them (articles 1, 4, 10, 11, 20 and 23) concern forests or trees in one way or another. In Oromo worldview, nature is interdependent and there were no concepts like wilderness. Because, resources including the remote forests which had been communal resources have been open to sustainable utilisation by all members of the indigenous people inhabiting respective environments; despite contrary argument by some studies (e.g. Tesfaye 2007). Tesfaye’s study which concentrates on the Oromo environment of East Wallagga including Horro Guduru claim that the areas inhabited by the Amhara migrant-settlers within these environments was wilderness prior to the migrant-settlers’ encroachment on those environments. This author rather appears to have overlooked the ancestral property and ownership of large forestlands among the Oromo such as the vast erstwhile natural forests of the Abee Dongoro district in Horro Guduru.
Asmerom (1973, 2000), in his two books dedicated to the democratic culture of the Oromo known as the Gadaa system, argued that resources have been communal among the Oromo. There was no hierarchical or centralised resource ownership and commercialisation of nature among the Oromo. The Oromo democratic culture was even distinguished to have been relied on innovative principles—example, rigid eight years office term and period of testing during the gap between election and investiture (Asmerom 2000). The period of testing is not inherent in other kinds of democracy including the ancient democracy of Europe and the modern democracy of the USA. The period of testing is a time when the newly elected leader is subjected to public scrutiny till his investiture so that winning the election campaign is not a guarantee to be invested with authority to rule. This is given the person to be invested with political power detours from his earlier acceptable experiences. In addition, Oromo democracy was a government based on separation of powers (functional and spatial), distribution of powers across generation, supreme authority of the general assembly, and government by councils and assemblies (seniority and equality) among other eighteen major democratic principles inherent in the culture (Asmerom 2000). Democratic culture is stressed here because it is among the most suggested alternatives for rendering foresighted natural resources management institutions and sustainable utilisation in the contemporary global age (Westra 2008).

Bassi’s (2005) study of the Borana Oromo customary law also exhibits that people conceive certain basic principles, they act and they evaluate certain behaviour by making constant reference to a complex ideological construct, identifiable in large part with the normative sphere. This in natural resources management signals foresighted utilisation. Bassi is of the opinion that a society’s norms are not necessarily codified in an explicit, logical form, but they can also be expressed in a symbolic or metaphorical way though it does not mean that they hardly qualify for sound environmentalism.

**Conceptual and Theoretical Frameworks**

**A) The Concept of Forest Resources**

The largest global organ working on the cause of global forest resources, FAO, defines the concept “forest” as an area known with tree crown cover of more than 10 per cent of the ground and an area of more than 0.5 ha with most of its tree height at maturity exceeding 5 m (FAO 2003, FRA 2010). It is by and large based on these parameters that most geographic areas
claimed as forests fall within this wide-reaching definition for an area called forestland. Anthropological conceptualisation of forest, however, entails other parameters like the absence of other predominant land use, apart from the presence of tree canopies (Piplai 2007). The context of this study retains a mix of these definitions to demonstrate what is meant by the term forest. Therefore, a forest can be defined as an area of land extending at least for half hectares bearing large trees and diverse undergrowth species which does not embrace other predominant land use.

The concept “forest resources”, nevertheless, needs further defining modalities. In the contexts relevant to this study, the concept emphasises the usefulness of forests for people. In this connection, other resources which humans have been utilising from forests are embedded in the concept. Therefore, “forest resources” refers not only to an area identified with the parameters ingrained in the concept “forest” but also to a variety of other natural resources in and around forests such as bushes, herbs, grasses and animals which live in forests and normally because of forests. In fact, the worthiness of these resources for people could vary across societies likely because of differences in culture.

B) The Concept of Deforestation

Deforestation refers to the removal of a forest or stand of trees and their undergrowth where the land is thereafter converted to a non-forest use (Madeira 2008). UNFCCC and IPCC employ a minimum crown cover criterion of 10 to 30 per cent to differentiate between forests and non-forests. If crown cover is reduced below this threshold, deforestation has occurred. FRA (2001, 2010) also provides similar definition, “Deforestation is the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 per cent threshold’’.

Examples of deforestation include conversion of forestland to agriculture, settlement or urban use. Thus, deforestation means permanent destruction of forest resources chiefly through anthropogenic forces. Its root may range from micro-level abrupt tree cutting with its impact on the undergrowth destruction to large-scale forest clearing and burning and to lack of appropriate working policy measures to protect forests. The concept of deforestation is different from forest degradation. The latter refers to thinning or degrading in the composition and size of forests (Madeira 2008).
C) The Concept of Forest Policy

Oxford dictionary defines, “policy refers to a definite course of action selected by a government, an institution, a group or an individual from among alternatives and the light of a given conditions to guide and usually to determine present and future decisions (Hornby 2005). Policy is a comprehensive term and connotes a set of intended actions (Frazer 2002, Singh 2002, Dessalegn 2008). In this sense, forest policy is used in different contexts, from a general statement of the overall aim, goal or general objective of forest resources management for a country to a fairly detailed description of a course of action with specific objectives for a rather narrowly defined field. Thus, forest policy refers to a formal framework devised for achieving or doing a balance between competing demands regarding forests that are acceptable to all the different stakeholders, including the local community. Most local communities often have been guided by their customs in their interactions with forests so that local customs can be understood as the well established variant of formal policy at the local level.

D) The Concept of Local Customs

Local customs can be understood in many ways. In the present case, however, they refer to acquired behaviour gained through experience and learning which are used mostly to guide micro-level or a specific society’s actions, usually in the way it has been descended from forefathers. This can be described as the established patterns of behaviour within particular social setting. Customary practices are innumerable in type and underneath human actions across space and time. Such customs in Horro Guduru worth mentioning in relation to the present study include safuu (a complex web of Oromo folk wisdom and virtuous lore), ayyaana (guardian spirit believed to indwell creatures), Irreecha (thanks-giving to God), Garanfasa Hagayyaa (forest ritual observed in every August), and indigenous belief systems such as belief in “sacredness” of some natural trees, groves and forests. It was observed that the Oromo of Horro Guduru ever celebrate major Garanfasa and Irreecha rituals beside natural trees, groves and forests. Why do the people celebrate such rituals? Why such scenes are preferred to other sites? This study has tried to account for these and similar queries in its findings part.

Processual Ecological Anthropology Approaches

To deal with the theme of the present research and also to view it in wider theoretical perspectives, approaches embedded within processual ecological anthropology has been selected.
As propounded by Ben Orlove in 1980 and further revised in 2006, this theory utilises processual ecological anthropological approaches as a framework to deal with diverse ranges of environmental issues and problems. It merges theoretical frameworks entailed in cultural ecology, political ecology and/or political economy such as constraining global forces, historical ecology and related issues into four key processes. These are demographic issues, environmental problems, adaptive strategies, and Marxism. Relying on these processes as propitious theoretical framework is essential for this study as it concerns environmental phenomena immersed within complex and reinforcing processes manifest in people-forest interactions.

Passing across several research templates, the environmental or ecological study in anthropology has already reached its third stage (processual ecological anthropology), contrasting its previous two stages (Orlove 1980, 2006). The prior two stages entail the work of Julian Steward and Leslie White and/or the neoevolutionary and neofunctionalist schools. Orlove’s central argument is that unlike its two antecedents, processual ecological anthropology has begun to emerge in recent years. It merges four important features in its process of study: examination of demographic variables against production systems, response to environmental stresses, adaptive strategies, and emerging interest of anthropologists in political economy and structural Marxism. For Orlove, these four major components of processual ecological anthropology were not amalgamated in the forerunners or the first two stages of ecological anthropology.

As its name indicates, processual ecological anthropology concerns environmental factors through critique of processes such as actor-models. This helps to examine shifts and changes through analysis of the processes which generate economic, political, and social relations. Orlove is of the opinion that the neofunctionalist and neoevolutionist ecological anthropology examine the interaction between populations and environments treating the latter as a passive background to the former. However, the processual ecological anthropology examines these variables considering diachronic time frame rather than examining synchronic homeostatic equilibrium—neofunctionalist thought. Nor does it consider the many millennia of human history—evolutionary development. Hence, processual ecological anthropology is a reaction to neofunctionalist and neoevolutionary approaches in environmental/ecological anthropology. The latter approaches are also reactions to cultural ecology of Julian Steward and Leslie White.
Cultural ecology as a paradigm, and as part of processual ecological anthropology, concerns the relationship between a given society and its natural environment as well as the life-forms and ecosystems that support its life-ways. Diachronically, it examines cultural entities that existed in different ages so that it helps to interrogate historical events. Synchronically, it examines a present system so that current trends would be discerned against possible prospects. The natural environment, in small scale or subsistence societies who are dependent in part upon it, is a major contributor to some social organisations and other human institutions. Cultural ecology, as developed by Julian Steward in 1950s, represents the ways in which culture change is induced by adaptation to the environment. Adaptation here refers to a process of environmental management in which people use skill and experience in creative ways. When combined with study of political economy, the study of economies as polities, cultural ecology becomes political ecology. The analytical framework of political ecology seeks to understand and interpret local experiences in the context of global processes of environmental and economic change (Rocheleau, Thomas-Slayer and Wangari 2006). It tolerates anthropological set of notions which maintain that degradations wrought against local environments are not merely the work of traditional societies residing there as cultural units but also of the type of political climate presiding over large contexts it holds out. In this sense, vast contexts of traditions and environments may remain ceded to the overriding political economy wherein both traditional societies and the environment they had been embracing would become vulnerable to irreversible decimation or alterations (Netting 1996).

The most important departure wrought by cultural ecology is, however, its contribution in the concept of culture core—those cultural features which articulate most closely with a specific environment (Haenn and Wilk 2006, Steward 2006). Cultural ecology differs from human and social ecology in seeking to explain the origin of particular cultural features and patterns which characterise different areas rather than to derive general principles applicable to any cultural-environmental situation. It also differs from relativistic and neo-evolutionary conceptions of culture history in that it introduces the local environment as extra-cultural factor. In cultural ecological approach, primary attention is paid only to relevant environmental features rather than to the web of life for its own sake (ecosystem approach). That is, only those features to which the local culture ascribes importance need be considered. Thus, although it can be designated ecological, attention is directed not simply to the human community as part of the total web of
life but to such cultural features as are affected by the human adaptations (Steward 2006, Haenn and Wilk 2006).

Although it appears an environmental deterministic viewpoint, cultural ecology recognises that ecological locale plays a significant role in shaping the cultures of a region. In this sense, anthropological jargons or concepts like ethnomedicine, ethnoecology and ethnobotany could be best expressed in an encompassing paradigmatic thought of cultural ecology.

As highlighted above, processual ecological anthropology approach considers external forces as factors for changes wrought in local environments. A focus on Marxism in processual ecological anthropological approach is salient to view external forces as constraints to local population and environments. The beginning of strong superimposition of external forces on local populations and environments could be traced back to European imperialist expansion of the whole period from the fifteenth and sixteenth century Spanish and Portuguese exploitation of the Americas. This event later led to the establishment of European colonialism in Africa and elsewhere in the world; and it could have rigorously underpinned the current era of mystical global interconnection. The central purpose of colonial expansion was being natural resource exploitation though it was disguised for civilisation of the “heathen infidels” through conversion to Christianity. So, coupled with the development of international law and Judeo-Christian ideologies during the early years of European exploration, imperialism can be described as a cunning global scheme against indigenous people (Stewart-Harawira 2005).

In Judeo-Christian ideologies humankind was located at the top of the Chain of Being, conceived of land and its creatures as existing for man’s benefit. But it is important to raise certain queries against this motto of Judeo-Christian ideologies. Can the naturalist views that various indigenous societies across Asia, Africa and others have been experiencing for long acquiesce with this thesis? Does not this view rather seem an attack against nature [and those who cherish it]? Does not this Judeo-Christian view assent to a throw-away world view (Miller 1990) and put the practitioners of sustainable-world view (nature cherishers) down under the threshold of evolutionary ladder?
It has been theorised that cultural dynamisms in the world should be understood not simply through the concept of either lineal or multilineal evolution. It should rather take in to account the impact of the rise and fall of different cultural occurrences ushered in various world societies. For instance, Wallerstein (1976) is of the opinion that it is unavoidable to adopt the ways of life of some relatively powerful culture, especially in its capacity to develop at the cost of the relatively powerless ones. The rises of the Roman Empire and the Trans-Atlantic Trade which ushered into the most destructive power of the European era of colonial expansion were best instances of such episodes. The colonial expansion has developed into the development of western cultures and the underdevelopment of non-western cultures. Nowadays, although the non-western countries are presumed to be liberated from the colonial yoke of the west, their culture does not mirror so (Wallerstein 1976).

International law has been premised upon the western perspectives of the structure of the world and human society, and on the particular forms of knowledge and understanding that rest upon these ontologies or realisms (Stewart-Harawira 2005). Its operation of historical and contemporary mechanisms works for the exclusion of indigenous peoples and the international legal discourses and norms accommodated colonisation. In effect, the experiences of indigenous peoples within internally colonised territories wiped out. This is chiefly because, international law among indigenous peoples, particularly with regard to the reconstruction of indigenous nations, has been from sovereign nations to dependent populations. In other words, the rules and regulations, principles, policies, strategies and programs of globalisation are simply ‘blessings’ from the western powers to be adopted almost by all societies and cultures over the globe (Steger 2003, Stewart-Harawira 2005).

This spirit of international law, as rooted from the fifteenth century European imperial era and its application to indigenous peoples, has been complimented by the theological debates legitimating Spanish territorial claims. Especially, the debates over the right to possess indigenous peoples and their resources gave rise to the concept of the doctrine of discovery among Christian religious circles. This can be evident from the following declaration by the Roman Catholic Pope during the European age of exploration and discovery.

*The Pope could place non-Christian peoples under the tutelage and guardianship of the first Christian nation discovering their lands as long as those peoples were reported by the*
discovering nation to be well disposed to embracing the Christian faith (Stewart-Harawira 2005).

The present study attempts to view the root causes of forest resources destruction and predicaments of indigenous customs attached to sacred forests, groves and trees in Horro Guduru within the preceding theoretical frameworks.

**Aims and Objectives**

This study was carried out in Horro Guduru to understand and explain the following major aims and objectives.

1. To comprehend the resourcefulness of forests/trees in diachronic and envisioned views;
2. To examine the realm of deforestation (if any), identify major factors for deforestation, distinguish the nature or processes of forest exploitation over years and the consequences thereof;
3. To assess the knowledge, formulation and implementation of forest policy (if any), and appraise it in view of some other interlinked policies in relation to forest resources protection and utilisation;
4. To understand some customary domains attached to forests/trees just to disclose the significances local customs could have in conservation of natural forests/trees and vice versa, examine the status of such local belief system(s) in the course of rampant spread of external forces such as Christianity; and
5. To discover possible ways of regaining lost forestlands and sustainable utilisation of the remaining forest resources.

**General Guiding Questions**

To achieve the above purposes the study has mostly pondered the following guiding questions:

1. Are forests resources? How do forests become resources in relation to local realities? Or, what indicators are there to view forests as resources?
2. What factors are responsible for deforestation (if any)? What major processes it reveals? And what consequences are being witnessed because of deforestation?
3. Is there effective forest policy regarding forest resources utilisation and protection? If yes, how far has been the effectiveness? If not, why and what should be done to make it effective?

4. Are there useful and effective customary practices in forest resources protection and utilisation? If yes, how do they become useful? If not, why and what should be done to make them useful and effective?

5. Is it possible to regain the lost forestlands and sustain the available ones (if any)? If so, how? If not, why?

These broad guiding research questions were reformulated into more specific research questions during the fieldwork to facilitate data generation. The reformulated specific research questions were used as searchlights to generate data through interviews, Focus Group Discussions (FGDs), case studies, and observations (both participant and non-participant observations). Appendix I displays some of the reformulated specific research questions utilised to generate data in line with the aims and objectives and general guiding questions of this study.

**Hypotheses of the Study**

Based on the preliminary study of 2010 in the present research site, the following hypotheses were envisaged to be validated or invalidated by the conclusions to be drawn from this study:

1. Forest resources have been harshly degraded because of scattered rural settlement patterns and are more severely being destroyed mainly because of agricultural activities.
2. Local customs have been relatively environment-friendly but were being outshined by some environmentally-insensitive external forces or encroachments such as from the state and modern religious institutions.
3. Forest policies keep their lasting force into local settings for they are part of the larger global systems. So, effective repudiation of some locally unwelcome state policies could seldom be possible at the local level.
4. Forest resources could have been maintained, regenerated and sustainably utilised provided that state policies and local realities have been retaining mutual co-existence.
Significance of the Study

The significances of this study could be considered in two ways. One is related to the aptness of anthropology in environmental studies as a well situated discipline in concerning the holistic aspects of people-environment interactions (Townsend 2000, Gragson 2005, Malleson et al. 2008). The other is in relation to its potential contribution to knowledge and desirable interventions. The latter is by revealing the diachronic and possible prospective contexts of man-forest interactions in Horro Guduru. While the former is grasped from immense anthropological insights realised through reading of important literatures this study had utilised, the latter is based on empirical results of the present research.

To begin with, anthropology has both an appropriate degree of humility and a broad enough vision to address environmental mess that we humans have made (Townsend 2000, 2008). Actually, its aged traditional disciplinary concern with diverse traditional and rural communities and their ways of life plausibly make anthropology a viable science to study and address a number of environmental issues and concerns. It is plain from readings of early anthropological works that geographies and traditions remote from urban centres were almost an exclusive anthropological concern until very recently (Milton 1996). The larger rural environments at best have been almost exclusive disciplinary focus of anthropology. Ethnographic explorations of the pioneering standard ethnographer Malinowski (1922) attest to this assertion. Therefore, the fact that anthropology has been dealing with the vast rural environments over years would make the discipline suitable in current and envisioned environmental problems. It also confirms its historical and resolute disciplinary foundation for environmental studies. Indeed, anthropologists’ traditional concern with diverse cultures and environments has enabled the discipline to come up with more distilled and diversity considerate theoretical, epistemological, and methodological canons. This could make the discipline better in applying sound environmental policies, strategies and programs which could in turn suit crafting or making ecologically appropriate policies and strategies.

This study would have informative power to precisely understand the manifold importance of forest resources in local setup; to illuminate rates, processes, causes, and consequences of deforestation in rural farming areas. The study can also have informative power in bringing to view a seldom discerned local realities, institutional fluxes, policy and legislative
gaps in forest resources protection, development, and conservation. Moreover, the study has disclosed multiplicity of folk knowledge domains about people-forest interactions over time. It was found that several groves and trees and sacred forests have able to reach this generation on account of the role played by pertinent local customs, despite prolonged politico-religious state impositions and state lax to promote them. This reveals that local knowledge systems are not as such too untenable to remain steadfast in human-environment interactions.

In the context of Horro Guduru, this kind of study was done for the first time. Therefore, the study has pioneered in exploring and documenting specific customary practices which would otherwise be abandoned in due course of the spread of impinging external forces just before grabbing any research attention or documentation. Documentation serves not only underpinning similar research works for critique or further breadth and depth but also stretch the studied customs to posterity. Undeniably, when diachronically viewed, the study has brought customary knowledge systems about forest resources and natural environment to the public. Likewise, it has produced important knowledge in relation to traditionally entrenched local level “forestism”—a new concept coined to denote indigenous forest management—and thus could be able to inform modern forest policy discourses. Consequently, policy makers and implementers and other concerned bodies might find genuine ethnographic information based on the context of Horro Guduru.

On the whole, the study might be conceived as a contribution to knowledge, particularly in environmental discourses evident in anthropology and beyond. It has revealed the often unnoticed qualitative explanations of local level people-forest interactions, which other methods like sole application of satellite imageries could not suffice for their deficiency to show what has been going on against forests or other natural environments on the ground. For example, solitary MODIS and GIS based studies of forest-people interactions could not help in exactly understanding whether a forest was lost due to legal or illegal clearing, unless corroborated by interviews with the local community. This study has relied on qualitative data generation thus it can serve in abridging such gaps. The study could also serve the role of enriching or instigating other similar studies. The limitations of the study to reveal the past and forthcoming scenarios of forest resources destruction, such as for lack of appropriate state intervention, would warrant further study so that the frontier of research on the issues of forest resources would be widened.
In that sense, knowledge about forests in relation to state policies and indigenous knowledge systems would be pushed further. This may, in turn, help in sustainable utilisation of forest resources and recognising indigenous cultural rights and survival.

**Limitations of the study**

The researcher does not claim that this work is infallible and free of limitations. Since the research has been the result of the first investigation of its kind as regards to the Horro Guduru forests, several gaps are expected. Some supportive data utilised in this study, especially approximate figures on the lost and available forestlands, need further exploration. The researcher has done his level best to use some approximate figures as there was no scientifically organised database available in Horro Guduru or other related offices or sources regarding Horro Guduru forest landscape. Exhaustive study is also needed on rituals being practiced on behalf of the *safun* and *ayaana* of those much localised sacred groves and trees in Horro Guduru as this research has explored only some few representative samples of these ritualised areas, mainly because of the short-lived nature of the fieldwork. These and other potential inadequacies of the study would fairly more warrant further study than seriously constrain the more of comprehensive nature of this research on the issue of forests in Horro Guduru.

**Ethical Issues**

To the level best of the researcher, informants’ anonymities were contemplated in this research. Data has been generated after securing permission from Horro Guduru administrative zonal office and sample districts’ administrative offices as well as implementation of informed consent with informants. Some attempts have been made to corroborate the structural and substantive drafts of the study with the data initially provided by informants just during the final phase of the fieldwork. The final results of this study have been produced by maintaining the skeletal structure and contents of the corroborated findings.

**Chapter Scheme of the Study**

This study is organised into six chapters with topics, sections and subsections. The major topics of the first chapter are general background, statement of the problem, review of related literatures, conceptual and theoretical frameworks, aims and objectives, general guiding questions, hypotheses of the study, significance of the study, limitations of the study, ethical issues, and chapter scheme of the study. Chapter two is all about the study area. It attempts to
highlight general overview of the Horro Guduru. The main themes of the area include genealogical setup, history, geography and environment, the economy, and culture. Chapter three concerns the materials and methods as well as the fieldwork that the researcher has experienced. It explains techniques utilised to sample informants and methods followed to generate and analyse data.

Chapter four presents results or findings of the research in line with the objectives of the study. It deals with four major themes: forest resources in retrospect, deforestation and changes in forest landscapes, forest policy and protected areas and local customs in relation to natural forests/trees. Attempted to be explained under theme of this chapter involve the importance of forest resources in sustaining especially in relation to sources of local technologies, energy, construction material; other essentials. Data dealt within this initial theme were generated mainly through application of respective research questions to key informants interviews, case observations, and examination of archival resources. Thus, data organised and analysed first theme were mainly obtained from primary sources. The second theme of the deforestation and resulting changes in forest landscape, attempts to convey the major processes, causes and consequences of deforestation and pinpoint the scenario of landscape changes which had been occurring over years. Relevant data under this theme generated through application of respective research questions for semi-structured with clustered peasant informants and local authorities and experts, key informants’ non-participant observations, and case studies of some attention grabbing deforested sites.

Furthermore, the realm of forest policy and formally protected forest resource theme of chapter four, particularly treats peasant knowledge about forest policies and forest areas; practices and implementation of forest policy, legislations, proclamation effectiveness thereof. Relevant data were generated through semi-structured interview sample populations; critique of important archives on forest policies, legislation; proclamation; and in-depth interviews with key informants. Finally, the fourth theme focuses on local customs and natural forests and trees, attempts to inquire some environments in Horro Guduru and the cultural attachments therein. Accordingly, sacred groves, trees and some sacred forests were discovered and considered in detail.
Important points like the relevance of local customs for forest sustainability and environmental protection are exhibited and analysed in detail. Fundamental assumptions behind belief in sacredness of natural scenes, namely, trees, groves, and forests are examined and the status of such belief systems in contexts of changing practices and rural livelihoods are explored. The contexts, interpretations, and environmental validity of some local customs, namely, *safuu*, *ayyaana* and *Garafasa Hagayyaa* are critically scrutinised and the place they had deserved in the eyes of contemporary or past state encroachments in local affairs, are explored and examined.

Chapter five concerns the discussion and conclusions part of the study. The discussion part attempts to view the results of the study in a more exhaustive way and wider theoretical perspective. The conclusions part tries to draw the study to a close, on the basis of its aims and objectives, by way of highlighting important points including those which warrant further study.