

**THE ROLE OF GEDEO AGROFOREST IN THE
IMPLEMENTATION OF ENVIRONMENTAL
LAW**

**(THE CASE OF BAYA KEBELE KOCHORE WOREDA GEDEO .
ZONE SNNPR ETHIOPIA)**

Senior Research Paper

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St. Mary's University College,

Dilla Center

**THE ROLE OF GEDEO AGROFORESTRY IN THE
IMPLEMENTATION OF ENVIRONMENTAL LAW: THE CASE
OF BAYA KEBELE, KOCHORE WOREDA OF GEDEO ZONE.
SNNPR ETHIOPIA**

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By

Dawit Moges

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St. Mary's University College, Dilla Center

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COLLEGE OF OPEN AND DISTANCE LEARNING

As a member of examining board of the final senior essay presentation/ defense we certify that we have heard and evaluated this paper prepared by Dawit Moges entitled “The Role of Gedeo “Agro forestry” in the implementation of environmental law” and recommended that it be accepted as the partial fulfillment of the requirements for the Degree of LLB

Examiners

Signature

Department Head

Examiner (1)

Examiner (11)

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First and for most, I would like to praise Almighty God for his immeasurable assistance throughout my life.

I would like to express my profound thanks to God for his unreserved encouragement, comments and useful suggestion from the very beginning up to completion of this study.

Finally, I would like to acknowledge my wife w/ro Genet Samuel for her material and moral support.

Abstract

The purpose of this study was to identify the role of Gedeo agro forestry environmental law in Baya kebele. The source of data were 20 farmers who are engaged on farm cultivation. The selection informants based on judgment sampling techniques under non probability method. Data was collected by using interview and questionnaire. The analyses of data were made simultaneously while researcher gathered the required data. The result of study revealed that there was lack of awareness to maintain the Gedeo agro forestry system, growing indigenous trees have no side effect but substituting the customary Gedeo agro forest had side effect that could not be effective but some of the governmental officer were trying to replace the customary system by the new law. Through there are some adverse practices, the farmers were striving to maintain the system finally, to elevate this problem the researcher gave some proper recommendation.

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Abstract

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Agro forestry is one of the main economic activity that is practiced for many years throughout the world. Today in many counties including Ethiopia it has become basic source of income. Thus the rural developmental policy and strategy of federal democratic Republic of Ethiopia which was published in 1994 E.C states the management and careful usage of arable land and its resources including agro forestry emphasizes the effective cultivation has an indispensable role for sustainable and productive life of agriculture by encouraging the traditional and customary law of environmental preservation inherited from ancestors should be included with modern system of cultivation (1994:34).

Basically, agro forestry is the land use management in which trees or shrubs are grown around or among crops or pasture land, that combines agriculture and forests to create more diverse, predictive, profitable, healthy and sustainable land use system. Because this kinds of system is more advantageous over conventional agriculture and forest production method that can offer increased productivity, economic benefit and more diversity in the ecological goods and services production.

But the major constrains experienced by farmers are lack of awareness about forests in general and agro forest in particular, poor management of arable land, clearing forests, inconvenient usage of environment led to soil erosion. Climate change and then to global warming. This kind of poor management clearly stated by the scholars Ato Fessesu Neri and Getachew Tadesse.

According to these scholars:-

- A century back some 40%-50% of the Ethiopian land was covered by dense forests. But at present very surprisingly forest lands occupy well below 3% of the total area of the country. Large scale and very rapid deforestation has contributed a lot to the decline of forest resources in the country. Because in the urban area people in fact live on the forest resources. As a result, forest cover is declining from time to time. The present trained of forest exploitation will undoubtedly lead the country to barren lands. The only remaining

patches of Ethiopia agro forest are found in sparsely populated, in accessible and remote high lands of south western central and south central parts of Ethiopia (2002:193).

In order to control such problems countries like USA and India included acts of environmental policies in their constitutions to safe guard their environments, and to maintain the balance of ecology. For example Bhatia (2001) says “the USA has the practice of environmental assessment that was initiated on January 1, 1970 in the country. Since that time more than 100 countries in developing nations either have passed specific analogous law or have adopted procedures used elsewhere(2001:443).

The same thing was done in India as mentioned by Bhatia (2001,443).

- The problem of environmental management is becoming a complex issue in India where poverty and under development is common in rural areas. For that matter India included environmental laws in her constitution, in the constitution of India Article 47, Article 48A, Article 51A(g) and Article 246 all are about the protection and improvement of environment to safe guard wild life, forest and agro forestry. For example article 48A says “..... the state shall endeavor to protect and improve the environmental and to safe guard forests wild life and agro forestry of the country (Ibid).

On the other hand, countries that have not actively enacted such environmental laws and reluctant in preserving it, face serious hazards a life resulted from climate change because of deforestation and improper usage of agro forestry, which are the main causes of such problems.

In Ethiopia, despite the effort of the government in the process of agriculture development, it has been noted that there is still a gap in the usage of arable land and agro forestry. The situation is not different in Baya kebele of Kochore woreda in Gedeo zone at SNNPR, where the customary agro forestry recite is being decreased due to different factors. Most of the young generation is not implementing the tradition and most of the indigenous trees felled in areas of the woreda by being used for local usages like fuel wood, poles, house hold furniture’s, house building and other construction purposes and also the agro forest products are being sold on the local markets at a lower price.

Above all, the adverse usage of agro forest in the kebele in particular and in the woreda in general has created problem for the production of coffee and other cash crops. For example the

Yerga Cheffe coffee that has worldwide demand due to its special test and organic nature has been experiencing a big threat due to the destruction of agro forest and its interrelated ecology. Of the environment which is not only much complex of nature and dynamic, but also interdependent component of nature and organism that is mutually reactive and interrelated.

The more worsening is that the Gedeo customary and cultural way of integrated cultivation of temporary and fixed crop production is being disrupted. Today the old age trend of growing indigenous trees, soil conservation and customary environmental law is decreased.

Therefore, this study tried to examine the role of Gedeo agro forestry implementation of environmental law in Baya kebele of kochore woreda in Gedeo zone at SNNPR. And suggested possible solution at the end of the study.

1.2 Statement of the Problem

Like other economic activities, agro forestry has been practiced by many farmers for many years, by traditional and cultural way of cultivation especially in countries like Ethiopia.

Habte Jabessa and Teshome Soromessa (2005) defined agro forestry as follows. “..... farm forestry that include trees grown with in a farming system”. According to them in Ethiopia farmers have used traditional farm forestry practices such as home stead tree planting, field tree planting and farm boundary (fance) planting. Farmers find some suitable places for trees of choice left in strategic positions with in fields and in the entire cultivated land escapes. The field and settlement areas are usually devoted with trees (2005:221).

So as, agro forestry system is typically higher than conventional agricultural system with two or more interacting plant species in a given land area. It creates a more complex habitat that can support a wider variety of birds, insects and other animals.

Depending in its wise application agro forestry include reducing poverty, contributing for food security, clear water and countering global warming... etc. if it is well managed. But, un proper usage and un wise management of agro forestry affected productivity of crops and the environment with its ecology. Therefore, problems are observed in its preservation due to shortage of arable lands, the need for fuel woods, house contraction, house hold furniture’s need and the need of money through the sale of forest products and other similar factors.

Above all, the rapid deforestation process, low demand and interest to for indigenous trees, lack of modern lumbering technology are considered as the major problems of farm forestry (Ibid).

Unlikely, such kind of adverse environmental practice was not accustomed by the Gedeo people before 30 years, where all the Gedeo lands were covered by denser forests of indigenous trees and various kinds of crops that was cultivated by integrated cultivation that protected soil erosion and increased productivity of coffee and inset. In this regard professor Tadesse more ascertained by his research work “..... the Gedeo are unique in combining enset with diverse multipurpose trees and scrubs including coffee, various annual crop and animals (Kippie, 1994; the woody Biomass inventory, 1996). This is so because the people of Gedeo inherited this method of land cultivation from ancestors and enriched through life long practices. Kippie (2002) discussed this thousand years practice by short and précised sentences as follows : Gedeo land use is also considered an indirect progenitor of conventional agriculture, forestry and agro forestry. This is true when the remaining physical environments are observed in some areas where customer agro forestry is still being practiced.

Contrary for the last 30 years, due to the in consistent application of mono cropping, that force to clear indigenous trees from the farm lands the customary agro forestry culture is violated. Due to this violation and the interest of selfish merchants who come from the central parts of the country those precious and indigenous trees are currently endangered in the area.

Like other parts of the country. Baya kebele of Kochore woreda in Gedeo zone the way of preserving agro forestry is not encouraging because the implementation of modern soil conservation practice does not go harmoniously with the customary method. Different reasons associated with the economic, social and political factors including lack of awareness, the agro forest coverage decreased from time to time in the study area. Specially the un willing of young generation to respect Gedeo cultural law (Sarra) of preserving and growing indigenous trees, the lack of awareness of government officials of the woreda, shortage of arable land, the giving up of traditional and spiritual outlook changed by modernization, the absence of comprehensive environmental law that can be practiced with the Gedeo customary agro forest law concurrently are the main factors.

Moreover, the mention factors contributed their own negative impact on the production of other crops for consumption and commercial items such as enset and coffee.

However, the problem can be minimized by maintaining cultural law with sectorial law at the same time in the process of cultivation. Providing and creating awareness through proper guidance and counseling has been another way of solution.

In similar way, the researcher made some observation on the study area, before conducting this study. During the observation he recognized some adults who have lived for a long period of years and willing to maintain the Gedeo cultural law of environmental preservation through the customary agro forestation and some youths who have bright future and vision on the issue.

Therefore, the intent of this study was to examine the role and contribution of Gedeo cultural agro forest method of growing trees to the modern sectorial law and suggest possible solutions. In drafting comprehensive environmental law.

1.3 Research Questions

Taking the above issues in to consideration the study attempted to address the following basic and leading research questions at the end of this study.

1. What is the role of Gedeo agro forestry in the implementation of environmental preservation and crop production?
2. How the cultural law of Gedeo Agro forestry can be effectively implemented?
3. In what way the Gedeo cultural environmental law can be practiced and implemented harmoniously with the governmental agricultural policy and strategies and modern sectorial law?

1.4 Objective of the Study

1.4.1 General Objective of the Study

The general objective of this study was to investigate the lifelong and the progenitor agro forestry practice of farmers in Baya kebele of Gedeo zone. Though there is no comprehensive environmental law in the country. The owners of arable lands in Baya kebele have their own way of preserving agro forests. Therefore, examining the cultural rule of these people has been the main objective of this study.

1.4.2 Specific Objective of the Study

The study had the following specific objectives and tried to:-

1. Find out the way in which the sectorial law and the cultural life long rules of farmers has been implemented harmoniously together.
2. In from the draw backs, problems and their sources encountered in the process of implementation of agro forestry by the farmers and finally
3. Show the role of cultural law in implementation of comprehensive environmental preservation.

1.5 Significance of the Study

The life of farmers and environmental preservation are closely related and interdependent phenomena. Because an environmental plays a vital role in determine the present and future life of its habitat. Therefore, the preservation of environment is part of sustainable life and productivity. So that implementing the law of environment requires to consider the lifelong customary law practiced on the arable land of farmers. Because customary law has its own strong sides and advantages.

Customary law is viable, when it satisfy the following characteristics:-

1. If it has no conflict with only other fundamental principles of law.
2. If it has been existed for a very long period of time and been observed, and
3. If it is certain.

Source:- (customary law module 1 p.4 St. Marry University College)

Therefore, applying such customary law that served generation has a significant role in the implementation of environmental law.

On the other hand, when environmental law is unable to solve social problem, it is none of its objective and has a chance of facing problem on its implementation. Because, implementation is based on the application and objectivity of the social life.

Thus, this study had the following significances:-

- Examine and inform the weak sides and draw backs of modern agricultural extension when substituted on the place of Gedeo “Agro forest” customary law to farmers.
- Inform how soil conservation and can be implemented concurrently with the Gedeo “agro forest” customary law.
- Suggest weak sides if the lifelong customary law associated with the daily life of farmers and then to proceed it by the support of environmental law.
- Suggest and notify the woreda rural development agents and politics leaders, the importance of Gedeo “agro forest” law to the environmental law and encourage them for better achievement.
- Serve as an input for the implementation of environmental law by analyzing the existing environmental condition to users.

1.6 Scope of the Study/ Delimitation of the Study

The study was delimited conceptually in investigating the role of Gedeo “agroforest” in the implementation of environmental law in the case of Baya kebele of kochore woreda, Gedeo zone in the SNNPR moreover; the study has been delimited to the year 2014.

1.7 Definition of Operational Terms

- Agro forest – farm forest
- Gedeo ‘agro forest’ – an indirect common progenitor of modern forestry and agriculture.
- Progenitor – source or the beginning
- Enset – the cultural and staple food in parts of SNNPR especially in Gedeo
- Microbes – small living things
- Microfuna – living animals in agro forestry
- Micro flora – plants in agro forestry
- Multipurpose trees – trees more than one significant product/uses

1.8 Research Methodology

This chapter gave more emphasis on the design, participants of the study, data collection instruments, data collection procedures and finally discussed about data analysis techniques.

Thus the researcher used descriptive survey methods for the study. Because the method has been more convenient to obtain relevant information's concerning the existing conditions and status of phenomena and used to draw possible and vital conclusions from the facts discovered.

Moreover, the method was chosen to evaluate the general and specific values of customary laws of Gedeo agro forestry on the implementation concurrent with that of modern environmental law.

It could be also convenient to collect detailed description of the current practice and principles of cultivation within the cultural and environmental practice and its economic and ecological advantages has been stated and analyzed through this method.

Furthermore, the researcher used quantitative and qualitative research design in the process of presentation and analysis.

1.8.1 Sample and Sampling Techniques

For this study relevant information's could be gathered from sample subjects that could be selected from Baya kebele farmers who are engaged in practicing the Gedeo customary agro forest method currently on one part and on the other hand those who practice modern environmental law could be considered as a target population or sample subjects for this study.

Thus, the total number of respondents has been 20 farmers who were selected by judgment sampling techniques under non probability methods. The judgment sampling technique could be chosen due to the reason that the sample subject could provide the maximum degree of information to investigate those factors that could affect the implementation of Gedeo agro forestry and modern environmental law.

1.8.2 Types of Data Collection Tools

The researcher used questionnaire and interview tools to collect information's. The tools could be used due to their convenience prepared in English and translated in to Amharic in order not to miss relevant information. The tools were – both questionnaire and interview check lists that could be open and close ended items.

1.8.3 Methods of Data Analysis

The data that could be gathered from sample subjects through interview and questionnaire of open and close ended items were coded, tabulated and analyzed by using frequencies and percentages. Then the analyzed data of information could be interpreted to draw conclusion and recommendations.

1.9 Limitation of the Study

In conducting this study and going through the following problems were encountered by the researcher:-

- Getting an appropriate reference materials of reviewing literatures and conducted researches in the area,
- Shortage of time to conduct the study, the researcher faced hard to cover the office work in the two separated areas.

1.10 Organization of the Study

The research paper has been organized in four chapters. The first chapter was briefly discussed in the introduction part which mainly contained the background of the study, the statement of the problem, objectives, significance, research questions, research methodology, limitation, delimitation and organization of the study.

Chapter two composed of review literature, chapter three had the result and discussion or data analysis and presentation and finally chapter four has been about summary, conclusion and recommendation.

CHAPTER TWO

2. Review of the Related Literature

2.1 What is Agro forest?

Agro forest is a farm forest that encompasses trees grown with in farming system. It is an important reservoir of biodiversity (plant, animal, microbes) and a special ecosystem for people living around it. professor Tadesse Kippie (2002) defined it as a form of modern polyvalent land use accommodating aspects of forestry and agriculture but falling short to accommodate Gedeo 'agro forestry' which is an indirect common progenitor of modern forestry and agriculture.

The agro forest ecosystems have an invisible hand affect on our environment. It conserves water and protect environment ensuring the well being and moral of people. In agro forest both human and animals feast as they do around the home stead. It was because of this factor why countries of the world draft and include policies and principles in their conservations as an environmental law. For example Article 92 the Ethiopian constitution reads about the preservation of environment that encompasses forest and agro forest.

The agro forest resources are important for the economic well being of every nation. Fruits of all types, honey, farm and house hold furniture, fire wood, forge and diverse materials all for an construction are all obtained from agro forest particular and from forest in general. Therefore people use it in their farms.

Habte and Teshome (2002) stated that "In Ethiopia, farmers have traditionally used farm forestry practices such as home stead tree planning, crop cultivation of different types to support their lives by the resources of agro forest.

People in many areas like that of Gedeo, use the integrated cultivation system in the form of agro forestry to use their limited area of land as stated by professor Tadesse Kippie how Gedeo people managed and used their land effectively for thousands of years through their progenitor agro forest system.

According to professor Tadesse (2002)

The principles and practices applied by the Gedeo in managing their agro forests are adopted to the constraints their face. The basic constraints of course are those related to land. I.e. land shrinkage and fragmentation of landed property (table 4.1, Ch 4, Fig 6.1). Other problems such as population growth and un balanced interactions with the external world exacerbate this basic one.

This shows that agro forest is the key methods used by the Gedeo people to solve problems of Shranked land size and fragmented land locations. Indeed problem of land has been not the issue of the Gedeo only. There are people in other area who share the same problem land size and amount. The following statement forwarded by Ato Fessesu and Getachew is more evident.

Fessesu and getachew (2004) “The land owned by peasants is getting smaller and smaller through time to time to continuous division of farm land among the number of families in the farm of inheritance thus the agricultural lands therefore fragmented and peasants are forced to use integrated cultivation.

Therefore, one can easily understand from, the above discussion what agro forest and its importance for sustainable productivity and environmental preservation for supporting animals and plants other than water, soil, air and climate safe guarding role.

In general, agro forestry system is higher than the conventional agriculture by countering global warming and the risk of hunger by increasing the number of drought resistant tree and the subsequent production of fruits, nuts and edible oils, reducing deforestation and pressure on wood lands by providing frame grown fuel wood, in addition in reduce and eliminate the need for toxic chemicals and insecticides, in situations where people have limited access to main stream medicines, providing growing space for medical plants.

In addition, agro forestry provide a different land use options compared with traditional arable lands and forestry by making complimentarily between trees and crops. So that the available resources can be more effectively exploited through the system of agro forestry.

2.2 What is “Gedeo Agro forestry” and its Importance

Professor Tadesse (2002) defines Gedeo ‘agro forestry’ as an indirect common progenitor of modern forestry and agriculture. In his definition professor Tadesse shows that the customary ‘agro forestry’ of Gedeo has been the basement of modern agro forestry because its sustained for five thousands of years without any external interventions. This people used the method thoroughly in a traditional way. They do not use tracing for soil conservation. Instead they protect erosion by using different weedy plants in association. The history of Gedeo people states the idea in the above paragraph as follows. “Agro forestry is a collective name for land-use systems in which trees or shrubs are grown in association with herbaceous plants/crop or pastures/, in a spacial arrangement or a rotation, and in which there are both ecological and economic interactions between the trees and other components of the system (2000, 143).



2.2.1 The Importance of Gedeo “Agro forestry”

Gedeo ‘agro forestry’ is a customary method of cultivation of crops and trees that has been inherited from ancestors and it is a method that respects and maintains of landscape benefits. It is also an efficient modern version of agro forestry that is adopted to with stand environmental constraints.

It is the resource conserving, self reliant and productive design integrating the aspects of crop tree cultivation and productive environment.

Beyond, the wise use and management of land has other functions. Professor Tadesse says “Gedeo ‘agro forests’ are just and human (ch. 6) Gedeo tradition ensures that every household has its own land, no matter the size of the land (ch 6) the opportunities which the society enjoys

due to the practice of the customary agro forest. Gedeo land use provides opportunities for participation for men and women, young and old, adult and children, rich and poor. The notion of unemployment makes no sense in Gedeo society, there being no real environment to monetary wage (2002:179)

Likewise, the Gedeo 'agro forest remained productive for farmers in which they earn continuous revenue, which is not the case when arable land is exclusively reforested. Because it allows for the diversification of farm activities and makes better use of environment.

In general, the Gedeo 'agro forestry' has an interesting importance from three different perspectives:- such as from arable perspective, farm forestry perspective and from social respectation perspective, which is known as environmental perspective.



2.2.2 Gedeo 'agro forestry' from farm land perspective

The system of Gedeo 'agro forest' plays a significant role through diversification of activities of arable lands. By building up the inherited multipurpose trees without disrupting the revenue of farms from those plots which have been planted for protection of intercrops and animals by the trees. Which have a wind break effect providing shelter from the sun, raining, from the wind, holding the soil in place and stimulating soil micro fauna and micro flora. It also contributed for recovery some leached or drained nutrients by the deep roots of trees, enrichment of the soil organic matters by trees and the dead roots of trees.

Possibilities of combing the interest of owners for an inheritance of wood and the farm for an access of cultivated land. Possible remuneration for the arable farmer for looking after the trees.

Alternative to full restoration of arable land, permitting the continuation of arable activities on land whose potential is therefore conserved.

Likely it has been possible to gain a vital advantage through the customary Gedeo ‘Agro forest system in which coffee, enset, different species of multipurpose trees, more than 107 weedy herbaceous, beehives and animal rearing etc is cultivated in a limited area of lands that enabled to harvest from productivity. For example, the Yerga cheffee coffee, with its soundly test, organic nature that won the world’s good will is the product of Gedeo ‘agro forest’

“The way of land use enabled the Gedeo not only to avert hunger in the steep sloping highlands without terracing but also products commodities for the market, such as above mentioned Arabica coffee types (Kippie, 1994: 2002, 132)”.

2.2.3 Gedeo “Agro forestry” from the Forest perspective

From the perspective of forest, the Gedeo ‘agro forestry’ has played a significant role by supporting the economic, cultural, social and spiritual life of Gedeo people.

It has been source of quality wood that are tall and broad leaf which accelerated by the growth of their diameters. The woods have an indispensable role in the production of coffee, enset and other crops. They protect coffee seeds from the reach of sun heat in summer and in the winter these trees protect coffee bearers from heavy rain and snow. In general it guaranteed the follow up and wood care of other plants and animals.

Moreover, from the forest perspective the Gedeo ‘agro forest’ contributed for cultivation of indigenous trees, temporary and fixed crops, animals , birds, bees and other small insects.



Beside their economic aspects trees have much more meaning to the life of Gedeo people. In the culture of Gedeo farmers who don't grow trees in their farms are not respected and considered as nomads grace less and not blessed. They are taught as rude, dependent, neglected and out casted by the society (History of the Gedeo people 2000; 144).

On the other hand, the one who has trees in ones farmland is believed to be blessed. graceful and the sign of permanent sustainability. Therefore, such kind of people have much respectation by the society.

Therefore, the society used to grow trees like berbera, gerba, odal (*Albizia gummifera*), wolena (*Ergthrina Abyssinia wodessa* (*cordial amygdalina*), bissana (*corton macrosta*), gudubo (*Scheffera adelfigried*). Zigba (*podocarpus faleatus*), abich grawa, adame, talao, dega badessa, sessa.... etc in their farm land in a farm of Gedeo agro forestry?



All of these indigenous trees have different purposes according to their item, hardness, softness and age. Some of them are used for construction, others for shelter fertility and for cultural and spiritual ritual ceremony.

For example, in the Gedeo culture to transfer from the age hierarchy of administration 'Lubba to Yobba the candidate has to cut and hold woddesa (*cardinamygelatina*),Wanza its Amharic name. This is evident how much trees are associated with the life of Gedeo people. Therefore, in every aspect of Gedeo people's social life the connotation of tree is very big.

2.2.4 Gedeo 'Agro forest' From the perspective Environment

The Gedeo 'agro forest' has an immense value on the perspective of environment. Because it contributed a lot for the well being of environment by maintaining ecological system in a better degree than the new soil and water conservation ways of preservation.



The improvement, development of natural resources, cropping patterns from the same areas of land, better control of cultivated area, creation of original land scape, open and favorable recreational sites, all are the accustomed practice of Gedeo people by their inherited agro forestry tradition from their ancestor that, sustained for five thousands of years. This system of agro forestry is much better than that of the modern agro forest for soil conservation and better cultivation.

Due to the above discussion one can easily imper that the Gedeo agro forestry is prior to that of the modern farm forest and environmental principles and law of Ethiopian government.

For example Ethiopia has got its environmental law setting from the reign of emperor Menelik II for the first time in history but the Gedeo agro fest began five thousand years before. And the later and recent environmental law of FDRE is proclaimed in 1995, which is embraced by the constitution of the country of 1995. Article 42. (1995; 34)

However, the people of Gedeo did a lot regarding environmental care by the method of customary Gedeo agro forestry' as to professor Tadesse (2002).

Result show that the “agro forest” soil had comparable nutrient reserve as forest soil in similar ecological zones (ta. 7.1). this is indicative of the nutrient supplying potential of soils under Gedeo management for the prevailing production levels.

Through unwritten rules and religious rituals the Gedeo inculcate up on the mind and of their young generations the principles of soil protection. If enriched by scientific thinking, the promise of these systems and their further development is remarkable, if it were only for attaining sustainable and productive soils in the many regions in the world managed by or suffering from hunger and poverty.



Therefore, the going paragraph show how ‘agro forestry’ of Gedeo sustained and how the Gedeo people taught their young generation and inherited the system. The paragraph also states what the people of world can learn from the Gedeo ‘agro forestry’ system.

To sum up, the soil degradation and loss of production are often the consequence of neglect and lack of awareness, which is not the culture of Gedeo people.

2.3 Modern Sectorial Law

Modern environmental law is a guideline formulated for a miss use of resources in a systematic conservation techniques to minimize wastage of resources. Therefore the guide lines and principles are derived from environmental policies. The main goal of these policy is to protect environments from natural and human made problems.

However, countries of the world have no similar and identical environmental policies and rule due to different environmental problems in their own countries, according to their economic

development and backwardness. In developed regions environmental problem is the result of industrialization. But in the developing countries the problems include deforestation, soil degradation, wild life destruction and miss use of water resources are some of the problems. Therefore environmental policies of countries in the world based on their existing problems.

Shemekt and Berhanu (1999, 69) states as:-

The environmental policy principle of Ethiopia therefore related to the following major resources such as soil, forest, water, mineral and environmental pollution. To ensure the forestry development and conservation of forest resources, energy resources ecosystem and genetic resources as well as crop and live stock productivity through strategies and integrated developmental management. To encourage all concern individuals communities as well as the government to activity involve in the planning and implementation of forestry programs to ensure sustainability by minimizing cost and all forest conflict.

Similarly, the Environmental Impact Assessment (EIA) is more concern on the significant and systematic identification and evaluation is the essentials of the potential impacts of proposed projects, plans, programs, policies or legislation actions up on the physical, chemical, biological, cultural and socio-economic components of the environments. It includes the consideration of measures to mitigate undesirable impacts.

Unlikely, environmental preservation practices is different currently in many parts of Ethiopia, where the environmental pollution soil degradation deforestation etc has become major problems that could bring poverty, hunger and other related problems and required solutions, by reforestation and aforestation in many areas.

Habte and Teshome (2005; 221) “..... in the past few years, considerable attempts have been made in some regions to plant trees including indigenous ones by youth groups and food for work programs. Attempts to rehabilitate and restore degraded hillsides forests have met with some degree of success and this needs to be encouraged further.

This is more or less similar to Gedeo environmental care where areas of hill sides are covered with indigenous trees, coffee, enset and other species of trees that has been shelter for different microbes, birds, animals. (see photo).



Though, the Gedeo people have an admirable tradition of environmental preservation, on the other hand, there are also discouraging activities related to the usage of multipurpose indigenous trees and maintaining the traditional law (Sarrai) in some areas because of actions such as:-

- Big indigenous trees are being cleaned without planting new ones to substitutes.
- Cultural and spiritual out looks related to trees is not in accordance to the past rule of the society today youngsters do not consider it in many areas by neglecting it.
- Political leaders and rural development agents do not appreciate those aged people who preserve indigenous trees. Rather they appreciate those who grow vegetable in a very small areas.
- Clearing trees to widen mono cropping to increase coffee productivity and vegetable gardens on the place of trees is becoming common practices by the forceful action of rural development agents.
- And totally the area and number of tree is being decreased because of greedy traders.

Lastly, the sectorial law for its preservation has deemed for ecology that should act in accordance to the traditional and customary system and more accepted by those who are able to practice and implement.



2.4 Comprehensive Environmental Law

Comprehensive environmental law is known as comprehensive environmental laws response compensation and liability act (CERCLA).

However, in many countries there is no comprehensive environmental law. Instead there are sectorial laws, such as forest protection law, wild life conservation law, pollution control law (St Marry University College Environmental law L-218; Mod, 1-3; (i)).

This law created a tax on the chemical and petroleum industries provided federal authority to respond directly to release hazardous substances that may endanger public health or the environment in countries like USA.

The law has two actions to be performed:

1. Short term removal action and
2. Long term removal response action.

In its short term removal action it tries to address releases or threatened release required prompt response. On its long term action, it tries its remedial response actions that permanently reduce the dangers associated with releases or threats of release hazardous substances that are serious,

but next immediately the actions can be conducted only at sites listed on EPA's in National priority list.

According to, its objective for example in America, for the purpose of cleaning up abandoned or uncontrolled hazardous waste site collected over \$1.6 billion that was taxed within 5 years to provide for clean up, when no response party could be identified. (www.epa.gov/.../eercla.htm/)

However, many countries have no comprehensive environmental law enacted as such USA. Thus, currently many developing countries face hazardous environmental pollutions due to the absence of law such like that could protect environmental hazardous.

2.5 Environmental Hazardous

Environmental hazardous are those natural and manmade incidents which may cause both losses of life and serve damages of properties. Common environmental hazardous include flood, earth quake, volcanoes landslides, storms, diseases, drought, pest and desertification.

These all calamities are caused by the un proper management and un wise use of environmental resources. That is why governments and other bodies has to work hard in awaring their citizens, by establishing national conservation policy educating people how to use renewable and non renewable resources. Because misuse of national and natural resource can be controlled by applying policy measure especially by the devoted involvement of government officials by main streaming of local people with their long practice and knowledge.

Allowing the involvement of public, to avoid politically arbitrated decision making on the environmental issues, concerning deforestation, granting legal right to those who are engaged at immediate position, are to be solution considered by many environmentalists.

CHAPTER THREE

3. Data Analysis and Presentation

3.1 Description of the Study Area

This study could be conducted at SNNP regional state, Gedeo Zone, Kochore Woreda more specifically in Baya Kebele. Baya kebele is one of the 25 kebeles found in Kochore woreda, 425km to south of Addis Ababa, the capital city of Ethiopia. The kebele is bounded by Yerga Cheffee woreda in the north, Oromiya regional state in the south, Hanku Kebele in the west and by Genale river in the East.

According to the statistical data of kochore woreda natural resources conservation of agricultural office the total population of Baya kebele currently is 9278. Among this population 4237 are population of male and 5041 are female. From this total population of male and female their percentage is 45.7% and 54.3% respectively.

The total area of kebele is 800 kectares. The nature of land scape about 70% is steepy slope and 30% gentle slope. There is no plain land escape. There are 34 springs, 24 ponds and 11 rivers in the kebele. The maximum annual rainfall is 1050mm and the minimum is 250mm. the altitude of the kebele is 1800-2000 meters above sea level. And its climate is waynadega. As the woreda natural resource conservation office statistical data shows 749 hectares of land is covered by coffee plantation, 35 hectares, by enset, 1 hectare are used for other purposes. In percentage 93.75%, 4.4%, 0.12% and 1.8% are covered by coffee, enset, forest and other purposes respectively.

But, on the actual ground all the land areas covered with coffee, enset and trees in the integrated manner. All together on the same field. It is impossible to find even $\frac{1}{4}$ of hectare that is covered by coffee or enset separately in the whole kebele. In similarly to this, all the farmers used to grow all types of trees, coffee, enset and other multipurpose trees species and crops all in one field in an integrated cultivation type of “Gedeo Agro forestry” system.

Based on the above discussion and the data of natural resource office one can easily understand that the natural resource office of woreda has no recognition and the exact understanding of trees

and agro forestry of Gedeo due to shortage of information and clear images of Gedeo “agro forestry” system.

similarly, the 2006 E.C colander published by the Gedeo Zone cultural and formation office posted one of the Yirga Cheffe agro forest area by saying “The Yirga Cheffe natural forest” which is not natural forest. Because, there is no such natural forest in the Zone as stated by the colander expect the “Jigo” the bamboo extended forest.

Other than this, all the trees in the zone are grown by the farmers for their multipurpose usages.

Likewise, all the agricultural cultivation in Baya kebele is integrated cultivation except some annual crops in the scattered areas. It was by this method of cultivation, the society survives in that kebele by preserving their environment by the customary agro forestry practice and the knowledge inherited from their ancestor and benefited from their naturally gifted land of environment.



Though, currently it is not like that of years back to the 30s the “Gedeo agro forestry” method helped the farmers of Baya kebele to produce the Yirga Cheffe Coffee type that contributed a great share of export to the world coffee market. So it is not in favorable condition currently and the condition could be assessed in Baya kebele.

3.2 Result and Discussion of Data Analysis and Interpretation

The main intent of this chapter has been presenting and analyzing the data secured from respondents gathered through questionnaire and interviews. It also tried to assess and check those leading questions:-

1. What is the role of Gedeo ‘agro forestry’ in implementing environmental presentation to crop production?
2. How the cultural law of Gedeo ‘agro forestry’ can be implemented effectively?
3. In what way the Gedeo cultural environmental law can be implemented with modern governmental law of environment? Are whether answered or not at the end of this work.

Therefore, 20 copies of questionnaire were distributed and 100% of them were returned and used for analysis including interview. The collected data were organized tabulated, tallied and analyzed including the background information’s of the respondents.

3.2.0 Demographic Background of the Respondents

The researcher tried to assess the problem from different aspects in relation to the demographic backgrounds such as sex, age, number of families and educational background of the respondents that has been presented in the following tables.

Table 3.2.1 Respondents distribution in relation to their ages

No	Ages	Nos	%
1	18-30	2	10
2	31-44	3	15
3	45-60	5	25
4	Above 60	10	50
	Total	20	100

As it is stated in table 3.2.1 10% of the respondents were between age 18-30 years, 15% were in the age category of 31-44 years, 25% from 45-60 years and 50% of them were above 60 years old.

Table 3.2.2 Respondents Distribution in sex

No	Sex	Nos	%
1	Male	17	85
2	Female	3	15
	Total	20	100

According to table 3.2.2, 85% and 15% of the respondents were male and female respectively.

Table 3.2.3 Academic Background of Respondents

No	Educational status	Nos	%
1	Illiterate	4	20
2	Read & write only	3	15
3	1-8 grade	10	50
4	9-10 grade	2	10
5	Above 10 grade	1	5
	Total	20	100

Table 3.2.3 shows that among the 20 respondents 20% do not write and read, 15% can read and write, 50% of them educated 1-8 grade 10% were educated 9-10 grades 5% of them above grade 10.

Table 3.2.4 Respondents distribution in relation to their family size.

No	Family Nos	Nos	%
1	1-5 members	3	15
2	6-10 members	13	65
3	11-15 members	4	20
4	Above 15	-	0
	Total	20	100

According to table 3.2.4, 15% the respondents have not less than 5 members also live together, 65% of them have 6-10 members, 20% have 11-15 members live together, 0% of the respondents have the family number over 15.

3.2.2 Response of the Respondents to Questionnaire

Table 3.2.2.1 Do you grow trees in your farm land integrated with other crops?

No	Respondents	Nos	%
1	Yes	12	60
2	No	8	40
	Total	20	100

As table 3.2.2.1 indicates among the respondents, the majority that rated 60% grow indigenous trees integrated with other crops in their farm land – whereas the 40% of respondents responded as they do not grow trees in their farm lands.

3.2.2.2 Those who grow indigenous trees in their farm land stated that shola, Bissana, Berbera, setamo, Wanza, Korch and sesa are the types of trees they grow in their farm land to the question 3.2.2.1

Table 3.2.2.3 Is the Gedeo customary agro forest method practices in your farm

No	Respondents	Nos	%
1	Yes	11	55
2	No	9	45
	Total	20	100

As to table 3.2.2.3 55% of the responses of respondents revealed and they use the Gedeo ‘agro forestry’ system and 45% of them gave up the customary agro forestry method.

Table 3.2.2.4 For how many years did you practice Gedeo agro forestry?

No	Year of practice	Nos	%
1	10-20 years	1	11.1
2	21-40 years	3	33.3
3	41-60 years	3	33.3
4	Above 60 years	2	22.2
	Total	9	99.9

Table 3.2.2.4 show that the years of practice of Gedeo agro forestry in their farm land. According the response, 11.1% for 10-20 years, 33.3% for 21-40 years and 22.2% are practiced for more than 60 years.

Table 3.2.2.5 How many hectares of farm land do you have?

No	No of hectares	Nos	%
1	0.5 –1 Hectares	2	10
2	2-3 Hectares	13	65
3	4-5 Hectares	4	20
4	Above 5 Hectares	1	5
	Total	20	100

As to table 3.2.2.5, the majority of respondents that rated 65% have 2-3 hectares, 20% of them have 4-5 hectares, 10% have 0.5-1 hectares and only 5% of respondents have more than 5 hectares of lands.

3.2.2.6 What kinds of annual and permanent crops do you grow in your farm land?

For this question, respondents replied maize, Cabbage, Pumpkin, Boyna and haircot beans as temporary crops and coffee, Enset and banana are cultivated as a fixed crops.

3.2.2.7 Do you raise (rear) cattle beside crop cultivation?

No	Respondents	Nos	%
1	Yes	14	70
2	No	6	30
	Total	20	100

As it is shown in Table 3.2.2.7, 70% if the respondents rear cattle beside crop cultivation and 30% of them don't rear cattle.

3.2.2.8 What do you feed your cattle? Mention

The byproduct of banana and enset and other weedy, plants are used by the respondents to feed their cattle.

3.2.2.9 Do you practice modern sectorial method to protect erosion?

No	Respondents	Nos	%
1	Yes	3	15
2	No	17	85
	Total	20	100

Among the total responses shown in table 3.2.2.9 only 15% use the modern scrotal protection method. But a great majority that rated 85% do not use the modern scrotal protection method.

3.2.2.10 If your answer is 'No' to question 3.2.2.9 how do you protect erosion? Mention:

For this question the 85% of responses showed that they do not suffer from erosion because their farm land is covered with trees and other plants that help them to control erosion.

They further mentioned that the trees in their farm protect sun burn and heavy rainfall that can cause erosion.

3.2.2.11 Table 3.2.2.11 Is there any side effect by growing broad leaf big, tall and indigenous trees with temporary crop in the same farm?

No	Respondents	Nos	%
1	Yes	8	40
2	No	12	60
	Total	20	100

On table 3.2.2.11, only 40% of the respondent agreed as there is side effect growing big indigenous trees in the farm land. But 60% of them showed that there is no side effect.

3.2.2.12 40% of the respondents that agreed as there is side effect showed shortage of arable land for vegetables and other temporary crops are reasons. When their land is occupied with indigenous trees.

Table 3.2.2.13 Do you think the substitution of Gedeo ‘agro forestry’ customary method by modern scrotal law be effective in your farm land?

No	Respondents	Nos	%
1	Yes	3	15
2	No	17	85
	Total	20	100

According to table 3.2.2.13, only 15% agreed the substitution of Gedeo customary ‘agro forest’ method by the modern scrotal law will be effective. But the majority of respondents about 85% believe the substitution of Gedeo customary ‘agro forestry’ method by the environmental law will be not effective.

3.2.2.13 In some areas currently the number of indigenous trees is not as denser as it was before years. What reason do you think? Mention

The responses that are mentioned were

- i. The rising demand for indigenous trees currently in the local market,
- ii. The increasing number of saw mill,
- iii. Absence of incentives and encourage to those who grow such trees and
- iv. Mono cropping are mentioned as threats for decreasing of trees.

3.2.2.14 Table 3.2.2.15 What is the Attitudes and suggestion of rural resource development and woreda administration officers towards customary agro forestry on your farm?

No	Respondents	Nos	%
1	They appreciate it	2	10
2	They don’t appreciate it	7	35
3	They want to substitute it	9	45
4	They don’t suggest anything	2	10
	Total	20	100

Table 3.2.2.15, show that only 10% of the woreda rural resource development and administration officers appreciate the customary Gedeo ‘agro forestry’, the other 10% suggested nothing, 35% of them don’t appreciate and 45% these officers want to substitute the customary method by another mono cropping system.

Generally, growing indigenous trees, people have no interest to replace the customary Gedeo ‘agro forest’ by the new environmental law and the new scrotal law is not as effective as the customary one, the concerned officers of the woreda kept silent in the maintenance of Gede agro forest system are the main ones.

3.3 Interview Report

The other instrument, the researcher used to collect data about the role of Gedeo “agro forestry” in the implementation of environmental law was the interview. It was conducted for further information’s and to cross check the validity of questionnaire.

The researcher made a very clear about the purpose of the study and ethical issues for all respondents. Having done this, the interview was started one by one for all sample subjects.

For the question related to the practice of Gedeo “agro forestry” culture in Baya kebele most of them replied that, the customary Gedeo “agro forestry” system is not being practice as it was used by their ancestors. Because the cultural governing values of preserving are being weakened.

Concerning the question “is it practiced on your farm land?” many of the respondents’ responded “yes” though it is not fully practiced.

With regard of the contribution of Gedeo agro forestry to the production of coffee and other crops all of them answered “yes” and they more stated that multipurpose trees help coffee to be strong, produce more big yield and create chance for coffee nursery preparation in general it makes the farm ever green and fertile.

For the question “what relation is there among cultural, spiritual and social practice and Gedeo agro forestry? They replied the Gedeo culture of having wanza stick when every youth celebrate his luba age hierarchy and in all other economic and spiritual aspects are associated with trees. Because those who do not grow trees in their farm have no recognition and respections.

Concerning the question “it is possible to practice both Gedeo “agro forestry” and scrotal law con-currently? Many of the responses showed that it is not possible to practice both methods together at once. Because by the modern scrotal law it is possible to cultivate only one or two items.

But with the Gedeo Customary “agro forestry” method it is possible to cultivate trees, coffees, enset, honey, soil protection, perinea crops other annul and weedy grasses, these all can be cultivated in the same farmland currently.

Furthermore, the customary Gedeo “agro forestry” has its own principles of self reliance, by producing all the necessary out puts from the same farm, using the products economically by not selling all products if it is not obligation and patiently of cultivating growing long life trees for the next generation even though he/she knows his mortality. There it is considered as justice having land by all the family members.

Moreover, those who answered the question further suggested that they could accept if there is a method of producing all types of products from the same garden by not force to accept dropping the customary system and hold the new one which is not convenient.

Regarding the contribution of political and administrative officer towards Gedeo “agro forestry” more than half of the responses showed that the officers support the customary method orally. But in practice they are reluctant when they know and see those individual who clear forests with the modern sawing machines in villages. They don’t control and inspect or punish them to stop such adverse practice of more than 20 sawing machine in a single village of area.

The question “What is the role of Gedeo “agro forestry” for sustainable economic growth and social life?” about all of the respondents replied their answer like that:-

- It protect soil erosion, fertility of the land is preserved, it substitute the absence of one product by another therefore we have not been away from here from generation to generation.

Those who gave their response for the question “why are you interested to cultivate by the customary agro forestry method and grow indigenious trees?

Many of the answers were given for this question. Among them the major ones are: it helps to be self sufficient everything is harvested from the farm. Our fathers used to buy nothing from markets except salt, it is possible to harvest coffee, enset, for the whole year including trees and honey twice in a year, it is a source for cultural prestige and honor because, those who have trees in their garden are not regarded as extravagant, graceless, and nomads etc. it also makes cultivation possible on a sloppy landscape, it makes soil not to be eroded and evergreen. And finally the agro forest method of Gedeo supports the existence of springs and ponds.

Finally, the respondents pointed out the methods of sustaining the customary Gedeo “agro forest” from generation to generation.

- The government has to recognize the land use of Gedeo being practiced now a days,
- Having knowledge and practice from the existing aged fathers,
- The greedy merchants of trees should be halted from their practice of clearing forest,
- Those fathers who preserved the climate and culture should be acknowledged and rewarded for their good practice.
- The agricultural officer should learn from farmers,
- Due to land shortage the new generation solutions should be created,
- Farmers should not be forced to accept unbelieved and inconvenient new practices.

3.4 Discussion

The main objective of this study was to investigate the role of Gedeo ‘agro forestry’ to the environmental law in Baya Kebele of Kochore Woreda in Gedeo zone and suggest possible solution.

Regardless, of the individual types of environment. However, certain aspects of the human practices are crucial to ecology of social and cultural environment in which all living and non living things exist. Many of the aspects are related to the practice and day to day interaction of human being in relation to agro forestry and its cultivation.

Based on this situation related with Gedeo agro forestry professor Tadesse (2002) stated as “Gedeo land use still remains a mystery what is known as its output (coffee, honey, one of the best rams (male sheep), enset food) cattle raising of freely forestry”. Maintaining ecology of the

environment is un questionnable human and non living things of the environment is in the hands of those people.

In general, the responses of sample subjects that is presented in table 3.2.1-3.2.15 including interview clearly indicated major factors and the existing situation in regard of Gedeo 'agro forestry' in Baya kebele of Kochore woreda in Gedeo zone.

Accordingly,

- Lack of law which manage the relationship between integrated agro forest the state officials.
- Knowledge shortage of the concerned agriculture officers.
- The cultural law (Sarrra) of Gedeo is weakened
- The lack of awareness by the governmental officers
- Force of action to adopt the new scrotal law which is in convenient to the area are some of the threatened factors.
- Shortage of arable lands
- The indigenous trees are being cleared and sold in the local markets at a low price
- The absence of recognition and incentives for farmers who preserved the environment from pollution, preserved indigenous trees and maintained ecology.
- The absence of acknowledgement to knowledgeable old age individuals

Therefore maintaining the customary and convenient principles of environment enable the existence of favorable ecosystem.

Unfortunately, the Gedeo 'agro forestry' of Baya kebele is threatened. Its indigenous trees being cleared by greedy saw men, the age old environmental practice including the cultural law (sarrra) is not being maintained currently. Young generation ignored growing trees, the concerned developmental officers and political leaders are reluctant in maintaining the cultural law. The old age farmers who preserved the environment are not recognized, awarded, was the existing problem. The more worsening is currently the practice/ striving/ of officers to substitute the long lived customary law of Gedeo agro forestation which is different that of the modern agro forestation is to be replaced by force and without consent and approval of the people who are the owner of the long lived Gedeo 'agro forest' tradition sustained for about five thousands of years.

Moreover the mono cropping method of cultivation is the more threatened practice that could hamper the product of the society.

As it was observed during the study, there are aged farmers who are keen to sustain the inherited customary Gedeo 'agro forestry' and also there are some youngsters with bright future and clear vision with the traditional forestry.

However, the devotions and effort were not encouraged and supported due to the presence of the mentioned short coming.

Beside the lack of awareness and practicing the existing system and the force full imposition of new accustomed method has been the major threatened problems.

In general, as to the data secured from the various participants of the study and discussion made so far, it is obvious that the Gedeo 'agro forest' in Baya kebele faced challenge and it is possible to say that the sustainability of ecosystem will be in question mark if it is replaced by the unpracticed and inconvenient scrotal law.

CHAPTER FOUR

4. Summary, Conclusion and Recommendation

4.2 Summary

This research has been aimed in investigating the role of Gedeo “Agro forestry” in implementation of environmental law, in Baya kebele of Kochore woreda, Gedeo zone. It was planned to collect data from the 20 farmers who have sufficient knowledge on Gedeo ‘agro forestry’ and understand the new environmental law and its effect.

According to the result of the study the absence of awareness, the interest of mono cropping which stands to the integrated cultivation method that was practiced for thousands of years and sustained the society through favorable ecosystem, the reluctance of government officers. Unrecognition of the knowledge and practice of elder farmers, the neglecting of cultural law of growing trees and the trees for low price in the locality other than shortage of arable land hampered the existence of indigenous trees has been the major problems.

In general, it is possible to say that, the Gedeo “agro forestry” is challenged culturally and the farmers could not continue in preserving their environment, cannot cultivate their age old integrated cultivation system and the ecosystem is disrupted.

4.3 Conclusion

From the responses of sample subjects and interview conducted during this study in general it is possible to recognize those factors that challenged the role of Gedeo “agro forestry” in Baya kebele of Kochore woreda in Gedeo Zone.

According to the results, the absence of healthy and conducive environmental law that can assist and support the Gedeo ‘agro forestry’, lack of awareness, avoidance of Gedeo traditional and cultural law (Sarra) by the young generation, the presence of saw machine in the local market of tree in which indigenous trees are cut and sold, the absence of awareness of rural development officers, the absence of recognition and acknowledgement, incentive, shortage of arable land and the trend of mono cropping rather than integrated cultivation, the imposition of new and unpracticed scrotal law, were the major problems that required solutions at the end of this study.

Thus environmental law is need to full fill the gab between scrotal low and gedeeo agro forest

4.4 Recommendation

As it was well discussed and investigated by the study and discussed so far, on the conclusion the following recommendations are forwarded:-

- Comprehensive environmental law should be applied in places where there is no trees because the Gedeo agro forestry method is more effective than it for the sloppy areas.
- As indicated in the result of the study kebele in general the situation for Gedeo “agro forestry’ is not conducive to be sustained and preserve the ecosystem of the environment to play its role. Therefore, all the concerned bodies have to pay a great attention, thus:-
- the woreda rural development officer, the government of woreda, kebele must play a vital role in sustaining the customary Gedeo “agro forestry” method by checking the practice of greedy merchants and creating awareness to preserve the Gedeo cultural and traditional law of growing trees.
- should encourage, acknowledge and award incentive to those who preserved the Gedeo agro forestry system as they do award those who grow vegetables in a small plot of garden.
- the imposed environmental law in the place of customary forestry method should be by the consent of farmers, and in accordance to its convenience.
- mono cropping method of cultivation should not replace integrated cultivation, when integration is possible,
- the Gedeo cultural law should be encouraged and
- the farmers with enriched knowledge and practice must be consulted how to preserve their eco system.

In general, the customary Gedeo “agro forestry” has benefited a lot in the economic, social, cultural, spiritual life of the society for five thousands of years and it could sustain the life of this society through its eco system. This method of environmental preservation is disrupted since three decades. On the other hand, priority is given to modern environmental law and vegetable growing access. The replacement of Gedeo ‘agro forestry’ by modern environmental system is not as much better as the traditional one due to the sloppy land scope of the area.

By and large, the study has showed that there is no single environmental law enacted to preserve forests, wild animals, conservation of water, soil and for increased coffee, enset and other crop production in an integrated way except those sectarian laws that served for mono cropping way of cultivation.

On the other hand, the study has provide the “Gedeo agro forestry” system that has become the progenitor and only system for integrated cultivation of trees, enset, coffee, bee keeping wild and domestic animal raising other than soil and water conservation. Furthermore, it has been solution for environmental preservation and ecosystem maintaining.

Therefore, the proposed and would be implemented environmental law should fill the gaps by recognizing the benefits of “Gedeo agro forestry” system.

College of Open and Distance Learning

Questionnaire prepared to farmers of Baya Kebele

Dear Respondents:

The purpose of this study has been to investigate the role of “Gedeo agro forestry” in the implementation of environmental law. And this questionnaire is prepared to collect information’s about this issue and it is believed that you could be good source of information.

Your response is confidentially kept. Thus please give due attention and respond to the questions honestly.

Thank you for your cooperation!

Introduction: - please put a “X” mark on the appropriate box for the close ended item questions and write short answers for the open ended one on the blank spaces.

I. Background Information’s

1. No need to writing your name:-

1.1 Age:- A/ 18 – 30 years B/ 31-44 years

C/ 45-60 years D/ above 60 years

1.2 Sex:- A/ Male B/ Female

1.3 Academic background

A/ Illiterate B/ Read & write only

B/ 1-8 grade D/ 9-10 grade E/ above grade 10

1.4 Number of members in a family

A/ 1-5 members B/ 6-10 members

C/ 11-15 members D/ above 15 members

2. Questionnaire Reponses:-

2.1 Do you grow trees in your farm land integrated with other crops? A/ yes B/ No

2.2 If 'yes' what kind of trees you grow? Mention

2.3 Is Gedeo "agro forestry" method practiced on your farm? A/ Yes B/ No

2.4 If your answer is 'yes' to question 2.3, for how many years did you practice?

A/ 10-20 years B/ 21-40 years
C/ 41-60 years D/ above 60 years

2.5 How many hectares of farm land do you have?

A/ 0.5 -1 hectares B/ 2-3 hectares
C/ 4-5 hectares D/ above 5 hectares

2.6 What kind of temporary crop is cultivated on your arable land? Mention

2.7 Do you raise cattle beside crop cultivation? A/ Yes B/ No

2.8 What do you feed your cattle mention?

2.9 Do you practice modern environmental law method to protect erosion?

A/ Yes B/ No

2.10 If your answer is 'no' to question 2.9 how do you protect erosion?

2.11 Is there any side effect (problem) by growing broad leaved big and tall trees (indigenous) with temporary crops on the same farms? A/ yes B/ No

2.12 If your answer is 'yes' to question 2.11 mention the side effect

2.13 Do you think the substitution of Gedeo 'agro forest' customary law by modern environmental law will be effective on your farm? A/ Yes B/ No

2.14 In some areas, currently the number of indigenous tree is not as denser as it was before years. What reason do you think? Mention some

2.15 What is the attitude and suggestion of rural resource development and woreda administration officers toward customary Gedeo 'agro forestry' on your farm?

A/ they appreciate it

B/ they do not appreciate it

C/ they have a desire of substituting the customary practice of Gedeo agro forestry by the modern sectorial law

D/ they do not suggest anything

QDST ¥¶ÃM †n!vRs!tE ÷l@J

yâPNÂ RqT TMHRT KFL

lÆÃ qbl@ gbÊãC ytzUj m-YQ

WD yz!H m-YQ m§>

yz!H m-YQ êÂ x§¥W yg@Áâ L¥-êE dNÂ XRš _MR GBRÂ lXkÆb! _b "
y,ÅwtWN ,Â l¥_ÂT s!çN XRSã y,s-#T q_t¾Â QN M§> l_Ât\$ TLQ xStê{â
ÃbrK-LÝÝ y,s-#TM M§> l_Ât\$ g#ÄY BÒ y,WL Slçn MS_¥êEnt\$ yt-bq
YçÂLÝÝ

lTBBRã kLB XÂmsGÂlN

kz!H b-C lqrb#T ZG _Ãq&ãC btS¥,W ï- y"X" MLKT b¥DrG xNÄ!h#M KFT
lçn# m-YöC mLS köT löT ÆlW KFT ï- b¥SfR YmLs#ÝÝ

1. x- " §Y mr©

SMÄN mÚF xSf§g! xYdlM

1.1 :D» h¼ k18- 30 >mT l¼ k31- 44 >mT
/¼ k45- 60 >mT m¼ k60 >mT b§Y

1.2 â- wND s@T

1.3 yTMHRT dr©

H¼ ¥NbBÂ mÚF y¥YCL l¼ ¥NbBÂ mÚF BÒ y,CL
/¼ k1¾ XSk 8¾ yt¥r m¼ k9¾ XSk 10¾ KFL yt¥r
\¼ k10 KFL b§Y yt¥r

1.4 bxND §Y y,ñ,, yb@tsB xÆST q\$_R

h¼ k1- 5 xÆST l¼ k6- 10 xÆST
/¼ k11 -15 xÆST m¼ k15 xÆST b§T

2. yêÂW m-YQ M§>

2.1 bXRSã ¥ú WS_ wQ-êE sBlÖCÂ ²æC bQY_ ÃbQ§l#?

H¼ xãN l¼ xYdlM

2.2 bXRSã ¥ú WS_ ²F y,l¥ kçn MN >YnT ²æC Yg¾l# XÆKãN >Ynt\$N Y_qs#

2.3 bXRSã ¥ú yg@Ãâ ÆH§êE _MR zÁN Y-q¥l#?

H¼ xãN l¼ xL-qMM

2.4bt% q\$_R 2.3 lqrbW _Ãq& mLSã xãN kçn lSNT >m-T nW yt-qÑT

h¼ k10 XSk 20 >mT l¼ k21 XSk 40 >mT
/¼ k41 XSk 60 >mT m¼ k60 >mT b§Y

2.5yXRSã ¥ú SÍT bÿK-R MN ÃHL YçÂL?

h¼ 0.5 XSk 1 l¼ 2 XSk 3 /¼ 4 XSk 5 m¼ k5
b§Y

2.6b¥úã y,lÑT >m-êE sBlÖC µl# yGl[#

2.7 kXRš S% bt=¥¶ XNSúTN ÆrÆl#? h¼ xã l¼ xYdlM

2.8 XNSúTN y,Ãrb# kçn MN YqLÆ*cêL_____

2.9 yxfR mN¹R¹RN lmk§kL zmÂêE yxkÆb! _b" zÁN Y-q¥l#?

H¼ X-q¥lh# l¼ xL-qMM

2.10 mLSã l_Ãq& 2.9 xL-qMM kçn yxfR m¹R¹RN bMN Yk§k§l#?

2.11 hgR bqL ²æCN kxm-êEE sBlÖC UR bxND ¥ú m-qM CGR xlW BlW
ÃSÂl#? h¼ xã l¼ x§SBM

2.12 mLSã xãN kçn MN >YnT CGR ÆmÂL Y_qs#

2.13 bg@Áâ ÆHŞÊE GBRÂ h#n@- bzmÂÊE yxfR _b " zÁ b!tµ ¥úã ytšl MRT
YñrêL Yşl#? h¼xãN l¼ ytšl W-@T xÃÈM

2.14 bxh#n# -z@ bxNÄND xkÆb! yhgR bqL ²æC q\$_R XytmÂmn lmMÈt\$
MKNÃt\$ MNDN nW Yşl#? Y_qs#

2.15 bXRSã ¥ú §Y bg@Áâ ÆHŞÊE dnÂ sBL _MR GBRÂ tGÆ%ÊEnt yg-R LYTÂ
ywrÄW xStÄdR b!é \%t@C MN >YnT xmlµkTÂ xStê:â xşcWN?

h¼ tGÆ%ÊEnt\$N ÃdN" l#

l¼ tGÆ%ÊEnt\$N xÃdNq\$M

/¼ ÆHŞÊEWN zÁ s@Kè¶ÃL lmtµT ÃSÆl#

m¼ MNM xStÃyT xÃs-#M

St. Mary's University College

College of Open and Distance Learning

Interview Question preparing for Baya Kebele Farmers

1. Do you believe, the Gedeo ‘agro forestry’ culture is being practiced in Baya kebele as it was during our grand father?
2. If no what is the reason
3. Is it practiced on your farm land?
4. If not what reason do you think?
5. Do you think it has contribution for the production of coffee and other crops?
6. What is the relation among cultural, spiritual and social practice with the Gedeo ‘agro forest’
7. What do you think, if it is replaced by the sectorial law?
8. Is it possible to practice both the Gedeo agro forest and sectorial law concurrently?
9. How much is contributed by the political and administrative officers to sustain the Gedeo agro forestry practice?
10. What is the role of Gedeo customary agro forestry for sustainable economic and social life growth?
11. In what way is it possible to sustain the Gedeo customary agro forestry practice inherited from ancestors and transfer to the coming generation?
12. Why you are interested to cultivate by the customary agro forestry method and grew indigenous trees?

QDST ¥¶ĀM †n!vRs!tE ÷l@J

yâPNÂ RqT TMHRT KFL

lĀĀ qbl@ gbĒãC ytzUj m-YQ

1. bÆÃ qbl@ yg@Áø ÆHŞÊE ysBLÂ dN _MR GBRÂ bxh#n# g!z@ XNdDé LŸD Xyq-1 nW Y§l#?
2. bXRSã Ÿú WS_ YH ÆHŞÊE zÁ tGÆ%ÊE YdrUL?
3. µLçn MKNÃt\$ MN YçN?
4. yg@Áå ÆHŞÊE ysBLÂ dN _MR GBRÂ lb#ÂÂ l@lÖC sBlÖC MR-ŸnT xStê}å xlW Y§l#?
5. bg@Áå ÆHŞÊE sBLÂ dN _MR GBRÂÂ bl@lÖC ŸHb%ÊEÂ x!÷ñ,ÃÊEÂ mNfúÊE LMìC mukL ÃlWN tÃÃznT MNDnW?
6. yg@Áå ÆHŞÊE sBLÂ dN _MR nbRÂ bzmÂÊEW zÁ b!tµ MN YmLSã-L?
7. zmÂÊEW yxkÆb!W _b " kg@Áx! ÆHŞÊE sBLÂ dN _MR GBRÂ UR bŸÈÈM xND §Y ŸSk@D YC§L?
8. yg@Áå ÆHŞÊE ysBLÂ dN _MR GBRÂN lŸSq-L y±ltEµÂ xStÄdr twµxC MN >YnT xStê}å xDRgêL Y§l#?
9. lz§qE MR-ŸnTÂ :DgT yg@Áå ÆHŞÊE sBLÂ dN _MR GBRÂ y,ÅwtW ,Â MNDnW Y§l#?
10. YHN yg@Áå ÆHŞÊEWN ysBLÂ dN _MR GBRÂN kxÃèÖCN XNdwrSnW h#l# l,q_lw TWLD XNÁT ŸSt§lF YÒ§L?
11. bLŸÃÊEW yxRŠ zÁ XD» -gB ²æCN ŸLŸTÂ ŸúdG lMN xSflg?

DECLARATION

I, the undersigned, declare that this senior essay/ is my original work, prepared under the guidance of _____. All sources of materials used for the manuscript have been duly acknowledged.

Name: Dawit Moges

ID number _____

Center: Dilla

Signature _____

Date of Submission
