JIMMA UNIVERSITY

COLLEGE OF NATURAL SCIENCE

DEPARTEMENT OF INFORMATION SCIENCE

Investigate, Capture and Codify Indigenous Knowledge practices to Manage and Conserve Wild Coffee Forest: *the case of Kafa Zone in Ethiopia*

By

Heaven Kenea

May 2014

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A Thesis Submitted to College of Natural Science, Department of Information Science in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Information and Knowledge Management

Principal Advisor: Amare Desta (PhD)

Co-advisor: Worku Jimma(Msc)

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Declaration

I, the under signed certify that the work is entirely of my original work and not of any other person. All the sources of materials used for the thesis have been explicitly acknowledged (including citation of published and unpublished sources). I also declare that the work has not previously been submitted in any form to any University or other institution for assessment of any other purpose.

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Abbreviations/ Acronyms

A Agree

CSA Central Statistical Agency

D Disagree

FAO Food and Agriculture Organization

FGD Focus Group Discussion

IK Indigenous Knowledge

KM Knowledge Management

MCWCF Management and Conservation of Wild Coffee Forest

SA Strongly agree

SD Strongly disagree

SNNPRS Southern Nations Nationalities Peoples Regional State

SPSS Statistical Package for Social Science

NABU Nature and Biodiversity Conservation Union

NGO Non-Governmental Organizations

UNESCO United Nations Educational Scientific and Cultural Organization

Abstract

The thesis has attempted to capture and codify Indigenous Knowledge on managing and conserving of wild coffee forest at two woredas (Gimbo and Decha) in two kebeles (Keja araba from Gimbo and Mankira from Decha) in Kafa Zone, examine the local socio-cultural values, ritual practices and traditional beliefs which helped them to conserve and manage natural resources and made them to deserve international recognition by UNESCO as Kafa wild coffee Biosphere. The communities involved were the Kafecho (indigenous people). The study Woredas and kebeles was selected purposively. The justifications were relative existences of the existence of wide wild coffee forest and mother coffee, which got recognition by UNESCO. Data were collected from March to April, 2014 from both primary and secondary sources. The primary data were collected from in-depth interview of selected informants, focus group discussions, field observation and questionnaires were distributed to stakeholder organizations. Secondary data were collected from published and unpublished materials which are available in the form of books, journal articles, websites, reports, research papers prepared and presented for policy discussions and conferences, and other relevant documents from the concerned stake holder organizations. Quantitative data collection techniques were employed to collect the required information on the indigenous knowledge for conservation and management of wild coffee forest in the study area. Data were analyzed using content analysis method for the data gained by field observation , focus group discussion and in-depth interview about available indigenous knowledge on conservation and management of wild coffee forest .Descriptive statistics used to questionnaire and responses considered using frequency to understand the attitude of respondents towards existence, sharing, accessibility and preservation of indigenous knowledge in Kafa Zone .The analysis indicated that above most of the respondents confirmed that there are various indigenous knowledge in the form of tacit which helped and will help for manage and conserve wild coffee forest. According to the local community view and knowledge about the available ritual practices, socio- cultural values and traditional beliefs made them to manage and conserve natural resources especially Wild coffee forest in the study area. Thus, indigenous knowledge for manage and conserve wild coffee forest are Deejjooo sheeree, shoowoo (Guudo) and Ancient grave yards .These indigenous knowledge also supports to alleviate the problems like gullies formation and soil erosion, loss of biodiversity especially plants, animals, interruption of water flows, and also climate changes. So, government and stakeholders should consider such indigenous knowledge when they produce different policies and rules and give recognition for those indigenous knowledge.

CHAPTER ONE

1. Introduction

1.1.Background of the Study

Knowledge is a strategic resource (Freeman, 2001). There is general consensus on the existence of two major types of knowledge, known as tacit and explicit knowledge (Nonaka and Takeuchi, 1998). Tacit knowledge is defined as non-verbalized, intuitive and unarticulated (Polanyi, 1962). Explicit knowledge is specified as being formal and expressed in systematic languages in the form of data, scientific formulae, specifications and manuals (Nonaka and Toyama, 2000). The procedure in which explicit knowledge is presented has made its storage and sharing extremely easy and its popularization overwhelming. This means that the knowledge is recorded or codified. Recorded or codified knowledge is easily shared because of its textual or digital format.

Indigenous knowledge is the actual knowledge of a given population that reflects the experiences based on traditions and includes more recent experiences with modern technologies (Haverkort, 1991). Indigenous knowledge (IK) is the traditional (local) knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local level decision making in agriculture, health care, food preparation, education, natural resource management and a host of other activities in rural communities (Warren, 1991). The contribution of traditional practices for sustainable development is quite strong because they have evolved in close contact with specific cultural and environmental conditions (Grenier, 1998).The potential role of IK in improving agricultural performance is widely recognized in developing countries (Hart, 2007).

The agricultural sector is the backbone of many economies in Africa. Ethiopian coffee is an important source of coffee genetic resources for the world coffee industry. As a matter of fact, Ethiopia is the only center of origin and diversity of arabica coffee (*C. arabica*) (Anthony et al., 2001). It is cultivated in most parts of the tropics, accounting for 80 percent of the world coffee market, and about 70 percent of the production (Tadesse et al., 2002). It is also an important

source of income and employment in developing countries of Latin America, Africa and Asia (Anthony et al., 2001).

Coffee is the major source of foreign currency for Ethiopia and contributes more than 35% of the total export earnings (FAO/WFP, 2008). Thus, it is a cornerstone in the export economy of the country and it supports directly or indirectly the livelihood of some 15 million people (EEA, 2001). Coffee is the defining feature of the national culture and identity, with 44% of the production consumed domestically (Mayne et al., 2002). In Ethiopia, coffee is produced in four production systems, namely: forest, semi-forest, garden and plantation coffee in the Western, Southern, and Southwestern parts of the country (CFC, 2004).The genetic origin of coffea arabica lies in Southwest and South Ethiopia (Kafa Region) occurring naturally in the under growth of the mountain rainforests between 1,000 and 2,000 m asl. The highly various gene pool of this wild coffee is of international importance (Schmitt, Ch. B. et al. 2005)

Warren and McKiernan (1995) asserted that "managing and preserving IK will help to 'reduce poverty, enhance equity, and reduce environmental degradation' and lead to sustainable development, as well as increased local participation in the development process. The existing repertoire of indigenous knowledge and local experience, which are an appropriate forest management systems of the inhabitants are often disregarded in the overall planning and management of forest use. The cultural values and belief systems of the community's inhabiting these areas, which have very strong and practical bearing on such resources are often never been emphasized.

Furthermore, the Western environmental thinking and their baggage narratives of the native subjects and their environmental relation had been destructive. These narratives undermined the time driven practical local knowledge of natural resource management of many African countries. Consequently, the policies and legislations of forest and other natural resources which were imposed by the Western failed to give attention and recognition to traditional religious rituals which had been contributing a lot for forest resource management (Thomas and Donald, 2003).

Therefore, this thesis focused on investigating, capturing and codifying IK on management and conservation of wild coffee forest in Kafa zone Makira and Keja arba kebels selected from

Decha and Gimbo woredas. In order to provide the document and enable both the scientific and local community to access and utilize it in the formulation of sustainable development plans as well as further research. The study also tried to appraise the responsibility of stakeholder organizations on overall issues of IK including future perspective on IK at Zonal level.

1.2. Statement of the Problem

Indigenous knowledge (IK) is preserved in the memories of elders who have gained the knowledge over their life time and thus this knowledge is gradually disappearing due to memory lapses and death. The oral tradition and empirical learning are the principal ways of transmitting knowledge. Nevertheless, access to IK is fragmented in the local communities due to various factors including social dimensions such as age, gender, status, wealth and political influence (Wall, 2006) and attitudes, perceptions, norms, values and belief systems inherent to indigenous people (Meyer, 2009).

Likewise, with the rapid environmental, social, economic and political changes occurring in many areas inhabited by indigenous people is endangered as the IK they possess will be overwhelmed and lost forever. Younger generations are acquiring different values and lifestyles as a result of exposure to global and national influences, and traditional communication networks are breaking down, meaning that elders are dying without passing their knowledge to new generation. In some cases, the actual existence of indigenous people themselves is threatened.

According to the Nature and Biodiversity conservation union(NABU),currently only about 2% of Ethiopian's original forest cover remains and 50% of that is located in south west Ethiopia. In 2010 Kafa Wild Coffee Biosphere is internationally recognized by UNESCO. This shows that indigenous people living in the area have an indigenous knowledge which has been used to manage and conserve the wild coffee forest for a long period of time which is a great input for our country's sustainable development. Because its potential is so huge, among others the genetic diversity of coffee from forest is reported to be high and thus could be used to improve the productivity of the number one export item, coffee. But the forest coverage is shrinking day to day by different causes. From 1975 to 1997, 60 percent of the closed high forests in South-Western Ethiopia was lost (Reusing, 1998).The ecosystems of South-west forests are continuously being degraded and as a result equilibrium and interdependencies among different

systems are being disturbed. Satellite land cover change images of 1973, 1987, 2001, and 2005 had shown increased deforestation in the South-west area since 1990. It was estimated that the closed high forest of South-west Ethiopia had dropped from forty percent cover between 1971 and 1975 to only eighteen percent by 1997. Thus the use of Indigenous knowledge might be the best solution to stop this before it is too late.

Since IK is essential to development, it must be gathered, organized and disseminated in the same systematic way as Western knowledge (Agrawal, 1995; Gonzalez, 1995; Warren et al., 1993). It is evident that if IK is not recorded and preserved, it will be lost and remain inaccessible to other indigenous systems as well as to development workers. Development projects cannot offer sustainable solutions to local problems without integrating local knowledge (Warren, 1991). To ignore people's knowledge is almost to ensure failure in development (Brokensha et al., 1980).Accordingly; this research is initiated to meet the following objectives.

1.3. Objectives

1.3.1. General Objective

The general objective of this study is to investigate, capture and codify IK practices to manage and conserve wild coffee forest in Kafa zone.

1.3.2. Specific objectives

- To investigate IK practices that Kafa community use for manage and conserve wild coffee forest
- To acquire IK practices for manage and conserve wild coffee forest
- To codify IK practices for manage and conserve wild coffee forest
- To identify the community benefit from managing and conserving of wild coffee forest
- To find out possible mechanisms which can create or enhance public understanding on IK usefulness
- providing means of documentation for future recording and access

1.4.Research Questions

The research seeks to give answer for the following basic questions:

1. What common IK practices are there, for manage and conserve wild coffee forest in Kafa Zone?
2. How could IK practices for manage and conserve wild coffee forest in Kafa Zone be captured and codified?
3. How has the community in Kafa Zone benefited from the management and conservation of the wild coffee forest?
4. What are the possible mechanisms to create or enhance public understanding on the usefulness of IK?
5. How can wealth of knowledge could be retained and made accessible for future generations?
6. How and where IK practices to manage and conserve wild coffee forest in Kafa Zone can be preserved?

1.5. Scope and limitations of the study

The study was limited to investigate, capture and codify indigenous knowledge of indigenous people living around the UNESCO registered Kafa wild coffee biosphere on management and conservation of wild coffee forests particularly at two woredas, namely Decha and Gimbo, in one selected kebele from each, from Decha Woreda, Makira Kebele and Gimbo Woreda, Keja araba kebele.

Kafa Zone has 10 woredas from those only 2 woreas were selected and Kafa community has too wide socio-cultural tradition and components. Thus, it was not possible to address all the issues in this paper due to limited time and budget. The collection of indigenous information is laborious, time consuming and costly (Lawas and Luning1996). As a result, the study focused IK

for manage and conserve wild coffee forest. Further, the study was conducted under several challenges and constraints, mainly during the process of data collection.

The time spent in the field was not sufficient to collect more data about the issue from the selected individuals and community because they need to be familiar with the researcher unless they limit their response regarding ritual practices. Likewise, the selected sites road were unreachable by public transportation and thus the researcher used horse ride and motor bike, one of the study site (Mankira) is origin of coffee arabica .As to the primary data collection from the stakeholders at office level, since the officers were out of office frequently for field work, the researcher had to go to the offices several times to get the respondents.

1.6.Significance of the Study

The significance of this thesis is to creates a convenient situation to the users to find and access IK easily specially for future generation; policy makers to consider indigenous knowledge when plan issues related to development of rural communities; local governments more specifically to regional, Zonal and Woreda culture and tourism Bureau; NGOs and organizations working on indigenous knowledge in relation to wild coffee forest management and conservation; research institutes working in the area of local cultural institution with regard to wild coffee forest management and conservation. Moreover, benefit researchers/scientists to base future research works to innovate or improve existing technologies/techniques on such IK.

1.7. Definition of Terms

- Conservation practice is defined as the practice that people in the study area have acquired from their ancestors that is to mean any traditional method of conserving forest resources and / or a knowledge that they have acquired through modern environmental education that could be from any form of media, agricultural experts etc.
- Wild coffee is defined as coffee that grows and regenerates spontaneously in its natural habitat. It is genetically different from known cultivars and landraces. Local farmers simply pick wild coffee fruits inside these forests, or manage wild coffee stands by removing competing undergrowth vegetation and some canopy trees.

- Codification refers to when some piece of knowledge is put into an accessible form.
- Capturing refers to acquiring Knowledge.
- Institutions are defined as rules, norms, formal hierarchies, monitoring and sanctioning which shape individuals' actions and expectation .Institutions are "set of rules actually used" or "rules of games in society".

1.8. Organization of the document

This thesis report can be viewed in four parts. Part one (chapter 2) covers the literature review and conceptual framework. Part two (chapters 3) outlines the methods and materials design. Part three (chapters 4) presents the research findings and discussion from field observation, in-depth interview, FGD and questionnaire in order to answer the research questions. Part four (chapter 5) conclusion, recommendation and future work.

CHAPTER TWO

2. Literature Review

2.1.Knowledge and Types of Knowledge

Knowledge can be defined as 'justified true belief' emerging from experiencing, reflection and inference processes (Nonaka, 2002; Audi, 2003). Knowledge is derived from human minds through understanding and justification and related through human action processes (Jones, 1964; Davenport and Prusak, 1998; Nonaka, 2002). Also, Knowledge can be considered as an abstract thing which can be seen in many forms and located everywhere around us. Knowledge resides in many locations and things, such as in human heads, skills, action (Newell, Robertson, Scarbrough and Swan, 2002), work practices (Brown and Duguid, 1998; Davenport and Prusak, 1998), organization routines (Badaracco, 1991; Davenport and Prusak, 1998), procedure manuals, books and other codified materials (Sutton, 2001) and norms (Davenport and Prusak, 1998). In other words, knowledge is a result of understanding (Varela, Evan and Rosch, 1995; Garud, 1997).

There is a general consensus on the existence of two major types of knowledge, namely tacit and explicit knowledge **(**Nonaka and Takeuchi, 1998). Tacit knowledge or intangible knowledge is personally held and may not be recognized as knowledge by its holder. It includes subjective know-how, insights and intuitions. It is dynamic, ever changing with experience of its possessor. Explicit knowledge or tangible knowledge, on the other hand, is formally held in the form of text, reports, equations, formulae and specifications (Gladstone, 2000). This means that the knowledge is recorded or codified. This knowledge is largely embedded in the culture and traditions of individuals or communities (Ocholla and Onyancha, 2004). Tangible knowledge is easily shared because of its textual or digital format.

As Dr. Ikujiro Nonaka's presentation on Knowledge Advantage Conference held November 11-12, 1997, which is written by Bill Spencer of the National Security Agency. The heart of Nonaka's work is the premise that there are two types of knowledge: tacit and explicit. Tacit

knowledge is subjective and experience based knowledge that can't be expressed in words, sentences, numbers or formulas, often because it is context specific. This also includes cognitive skills which are beliefs, images, intuition and mental models as well as technical skills such as craft and know-how. Explicit knowledge is objective and rational knowledge that can be expressed in words, sentences, numbers or formulas (context free). It includes theoretical approaches, problem solving, manuals and databases. Nonaka models knowledge transfer as a spiral process. Start with a 2x2 matrix, in which existing knowledge can be in either form - tacit or explicit and the objective of knowledge transfer can be to convey either tacit or explicit knowledge. Each mode of transfer operates differently:

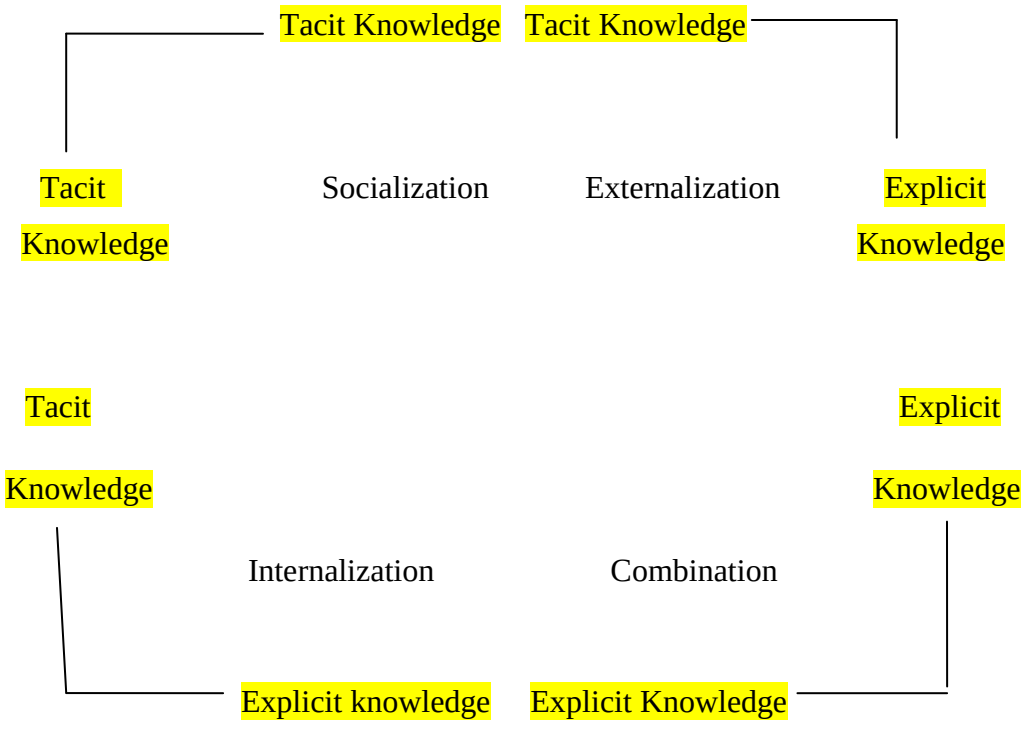


Figure 2.1: Nonaka's Four Modes of Knowledge Conversion

Each type of knowledge can be converted. When viewed as a continuous learning process, the mode becomes a clockwise spiral; organizational learning depends on initiating and sustaining

the learning spiral. (The model is a spiral, not a cycle, because as one "learns" around the cycle, understanding moves to deeper and deeper levels.)

The process that transfers tacit knowledge in one person to tacit knowledge in another person is socialization. It is experiential, active and a "living thing," involving capturing knowledge by walking around and through direct interaction with customers and suppliers outside the organization and people inside the organization. This depends on having shared experience, and results in acquired skills and common mental models. **Socialization** is primarily a process between individuals.

The process for making tacit knowledge explicit is externalization. One case is the articulation of one's own tacit knowledge ideas or images in words, metaphors, analogies. The second case is eliciting and translating the tacit knowledge of others customer experts. E.g. into a readily understandable form (explicit knowledge). Dialogue is an important means for both. During such face to face communication people share beliefs and learn how to better articulate their thinking, though instantaneous feedback and the simultaneous exchange of ideas. **Externalization** is a process among individuals within a group.

Once knowledge is explicit, it can be transferred as explicit knowledge through a process Nonaka calls **combination**. This is the area where information technology is most helpful, because explicit knowledge can be conveyed in documents, email, data bases, as well as through meetings and briefings. The key steps collecting relevant internal and external knowledge, dissemination, and editing/processing to make it more usable. Combination allows knowledge transfer among groups across organizations.

Internalization is the process of understanding and absorbing explicit knowledge in to tacit knowledge held by the individual. Knowledge in the tacit form is actionable by the owner. Internalization is largely experiential, in order to actualize concepts and methods, either through the actual doing or through simulations. The internalization process transfers organization and group explicit knowledge to the individual.

2.2.Knowledge capture and codification

In simplest terms, codification refers to when some piece of knowledge is put into an accessible form (Davenport & Prusak, 2000). Capturing knowledge means obtaining knowledge from various sources and in many forms, and also involves organization and codification (Holsapple and Joshi, 1999; Al-Hawamdeh, 2003; Dalkir, 2005). Similarly, Balasubramanian et al, (1999) consider knowledge capture to be the process of collecting and interpreting information from both internal and external sources, and organized into explicit forms for utilization. It is clear that this process can be divided into two processes: capture and codification. Knowledge capture focuses on acquiring knowledge, whereas knowledge codification focuses on organizing knowledge to become encoded knowledge. There are many knowledge capturing techniques including training, education, apprenticeships, lesson-learned programs, environmental scanning and licensing (Wiig, 1999). Knowledge capturing activities can be grouped into three approaches, the same way as knowledge creation.

First, with the practical approach, knowledge capture occurs through work processes. Furthermore, the practical approach of knowledge capture includes licensing (Wiig, 1999) and acquiring experts who possess particular knowledge (Gupta and Sharmand , 2004). Second, the educational approach is concerned with training programs, apprenticeships, lessons learned, environmental scan (Wiig, 1999) and document study (Garza and Ibbs, 1992). Finally, the social approach includes discussion and the interaction of individuals. According to the social capital theory of Coleman (1988), social connection and social relations provide information channels that allow members of societies to transfer and capture knowledge.

2.3.Indigenous people and Indigenous knowledge

2.3.1. Indigenous people

Indigenous people are categorized as communities having relatively small population strongly linked to their ancestral culture with a fervent identity for their shared history, typically accompany the state of minority group with in a nation state controlled by others and remained to be largely invisible to members of world's dominant societies (Greaves, 1996, cited in Wolde Selassie 2005).

Indigenous peoples are well informed about their own situations, their resources, what worked and does not work, and how one change might have an impact on other parts of a given system. Rural populations have a variety of formal and informal organizations which citizen's identity, discuss and prioritize community level problems and seek mechanism to solve them often through local level experimentation and innovation. The term indigenous people are associated with social groups and cultural identities that are distinct from the dominant groups in the society.

Indigenous people's value system is often based on close relations with nature and natural environmental resources, for both subsistence and spiritual needs. This is just true for Kafecho communities whose livelihood depends on the natural forest. In turn, they managed the forest in their surrounding through local based ritual sanction. Consequently, Indigenous people play crucial role in the control of the earth's natural resources and biodiversities (IFAD, 2003).

Indigenous people reveal high degree of knowledge about their natural resources based on their observations and close relation to the land they own. Indigenous Knowledge is adaptive skills of Local People usually derived from many years of Experience that have been communicated through "Oral Traditions" and Learned through family members over regenerations (Ibid, 1991).

2.3.2. Indigenous Knowledge

According to Rao (2006) and Langill(2007), Indigenous Knowledge (IK) refers to traditional and local knowledge possessed by groups of people living in a particular area for a long period of time. IK is not limited only to aboriginal people (Storey, 2005), and not concerned with old-fashioned or static knowledge (Langill, 2007). It is dynamic and continues developing over time (Obomsawin, 2000; Hansen and VanFleet, 2003). IK is the basis for local level decision making in agriculture, health care, food preparation, education, natural resource management, and many other activities in rural communities. According to Warren (1991) , IK facilitates communication and decision making and is thus an information base. Furthermore, it is collective, experiential and subjective, holistic, and implicit (Obomsawin, 2000).

Different natures of IK are reviewed as follows:

First, IK is collective and dynamic and unique in nature. It represents local knowledge accumulated over generations. It is dynamic in nature, because it is the integration of historical knowledge and new knowledge. It is derived through the collaboration and interaction of people and the environment (Obomsawin, 2000; Sefa, Hall and Rosenberg, 2000; Hansen and VanFleet, 2003). IK is unique to a particular group's culture and environment, because it is involved with long term occupancy in a particular area together with adaptation to local conditions, including culture, environment and local people's requirements for living (Sefa, Hall and Rosenberg, 2000; Hansen and VanFleet, 2003; Langill, 2007). Furthermore, IK is captured through observation and justification by local people in a natural environment and particular social phenomena (Waldram, 1986).

Second, IK is rooted in personal and direct experience, and associated with long term understanding of local environment and culture (Sefa, Hall and Rosenberg, 2000). It is concerned with firsthand experience (Obomsawin, 2000; Storey, 2005). It is captured by observation because it is repeating, occurring and revealing through intuitive vision (Castellano, 2000) and the philosophic and cognitive systems of local experts (Obomsawin, 2000). As a result, local knowledge is subjective in nature.

Third, IK is holistic. It is derived from the integration of complex components including individual components, local ecosystems and social context. Individual components comprise experience, knowhow, wisdom, insights, creativity, perceptions, innovative capabilities (Obomsawin, 2000). Social context focuses on belief and spiritual insights of the local community (Castellano, 2000; Storey, 2005). IK does not make sense when it is isolated from social context and local environment (Sefa Dei, Hall and Rosenberg, 2000; Castellano, 2000).

Lastly, IK is implicit and requires traditional methods for capture and transfer. It encompasses the skills, experience and insights of people (Obomsawin, 2000; Rao, 2006). It is located in people's minds, activities, community practices and culture, such as community values, beliefs, rituals and traditional songs and stories (Korma, 1995; Grenier, 1998). IK plays a crucial role for local culture survival and is related to certain values and moral codes (Storey, 2005). It passes on to generations through traditional methods oral transmission, teaching and learning from community elders, and direct experience (Kroma, 1995; Sefa Dei, Hall and Rosenberg, 2000; Storey, 2005).

On this basis, IK is more concerned with tacit and procedural knowledge. It is focused on occupancy and practice. It is difficult to encode and capture through conventional methods and formal education. It can be referred to as cultural and moral knowledge because IK comprises social, political, economic and spiritual aspects of the local way of life (Langill, 2007). It emerges under investigation of a cultural context (Langill, 2007), according to Kroma (1995) and Grenier (1998), can be found as encoded knowledge in the forms of proverbs, stories, riddles, music and songs. From the perspective of indigenous people, IK is known as local wisdom, which Small (2004) defines as indigenous people's ability to create accumulated knowledge and the capacity for making judgments for the creation of a good life.

2.4.Preservation of Indigenous Knowledge

IK, which has generally been passed through generations by word of mouth, is in danger of being lost unless it is formally documented and preserved (Warren, 2004). Such a loss would impoverish society because, just as the world needs genetic diversity of species, it needs diversity of knowledge systems (Labelle, 1997). The rapid change in the way of life of local communities has largely accounted for the loss of IK. Younger generations underestimate the utility of IK systems because of the influence of modern technology and education (Ulluwishewa, 1999).

According to Warren (1992), the future of IK, that reflects many generations of experience and problem solving by thousands of indigenous people across the globe is uncertain. If IK is not recorded and preserved, it may be lost and remain inaccessible to other indigenous systems as well as to development workers. Development projects cannot offer sustainable solutions to local problems without integrating local knowledge (Warren, 1991). IK is the key to local level development (Schoenhoff, 1999) and ignoring people's knowledge is likely to ensure failure (Brokensha et al., 1997). One should not expect all the expertise for Third World development to come from the West; in the face of dwindling resources, IK could provide vital tools for rural development (Atte, 1989).

Since IK is essential to development, it should be gathered, organized and disseminated, just like Western knowledge (Agrawal, 1995) but this raises issues related to methodology, access, intellectual property rights and the media and formats in which to preserve it (Msuya, 2007).

A contentious issue in the management and preservation of IK is the protection of intellectual property rights. In this regard, the United Nations Draft Declaration on the Rights of Indigenous Peoples underscores the fact that indigenous peoples have the right to own and control their cultural and intellectual property (Valsala & Kutty, 2002). Although most IK is held in the minds and practices of people, and is commonly held by communities rather than individuals, intellectual property rights that are intended to protect the ownership of the intellectual content of the works of an individual can be applied.

2.5.Importance of coffee and the loss of coffee forest

In Ethiopia the large majority of people's lives are closely linked to natural resource, particularly forests and also, Coffee is one of economic source for Ethiopia. According to the Nature and Biodiversity Conservation Union (NABU), currently only about 2% of Ethiopian's original forest cover remains and 50% of that is located in South West Ethiopia. In 2010, Kafa Wild Coffee Biosphere is internationally recognized by UNESCO. This shows indigenous peoples there have an indigenous knowledge which helped them to conserve the wild coffee forest for a long period of time and be able to get international recognition. So, it is a great input for our country sustainable development because its potential is so huge, among others the genetic diversity of coffee from forest is reported to be high and thus could be used to improve the productivity of the number one export item, coffee. But, the forest coverage is shrinking day to day by different causes. From 1975 to 1997, 60 percent of the closed high forests in South-Western Ethiopia were lost (Reusing, 1998). Thus the use of Indigenous knowledge might be the best solution to stop this before it is too late.

Arabica coffee (Coffea arabica L., Rubiaceae) has its centre of origin in Southwestern and Southeastern Ethiopia, where it occurs naturally in the undergrowth of Afromontane rainforests between 1,000 and 2,000 m above sea level (asl). Wild coffee is defined as coffee that grows and regenerates spontaneously in its natural habitat and is genetically different from known cultivars and landraces (DFSC and IPGRI 2001; Wiersum 1997). The gene pool of these wild coffee populations is of national and international importance, because it has high potential for the breeding of new coffee varieties (Hein and Gatzweiler in press; Kassahun Tesfaye 2006). In addition, the original forest habitat of wild coffee is part of the Eastern Afro montane Biodiversity Hotspot, which is internationally recognized for its plant diversity, including large numbers of endemic species, and high threat of habitat destruction (Gil et al. 2004).

Indigenous communities have been utilizing wild coffee for centuries, and the art of preparing coffee is a central element of the Ethiopian culture. Furthermore, coffee is Ethiopia's most important export crop contributing 41 % of the country's foreign currency income (FAO and WFP 2006). Modern type plantations only constitute 6 % of the total coffee production area in Ethiopia, while the majority of the production area consists of montane rainforest with wild

coffee (Demel Teketay 1999). Local farmers simply pick wild coffee fruits inside these forests, or manage wild coffee stands by removing competing undergrowth vegetation and some canopy trees. Coffee is their main source of cash income. In the past three decades, however, large parts of the Ethiopian rainforests with wild coffee have been modified or destroyed by conversion to agricultural land, new settlements and timber extraction (Reusing 2000).

Most notably, the worldwide origin of Coffee arabica gene pool (Coffee Arabica rubiacaeae) lies in the mountainous moist forests of Southwestern Ethiopia (Gole 2003). Until these days, this area still contains some of the last remaining largely timbered regions within the country, of which parts can be described as primary high forests with high biodiversity relatively un depleted by human activities. These forests still comprise naturally regenerating populations of wild forest coffee with a significantly high genetic diversity. Hence, Coffee arabica is one of the few crops of worldwide importance that still can be found in wild populations in their home region. As the genetic diversity of Coffee arabica is considerably narrow worldwide, the insitu protection in which natural selection and adaptation are maintained is of great importance.

However, parallel to the trend in other African countries, Ethiopian primary high forests including coffee forests undergo a steady process of depletion and destruction, hence the extraction of forest resources is greater than their natural regeneration capability or human reinvestment (also known as forest mining). The processes of forest degradation and loss are complex and difficult to assess as there are few reliable primary data. Environmental scientists began their long term assessments at a point when the ecosystem had already begun undergoing massive change. However, researchers have been able to gather hard facts that illustrate an unambiguous tendency:

- Between 1955 and 1979, Ethiopia lost 77 percent of its forest cover (Bech 2002)
-From 1975 to 1997, 60 percent of the closed high forests in south-western Ethiopia were lost (Reusing 1998)
- The current decline of the primary forest in Oromiya Region is assessed to be 1.6 to 9.4 percent annually (Boum 2002)

2.6.Indigenous Forest Management Institutions

Institutions are defined as rules, norms, formal hierarchies, monitoring and sanctioning which shape individuals' actions and expectation (North, 1991). Institutions are "set of rules actually used" or "rules of games in society"(Ibid). They are also considered as regularized patterns of behavior between individuals and groups in society or a segment of society (Ibid, 1991).

According to Watson (2003), Indigenous institutions can be taken to be those institutions that emerge in a particular situation of the community. Indigenous institutions represent established local systems of authority and other phenomena derived from the socio-cultural and historical construction of a given society.

Forest management in Africa in general and in Ethiopia in particular is self-initiated practice (Hobley 1996). The livelihood of these people heavily depends on the forest resources (Ibid). Forests provide them with goods and services that are crucial to sustain life (EFAP 1994). They also provide ecological, environmental and biodiversity maintenance, watershed maintenance, water recharging and other services. In time immemorial, strong reliance on these resources by local people made persistent initiative for the management of the resources. Given the diversity of the socio-cultural setting and resource bases, these management systems evolved had variation of the diversity of the socio-cultural and resource base differences.

2.7.Paradigms of Forest Management and conservation

The challenge of tropical forests has caused intense international concern during the past decades. Attention has been given chiefly to resource degradation, declining of biodiversity, and the effects of decreasing forest resources on the global climate (FAO, 2003). This might be because less international attention has been devoted to the implications of diminishing forest resources for local people who depend on forests for their livelihoods. Here forests are largely attached with local people in the way that they consider natural forest as means of their survival so that they link it soco-culturally, economically and spiritually. Forest dwellers have had few

formal legal rights to use forests, let alone voice in how governments manage forest lands. Under colonial regimes of the Third World Countries, forests were declared as public lands in order to generate revenue for the state. Postcolonial governments often have continued to refer to people living public forest lands as 'squatters' or to accuse them of 'illegal use', even when land rights are in dispute because of an indigenous community's claim to prior, ancestral rights (Alemayehu,2010).

The government forest departments also tend to have highly centralized top-down structure that focus on more timber production and preserving forest reserves than on the forestry needs of local villagers. Historically, governments have sought to keep villagers off forest land, often by using forest guards to patrol protected areas, or by levying fine against 'violators' to discourage land clearing and timber harvesting(Ibid,2010).

Since the 1970's,the growing of worldwide awareness of deforestation and increasing pressure for forest conservation have prompted the current government of Ethiopia to declare areas covered by forest to be protected as forests land; nonetheless the effort failed to achieve the intended goals (Desalegn,2003). The evolution of ideas about development planning in the forestry sectors of the Third World countries largely follows the shifts in thinking (There has been a transition from Top- down to bottom-up approach of forest resource management. Particularly, the emergence of the concept of community forestry in the late 1960s and early 1970s bases for community needs grew. The emergence of a new paradigm did not replace the old one. Both 'top-down' and 'bottom-up' approaches continue on exist side by side, and often in conflict because of clear boundary in the latter approach (Westoby, (1987); Gilmour and Fisher, (1992), cited in Alemayehu, 2010).

In the late 1970s, when international attention began to focus on issues of basic needs and the problem of rural development in the Third World, it was recognized that, in addition to its industrial role, forestry had two important roles to play to provide forest products and trees for rural people who no longer have access to them, and to find ways of increasing the benefits of the forest resources to the local people (Ibid, 2010).

During the past fifteen years, there have been many influences that are related to local development projects and investment propagation in Ethiopia in general which have affected the way in which indigenous forest management.

Alemayehu in his recent work stated that the Federal as well as the Regional forest conservation and development legislation and proclamation have phrases concerning people's participation and benefits sharing. But the proclamation failed to say anything about the culture and ritual practices which are constitutionally acknowledged by the EPRDF government (Alemayehu, 2010).

2.8.Religious Ritual Practice in Forest Resource Management

Traditional Ritual Practice is a combination of ancient indigenous religious practice and technique, locally adopted and distinctive to a particular community and has long been known to have important implications for forest resource conservation and management. Indigenous societies living in the forested areas, view the forested landscape around them as an integrated whole, and therefore, as indicative of their own cultural identity, with implication for sustainable forest conservation and management (Zewdie, 2007).

Various research findings cited in Zewdie reveal that religious beliefs, world-views and ethical conditions greatly contribute to the conservation of natural environment and its biodiversity. Though the reasons behind religious beliefs and rituals differ, they contribute to biological conservation in many parts of the world, both developed and developing. Beliefs can play a positive role in society since strict observance of the rules can bring about the orderly behavior of people (Zewdie, 2007) .

Similarly, the indigenous Kafecho people have great respect for the environment; therefore, they have also reverence for the natural resources, specifically forest resource mostly coffee. Their esteem for forest is derived from their spirituality and the significance of sacred sites in the indigenous culture. As far as the researcher know, the importance for sacred sites comes from the

indigenous peoples' ancestors, grandparents, and parent's conversations, and the essential rituals of initiation and purification associated with their spirituality and the sacred sites.

According to (Rappaport, 1968),

'*Rituals are social acts. Inevitably, some participants are more committed than others are to the beliefs that lie behind the rites. However, just by taking part in a joint public act, the performers signal that they accept a common social and moral order, one that transcends their status as individuals. It is a religious practice like to that of Totemism, which is a religion that uses nature as a model for society.'*

So, one of the uninvestigated reasons for the presence of the dense forest in Kafa zone in general and the study area in particular is the effective use of such local religious beliefs and ritual practice which is yet not given recognition.

According to (PLA 1997, as cited by Zewuide, 2005), there are various forms of religious or socio-cultural practices that lead to environmental preservation or sound resource management. For instance:

'The Meete of India, Shinto faith of Japan, Ami tribe of Taiwan possesses certain religious beliefs and practices that result in the conservation of nature and its biodiversity. The Ami tribe of Taiwan, for instance, worships various species of trees or sacred plots of land, in the belief that gods reside in these entities or places'.

The use of religion in conservation has different motives behind and the values recognized in nature. Conservation of natural resources or biodiversity through various sacred uses of nature includes maintenance of sacred groves, tree and/or animal worship, and observing practices on harvesting and hunting of plants and animals in many of the indigenous communities in India (Malhotra, 2001 and Singh *et al.* as cited in Zewdie ,2005).

Sacred groves are smaller or larger ecosystems, set aside for religious purposes (Gadgil and Vartak 1974 cited in Colding and Folk 1997). Sacred groves are good examples of how tradition,

religious or socio-cultural practices lead to environmental preservation or sound natural resource management. Sacred trees are widespread throughout India,

Africa, and Europe (Frazer 1922 cited in Colding and Folk 1997). Under current rates of deforestation and species loss, sacred groves are becoming ecologically important in preventing the depletion of genetically adapted overall biodiversity in a region (Ibid, 1997). Social practices are also important components of religious beliefs that contribute to resource conservation. Culturally defined practices may play an increasingly important role for biodiversity conservation on local and regional levels.

Cultural ecologists have revealed that the complex ecological adaptations behind practices (Rappaport, 1968; Harris 1997). They suggested that how the practice on the Indian cattle is ecologically adaptive and how it increases the capacity of the present Indian system of food production to support human life, through the production of milk, dung, and bullocks. Social ritual practices are good examples of informal institutions, where norms, rather than governmental juridical laws and rules determine human behavior with regard to natural resource use and management in general and forest resource in particular. In many traditional societies throughout the world, Indigenous Knowledge frequently guides human conduct toward the natural environment. In some societies, it is customary to impose practices on the use of subsistence crops to prevent their being harvested at inappropriate times (Chapman 1985 cited in Colding and Folke 1997). This shows that practices are social mechanisms which are imposed sometimes on temporary bases to control the fluctuation of resource bases. Such indigenous knowledge could be removed when food resources are plentiful. Indigenous knowledge that directly manages nature is reportedly found among traditional groups from various parts of the world (Colding and Folke 1997).

Ritual communication has played an important role in protecting the natural environment. Cultural ecologist Anderson observed that how indigenous societies have managed resources well for sustained periods. The credit often goes to "religious or ritual representation of resource management." This is in part because of the nature of ritual (Anderson, 1995). As Rappaport (1968), ritual is a more powerful form of communication than even language and that this advantage is useful for environmental protection, especially in cultures like indigenous ones that

are deeply embedded in the natural environment. Rituals express deep, culturally accepted truths in ways that language is easily manipulated and often used in service of falsehoods.

According to Zewdie(2007), indigenous ritual practices are being increasingly violated in different parts of the world due to the diffusion of external cultures. This resulted in the decline in knowledge and reverence for the local and indigenous tradition. The spread of new religion, such as Islam and Christianity in Kenya, also has had a negative impact on the preservation of traditional practices. In addition, the intruders who consider the traditional belief system as Satanic and primitive have negatively influenced the local knowledge, skills and practice of Kafecho community. Despite these, religious belief systems and its ritual practices have been playing an influential role in the conservation of natural resources in general and forest resource in particular like wild coffee forest.

2.9.Conceptual Frame work

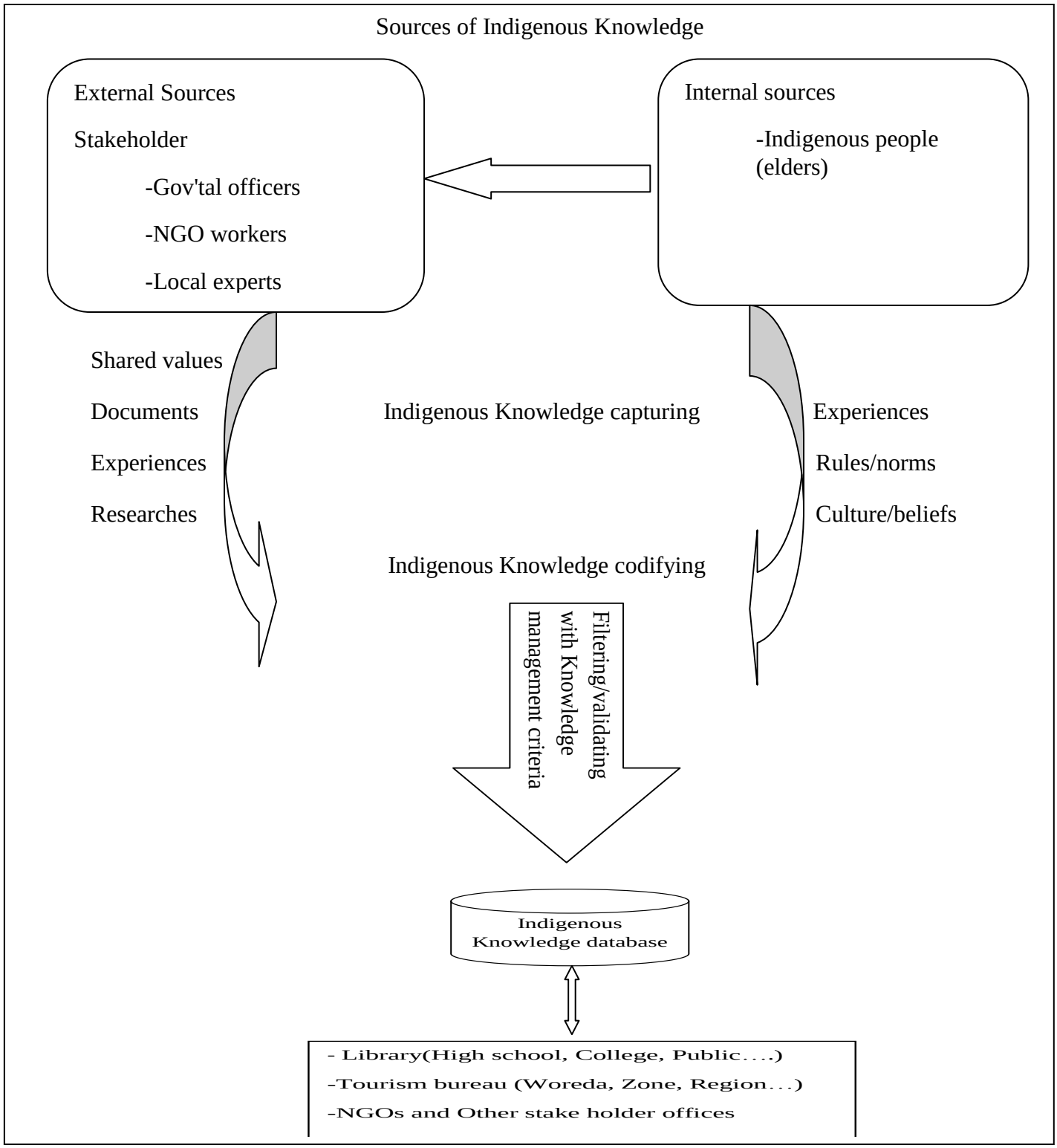


Figure 2.2: conceptual framework

CHAPTER THREE

3. Materials and Methods

3.1. Description of the Study Area

The study sites were Kejaraba and Mankirakebeles at Gimbo and Decha woredas in Kafa zone, which is located in the South Western part of Ethiopia some 460 km south west of Addis Ababa. Kafa is one of the 13 zones of the Southern Nations, Nationalities and People's Regional State (SNNPRS) located between 6^0, 24'-8^0, 13' North latitude and 35^0, 30'-36^0, 46' East longitude in the Western part of the region. The zone has a total area of 10,602.7 km^2 which accounts for 7.06 % of the total area of the region.

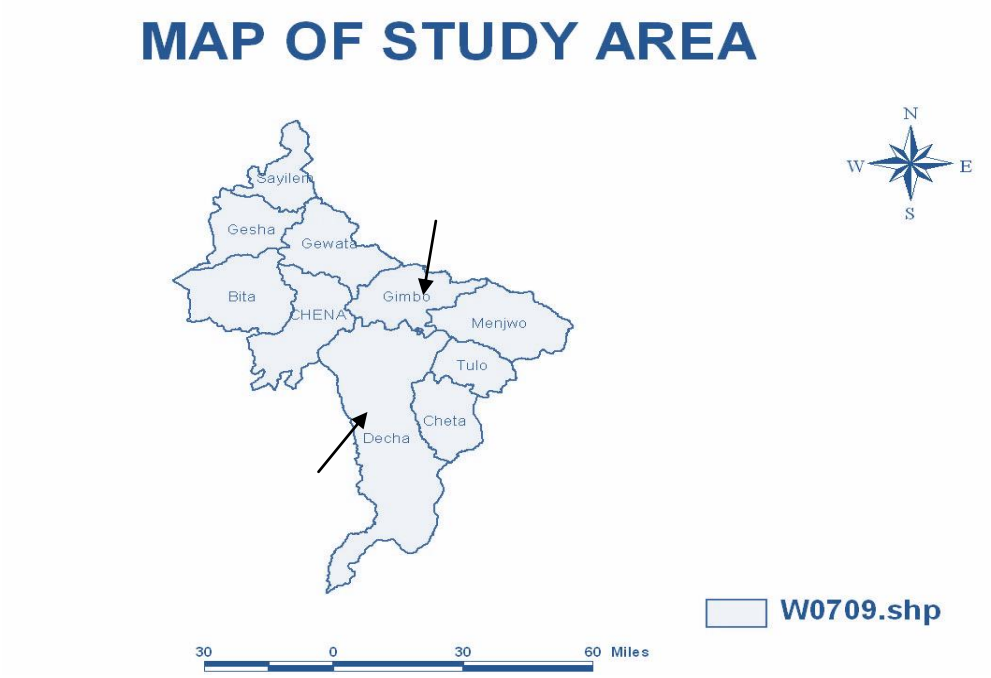


Figure 3.1: Map of Study Area

Source: CSA 2008

3.2.Research Design

Given the main objectives and research paradigm of this thesis, this study takes a qualitative and quantitative approach mean mixed method design. Qualitative research refers to a research paradigm that addresses questions of meaning, interpretation and socially constructed realities (Tashakkori and Teddlie, 2003). Another crucial reason for its use in this study is that qualitative research is focused on understanding real and complex phenomena (Cassell and Symon, 1994; Glesne, 1999, Bryman, 2004) and unique situations (Myers, 1997). Qualitative research is concerned with empiricist and exploratory research in social settings (Cassell and Symon, 1994; Glesne, 1999) and individual interpretation of researchers (Cassell and Symon, 1994; Glesne, 1999) in order to generate rather than test theory (Tashakkoriand Teddlie, 2003).

From a practical point of view, qualitative researchers first seek to understand the social setting as it really is (Gubrium and Holstein, 1997). Second, qualitative researchers understand the social setting through naturalistic orientation methods (Gubrium and Holstein, 1997) with minimal contamination of events and specific instruments (Bryman, 2004). Third, qualitative research is concerned with subjectivity (Cassell and Symon, 1994; Gubrium and Holstein, 1997; Bryman, 2004), and gaining access to an insider view of studied societies (Guba and Lincoln, 1994). Finally, qualitative research is focused on sensitivity to the uniqueness of the setting. Given this, qualitative researchers understand social settings through specific environments (Bryman, 2004) and small samples (Willamson, 2006), and collect data with less structured methods that tend to be used in ethnographic approaches (Bryman, 2004). Qualitative research design was used to explore the IK of the community on management and conservation of wild coffee forest data sources generated through qualitative analysis of key-informants interview, field observation and focus group discussion. Those methods involved the researcher gaining rich data and in-depth understanding. In order to provide transparency, this study's research site and respondents were carefully chosen with purposive sampling which allowed the researcher to select an information rich case and subjects to study in depth (Patton, 2002). Furthermore, this research aimed to meet the criteria for good qualitative research, such as credibility, validity, reliability and ethical issues

3.3.Sampling Techniques and Sample Size Determination

Since the study is more of qualitative the researcher used non-probability sampling to identify the study site as well as respondents .Thus purposive sampling technique was applied to select the respondents because selected respondents should have to know IK practices found in the community, thus the elders who have experiences and those who can played important role for generating relevant data. For qualitative data gathering stakeholder organizations purposively selected and from each stakeholder organizations the related department whole population used for filling questionnaire.

The study areas KejaAraba and Mankira kebele was selected purposively. It was selected because of the existence of wide wild coffee forest, which got recognition by UNESCO. Interview (8 respondents from both sites) FGD (table 3.1). The sample taken from Mankira kebele was larger than that of KejaAraba because Mankira is the origin of wild coffee.FGD(Focus group discussion) was held at Mankira and KejaAraba kebeles.

Table 3.1: Total number of respondents at all the study sites

Name of Kebeles	No. of Group members		
	M	F	Total
Mankira	65	3	68
KejaAraba	51	1	52
Total			120

3.4.Data Types and Sources

To achieve the objectives of the study, data were collected from both primary and secondary sources. The primary data were collected from in-depth interview of selected informants, focus group discussions, field observation and questionnaires were distributed to stakeholder organizations. Secondary data were collected from published and unpublished materials which are available in the form of books, journal articles, websites, reports, research papers prepared

and presented for policy discussions and conferences, and other relevant documents from the concerned stake holder organizations.

3.5.Methods of Data Collection

Selection of data collection techniques depends on the type of information needed, and also the types of the respondents. While designing the techniques, attention was given to answer the research questions and to attain the objectives. The following are key techniques which were applied to collect the required data at selected area. The validity and reliability of the instruments used for data collection were maintained before they are used to collect data by checking the questions in the instruments for their completeness, appropriateness and accuracy. Moreover, pre-testing of the questionnaire was done by conducting a pilot study and corrections were made on it.

3.5.1. In-depth Interview

In-depth interviews were conducted at both kebeles with key-informants, who are elders, gote leaders (community classified group leaders), and have deep knowledge on IK specifically for management and conservation of wild coffee forest. Moreover, the in-depth interviews were to gather data regarding the previous status of forest and the current situations, thus the trend, the causes for the change cope with the possible solutions of IK. The key-informants were selected due to their knowledge and experience about IK on management and conservation of wild coffee.

Two core issues on how the people are and how is the ecosystem from a past, present, and future (the trends) perspective were addressed in detail; FGD were also be part of the instruments in this respect. It will serve especially on the existing practices that are indigenous for the possible innovation and improvement to use as a base for development plan and beyond. Indigenous knowledge, both explicit and tacit collected, such as what people do and why under a given circumstances within the larger framework of what they know and think, etc. were captured.

3.5.2. FGD(Focus Group Discussion)

After the individual interview, the focus group discussion held at the study areas. The participants of FGD were community elders and young generations. There were also representatives of village development committee, local institutions, kebele leaders and other concerned peoples. In addition to these, members of community forest user groups have also participated in the discussions. Women are primarily responsible for most of the household activities. In this sense, women were small in no. in each FGD.

A group of farmers within each of the two kebeles were organized for focus group discussions. The participants in the focus group discussions were almost all farmers consisting of two young and two female household heads. A checklist was used to discuss issues relating to IK for management and conservation of wild coffee forest.

3.5.3. Field Observation

In contemporary field research, observation is the most important technique to collect original data. This is because sometimes the information that the researcher gather from the informants may contradict with that of the real situation. Therefore, observation helps to get first hand information from the original sources. Questions like how the people are and how is the present we ecosystem were addressed and what the community benefited from the forest in detail by observation. Also, direct field observation by the researcher also contributed to supplement and verify the information obtained through the other methods.

3.5.4. Questionnaire

Self-administered questionnaire was prepared and distributed to all the departments of the stakeholder organizations at Zonal level. There were six stakeholder organizations:

1. NABU(Nature and Biodiversity Conservation Union)
2. SOS sahil Ethiopia
3. Kafa Forest Coffee Farmers Cooperative Union

4. Kafa Zone Culture Tourism and Government Communication Department
5. Agricultural Research Institution Bonga Center
6. Kafa Zone Agriculture Department

To get enough information on the problem closed and open ended questions were included in the questionnaire.Since he researcher used the total population of respondents their total n umber was 31 from all stake holder organizations.

3.6.Data Collection procedure

The procedures for data collection were through hired data collectors that were recruited and trained to assist the researchers during the study to avoid possible language barrier and/or misunderstanding. They were together with the researchers conduct group discussions with the selected elders/respondents from the communities, interviews and also during field observations. The researcher administered the interview by herself at both site with 5 key-informants up on IK on management and conservation of wild coffee forest and other related issues. Also, FGD that took about 1hr and 45 minutes each was held at both sites by the researcher and data collectors. Contacting Key informants was very useful to shape the structure of FGD. Based on the formats (see Appendix- figure D1 and D2) the researcher answered the questions for future analysis of Interview and FGD result. The data collected via FGD was organized as first draft and confirmed by the representatives of the all groups. Furthermore, to collect data with questionnaire from stakeholder organizations the researcher distributed the questionnaire to the respondents of all stakeholder offices after explaining the research objectives. Finally, she filled out questionnaires were collected and checked for completeness.

3.7.Methods of Data Analysis

The researcher used descriptive method to analyze the primary and secondary data. Since the data collected was qualitative and quantitative in nature, this research relies on qualitative data analyses. The data generated from the key-informants interview, FGD and field observation were analyzed by using qualitative techniques, such as summarization, categorization, re-stating, etc. Concerning quantitative data gained by questionnaire from stakeholder organizations, it was

coded and entered into a computer for analysis, using the computer software SPSS (Statistical Package for Social Science) version 19 by which descriptive statistics such as frequency, tables, figures and graphs were applied to organize, analyze and interpret the study .Finally, the analysis made by manual qualitative analysis of the data generated through interviews with key informants, focus group discussion and observation were integrated with SPSS analysis.

3.8. Quality of research

The quality of qualitative research focuses on the trustworthiness of the findings and interpretation of researchers (Glesne, 1999) in order to enhance the objectivity of research (Perakyla, 1997). There are many criteria to evaluate the quality of research including validity and credibility, the reliability of methods (Silverman, 2005) and ethical issues (Drisko, 1997). In this study case the three criteria considered as well especially reliability.

3.8.1. Validity

In qualitative research, validity refers to the correctness and credibility of the descriptions, explanations and interpretations of accounts rather than the data collection methods or data. It is focused on objective reality or possible interpretations of which accounts are credible (Maxwell, 1996). Maxwell pays attention to three main areas: descriptive validity, interpretative validity and theoretical validity. On the other hand, generalizability has received less attention because generalization of qualitative research data is based on theory which can make sense of similar situations (Maxwell, 1992).

Descriptive validity is concerned with the accuracy of accounts that researchers report and infer from what researchers see and hear during field observation. Meanwhile, interpretative validity is concerned with the correctness of accounts developed by the understanding of researchers through participants' meanings. Lastly, theoretical validity refers to the theoretical understanding of researchers to explain accounts with accurate concepts (Maxwell, 1992). Given this, descriptive validity and interpretative validity are of primary importance for interpretations and conclusions. To enhance descriptive validity, the transcriptions of the narratives of this research were translated from "Kafinoonoo"(the language the) in to Amharic and then into English, with the advice of a native speakers, as well as observation notes. In terms of interpretive validity, this

research employed data triangulation which is the most common and popular technique to increase the validity of qualitative research (Bryman, 2004; Silverman, 2005). Multi-data collection techniques allow researchers to dismiss unclear and misunderstood issues by checking data from any particular technique with other techniques (Bryman, 2004). This research used multiple data collection techniques, including primary data (In- depth interview, field observation, FGD and questionnaire) and secondary data (books, published and unpublished researches. The refutability principle is used to reduce anecdotal evidence which involves data from a few well-chosen examples. The refutability principle leads the researcher to explain whether phenomena are objective or subjective, using concepts or theory (Silverman, 2005).

Furthermore, generalisability and transferability were considered in order to increase the validity of this research. This is because generalisability and transferability can widen the applicability of findings (Drisko, 1997). Guba and Lincoln (1994) mentioned that thick description, which contains contextual information, meanings and intentions of actors, can provide a sense of the possible transferability of findings. Thus, this research aimed for validity through generalisability and transferability through thick descriptions of accounts.

3.8.2. Credibility

Credibility refers to trustworthiness (Belcher, 1994) and acceptability to others (Bryman, 2004). As mentioned above, credibility is considered part of validity. It is concerned with internal validity (Bryman, 2004) which focuses on the accuracy of explanation of findings (Bryman, 2004). Credibility can be increased through thick description of raw data respondents' own words, and context, which provides a sense of the wholeness of the event or environment so that readers can assess the accuracy of the researcher's interpretations and conclusions (Drisko, 1997). Furthermore, credibility can be increased through confirmation by participants (Drisko, 1997; Bryman, 2004). As a result, this research ensured credibility by conducting confirmation sessions that allowed respondents to narrate particular stories on two occasions. This context can be viewed as confirmation according to Bloor (1997) because the respondents had an opportunity to re-examine the stories.

3.8.3. Reliability

Reliability is concerned with consistency and stability, i.e. whether a study can be repeated again with similar results (Babbie, 2000; Bryman, 2004). In ethnographic research, reliability refers to the consistency of findings with others using the same method (Kirk and Miller, 1986). As mentioned above, this research was conducted in a social setting in which the researcher could not control the research site. Thus, this research addressed only internal reliability. Internal reliability is concerned with consistency of interpretation of the same events by different researchers or observers (Bryman, 2004). However, this research had only one observer. Therefore, this study enhanced the internal reliability of questionnaire by pilot test method, which involved obtaining the same information twice (Babbie, 2000), in order to ensure that respondents interpreted the same questions from the researcher in the same way. The key informant interview and FGD dialogue was translated from English in to Amharic and kafinoono and checked by a native speaker in order to ensure appropriateness of wording.

3.8.4. Ethical issues

As mentioned above, this study involved human participants. Ethical issues were addressed in order to increase the quality of this research. Drisko (1997) mentions that the maintenance of social work ethics is one of six criteria for strengthening qualitative research. Ethical issues in qualitative research are concerned with avoiding harm, consent, deception, privacy and protecting the confidentiality of data. Research subjects have a right to know the nature of research and to decide whether to participate in the research or not. In addition, the privacy and identity of research subjects should be protected (Punch, 1994).

Accordingly, the study findings should benefit and cause no harm to the participants and society. Privacy and confidentiality were maintained at all times, all findings were portrayed in a confidential manner no personal or identifiable information were recorded or printed in the study and no name was recorded during the interviewing process.

The researcher respects the human right of free choice and ensures informed consent is completed before carrying out any interviews. The researcher ensures a regular review of what the participants have given consent to is carried out; this is referred to as a procedure of consent, which enables the researcher to renegotiate features of the consent form derived from the changing description of the inquiry (Munhall, 2001). All findings and results presented are that of actual facts stated in the interviews and observation.

Ethical issues may arise at any point during any study regardless of the rigorous planning. Therefore it is important that possible ethical issues are identified, prevented, and reviewed as best as possible prior to, during and after the study. Ethical principles provide direction to the possible issues not answers.

CHAPTER FOUR

4. Results and Discussion

4.1.Results

The populations residing around wild coffee forest at KejaAraba and Mankira kebeles are not serial crop producer over all those kebeles community highly depend on wild coffee forest. The forest did not only containing wild coffee rather it includes different types of coffee shade trees, spices and edible plants. Thus, in this study IK of management and conservation are not used only for wild coffee forest rather for over all forest (Natural Resources) which include those coffee shade trees, edible plants, spring waters, Rivers and so on.

Figure 4.1: "Timiz" in the forest

4.1.1. Common IK on management and conservation of wild coffee forest

Numbers of IK that are available at the study sites were revealed during the study, some of which are presented below.

A. Deejjooo (thanks giving scarification) to forest/land sprit (Qollo)

The Community defines Qollo from different perspectives. The data obtained through group discussion revealed that Qollo is spirit which is believed to live in the forest, bushes, and running water. In some cases, Qollo which is believed to have inhabited the rocks, pathways, and most revered streams. One of the key informants explained that Qollo is the forest spirit that either gives humans good harvest, fertility and ensure the continuity of meaningful life, or it denies them by causing the nature disaster that devastate the area for its 'inexplicable proposes'. Based on the comprehensive knowledge of local elder, the researcher defines it as a general term denoting the 'forest spirit'. It resembled human beings inhabited in forests of the specific compound.

The community members perceive that all things, fauna and flora, soil and water, land domain found in the forest belong to Qollo. In both study sites, it is common to hear the name of Qollo in their communication, Pray and testimonies of truth through swearing in the name of Qollo, along with or together with as in the phrase with yeero (God), in the form of "Yeerina Qollo ".

Regarding the origins of the Qollo spirit, one can trace satisfactory explanation from the knowledgeable informants and oral historians of the localities. But, what is widely and commonly accepted is that it is an ancient religious belief. Moreover, it is believed that the Qollo spirit is its malevolent or benevolent intentions towards the human beings. The inhabitants of the land told me that, in the ancient time there was oaths or pray and curse in the name of Qollo ''EeQollo ne ciinaa'' (let Qollo see you) with the intention to impose misfortune on those who fail to follow the customs and norms of the society. The researcher heard about Qollo from some of the group discussion members said they met or saw Qollo. Based on their statement the Qollo

is tall and white which is seen for a while and disappear. If somebody gets sick because of the Qollo saw him then the "Alamo" (Kalicha in Amharic) to mean male shaman who acts as a medium for the spirits of his patrilineal ancestors. A man who inherited his father's spirit (Eqqo) being selected from a group of brothers by the spirit. He is a holly person who has been discharging his custodian responsibility in the communal Qolle Deejjooo of Kafecho people in general and the study community in particular. He will explain and advise the victim to offer sacrifice to Qollo to the place where the person is seen.

Furthermore, the following mythology elaborates the invisible power of Qollo: One of the elders said "If your son happens to see him before he sees the boy then nothing will be fall him. But if Qollo sees him first then the boy will get sick and die".

Since belief in Qollo refers a belief in any natural resource as supper natural power and these natural resources are treated as if it was a person with a will and intention which might be malevolent or benevolent towards human beings. It is true to community that they perform ritual scarification to Qollo for either of the intentions. Therefore, the local people recognize that the Qollo spirits reside in some selected forests and bushes in every village are said to be big creatures.

Also, as group discussion from both sites, revealed that Deejjooo is a ritual activity performed to give thanks to Qollo.

As the knowledge gained from the key Informants during the interview there are two types of Deejjoo
"OggeDeejjoo"(Large Deejjoo) and "Gishi Deejjoo" (Small Deejjoo)

"Ogge Deejjoo" belongs to scarifying first fruit of Baaroo (maize) and Gaashoo (teff in Amharic) in the form of very complex traditional feast of thanks giving to the forest and land spirit or Qollo. In short, it is organized ritual practice associated with the product of harvest and it is the actions performed in terms of family groups or in clan.

This type of ritual is communal Ogge Deejjoo, which is performed during the harvest of Gaashoo or 'teff' and Baaroor 'maize'. It involves offering yearly sacrification with especial established rules and regulations. Before such sacrifice is made people will not eat or drink from new harvest of crops. For holding the communal Deejjoo, each community member is called and there is a well identified and known permanent place pointed by "Alamo" (Kalicha in Amharic). The particular ritual/holy landscape sealed by Alamo. This is a landscape covered by local name of different tree types commonly used for Deejjoo ritual practice and it is a place situated within a reasonable distance from the Gafo (village). One of the Alamo an informant holds the role of a custodian in the ritual practice explained the following about the practice, honor and respect associated with the ritual place or site:

> *"Once this place is identified as the ritual ground and domains of the forest spirit, nobody is allowed to clear the forest area for the purpose of cultivation or agriculture .If one against is this principle, the Qollo cause to him illness or cause to him some misfortune. However, people refrain from perform in the ritual ground for there exist an agreed on norms and established rules. The breaking of such rules and practices by an individual will result in the stigmatize action of that and his isolation from his respective community and the local forest spirits will punish him for his wrong acts or reluctant of the domain or ritual place."*

Communal Deejjoo practices are, therefore, those who involve a kinship group or tribe village. These rituals may be conducted for variety of purposes such as veneration of gods, prosperity, protection against danger or the making of season. One of the basic features that distinguish the family based (GishiDeejjoo) from community based (OggeDeejjoo) is that the latter is led by a quasi- religious chief who leads the entire activities of the ceremony. The communal Deejjoo is performed by based on tomo (clan), participants and specified time and ritual place. Each clan at the community has their communal Deejjoo ritual and organizes ceremony. It is led by Alamo and his Gaberechos. It is mainly associated with the harvest of maize and teff. It is performed in more organized manner, by custodian whereas the ritual ceremony held at the family level is found to be very simple and flexible. Since the

Dense natural forest or sometimes referred us cultural forest which is always preferable for such communal Deejjoo Such forest is different from common one.
According to one of the key informants, Geberecho is close assistance of the Alamo who is selected on the basis of his kinship closeness and sit side by side and take over all the offering items brought by the community members to the Alamo, i.e. offering sacrifice according the norms and rules established.

"Gishi Deejjoo" belongs to scarifying the first product of harvest to Qollo like so as to present thanks for his good will. This type of Deejjoo may be family affair or community based. It means the product of harvest.
This is family based Gishi Deejjoo in essence is celebrate by digging hole under a big trees, especially (Butoo, Di'oo, aa'icaphero, Orooro, Yahoo, Sheddo) trees etc. or simply in the cave which covered dense cultural forest. Then planting freshly plucked trees and then pouring out libation and offering gifts.
According to the finding majority of the community are subsistence cultivators, family based thanks giving sacrification ceremony after the harvest new cereals. The information obtained from group interview reveals that crop failures, devastation of harvest by wild animals and some kind of illness is attributed to the malevolent intention of the Qollo. On the other hand, productivity, good harvest, fertility protections of crops and other natural resources is attributed to the benevolent will of the forest spirit .The malevolent intention of the Qollo happens when the ritual ceremony is distorted while the benevolent wills could be realized by being faithful to Qollo.

B. "Shereshowo" (Gudo) - forest area restricted by community rules

The other interesting IK from the area is "Shereshowo"(Gudo) which is to mean forest area restricted by community rules. The rules were not written rules .But, the community by is fully governed by those unwritten rules. There is a leader who executive the community rule named as "Qumbe Gudo". The informants explained the situation as follows:

"If you enter to that area/forest without the permission of elders or "Qumbe Gudo" you will be punished."

The punishments depend on the degree of the mistake made. Punishing that guy is responsibility of the community. The punishments include: Discriminating from social activities like "Edir", "Dado", "Kebir" "Sharing their oxen"…etc. and even their domestic animals will be discriminated from the others, such a person can't even get a fire flame from the neighbors "Qaqo Bodache". The elders curse at different ritual practice areas at different holidays.

C. Ancient grave yards means the forest at that area protected by Psychological belief

According to the Key informants interview and FGD the same holds true to graveyards. There are three types of cemeteries known in Kafa history. These are burial places of the kings ('Moogo'), burial places of the spiritual leaders ('Guuto') and burial places of ordinary individuals ('Maasho'), which are all respected at varying degrees and never allowed to enter to them. Relatively burial places of the kings ('Moogo') and the spiritual leaders ('Guuto') are more respected or rather feared to enter to because of the belief that accompanies them. So, the forest at those grave yards are respected and no one from the community ever try to destroy it because the community believe that the grave yard is our ancestor's , kings, cultural leaders and family's. The places and plants around them have usually been fully protected from various irresponsible human interferences.

Based on the findings presented above it is possible to say IK is very effective to conserve and manage wild coffee forest in Kafa Zone, the reason why the forest existed since time immemorial and should thus be given due attention in the future when planning forest conservation.

4.1.2. Benefits the community gain from Managing and conserving wild coffee forest

The community knows that when they manage and conserve the forest their benefits become more and more also culturally their life is more dependent on forest and its resources. Thus, the community around those wild coffee forests has gained benefits from the forests, among others:

- Economical
- Socio-cultural
- Ecological
- Health benefit

Economic benefits: From the FGD it was learned that the community of those two kebeles have gaining economic benefit from the wild coffee forest every year throughout their life time.
Nowadays wild coffee (coffee arabica) is gained high demand because of its unique taste and since it is organic. However, the income fluctuates depending on the quality of productivity and its market value. So, they believe that when they conserve the forest they can be more productive. As indicated above, the forest grows many other spices like "Kororima", "Timiz" and so on. They also use big trees to place traditional beehives and get organic honey and these all can generate income for the community members. The researcher observed such activity.

Figure 4.2: Traditional beehives placed on tree

Socio- cultural and psychological benefit: Coffee comes in the forefront in all occasions in their culture. In all the ceremonies like public holidays, wedding occasions, work places, cultural and spiritual occasions and even eating and drinking in each household every day are accompanied by coffee ceremonies. Every guest coming at separate time can be invited to their coffee ceremonies. Inviting coffee is the beginning of inviting what is good for respected guests. Also, other cultural and psychological benefit on the people is the wish of good luck .When coffee is made and ready for drink the traditional ceremony is that the head of the family pray and then the first poured cup of coffee is poured on the ground for guardian sprit. That is to create peace with the "God of the earth" that is known as "Yeerro" and conflicts resolves on coffee ceremony.

With respect to social norms, coffee preparation skill is one of the main criteria of a girl's suitability for marriage negotiation ceremony. Therefore, coffee has social, psychological and cultural or spiritual values for the people of Kafa, particularly where the study is done.

Ecological Benefit: The existence of those forests helped the community to eradicate an unconditional ecological disturbance i.e. soil erosion, fluctuation of rainy season and so on

The forest protects the soil. It holds the soil with its roots. If the trees are cut down and no crops are planted the soil gets hard and dry. If heavy rains come and there are no trees, the soil gets muddy and washes away, polluting streams, rivers and the sea. Then the soil is gone and crops and vegetables will not grow on the hard rock.

The forest prevents fires. When the forest is dead the land becomes dry and can quickly catch on fire and burn away all the life. The forest provides wood for people to use in making homes, tools, boats, carvings and fuel for cooking, but used in a sustainable way, i.e. by avoiding over exploitation of forest products. The forest has many plants which may be of great economic value. Not just trees, but foods, spices and medicines grow in the forest. Maybe some of the plants that are destructed during forest cutting are worth more than the trees. When they are uprooted or cut and thrown away or burned, some fauna may die and the ecosystem is disturbed

The forest has some special trees of very great value, like ebony (black wood) and sandal wood, nut trees and trees which are just right for making canoes or foundations for houses or tools. While these trees are replaced naturally in the forest, they are not replanted when the forest is cut because they grow too slowly. Many trees and bushes valuable to the local people are considered rubbish by commercial loggers and these are often destroyed when other trees are cut.

The forest is the heritage of the community. Treated with love and respect it will last forever and supply the people's needs. That is why the community members have sacred ties to the trees and the forest that are part of their traditional cultures, and are still important to them today.

Figure 4.3: Big trees around the study area

Health benefit:

This forest is a repertoire of traditional cures abundantly endowed with many herbs and other medicinal trees, shrubs and plants (roots , leaves and etc) used by the Kafecho people to treat , cure and prevent many diseases and ailments , which affect men, animals and crops).

The finding of the study by FGD and Key informant interview revealed that a ground coffee is mixed with honey and taken as a medicine to cure wounded part of body. Ground coffee leaves mixed with honey and boiled is believed to purify blood circulation. The other is they use yellow coffee leaves with chilly, garlic and ginger to prepare a drink called "Chemo" which is used to heal common cold.

It is also very common to drink coffee to get cured from head ache in every household of the community. The roasted ground coffee flour mixed with honey jelly in the form of ball swallowed for the stomach ache. The coffee flour mixed with honey is also put on wounds for effective healing and is the most exercised among the communities. In some occasions when get sick, the domestic animals are also fed coffee with some other ingredients of spices specially to keep them healthy

Furthermore, there are different medical plants in the forest which were gone can never be replaced. The medicinal plants and the plants used for many generations by the local people for special purposes need the forest to survive.

4.1.3. Mechanisms to create and/or enhance Public understanding on IK

In my assessment, nowadays those IK on MCWCF are ignored and especially the younger generations of the community almost have no knowledge about how to manage and conserve the wild coffee forest traditionally. Oral transfer, the traditional way of transferring IK from generation to generation seems inexistence, as the style of life is changing and the new generation is not giving attention to traditions. Even though, it seems backwardness to the present generation, the traditional belief in one or the other way contributed to the existence of the community for centuries and sustaining it for the generation to come is unquestionable.

Therefore, mechanisms to create and/or enhance public understanding on IK should be in place to keep the wild coffee forest, a scared resource for the community and beyond to sustain in its present situation. So, as the community suggestion local Medias, stakeholder organizations mainly culture and tourism department and PFM (participatory forest management) program should give attention to IK, recognize it and creating awareness. giving recognition and inviting people at the traditional ceremonies of the community presented earlier, preparing occasions that enable the elders to transfer their IK and giving incentives to the knowledgeable to share their knowledge, especially those who knows traditional medicine to cure different diseases that even the scientific medicines could not heal, etc. . Including in curriculum this all means can help us to create and/or enhance public understanding.

4.1.4. The places where and ways IK can be preserved and transferred for future generation

IK is kept in minds of people, specifically the elders, which is of course not without a risk as the elders cannot keep on living. Once those knowledgeable persons pass away the IK they possess is lost forever as a saying goes: “When a knowledgeable old person dies, a whole library disappears” During the discussion made in group and the questionnaire filled by the stakeholder organizations, the captured and codified IK can be preserved in Libraries (public, college, university, high school and elementary school), Museum, Research institutions and different stakeholder organizations in the form of soft copy and hard copy. The participants of the study repeatedly said *"If IK is preserved at those places everybody can access easily and IK transferred to the coming and current generation"*.

For the following qualitative data:

Range: Mean score of (4.20-5.00) was considered as strongly agree, (3.40-4.20) was taken as agree, the range (2.60-3.40) was considered as neutral, from (1.80-2.60) was taken as disagree and from (1.00-1.80) was as strongly disagree.

4.1.5. Existence and form of IK to Manage and Conserve Wild Coffee Forest

As presented in the following tables, the existence of different IK, in what form IK is available, importance and support of IK for their organizational activities ,Mission , vision and goal, the majority (54.8 %) of the respondents strongly agreed and the remaining agreed with the existence of IK on MCWCF in Kafa zone. Most of respondents strongly agreed and agreed with the issue of availability of IK on MCWCF in the form of tacit rather than explicit .Vase majority (93.6%) of the respondents responded IK on MCWCF is important for their organizations work. Also, most of the respondents indicated that IK on MCWCF supports their organization's mission, vision and goal.

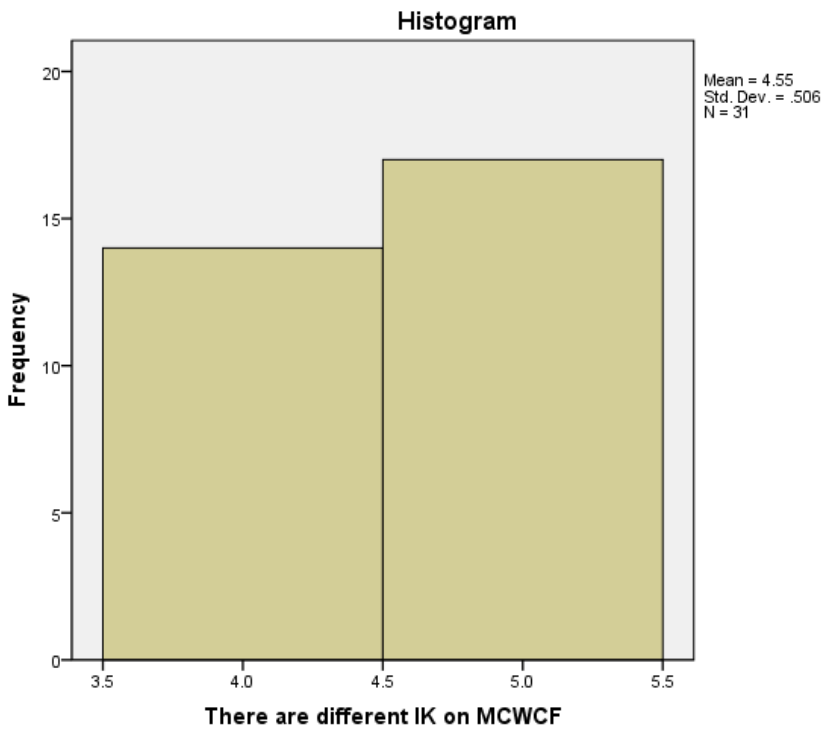


Figure 4.4: There are different IK MCWCF

The researcher used the above parameter to check the availability of IK for MCWCF. From those 31 respondents 17 of them strongly agreed on existence of different IK on MCWCF by acquiring 54.8% responses and the remaining 14 respondents (45.2) agreed on the existence of different IK on MCWCF. The result showed that overall respondents accepted the existence of different IK on MCWCF at the above figure.

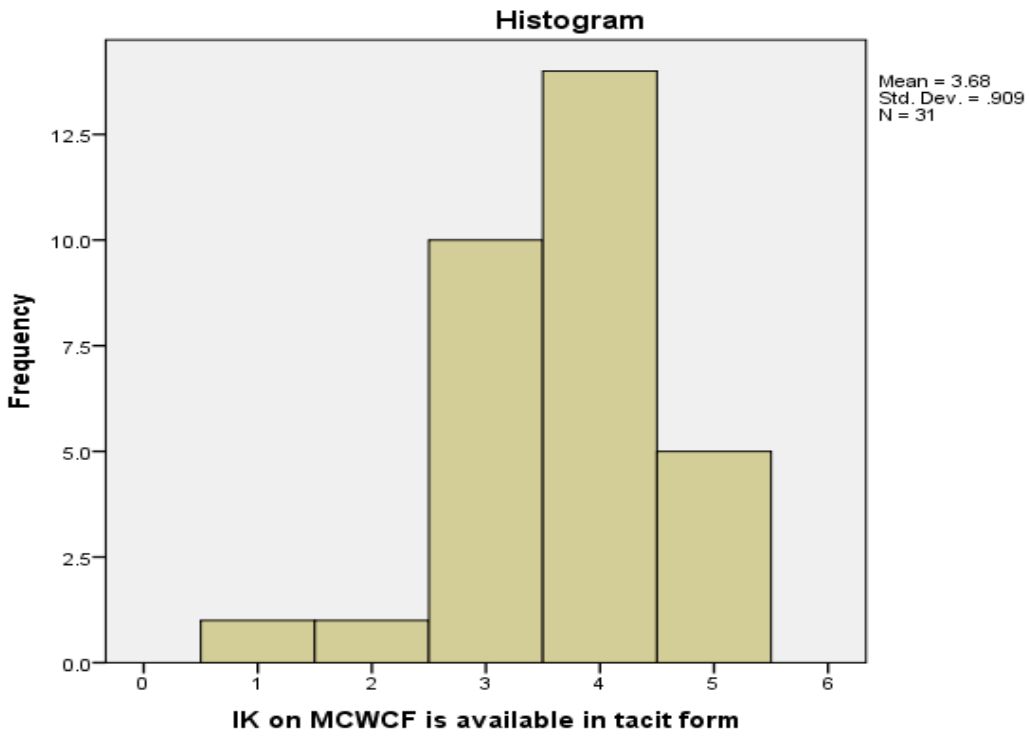


Figure 4.5: IK on MCWCF is available in tacit form

As the above figure, from those 31 respondents 9.67% (3) of the respondents strongly disagreed 3.226% (1)of the respondent disagreed, 32.3% (10) of the respondents give a neutral response,45.2% (14) of the respondents agreed and the rest 9.7% (3) of the respondents strongly agreed on the availability of IK on MCWCF in tacit form. So as the result showed us the majority (54.9%) of the responses in agreement with the position that the availability of IK on MCWCF is in tacit form.

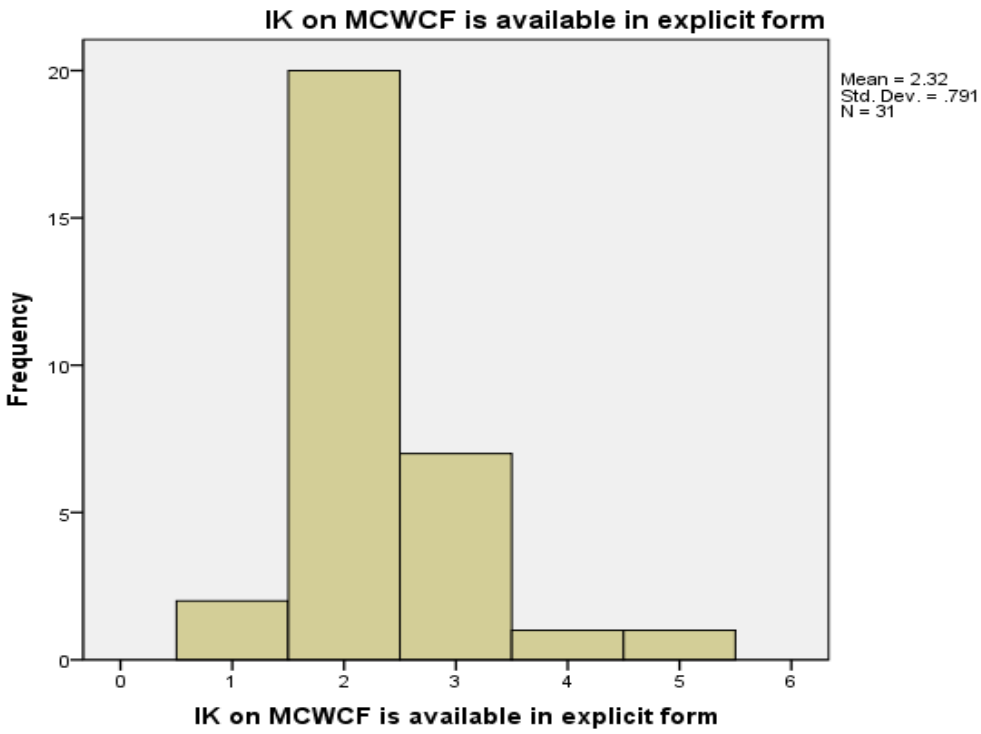


Figure4.6: IK on MCWCF is available in explicit form

As the above figure shows from those 31 respondents, 6.5% (2) of them strongly disagreed, 64.5% (20) of the respondent disagreed 22.6 %(7) respondents were neutral 3.2% (1) of the respondents agreed and similarly 3.2% (1) respondent strongly agreed about availability of IK on MCWCF in explicit form. So as the result showed us 6.4% of the responses gives a way to say the availability of IK on MCWCF is most likely in explicit form. However, the majority (71%) of the responses showed disagreement on the issue.

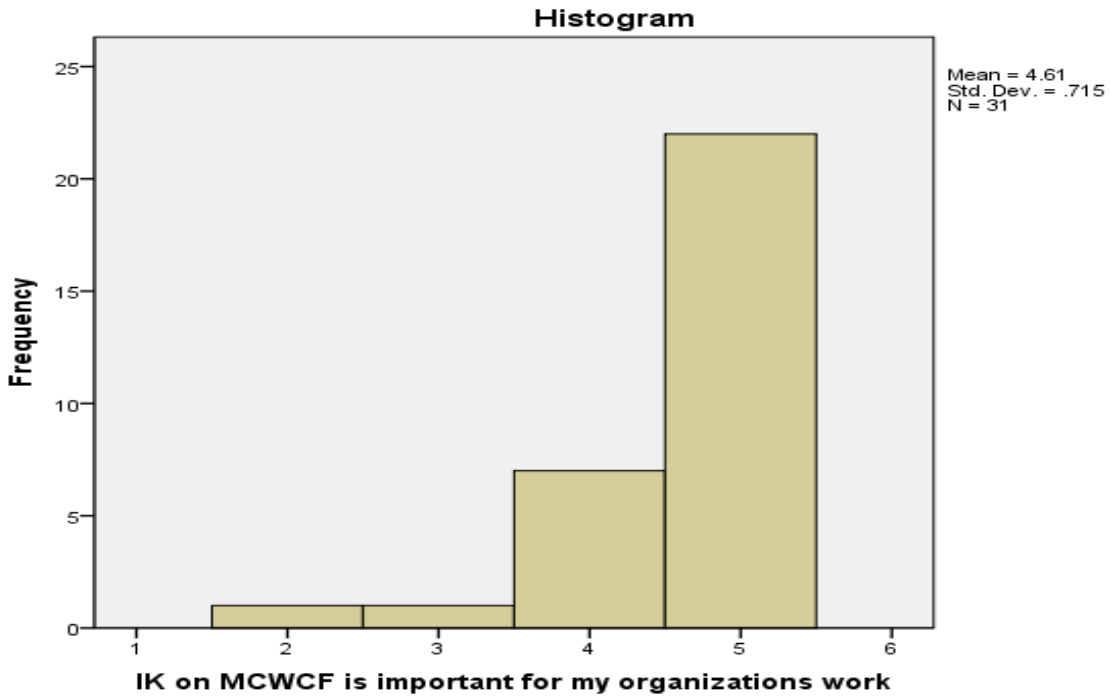


Figure4.7: IK on MCWCF is important for my organizations work

From those 31 respondents, the majority, 71% (22) of the respondents strongly agreed, 22.6% (7) of the respondents agreed, 3.2% (1) of respondent disagreed, 3.2% (1) respondents gave a neutral response22.6% (7) of the respondents about importance of IK for their organizational activities. So as the result showed us 93.6% of the responses gives a way to say IK on MCWCF is important for their organizations work.

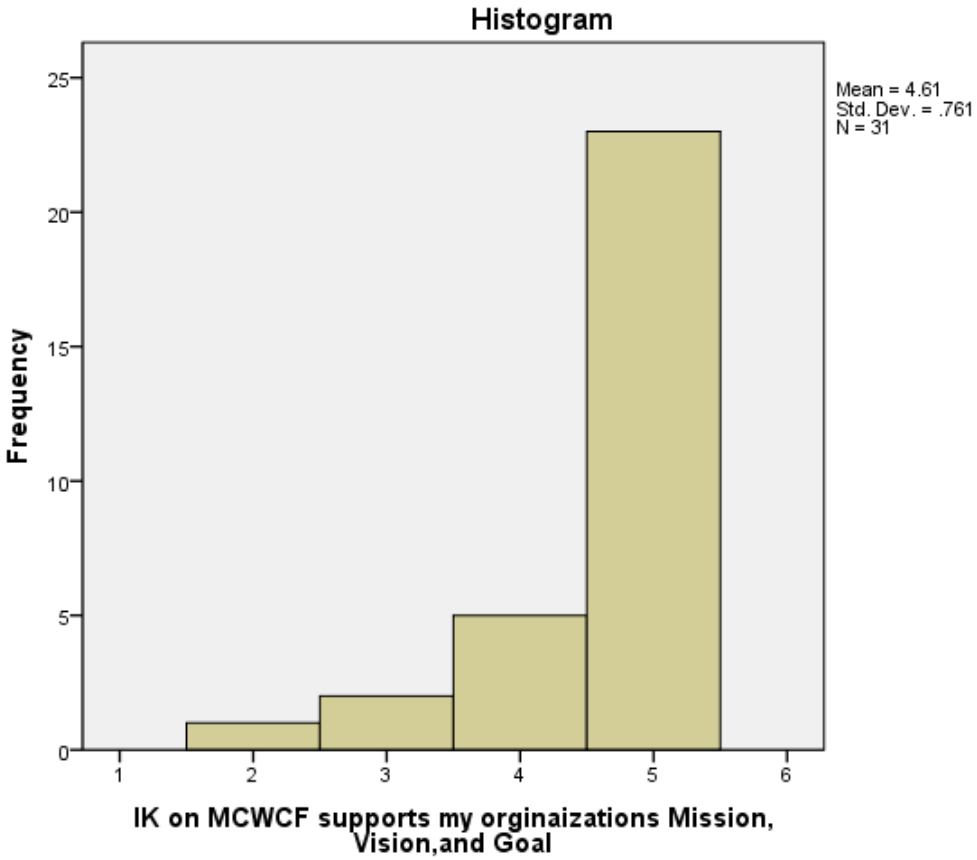


Figure4.8: IK on MCWCF supports my organizations Mission, Vision and Goal

As the above figure shows from those 31 respondents, the majority, 74.2% (23) of the respondents strongly agreed, 16.1% (5) of the respondents agreed, 3.2% (1) of the respondents disagreed 6.5% (2) of the respondents gave a neutral response that IK on MCWCF supports their organizations mission, vision and goal. So as the result showed us 90.3% (28) of the responses gives a way to say IK on MCWCF supports my Organizations Mission, Vision and Goal.

4.1.6. Sharing habit of IK in Kafa zone

It could further be observed from the following tables (Table 4.8- Table 4.15) that contains the parameters which enable the researcher to check the habit of sharing IK in Kafa zone, the parameters deals about importance of Ik sharing on MCWCF for different activities and for young generation, willingness of elders to transfer and new generation to learn from about IK, Availability of host events/forums where elders get a chance to share their IK. Also, the availability of different IK sharing mechanisms and the practicability on MCWCF in the respondent's organization .Regarding those parameters respondents response indicates their opinion. Therefore majority of respondents strongly agreed with the importance of sharing IK for different activities and young generation. From total 31 respondents about 27 respondents accepted the willingness of elders to transfer their IK but with compare from this the willingness of younger to learn from the elders because only 10 respondents agreed and around half of respondents were neutral. 12 respondents agreed the availability of host events/ forum where elders get a chance to share their IK. Not less than number of respondents agreed were number of respondents selected neutral and the remaining respondents disagreed. Majority respondents agreed with the idea availability of different IK sharing mechanisms and the practicability on MCWCF in the respondent's organization.

Table 4.1: IK sharing on MCWCF is important for different activities

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly Disagree	0	0	4.52	.570	SA
Disagree	0	0			
Neutral	1	3.2			
Agree	13	41.9			
Strongly Agree	17	54.8			
Total	31	100.0			

As the above table shows from those 31 respondents 41.9% (13) of the respondents agreed, 54.8% (17)of the respondents strongly agreed , 3.2% (1) of them was neutral about IK sharing on MCWCF is important for different activities. So as the result showed us almost all (96.7%) of the responses gives a way to say IK sharing on MCWCF is important for different activities.

Table 4.2: Telling IK to young generation is important

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	0	0	4.71	.529	SA
Disagree	0	0			
Neutral	1	3.2			
Agree	7	22.6			
Strongly Agree	23	74.2			
Total	31	100.0			

As the above table shows from those 31 respondents the majority 74.2% (23) of the respondents agreed 22.6% (7) of the respondents agreed and 3.2% (1) of them was neutral about telling IK to young generation is important. So as the result showed us the vast majority (96.8%) of the responses gives a way to say IK to young generation is important.

Table 4.3: New generation is willing to learn from elders

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	1	3.2	3.10	1.012	N
Disagree	8	25.8			
Neutral	12	38.7			
Agree	7	22.6			
Strongly agree	3	9.7			
Total	31	100.0			

According to above table 38.7%(12) of the respondents was neutral, 25.8%(8) of respondents was disagreed , 22.6 %(7) respondents agreed and 9.7%(3) respondents was strongly agreed 3.2%(1) respondent strongly disagreed with the issue of willingness of the new generation to learn from elders. So, the result shows the no. of accepted respondents was 10 and unaccepted 9 from this we can see somehow they are willing to learn from elders.

Table 4.4: Elders are willing to transfer their IK

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	0	0	4.23	.669	SA
Disagree	0	0			
Neutral	4	12.9			
Agree	16	51.6			
Strongly agree	11	35.5			
Total	31	100.0			

As the table above shows us, 51.6(16) respondents agreed, 35.5(11) strongly agree about willingness of elders to transfer their IK and 12.9 %(4) respondents was neutral. From the total 100% (31) respondents majority 87.1 %(27) respondents approved the idea of elders willingness to transfer their IK.

Table 4.5: There is community host events/forums where elders get a chance to share their IK

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	4	12.9	3.03	1.080	N
Disagree	4	12.9			
Neutral	11	35.5			
Agree	11	35.5			
Strongly agree	1	3.2			
Total	31	100.0			

By the result above in table, regarding the issue there is community hosts/forums where elders get a chance to share their IK in the same percent 35.5% each (totally 22) respondents agreed and selected neutral similarly the same percent 12.9% each (totally 8) respondents strongly disagreed and disagreed the remaining 3.2% (1) respondent strongly agreed.

Table 4.6: There are different IK sharing mechanisms on MCWCF in my organization

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	1	3.2	3.52	.996	A
Disagree	4	12.9			
Neutral	8	25.8			
Agree	14	45.2			
Strongly agree	4	12.9			
Total	31	100.0			

As it could be noted from the above table about 45.2 %(14) of respondents agreed on the availability of different IK sharing mechanisms in their organization, 25.8 %(8) respondents replayed neutral. Also, disagreed and strongly agreed respondents were equal 12.9%, 12.9 %(4, 4) the remained (3.2%) 1 respondent strongly agreed.

Table 4.7: Sharing IK on MCWCF is practiced in my organization

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	3	9.7	3.58	1.177	A
Disagree	1	3.2			
Neutral	9	29.0			
Agree	11	35.5			
Strongly agree	7	22.6			
Total	31	100.0			

From the total 100%(31) respondents 35.5%(11) respondents agreed, 29%(9) respondents selected neutral , 22.6%(7) respondents strongly agreed and 9.7%(3) respondents strongly disagreed the remained 3.2%(1) respondent disagreed on the raised issue that Sharing IK on MCWCF is practiced in my organization .

Table 4.8: The organization I am working for involves in IK sharing practices on MCWCF

	Frequency	Percent	Mean	Std. Deviation	Decision column
Strongly disagree	0	0	3.74	.855	A
Disagree	2	6.5			
Neutral	10	32.3			
Agree	13	41.9			
Strongly agree	6	19.4			
Total	31	100.0			

About the involvement of IK sharing practice on MCWCF in the organization the respondents working for 41.9%(6) of the respondents agreed , 32.3%(10) of the respondents select neutral and 19.4%(6) respondents strongly agreed remained 6.5%(2)of the respondents disagreed .

4.1.7. Preservation and Access of IK

As the following all consecutive tables enabled the researcher to analyze the preservation and accessibility of different form of IK with the parameters that the table describes. Table 4.17 describes from total 31 respondents around half of the respondents disagreed about the availability of IK which are previously preserved in Kafa Zone community and quarter of respondents was neutral the rest quarter agreed. Also, majority of respondents agreed by the easily accessibility of preserved IK in the same way around half of respondents agreed with the statement that the organization I am working for involves in IK preservation practice. Whereas preservation of IK on MCWCF is implemented in the respondents organization replayed by 41.9 %(13) respondents neutral similarly sum of strongly agreed and agreed respondents were 13. Preserving IK is important so that it is easily accessible by future generation both strongly agreed and agreed 18 respondents 3 times greater than that of strongly disagreed and disagreed ones and 7 were neutral. Furthermore on the issue easily accessibility of tacit and explicit IK in both explicit and tacit easily accessibility from 31 respondents 8 was neutral. On easily accessibility of tacit IK 18 respondents disagreed and 5 agreed in opposite to that 20 respondents agreed the rest 3 disagreed on the accessibility of explicit IK. In the other case the respondents replayed about their organization contribution, means for IK preservation and accessibility majority of respondents were neutral the other more agreed on the issue.

Table 4.9: There are IK previously preserved in Kafa zone community

	Frequency	Percent	Mean	Std. Deviation	Decision Colum
Strongly disagree	6	19.4	3.58	1.119	A
Disagree	13	41.9			
Neutral	7	22.6			
Agree	3	9.7			
Strongly agree	2	6.5			
Total	31	100.0			

It could further be observed from table 4.17 about 41.9%(13) of respondents disagreed and 22.6%(7) respondents were neutral ,strongly disagreed respondents were 19.4%(6) , agreed 9.7%(3) and strongly agreed 6.5%(2) respondents about the availability of IK previously preserved in Kafa Zone.

Table 4.10: Preserved IK can be easily accessible

	Frequency	Percent	Mean	Std. Deviation	Decision Colum
Strongly disagree	1	3.2	3.13	1.024	N
Disagree	10	32.3			
Neutral	5	16.1			
Agree	14	45.2			
Strongly agree	1	3.2			
Total	31	100.0			

As the table above indicates around half of the respondents which is 45.2%(14) agreed that preserved IK is easily accessible ,32.3%(10) respondents disagreed and 16.1%(5) respondents were neutral .By equal percent 3.2%, 3.2%(1,1) respondents strongly agreed and strongly disagreed on the issue preserved IK is easily accessible.

Table 4.11: The organization I am working for involves in IK preservation practice

	Frequency	Percent	Mean	Std. Deviation	Decision Colum
Strongly disagree	1	3.2	3.35	1.018	N
Disagree	6	19.4			
Neutral	8	25.8			
Agree	13	41.9			
Strongly agree	3	9.7			
Total	31	100.0			

The above table shows us, from 100% (31) respondents 41.9%(13) respondents agreed of the organization they working for involves in IK preservation practice and 25.8%(8) of the respondents were neutral .whereas 19.4%(6) respondents disagreed and 9.7%(3) of respondents strongly agreed remained 3.2%(1) respondent strongly disagreed.

Table 4.12: Preservation of IK on MCWCF is implemented in my organization

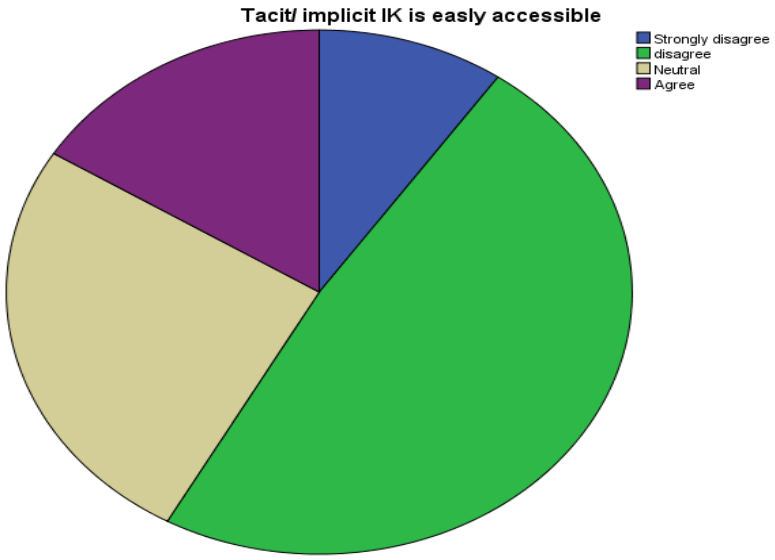
	Frequency	Percent	Mean	Std. Deviation	Decision Colum
Strongly disagree	1	3.2	3.35	.985	N
Disagree	4	12.9			
Neutral	13	41.9			
Agree	9	29.0			
Strongly agree	4	12.9			
Total	31	100.0			

From total 100%(31) respondents around half 41.9%(13)of respondents were neutral ,29.0%(9) respondents agreed and 12.9%(4) respondents strongly agreed by the issue of Preservation of IK on MCWCF is implemented in my organization. But, 12.9 %(4) respondents disagreed and 3.2 %(1) respondent strongly disagreed.

Table 4.13: Preserving IK is important so that it is easily accessible by future generation

	Frequency	Percent	Mean	Std. Deviation	Decision Colum
Strongly disagree	1	3.2	3.55	1.091	A
Disagree	5	16.1			
Neutral	7	22.6			
Agree	12	38.7			
Strongly agree	6	19.4			
Total	31	100.0			

According to table 4.21 shows 38.7%(12) respondents agreed that Preserving IK is important so that it is easily accessed by future generation ,22.6%(7) respondents were neutral and 19.4%(6) respondents strongly agreed .whereas 16.1%(5) respondents disagreed and 3.2%(1) respondent strongly disagreed about Preserving IK is important so that it is easily accessed by future generation.



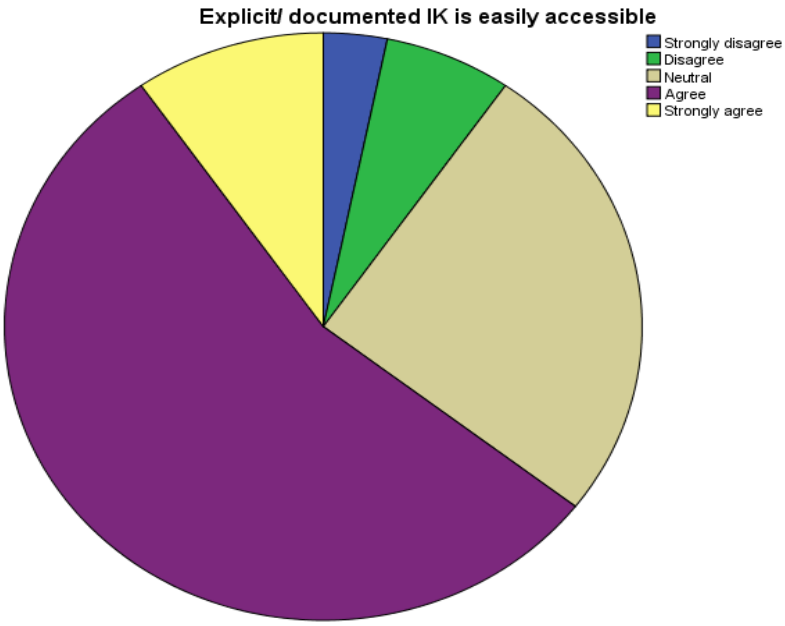
Mean 2.48

Std. Deviation 0.890

Decision Colum: Disagree

Figure 4.9: Tacit/ implicit IK is easily accessible

As the figure 4.6 showed us, 48.4% (15) of the responses disagreed and 9.7% (3) strongly disagreed about the easy accessibility of tacit IK, whereas about a quarter of responses were neutral and 16.1% agreed on the issue. Majority disagreed with the issue of easily accessing tacit/implicit IK.



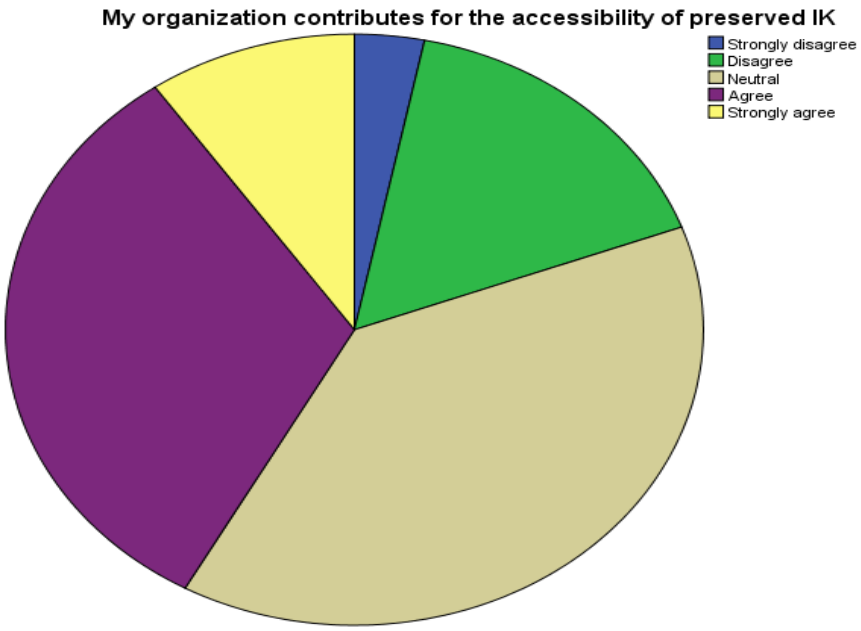
Mean 3.61

Std. Deviation 0.882

Decision Colum: Agree

Figure4.10: Explicit/ documented IK is easily accessible

As the above figure indicates, 54.8% (17)of the responses agreed and 25.8% (8) respondents were neutral and 9.7%(3) of respondents strongly agreed about the easy accessibility of explicit IK, whereas about 6.5%(2) respondents disagreed and 3.2%(1)respondent strongly disagreed on the issue. Majority agreed with the issue of easily accessing explicit/ documented IK.



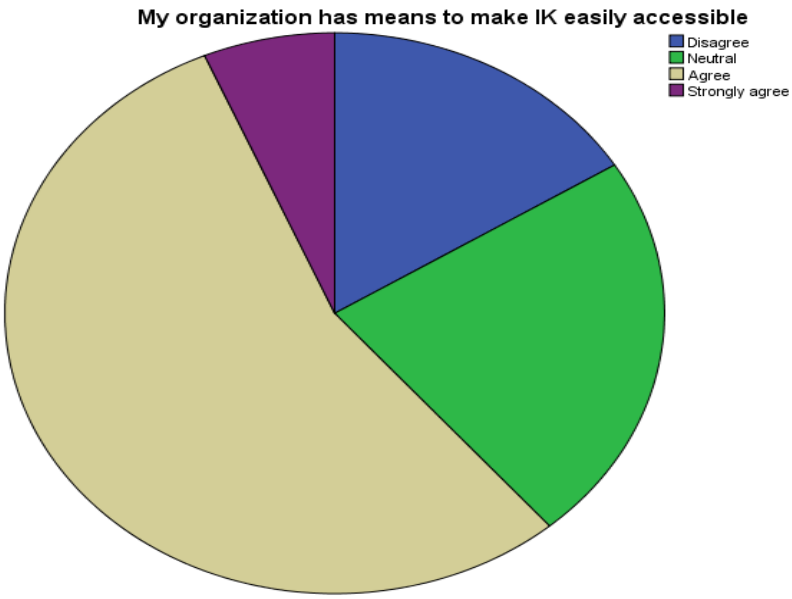
Mean 3.29

Std. Deviation .973

Decision Colum: Neutral

Figure 4.11: My organization contributes for the accessibility of preserved IK

According to the result shown at the above, about 38.7 %(12) mean majority of respondents were neutral, about 32.3 %(10) agreed with the issue contribution for the accessibility of preserved IK of the organization the respondent working for. 16.1 %(5) respondents disagreed and 9.7 %(3) respondents strongly agreed the remaining 3.2 %(1) respondent strongly disagreed.



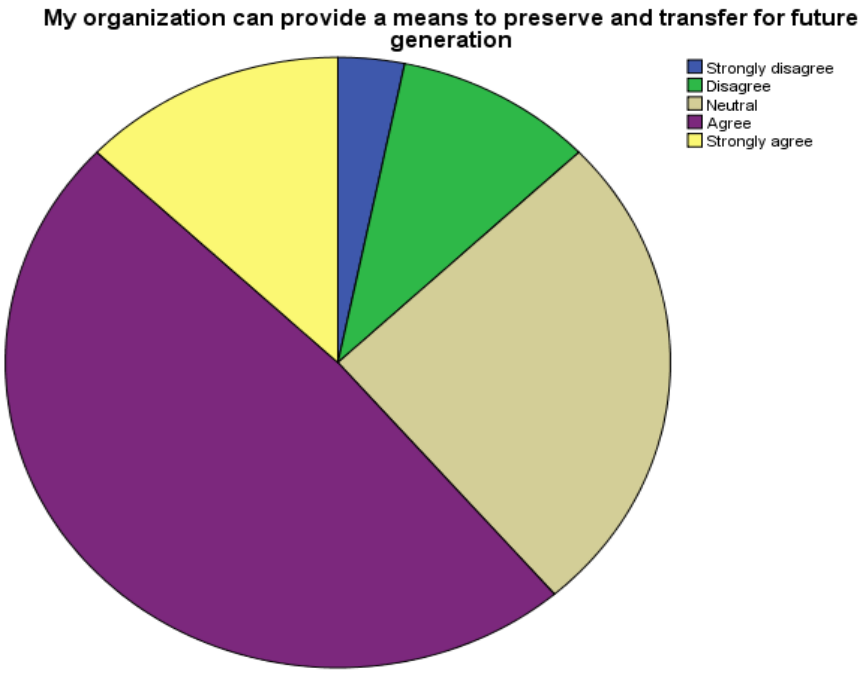
Mean 3.52

Std. Deviation 0.851

Decision Colum: Agree

Figure 4.12: My organization has means to make IK easily accessible

As figure 4.9 illustrate above half of respondents which means 54.8 %(17) agreed in their organization have means to make IK easily accessible and 22.6 %(7) respondents were neutral. Also 16.1 %(5) of respondents disagreed remaining 6.5 %(2) respondents strongly agreed.



Mean 3.58

Std. Deviation 0.958

Decision Colum: Agree

Figure 4.13: My organization can provide a means to preserve and transfer for future generation

As figure 4.13 point up 48.4 %(15) respondents agreed that the organization the respondents working for can provide a means to preserve and transfer for future generation and 25.8 %(8) respondents were neutral. Also 12.9 %(4) of respondents strongly agreed remaining and 9.7 %(3) respondents disagreed the remaining 3.2 %(1) respondent strongly disagreed.

4.2. Discussion

Knowledge can be defined as 'justified true belief' emerging from experiencing, reflection and inference processes (Nonaka, 2002; Audi, 2003). Knowledge is derived from human minds through understanding and justification and related through human action processes (Jones, 1964; Davenport and Prusak, 1998; Nonaka, 2002). So, the indigenous people at the study area gained Deejjoo ritual practice, sheeree showo(Gudo) and traditional beliefs like grave yards respection through their life time which can be said Knowledge as Nonaka's definition.

Tacit knowledge is largely embedded in the culture and traditions of individuals or communities and explicit knowledge is easily shared because of its textual or digital format (Ocholla and Onyancha, 2004) as such, more of the community knowledge at study sites was tacit, i.e. not documented or recorded in any form to be said explicit and thus can't be accessed easily.

Capturing knowledge means obtaining knowledge from various sources and in many forms, and also involves organization and codification (Holsapple and Joshi, 1999; Al-Hawamdeh, 2003; Dalkir, 2005).Thus, the researcher tried to obtain IK from different sources basically from elders. Similarly, Balasubramanian et al,(1999) consider knowledge capture to be the process of collecting and interpreting information from both internal and external sources, and organized into explicit forms for utilization. It is clear that this process can be divided into two processes: capture and codification. Knowledge capture focuses on acquiring knowledge, whereas knowledge codification focuses on organizing knowledge to become encoded knowledge.

The social approach includes discussion and the interaction of individuals. According to the social capital theory of Coleman (1988), social connection and social relations provide information channels that allow members of societies to transfer and capture knowledge. Social context focuses on belief and spiritual insights of the local community (Castellano, 2000; Storey, 2005). So, IK captured and codified in this study focused on belief and spiritual insights of the local community. Because, IK does not make sense when it is isolated from social context and local environment (Sefa Dei, Hall and Rosenberg, 2000; Castellano, 2000).

Furthermore, IK is implicit and requires traditional methods for capture and transfer. It encompasses the skills, experience and insights of people (Obomsawin, 2000; Rao, 2006). It is

located in people's minds, activities, community's practices and culture, such as community values, beliefs, rituals and traditional songs and stories (Korma, 1995; Grenier, 1998).IK, which has generally been passed through generations by word of mouth, is in danger of being lost unless it is formally documented and preserved (Warren, 2004). As the finding of this study showed, the documented IK is easily accessible than that of implicit which can be transferred to next generation by word of mouth.

The challenge of tropical forests has caused intense international concern during the past decades. Attention has been given chiefly to resource degradation, declining of biodiversity, and the effects of decreasing forest resources on the global climate (FAO, 2003). The researcher observed that there is shrinking of wild coffee forest in the study area. This might be because less international attention has been devoted to the implications of diminishing forest resources for local people who depend on forests for their livelihoods.(Alemayehu,2010).However, it is not too late, if we can stop the loss by using IK, which has contributed to the existence of the forest since time immemorial.

Indigenous knowledge that directly manages nature is reportedly found among traditional groups from various parts of the world (Colding and Folke 1997). The results revealed in the present study is Deejjoo (thanks giving for Qollo/forest sprit), sheeree shoowoo(Gudo) means traditional rules set by indigenous people and grave yards which the community give psychological belief used directly for conserve and manage nature.

Sacred groves are smaller or larger ecosystems, set aside for religious purposes (Gadgil and Vartak 1974 cited in Colding and Folk 1997). Sacred groves are good examples of how tradition, religious or socio-cultural practices lead to environmental preservation or sound natural resource management. Sacred trees are reported to be widespread throughout India which is Iso the case in Ethiopia, Keffa Zone as found out in this study.

The sacred forest is comparable to a living and self-regenerating pharmacy of traditional and cultural Kafecho medicines and cures (Tesfaye, and Sebsebe, 2009). Similar to this report, it was found by FGD and Key informant interview that a ground coffee is mixed with honey and taken as a medicine to cure wounded part of body. Moreover, ground coffee leaves mixed with honey

and boiled is believed to purify blood circulation. The other is they use yellow coffee leaves with chilly, garlic and ginger to prepare a drink called "Chemo" which is used to heal common cold.

It is also very common to drink coffee to get cured from head ache in every household of the community. Roasted ground coffee flour mixed with honey jelly in the form of ball swallowed for the stomach ache. The coffee flour mixed with honey is also put on wounds for effective healing and is the most exercised among the communities. In some occasions when get sick, the domestic animals are also fed coffee with some other ingredients or spices to keep them healthy.

CHAPTER FIVE

5. Conclusion and Recommendations

5.1. Conclusion

This thesis has attempted to capture and codify the indigenous Knowledge on management and conservation of wild coffee forest In the case of two Kebeles KejaAraba from Gimbo and Mankira from Decha Woreda, Kafa Zone.

It is clearly indicated that the people of Kafa have their own indigenous knowledge that maintained their unity and enabled them to protect their natural resources in general and wild coffee forest resources in particular in a very harmonious manner. From these, one of the prominent indigenous religious rituals of Kafa people is Deejjooo practice (giving thanks to "Qollo"/ forest sprit) The other two are sheeree showo/Gudo (indigenous people unwritten rule and regulation) and ancient grave yards (psychological belief of the community by their ancestors sprit). However, such traditional religious ritual practice, traditional rules and psychological beliefs which interwoven the daily life of many local people as well as has been contributing a lot for forest resource management(wild coffee forest) is not well studied and recognized.

The information gathered from informants depict that the Qollo is the nature's spirit which is believed to dwell in the forest, bushes, and running water. It is also the honorable forest spirit that either gives good harvest, fertility and ensure the continuity of meaningful life, or denies by devastating the area for its 'inexplicable proposes'. Sheeree showo(Gudo) refers sacred area of forest by indigenous people, which is unwritten rule and regulation if someone break the rule he/she will be punished and ancient grave yards which the community psychologically belief their ancestors sprit lives at that grave yard and no one can cut trees from the grave yard. The customary rules and ritual practice has a vital role in preserving and managing the cultural trees which are endangered including wild coffee forest.

The information gathered through different mechanisms verifies that the Kafa community has special relationship with forest in their vicinity. Their closer attachments to the forest made them to look it as substances endowed with sacred value. They consider that forests are the gift of God (Yeero) whom they take as the source of life, shelter, clothes and identity.

Due to high level of dependency on forest resources, the local communities of the study area have developed traditional management practices based on religious practices and customary tenure rights. Such management practices have sustained the forests for centuries and contributed to the better condition of the forest resources in the area. The major base for the management of the natural forest is the religious beliefs and traditional rules that impose resource and habitat practices through the Deejjooo place and grave yards.

The beliefs, values, norms and customs play central role in maintaining social cohesion and unity, alleviation of conflicts, and maintaining society environment harmony. However, these traditional beliefs and traditional laws are undermined due to their tacit in nature.

Furthermore, the result the researcher gained from the questionnaire enable her to conclude that IK available at Kafa Zone is more of in tacit form as so far it is not documented or recorded and this made the IK not that much accessible and is inconvenient to transfer for future generation. Also, willingness of young generation to learn is lower than that of willingness of elders to transfer IK.

5.2. Recommendations

The potential role of localized ritual institutions in forest preservation and management has not been given attention. There is the need to strengthen the capacity of existing local ritual institution so that they can make more significant contribution to forest management. Thus, all concerned stakeholders should be involved to empower and make meaningful contributions to decisions related to those IK practices and enhance its role in forest resources preservation.

Based on the research findings, the researcher made the following recommendations provided that they are materialized by any stakeholders:

- It is very important to create awareness among the society in general and young generation in particular about the values of IK. Creating awareness among the young generation about the norms, values and mythologies of the ritual practices and the significant role they play in resource management via different co-curricular activities (especially under the environmental club of the schools) is the most important step to preserve such spiritual and cultural assets.
- IK refers to traditional and local knowledge possessed by groups of people living in a particular area for a long period of time. Hence, all members of the community are expected to preserve them for the coming generation. Moreover, promoting effective use of socio-cultural practices and traditional rules as a potential benefit for the conservation of the forests and other resources through advocacy programs with religious and clan leaders as well as the community. Therefore, priority should be given at national level so that all the concerned bodies work hand in hand in capturing, codifying and sharing IK and use it for conservation and management of irreplaceable natural resources, such as forest.
- Advertising the concept of IK through local Medias which used to enhance willingness of young generation to learn.
- Arranging events / forums focusing on the role of IK on MCWCF and other natural resource management which enable the elders to transfer and share their IK with young community members.

- The Regional, Zonal and Woreda Bureau of Culture and Tourism are expected to play an active role in preserving and documenting tangible and intangible cultural heritages in general and IK on MCWCF in particular. Therefore, the local communities and the concerned bodies should work in collaboration toward recognition of such local ritual practice and local rules, which are directly associated with forested landscape management.
- It is vital to remark that the issues of IK are wide and complex. Hence, they require revisiting in more detail further studies by using Participatory Research Appraisal method covering larger area to have detail information
- Assessing the policy of conserving and managing natural resource and implementation gap and consider IK in the policy

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Appendices

Appendix A: Questionnaire for Stakeholders

My name is Heaven Kenea, MSc student in Information and Knowledge Management(IKM) at Jimma University. I am here in Bonga to conduct a research on Indigenous Knowledge on Management and Conservation of Wild Coffee Forest in Kaffa Zone. The main objective of the study is to capture and codify the Indigenous Knowledge (IK)on management and conservation of wild coffee forest in Kaffa zone. I guaranty your full anonymity. I thank you in advance for giving me your valuable time answering the survey questions. Please do not hesitate to contact me at my address below for further explanation on the questions.

E-mail: heavenkenea2@gmail.com

Part 1: General Information

The following questions are for classification purpose only. They will not be used to identify any individual. Please fill in only one response per question by putting tick (√) .

Which organization are you from?_____

Age :20 – 30 ☐ 31 – 40 ☐ 41 – 50 ☐ 51 – 65 ☐ > 65 ☐

Gender: Male ☐ Female ☐

Educational level: Certificate ☐ Diploma ☐ BA/BSc degree ☐

Master's Degree ☐ Doctorate degree (PhD) ☐

For how long have you been working in this organization?

<5years ☐ 5-10 years ☐ 11 - 20 years ☐ 21 – 30 years ☐ > 30 years ☐

In which department you are working?_____

For how long have you been living in the area? Since birth ☐ Since my employment ☐

Other, specify _____

Part 2:Introduction

1. What do you think is the reason for the existence of wild coffee forest in your area?(It is possible to select more than one option)

a) government regulation b) community regulation c) individuals contribution

d) Suitability of the environment e)combination of all, Other, please specify_____

2. What do you experience on change in forest cover and/or density?

a) Increased b) Decreased c) Unchanged d) I do not know

3. What do you think is the reason that led to the change of wild coffee forest (It is possible to select more than one option)?

a) Aging b) Deforestation c) Agricultural expansion d)Disease

e) Planting non indigenous trees f) climate change g) increase population size in the area

Other , Specify_____

4. Do you think the change can be reversed by IK? Yes ☐ No ☐

   a. If Yes, How?_____

   _____

   _____.

   b. If No, what is do you think is the option?_____

   _____.

5. What type of changes can be managed by IK and How?

_____

_____

_____

_____

_____

_____

6. Whose responsibility should be to conserve the wild coffee forest? (It is possible to select more than one option)?

   a. My own b. Local & regional government c. Federal government

   d. Nongovernmental organization (NGO) e. Joint effort of all

Part 3: Existence and format of IK on management and conservation of wild coffee forest in Kaffa Zone

Please indicate your answer for the following statements by ticking (√) in the appropriate column.

Thus, 1= strongly disagree, 2 = Disagree, 3 =Neutral, 4 = Agree, 5 = strongly agree

S.No.	Statement	1	2	3	4	5
1	There are different IK on management and conservation of wild coffee forest					
2	IK on management and conservation of wild coffee forest available in tacit form					
3	IK on management and conservation of wild coffee forest available in explicit form					
4	IK on management and conservation of wild coffee forest is important for my organization's work					
5	IK on management and conservation of wild coffee forest supports my organization's Mission, Vision and Goal					

6.Please list the indigenous knowledge used for management and conservation of wild coffee forest which you know

_____

_____

Part 4: To what extent Kaffa zone community Share their indigenous knowledge ?

Please indicate your answer for the following statements by ticking (√) in the appropriate column.

Thus, 1= strongly disagree, 2 = Disagree, 3 =Neutral, 4 = Agree, 5 = strongly agree

S.No.	Statement	1	2	3	4	5
1	IK sharing on conservation and management of wild coffee forest is important for different activities					
2	Telling about IK to younger generation is important					
3	New generation is willing to learn from elders					
4	Elders are willing to transfer their IK					
5	There is community host events where elders get a chance to share their IK/ There is a forum to exchange IK					
6	Sharing IK on conservation and management of wild coffee forest is applicable in my environment					
7	There are different IK on conservation and management of wild coffee forest sharing mechanisms in my organization					
8	The organization I am working for involves in IK on conservation and management of wild coffee forest sharing practices.					

9. If other activities performed in your organization regarding on sharing IK?_____

_____

_____

_____.

10. Do you think it is important to tell the younger generation about Indigenous Knowledge?

Yes ☐ No ☐

Why?

_____

_____

_____

Part 5: Capturing and codifying IK on wild coffee forest in Kaffa Zone

1. Capturing IK on conservation and management of wild coffee forest is the best input for preserving and transferring knowledge

   1) strongly disagree 2) Disagree 3) Neutral 4) Agree 5) strongly agree

2. The organization I am working for involves in IK on conservation and management of wild coffee forest capturing, sharing and preserving practices

   1) strongly disagree 2) Disagree 3) Neutral 4) Agree 5) strongly agree

3. If other activities performed in your organization regarding on capturing IK?_____

   _____

   _____

   _____.

4. Did you apply/use IK for conserve wild coffee forest? yes ☐ No ☐

a) If you answered Yes for question number 7, what are different IK which are used to conserve Wild coffee forest?

_____

_____

_____

_____

_____

b) If you answered is No for question number 7, Why?

_____

_____

_____

5. How indigenous knowledge for management and conservation of wild coffee forest are applicable?

_____

_____

_____

Part 6: Preservation and access by future generation of IK on wild coffee forest in Kaffa Zone

Please indicate your answer for the following statements by ticking (√) in the appropriate column.

Thus, 1= strongly disagree, 2 = Disagree, 3 =Neutral, 4 = Agree, 5 = strongly agree

S.No.	Statement	1	2	3	4	5
1	There are IK previously preserved in Kaffa zone community					
2	Preserved IK can easily accessed					
3	The organization I am working for involves in IK preservation practices.					
4	Preservation of IK on conservation and management of wild coffee forest is implemented in my organization					
5	Preserving IK is helpful to be easily accessed by future generation					

6. If other activities performed in your organization about preservation of IK?_____

_____

_____

_____.

7. Did you have preservation Method of IK? Yes ☐ No ☐

a) If Yes ,what are the methods?_____

_____

_____.

b) If No, Do you have a need for method to preserve IK? Yes ☐ No ☐

8. What are the challenges for preserve IK? (It is possible to select more than one option)

a) Lack of Motivation b) Time constraint c) Budget constraint

Other, specify_____

9. What is/are the advantage(s) of Preserving IK?_____

_____

_____.

10. Are there stakeholders to preserve IK at different level? Yes ☐ No ☐

a) If Yes, type their name below

Zonal_____

Regional_____

National_____

Please indicate your answer for the following statements by ticking (√) in the appropriate column.

Thus, 1= strongly disagree, 2 = Disagree, 3 =Neutral, 4 = Agree, 5 = strongly agree

S.No.	Statement	1	2	3	4	5
1	Tacit/implicit IK is easily accessible					
2	Explicit/ documented IK is easily accessible					
3	My organization contributes for the accessibility of preserved IK .					
4	My organization has means to make IK easily accessible					
5	My organization can provide a means to preserve and transfer for future generation					

Part 7: Future Perspective

1. Do you have a need to preserve and transfer IK for future generation?

Yes☐ No ☐

2. What do you think is the best way to transfer IK?

_____

_____

_____

3. Which place will be convenient to access captured and codified IK? ?(It is possible to select more than one option)

a)Public library b) Museum c) School Other, please specify_____

4. Please list the indigenous knowledge that exist in the community of which you know or heard.

_____

Appendix B:Interview and Group discussion Questions (check list in English and Kafinoonoo)

A. Interview and Group discussion Questions (check list)

Introduction

I'm conducting a study aiming at capturing and codifying Indigenous Knowledge on Management and Conservation of Wild Coffee Forest in Kaffa Zone. As a community member and elder, you are politely requested to participate in this interview being addressed to representative stakeholders .The interview is about Capture and codify Indigenous knowledge which enables the widest possible sharing, preserving and accessibility of Indigenous knowledge by capturing and making accessible for the current and coming generation.

Results from this survey form an essential part of my paper and will provide an important input in recommending a most suitable preservation and dissemination technique of Indigenous Knowledge on Management and Conservation of Wild Coffee Forest in Kaffa Zone.

I will appreciate the value of your views.

Part 1:Main Questions

1. For what purpose do you use the forest?

2. Is there a special activity performed to preserve the wild coffee forest?

3. How do people get benefit from the forest? Picking coffee berries, species, cutting trees and still sustainably? Is there special season/time the community use the forest products? Which product when and why? Is there any threat to the wild coffee forest because of increase of population size? Or are there any other threats?

4.What are IK which help you to conserve and manage wild coffee forest?.

5.Did you experience any change in forest cover and/or density?

6. What are the causes for the change (if any)?

7. Do you have IK sharing experience? If so how? Is this way efficient?

8. Do you think it is important to tell the younger generation about Indigenous Knowledge, especially on wild coffee forest conservation? Why?

9. Do you think the local younger generation is informed about your community's IK?

10. Do you think the younger generation is willing to share IK from elders?

11. Does your community host events where elders are given a chance to share the IK they possess?

12. By what means did you get this IK from your elders?

13. In what way do you think this IK should be transferred to the younger generation?

14.What are the main challenges for sharing IK?

15. Do you have preservation method for IK?

16. What are those preservation methods?

17 If you were given a chance to tell others about IK, what would you be willing to share?

18. Are/Is there a responsible body or individual(s) for the purpose of IK preservation?/Wild Coffee forest conservation?

19. Are there knowledgeable individual in the community on wild coffee forest conservation/the history/legend/tale….

20. Their perceptions about modern knowledge? The impact it might have caused on IK (if any)

21. Their preference: from IK and modern knowledge. Why?

Part 2:Future Perspectives

1. Do you think the wild coffee forest can be sustained as it is in future as it is? If yes how? If no why?

2. Do you have an interest to preserve and transfer IK for future generation?

3. What do you think is the best way to transfer IK?

4.Which place will be convenient to access captured and codified IK?

Public library/Museum/other_____

5. Do you believe that the younger generation in the community can carry on the responsibility of conserving the wild coffee forest as your generation did?

B. Translated Interview and Group discussion Questions (Kafinoonoo)

HAJJIYOO 1: KUBBI BUNOON QUYOONAA HEETOONOCH HALLEE ARIYEE BEEMO KAFI GUUDOOCH

Inde echeena'o (guuphi iihaateyooch)

1. Ame gaacoochiyee kubboon ittochi gaacheebeet?
2. Kubbi Bunoon quyoonaa heetonoch giiti barit shuunoo beete?
3. Maccoo aabichiiniyee gaaco bi daneebeeto?

HAJJIYOO 2: HALLEE ARIYOON KITONAA BIRIYOONA YESHET ECHEENA'O

1. Eb ariyeena'o aabichiiniyee kubbi Bunoon quyooch neen boono gaacciibeeto?
2. Ne danet Bunee gooqqe shaddeyee mooyo beete?
3. Beegaata naboo amo tuneehe?
4. Eb shaddeyoo hallee ariyoon gaachoona wotto hakkiyeehe? Tunegaata aabichiyeesh?
5. Hallee ariyoon barooch qoodaa ariinne? Tunagaata aabichish? Eb yawo/gommo beddeehe?

HAJJIYOO 3: HALLEE ARIYOON QUYOONAA WAAMM SHIIIJJEROOCH KOTIYEE GAACONA YESHET ECHEENA'O

1. Bunoon quyoonaa heetoonoch hallee ariyoo gurmaashooch gaacceehe?
2. Gurmaasheena'o hallee ariyoon ariiheete iyaa gibenene?

3. Gurmaasheena'o hallee ariyoon doyooch qaawiyeete?
4. Xoobeena'o qaabbeena'o gurmasheena'och hallee ariyee doyoon immeemmoch mallo immiyeete?

HAJJIYOO 4: KAFI GUUDE MACCOO HALLEE ARIYOO KUBBI BUNOON QUYOOCH IMMIIBEET GAACOONA YESHET ECHEENA'O

1. AME GOMMONANE EB HALLEE ARIYOON NE DANETO?
2. Eb ariyoon shaddiyooch xoobeena'o / iinjeena'o giibeeteete?
3. Ame gommona gurmaashooch besh beddiye inne?
4. Eb hallee ariyoon doyooch magge mooyina'o/irteena'o ameena'one?
5. Eb hallee ariyoon quye yawo ne ariyaabeeto beete?
6. Am ameena'one?
7. Hallee ariyoon ashich qoodibe ne getteemmogaata amoon qoodooch mashaminne?
8. Eb hallee ariyoon quyooch gidech kuxo, asho beete? Sha; Kubbi Bunoon
9. Eb hallee ariyech asheena'o maccee maacooch beeteete?Kiino,shahiyee yibbaatoo . . .
10. Andi gooree doypon ciinnimmona boono shalligoo amoon shaahiye? Hallee ariyee toommooch beet toshoo(beegaata)
11. Hallee ariyoonaa andi gooree ariyoochee aabin qaawiyeete? Amooch?

HAJJIYOO 5: GUBBI SHALLIGOO

1. Gubbich hin Kubbi Bunoo beeyeehe iya gabine? Tunegaa aabichishi? Tuno qayigaa amoyich?
2. Hallee ariyoon quyoonaa waammi shiijjerooch beshiyooch niyoo neech beete?
3. Hallee ariyoon waamm shiijjerooch beshiyooch gaawe gommo aabine?
4. HALLEE ARIYOON KITTI KOTIYOONAA HEETOONOCH TATE XAA''OO AABINE IYAA GIBENENNE?
   Maccee Korijexo/muuziyeemo/allaamee kexxo. . .(doogena biriibot)
5. Ittosh gooree/ wonnee ashichoommon hin shiijjerooKubbi Bunoon quyooch qanniteete

Appendix C: Observation check list

1.Wild Coffee forest appearance

2. Incentive mechanism for knowledge sharing

3.Availability and alignment of IK management strategy with organizational strategies

4.Availability/initiatives of IK documentation

5.Availability of enough place where community socialize/share IK

6. Availability of ICT facility for preservation and sharing purpose

9.knowledge Preservation Mechanism

10. Cultural issues related to IK sharing
11. Trends of wild coffee forest preservation, the attention given to it by the community.
12. Change in lifestyle of the younger generation compared to the older generation
13. The presence of honey bee haves or any other off-farm activities in or around the forest.

Appendix D: Interview and FGD Summary forms

Interviewee:_____ Date of Interview:_____

Place: _____ Time of Interview:_____

Duration of Interview:_____

Where did the interview take place? Was the venue suitable? Does anything need to be changed for future interviews?

How easy was it to establish rapport? Were there any problems and how can this be improved for next time?

Did the interview schedule work well? Does it need to be altered or improved?

What were the main themes which arose in the interview? Did any issues arise which need to be added to the interview schedule for next time?

Is the interviewee willing to be contacted again? Have I promised to send any information or supply them with the results or a copy of the transcript?

Figure D1: Interview summary form

Source: practical research method book by Dr. catherine Dawson

Date: _____ Time: _____

Venue: _____ Duration: _____

Group: _____

Diagram of seating plan with participant codes:

Where did the focus group take place? Was the venue suitable? Does anything need to be changed for future focus groups?

How many people took part and who were they? Did they work well as a group or were there any adverse group dynamics? What can I learn from this for the next group?

Did the interview schedule work well? Does it need to be altered or improved?

What were the main themes which arose during the focus group? Does anything need to be added to the interview schedule for the next focus group?

Are any of the participants willing to be contacted again? Have I promised to send any further information or the final report to anyone?

Figure D2: Focus group summary form

Source: practical research method book by Dr. catherine Dawson

Appendix E:Filed Photos

Photo E1: Keja araba kebele wild coffee forest partially

Photo E2: Mankira kebele wild coffee forest partially

Photo E3: Mother coffee at Mankira kebele in wild coffee forest

Appendix F: Letters approval

JIMMA UNIVERSITY
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ቁጥር Ref.No Js 0171706/2006
ቀን Date 14/07/2006

ጉዳዩ:- ለሚመለከተው ሁሉ::

የኢንፎርሜሽን ሳይንስ ት/ክፍል ተማሪ ዜቫን ቀነዓ የሁለትኛ አመት የድህረ ምረቃ ትምህርታቸውን ለማጠናቀቅ የመመረቂያ የጥናት ጽሁፋቸውን "capture and codify indigenous knowledge on conservation and management of wild coffee forest in kaffa zone Gimbo and decha woredas " በተሰኘ ርዕስ ላይ ለመስራት ተዘጋጅተው በሂደት ላይ ይገኛሉ::

በመሆኑም ተማሪዋ ለምርምር ስራቸው የሚያስፈልጓቸውን መረጃዎች ለመሰብሰብ ስለሆነ ጥያቄያቸውን ተቀብላችሁ የበኩላችሁን እገዛና አርዳታ እንደምታደርጉላቸው በመተማመን ለተሰጣቸው አገልግሎት ሁሉ ከወዲሁ ለማመስገን እንወዳለን::

ከተበሉ ነዋሪዎች ና ከመስሪያ ቤታችሁ ለምርምር የተወሰዱ መረጃዎች ሚስጥራዊነታቸው ተጠብቆ ለምርምር አገልግሎት ብቻ እንደሚውሉ ት/ክፍሉ ይገልፃል::

ከሠላምታ ጋር

ጌታቸው ባይሳ
የኢንፎርሜሽን ሳይንስ ት/ክፍል ኃላፊ

Department of Information Science

Tel. +251-47 11 114 57 Fax. +251471111450 P.O.Box. 378 E-mail:ero@ju.edu.et

JIMMA UNIVERSITY
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ቁጥር
Ref.No IS 017/700/2006
ቀን
Date 10/07/2006

ከኢንፎርሜሽን ሳይንስ ት/ክፍል
ጅማ ዩኒቨርስቲ
ጅማ

ለካፋ ዞን ቦንጋ
ቦንጋ

ጉዳዩ፡- ትብብር ስለመጠየቅ፡፡

የኢንፎርሜሽን ሳይንስ ት/ክፍል ተማሪ ሄቨን ቀነዓ የሁለትኛ አመት የድህረ ምረቃ ትምህርታቸውን ለማጠናቀቅ የመመረቂያ የጥናት ጽሁፋቸውን "capture and codify indigenous knowledge on conservation and management of wild coffee forest in kaffa zone Gimbo and decha woredas " በተሰኘ ርዕስ ላይ ለመስራት ተዘጋጅተው በሂደት ላይ ይገኛሉ፡፡

በመሆኑም ተማሪዋ ለምርምር ስራቸው የሚያስፈልጓቸውን መረጃዎች ለመሰብሰብ ስለሆነ ጥያቄያቸውን ተቀብላችሁ የበኩላችሁን እገዛና እርዳታ እንደምታደርጉላቸው በመተማመን ለተሰጣቸው አገልግሎት ሁሉ ከወዲሁ ለማመስገን እንወዳለን፡፡

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የኢንፎርሜሽን ሳይንስ ትምህርት ክፍል ኃላፊ

ግልባጭ

- ለጊምቦ ወረዳ
- ለቀጃእራባ ቀበሌ ጊምቦ
- ለዴቻ ወረዳ
- ለማንኪራ ቀበሌ ዴቻ

Tel. +251-47 11 114 57 PBX·+251471111458-60 Fax: +2514711111450 +251471112040 P.O.Box. 378 JIMMA,ETHIOPIA E-mail:ero@ju.edu.et website:http://www.ju.edu.et